



Health Resource Facility

Human Resources for Health in Timor-Leste

Constraints and Opportunities in HRH strategy
and Planning

James Buchan

Bridget Weller

06 December 2012

AusAID HRF
HLSP in association with IDSS
GPO BOX 320
15 Barry Drive
Canberra City ACT 2601
Tel: +61 (2) 6198 4100
Fax: +61 (2) 6112 0106
www.ausaidhrf.com.au

Contents

Executive Summary	ii
1. Introduction.....	4
1.1. Project descriptions and purpose	4
1.2. Context	4
1.3. Methodology and limitations.....	4
2. Context	5
2.1. Timor-Leste: Country Profile	5
2.2. Policy Context	6
3. Human Resources for Health in Timor-Leste – An Overview	7
3.1. HRH Profile	7
3.2. The HRH Policy Context	9
3.3. HRH challenges and opportunities in Timor-Leste.....	10
4. Developing an HRH Plan: Framework and Evidence	14
4.1. The HRH Action Framework	14
4.2. HRH Policy Interventions	17
5. Assessing the HRH Policy Interventions and Options.....	26
5.1. Introduction	26
5.2. Assessment Criteria	26
6. Conclusion	27
Appendix 1: List of Interviewees.....	28
Appendix 2: Health sector targets, Timor-Leste Strategic Development Plan 2011-2030.....	29
Appendix 3: National Health Sector Strategic Plan 2011-2030. Section V: Human Resources for Health	31
Appendix 4: HRH Action Framework.....	33
Appendix 5: Research Method	34
Appendix 6: Task Force report: Scaling Up, Saving Lives.....	35
Appendix 7: Task Shifting: Global Recommendations.....	37
Appendix 8: Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations.....	40
Appendix 9: Suggested matrix for assessing HRH interventions. Adapted from Buchan (2005) and WHO (2010).....	42
Bibliography	46

Acronyms

AIDS	Acquired immunodeficiency syndrome
AMREF	African Medical Research Foundation
AusAID	Australian Agency for International Development
BSP	Basic Services Package
CHC	Community Health Centres
CHW	Community health workers
GoTL	Government of Timor-Leste
HIV	Human immunodeficiency virus
HR	Human Resources
HRH	Human Resources for Health
HRIS	Human Resource Information System
HRM	Human resource management
IHS	Institute of Health Sciences
MCH	Maternal and child health
MoH	Ministry of Health
NGO	Non-government organisation
NHSSP	National Health Sector Strategic Plan
SDP	Strategic Development Plan
SISCa	Integrated Community Health Services
UNTL	National University of East Timor
WHO	World Health Organisation

Executive Summary

This report has been prepared to advice on the human resources for health (HRH) elements of the design of AusAID's new program of health support to the Government of Timor-Leste. The report summarises the health and HRH policy context, sets out the key components of an HRH framework, and provides an assessment derived from a synthesis of available information and evidence specific to Timor-Leste, balanced by international evidence. Drawing on these findings, an approach for assessing HRH policy interventions and options is outlined.

The first section of the report sets out the purpose, context and methodology of this review.

The second section of the report highlights Timor-Leste's health policy context and the HRH situation. Timor-Leste's constitution enshrines a commitment to universal health care, with key health sector targets set out in the Timor-Leste Strategic Development Plan 2011-2030. The current workforce comprises about 2,500 people. However, data on HRH is incomplete and out of date; there is no comprehensive Human Resource Information System (HRIS) a lack of capacity in the system to effectively utilise what information does exist. There is a shortage of skilled health workers, and geographic maldistribution of those who are engaged in providing health services. The need to improve the skills and competencies of the health workforce has been identified both in respect of the delivery of effective, evidence-based clinical care, as well as in relation to management, planning and basic administrative skills.

The third section of the report then sets out the range of HRH challenges and opportunities in Timor-Leste that were identified in the document review and through the interviews. These are summarised under five headings:

- HRH shortages
- HRH distribution
- HRH capacity: clinical services
- HRH capacity: planning, management and administration
- HRH working conditions, infrastructure and support

The fourth section begins with a summary of the HRH Action Framework which is a tool used in the report to identify the key elements of HRH policy that should be considered with developing an HRH plan. These elements are: human resource management (HRM) systems, policy, finance, education, partnership, and leadership. The Framework emphasises the interconnectedness of these various elements, as well as the need to ensure that the intermediary objectives of more or better trained staff are means to achieve the ultimate goal of better health outcomes. It also provides a reminder that while it is appropriate for an HRH planning to be led by the health ministry, the engagement of other key stakeholders is also vital, particularly other sectors of government such as finance and education. Strong leadership is also important, not just to drive the development and implementation of human resource (HR) planning and policy and scaling up efforts, but also to ensure sustained commitment over time.

The fourth section then considers specific interventions that can be employed in order to address the HRH challenges identified in Timor-Leste, and which were identified in the rapid review of the evidence. These are categorised under the following four headings:

- scaling up human resources for health
- changing the skill mix/task shifting
- improving health workforce retention
- improving distribution of the health workforce

An overview of each of these four areas is provided, including key messages from the evidence review. Source materials such as international guidelines and systematic reviews are identified, and issues for consideration are noted, aiming to provide initial pointers to inform the fuller development of an overarching HR plan and specific interventions that may be undertaken as part of it.

The four areas identified are not mutually exclusive; it is likely that an effective HRH plan and strategy will consider and align aspects of all four. It is also evident that there are links between the different areas- for example policies to improve retention can assist in improving distribution; scaling up can be supported by improved retention, and so on. Finally, it should be noted that although all of the international evidence which is presented in this report is relevant to Timor-Leste's context, it will not all have equal relevance and applicability. In meeting current HRH priorities in Timor-Leste, further careful consideration of the context, informed by in-country intelligence and up-to-date information will be required.

The final section of the report outlines a matrix for assessing HRH policy interventions and options. The matrix is a means to assess potential interventions, providing a prompt about what issues need to be considered in the design of plans and strategies, as well as helping to identify the information required to inform selection of appropriate interventions.

The report concludes by noting that a national HRH plan should be aligned with, and support, an overall plan for the health sector. It should be comprehensive, taking into account identified HRH priorities and interconnections, and configured to be sustainable, with ambitious but realistic objectives. Importantly, it should be "owned" by all key stakeholders, supported by the strong and sustained leadership of the Ministry of Health.

1. Introduction

1.1. Project descriptions and purpose

The purpose of this report is to assist the Australian Agency for International Development (AusAID) in Timor-Leste to gain a deeper understanding of the key policy opportunities and constraints facing human resources for health (HRH). This will help in informing the design of the HRH component of AusAID's new health program which aims to address the priority areas identified in Timor-Leste's National Health Sector Strategic Plan (NHSSP) and to improve health outcomes for rural communities. This in turn is expected to support the development and implementation of Government of Timor-Leste (GoTL) HRH policy and strategy.¹

1.2. Context

The East Timor Minister for Health has requested that Australia support key areas of the NHSSP, as part of the Timor-Leste – Australia Strategic Planning Agreement for Development.² The provisional aims are for AusAID to support the GoTL to:

- I. implement evidence-based strategies to make available a high quality continuum of care for women and children, especially the most vulnerable
- II. produce, deploy, and manage nurses, midwives, and doctors through a comprehensive and systematic approach to plan for HRH
- III. mobilise rural communities to:
 - a) Protect the health and nutrition of mothers and children
 - b) Demand greater accountability and responsiveness from health care providers³

This report aims to build the AusAID knowledge-base, and inform the conceptual basis of the program, in respect of HRH.

1.3. Methodology and limitations

This report has been compiled following a mixed-methods desk based review, including:

- a review of the available international and Timor-Leste specific documentation on scaling up and on deployment and retention of health workers in underserved areas, complemented by key HRH lessons derived from available country case studies
- telephone interviews with key informants, as identified by AusAID, using a semi-structured interview schedule. A list of interviewees is provided at Appendix 1

The current assignment was limited to a desk review only, and did not involve any field work or site visits to Timor-Leste, nor discussion with key internal stakeholders beyond those noted.

This report is therefore focused on providing an assessment derived from available information and evidence specific to Timor-Leste, balanced by international evidence

¹ AusAID East Timor Health Team, "Terms of Reference: Review of Human Resources for Health (HRH)" (AusAID, 2012).

² 2012-13 to 2015-16, up to \$50 million

³ Ibid.

and experience. It does not aim to provide a location-specific detailed situation analysis.

The report is in four further sections. These are structured as agreed by AusAID in the delivery of the preliminary findings in November 2012.

Section 2 describes the health system context: it provides a brief profile of Timor-Leste, and an overview of the health system context, and key health priorities.

Section 3 sets out key HRH challenge: it describes relevant Timor-Leste HRH policies, challenges and emerging issues.

Section 4 is the core of the report. It firstly provides a framework to assist in developing a comprehensive HRH plan, and then provides key policy messages and “lessons learned” from an international review of the evidence on the implementation and impact of HRH policy interventions relevant to the Timor-Leste context.

Section 5 concludes the report by providing an outline approach for assessing the relevance and applicability of HRH policies and strategic interventions.

2. Context

2.1. Timor-Leste: Country Profile

Timor-Leste is a mountainous country of about 15,000 km² and a population of around 1.1 million, with over 70 per cent of those living in rural areas.⁴ Socio-economic activities are concentrated predominantly along the plains in the northern and southern corridor of the island, which is where most major urban centres are located, including the capital Dili⁵. This topography has HRH implications, in terms of distribution of health workers to meet need.

There are several languages and dialects spoken in the country, including Tetum and Bahasa Indonesian (spoken by 80 per cent of the population) and Portuguese, Mambai and Macassae which are each spoken by about 10 per cent of the population⁶. In addition, a major component of the medical workforce, the Cuban Medical Brigade, comprises Cuban doctors who are primarily Spanish speakers while many of the development partners and those that provide technical assistance work primarily in English. The range of languages in use is a factor to consider when examining effective HRH policy development.

In 2010 life expectancy at birth was 60.2 years for females, 58.6 years for males⁷. Timor-Leste has a population growth rate of 2.4 per cent, and more than 46 per cent per cent of the total population is under 15 years of age⁸. The total fertility rate is high (5.7 per woman in her childbearing age in 2010⁹) and there is little difference in fertility rates between socio-economic groups¹⁰. The World Bank has estimated that the population could quadruple by 2050¹¹, with the urban population growing faster than the rural population.

⁴ Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011 - 2030* (Dili, 2011), p. 74

⁵ Ibid. p. 114

⁶ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*, 2011, 2.

⁷ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

⁸ Ibid.

⁹ Ministry of Health Timor-Leste, *Human Resources for Health Country Profile: Timor-Leste* (Dili, 2012).

¹⁰ The World Bank, *Policy Note on Population Growth and Its Implications in Timor-Leste* (Washington, 2008).

¹¹ Ibid. p. 1

Almost 90 per cent of Timor-Leste's total budget revenue is derived from oil and natural gas resources, which the constitution dictates are state owned. Revenues contribute to The Petroleum Fund, managed by the Timor-Leste's Central Bank,' for the benefit of current and future generations'. The Petroleum Fund's balance had reached \$6.9 billion by the end of 2010.¹²

2.2. Policy Context

As noted in the Timor-Leste Strategic Development Plan 2011-2030 (SDP), Timor-Leste's Constitution enshrines 'a national health system that is universal, general, free of charge and, as far as possible, decentralised and participatory'¹³. The country is emerging from the conflict that occurred after the 1999 vote for independence, which displaced two-thirds of the population, and destroyed or seriously damaged three quarters of health facilities. Many health professionals and senior management left the country while much of the medical equipment and supplied was looted or destroyed¹⁴.

The health system has been gradually developing since the crisis. The current organizational structure has the Ministry of Health (MoH) managing health system functions through five directorates: Administration/Logistics, Finance/Planning, Human Resources Development, Community Health, and Hospital & Referral Services. The MoH also directly supervises the Institute of Health Sciences (IHS) that provides in-service training, the Servico Autonomo de Medicamentos e Equipamentos de Saude (SAMES) that is responsible for drug procurement, storage and distribution, and the National Laboratory.

Across the 13 administrative districts of Timor-Leste there are 66 Community Health Centres (CHC), 192 health posts, 42 maternity clinics, 6 hospitals¹⁵ and 162 mobile clinics that provide primary health care to the community. In 2008 the GoTL set out the Basic Services Package¹⁶ (BSP), which contained detailed specifications for the development of the health service system required to achieve health related MDGs. It details requirements for infrastructure and specifies staffing profiles for district health centres, sub-district health centres, and health posts,(it also makes provision for 'performance adjusted staffing levels'), as well as for management structures and responsibilities and key training requirements. The need to develop incentives and better define roles and responsibilities of managers is also noted. The BSP also sets out clinical and non-clinical roles to be performed by doctors.

It is estimated that the private health sector currently provides about 25 per cent of service delivery¹⁷, and is growing, with for-profit private clinics being established in urban areas¹⁸. While the MoH is the major provider of health services at all levels of health care, the Non-government organisation (NGO) sector also provides substantial care: Clinical Café Timor, a NGO, runs eight CHC-type clinics and 24

¹² Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011 - 2030*.p. 195

¹³ Ibid, 33.

¹⁴ Alvaro Alonso and Ruairí Brugha, "Rehabilitating the Health System After Conflict in East Timor: a Shift from NGO to Government Leadership.," *Health Policy and Planning* 21, no. 3 (May 2006): 206–216, <http://www.ncbi.nlm.nih.gov/pubmed/16565152>.

¹⁵ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

¹⁶ Ministry of Health Timor-Leste, *Basic Services Package For Primary Health Care and Hospitals: Acheiving the MDGs by Improved Service Delivery* (Dili, 2007).

¹⁷ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

¹⁸ Ibid.

mobile clinics, Caritas, a faith based NGO operates 27 mobile clinics and there are approximately 32 faith-based clinics¹⁹.

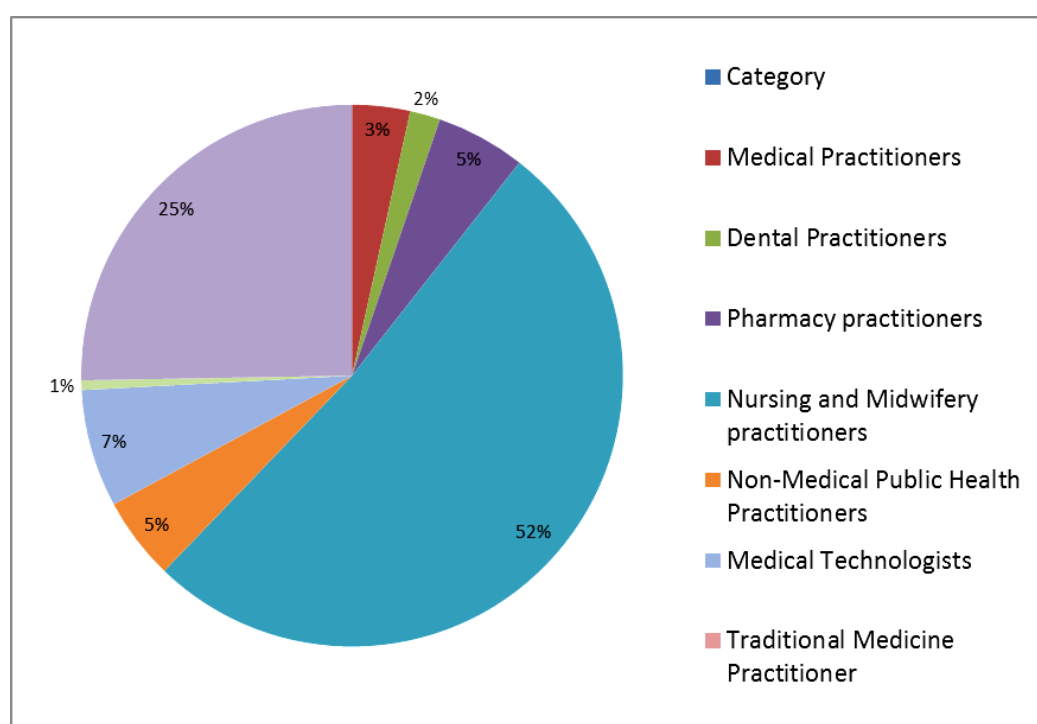
The World Health Organization (WHO) identified the major health challenges in Timor-Leste as (i) health system strengthening (ii) prevention, control, elimination and eradication of diseases (iii) health of mothers, adolescents and children (iv) health promotion and health determinants and (v) emergency preparedness and response²⁰. Key health sector targets are outlined in the Timor-Leste Strategic Development Plan 2011-2030²¹ (SDP) (see Appendix 2).

There is a specific policy focus on maternal and child health (MCH) through the 2004 – 2015 National Reproductive Health Strategy, which highlights in-service competency training and pre-service midwifery education, and the need for better collaboration between skilled birth attendants and traditional birth attendants and between public and private health providers. A more recent review of HRH issues in MCH in Timor-Leste also noted the need for management training, supervisory and clinical skills²².

3. Human Resources for Health in Timor-Leste – An Overview

3.1. HRH Profile

Figure 1: Percentage of Health Professionals by Cadre, 2011.



Source: Adapted from Ministry of Health 2012, Table 4.1, P. 17-18

¹⁹ Ministry of Health Timor-Leste, *Human Resources for Health Country Profile: Timor-Leste*.

²⁰ World Health Organization, "WHO Timor-Leste Country Cooperation Strategy 2009-2013," n.d., http://www.tls.searo.who.int/en/Section3_101.htm.

²¹ Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011-2030*, 2011.

²² Angela Dawson et al., *Human Resources for Health in Maternal, Neonatal and Reproductive Health at Community Level: A Profile of Timor-Leste* (Sydney, 2011), 12.

It is not possible to present an accurate profile of the overall health workforce in Timor-Leste. HRH data in the public sector is incomplete, particularly in relation to health workforce dynamics, and there is no comprehensive HR information system (HRIS). Some published data is also out of date. Data on staff on the private and NGO sectors is also not consolidated to enable any national strategic intelligence or national planning overview to be developed.

The most recent data available is in a “one off” unpublished compilation of HRH data from the Ministry of Health, collated from multiple sources²³. Overall percentage distribution of health professionals is shown in Figure 1. The Figure highlights that half of the workforce are nurses and midwives. However there are different figures reported in different parts of the report. For example, in one table²⁴ the data that is presented shows 234 doctors, 805 nurses and 368 midwives in 2010. In another Table²⁵ it is reported that in 2010 there were 2433 health workers, including 84 medical practitioners, 867 nurses, and 388 midwives. According to this report, the Cuban Medical Brigade accounted for approximately two thirds of the doctors, and about 60 per cent of the health workforce is providing health services in primary health care settings.

It should be noted that different data is also reported in other publications. For example, the most recent published WHO figures, for 2011 indicate that there are 79 doctors, 1468 nurses and 327 midwives²⁶ (these data appear to relate to 2004²⁷). Discrepancies such as these data variations indicate a lack of firm evidence on which analysis and planning can be based, and undermine efforts to engage stakeholders with strong, evidence-based proposals for action.

In addition, complete data are not available on the number of health professionals employed by the private sector or NGOs, despite the significant service delivery role they perform. Linked to this point, it is also not possible to identify the extent of dual practice, where individual health professionals work in both the public and private sectors. One recent report gives data on numbers in the private sector but there are data discrepancies in its presentation²⁸.

The relatively low level of availability of skilled health workers is one of the key challenges in the health system. Shortages are compounded by the related challenge of achieving more effective distribution of available staff. This is illustrated in Figure 2, compiled using 2010 MoH and DNE (National Statistics Directorate) calculations²⁹.

²³ Ministry of Health Timor-Leste, *Human Resources for Health Country Profile: Timor-Leste*, 15.

²⁴ Ibid, table 4.1.1, p15

²⁵ Ibid, table 4.1, p 17

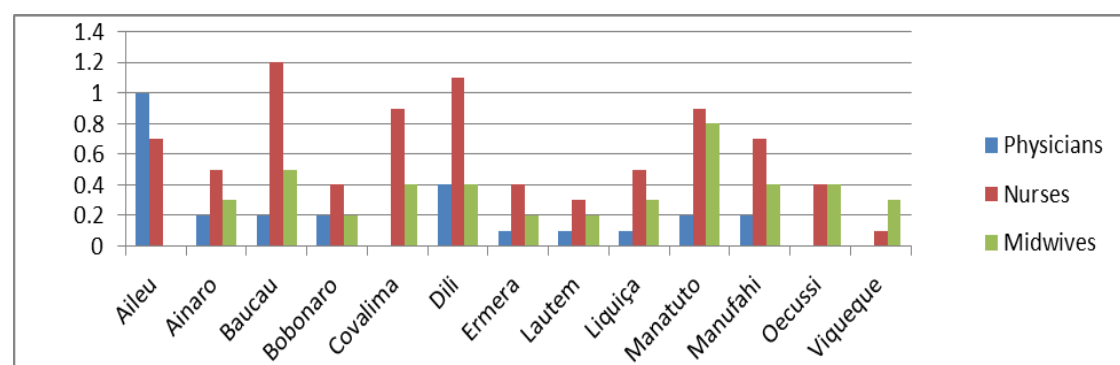
²⁶ World Health Organization, *World Health Statistics 2011* (Geneva: World Health Organization, 2011), http://www.who.int/gho/publications/world_health_statistics/EN_WHS2011_Full.pdf. NB: No health workforce statistics are included in WHO's *World Health Statistics 2012*.

²⁷ World Health Organization, *World Health Statistics 2006* (Geneva: World Health Organization, 2006), http://www.who.int/gho/publications/world_health_statistics/whostat2006_erratareduce.pdf.

²⁸ Dawson et al., *Human Resources for Health in Maternal, Neonatal and Reproductive Health at Community Level: A Profile of Timor-Leste*, 10.

²⁹ Ministry of Health Timor-Leste, *Human Resources for Health Country Profile: Timor-Leste*.

Figure 2: Physicians, nurses and midwives per 1,000 inhabitants (2010).



Source: Adapted from Ministry of Health (2012)³⁰

Although the data shown in Figure 2 should be treated with caution, it illustrates not only a disequilibrium in the geographical distribution of different professions, but also that differing skill mixes exist in different parts of the country. For example Aileu is reported to have no midwives and more doctors than nurses whilst Oecussi is reported to have no doctors, and equal, but lower ratios of nurses and midwives.

A key HRH issue is the imminent entry into the workforce of significant numbers of Cuban trained doctors. These doctors will provide a scaling up of available staff, but will also present challenges in relation to the revised staff mix and the pressure of additional on-going staff costs. Currently there are approximately 700 Timorese students studying medicine in Cuba, and a further 180 studying at the National University of Timor-Leste under a MoH/Cuban Medical Brigade Program. It is understood that 406 of these Cuban-trained Timorese doctors graduated in November 2012 and will enter the health system in 2013³¹. This will represent both a significant and sudden (if not unpredictable) scale up, and will increase the proportion of medical practitioners in the workforce significantly.

3.2. The HRH Policy Context

In addition to the Basic Services Package which sets targets for the overall configuration and staffing of the health system, HRH is recognized in a number of other key national policy documents, which are discussed briefly below.

One key policy document is the Timor-Leste Strategic Development Plan 2011-2030 (SDP, 2011), approved by Parliament in 2011³², which sets out strategic directions to guide national development across the three areas of social capital, economic development and infrastructure. It identifies human resources for health as one of the three key areas for action in delivering on the key priorities for the health sector³³, and presents strategic directions for HRH:

- Strengthening the quality of training and education
- Developing continuing education and in-service training programs
- Develop and deliver strategies to improve human resources management including
 - Workforce planning

³⁰ Ibid.

³¹ Informant interview, November 2012.

³² Government of Timor-Leste, "Publications: The Fifth Constitutional Government Program," n.d., <http://timor-leste.gov.tl/?cat=32>.

³³ Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011 - 2030*.p.34

- Equitable recruitment strategies
- Development and distribution of appropriate skill mix
- Retention through incentives and opportunities
- Standards and codes of conduct and ethical practices to be developed³⁴

Infrastructure needs are also recognized in the document, with planned improvements of health posts and community health centres (CHCs) reported, as well as expansion of CHCs and construction of new health posts. This is to include staff housing³⁵.

The most important policy document, in terms of shaping HRH policy and planning in the health sector, is the National Health Sector Strategic Plan 2011- 2030 (NHSSP, 2011). It is guided by the principles of the SDP and was introduced in 2011 following a review of the previous Health Sector Strategic Plan (HSSP). The NHSSP provides a framework to guide the MoH and includes a brief chapter on HRH which includes objectives in relation to (i) the development and (ii) the management of HRH. The chapter includes various elements of HRH: workforce planning; continuing professional development and licensing; re-certification and regulation; personnel management and occupational health and safety³⁶.

A national health workforce plan, (National Health Workforce Plan Democratic Republic of Timor-Leste 2005-2015³⁷ (NHWP - 2005)) was published in 2005 but is now of limited utility, as it pre-dates significant developments such as the current NHSSP, the development of the Basic Services Package in 2007 and the implementation of SISCa in 2008 (SISCa is Integrated community health services; mobile outreach services that provide integrated care, including health promotion, on a monthly basis, in almost every suco-village level- in the country).³⁸

Overall, these key health policy documents have identified HRH as a major enabler for change, but have also emphasised current HRH constraints, notably staff shortages, geographic maldistribution of staff and inadequate human resource management (HRM) systems and procedures. There is also no up-to-date comprehensive HRH plan or Strategy. These HRH challenges and opportunities are explored in more detail along with others in the next section.

3.3. HRH challenges and opportunities in Timor-Leste

A review of the relevant policy documents, and information provided by key informants identified the main HRH challenges and opportunities in Timor-Leste. These are the most important issues facing policy makers in Timor-Leste, and are summarized in tabular form below to assist in mapping the current HRH policy terrain. The tables summarize the key challenges for consideration when developing a comprehensive HRH plan or strategy for Timor-Leste while the “opportunities” column highlights opportunities where there is scope to build on or develop current capacity.

³⁴ Ibid.p.41

³⁵ Ibid.p.42

³⁶ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

³⁷ Ministry of Health Timor-Leste, “National Health Workforce Plan Democratic Republic of Timor-Leste 2005-2015” no. May (2005).

³⁸ Ministry of Finance, National Statistics Directorate, and ICF Macro, *Timor-Leste Demographic and Health Survey 2009-2010*, *Health San Francisco*, vol. 395 (Dili, 2010), 59, <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=cagh&AN=20113091711>.

3.3.1. HRH Shortages

Challenges	Opportunities
<p>The issue of “shortages” is both about an absolute numerical shortage in relation to population, and a relative lack of trained staff³⁹. Main reported shortages are for doctors, nurses, midwives, managers⁴⁰, and paramedical and specialist staff⁴¹.</p> <p>Shortage of skilled faculty continues to represent a barrier to both training of new staff and development of existing staff.</p>	<p>Approximately 470 Cuban-trained doctors are due to enter the system in 2013, with more to follow in subsequent years.</p> <p>The potential for other rapid scale up within the country is low, because of education and training capacity constraints but is increasing. The School of Nursing and Midwifery opened at the National University of East Timor (UNTL) in 2008⁴² and is running a four-year pre-service diploma course for nurses and midwives. A three year program is also available at IHS⁴³ which has developed courses in medicine and other professional areas and where 180 students are currently studying medicine locally under a partnership between UNTL and the Cuban Medical Brigade⁴⁴.</p> <p>IHS operates under MoH direction and with additional support could have the potential to make a bigger contribution to the provision of in-service training.</p>

3.3.2. HRH Distribution

Challenges	Opportunities
<p>The geographic distribution of the available skilled health workers in Timor-Leste undermines equitable access to health system for people living in rural areas⁴⁵.</p> <p>Accurate data on distribution of the workforce, or retention rates is difficult to obtain, constraining the identification of effective policy solutions.</p>	<p>The Basic Services Package⁴⁶ indicates the MoH’s in-principle support for the use of incentives to address rural and regional service delivery, and it is understood that financial incentives for service in remote areas has been put in place⁴⁷.</p> <p>The Integrated Community Health Services (SISCa) has been introduced to improve access for rural people in order to bring the Basic Services Package to <i>suco</i> (village) level⁴⁸ and potentially provides a model for</p>

³⁹ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

⁴⁰ UNFPA, “Timor-Leste,” in *State of the World’s Midwifery 2011* (UNFPA, 2011), 138–139, http://www.unfpa.org/sowmy/resources/docs/country_info/profile/en_TimorLeste_SoWMy_Profile.pdf.

⁴¹ Joao Olivio da Silva, *Mid Term Review Health Sector Performances 2008 - 2010*, 2010.

⁴² Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

⁴³ Dawson et al., *Human Resources for Health in Maternal, Neonatal and Reproductive Health at Community Level: A Profile of Timor-Leste*.

⁴⁴ Augustine Asante, John Hall, and Graham Roberts, *A Review of Health Leadership and Management Capacity in Timor-Leste*, 2011.

⁴⁵ Ministry of Health Timor-Leste, *Basic Services Package For Primary Health Care and Hospitals: Acheiving the MDGs by Improved Service Delivery*, 24; Authors Anthony B Zwi et al., *Timor-Leste Health Care Seeking Behaviour Study: Final Report*, 2009.

⁴⁶ Ministry of Health Timor-Leste, *Human Resources for Health Country Profile: Timor-Leste*.

⁴⁷ Informant interview, November 2012.

⁴⁸ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

	<p>better access to services as well as better partnerships with local communities⁴⁹.</p> <p>Mobile clinics are in use, and if well co-ordinated, could provide a model for providing some types of care in remote areas [many are currently operated by NGOs].</p> <p>Community Health Workers (CHW) and traditional healers/ traditional birth attendants may represent a potential additional workforce to provide basic care and referral into the formal health care system, provided appropriate training and support can be provided.</p>
--	---

3.3.3. HRH Capacity: Clinical Services

Challenges	Opportunities
<p>Reported low quality of services has been identified as a factor in low health service utilisation, and for many people's preference for non-MoH services⁵⁰, including the use of traditional healers and traditional birth attendants (TBAs)⁵¹. Similarly, a report on maternal health care services identified that poor service quality is an issue affecting outcomes as well as the level of community confidence in the health service and health seeking behaviour⁵².</p> <p>Capacity of educational institutions is low including shortages of skilled teachers.</p> <p>Systems for clinical supervision and quality monitoring are reportedly poor or non-existent.</p>	<p>Support for in service training is being developed, for example in the collaboration between the Instituto Nacional de Saude (INS) and the Burnet Institute to strengthen capacity to plan, manage and deliver in-service training for doctors, nurses and midwives..</p> <p>Recently graduated nurses and midwives are reportedly trained with foundations of evidence-based practice and will have greater capacity for skill up which could be capitalised upon.</p> <p>Additional training capacity is possible, if created through scholarships. Scholarships have been made available to support post-graduate training offshore. Donors also provide scholarship funds and these could potentially be utilised more to train additional health workers⁵³.</p> <p>GoTL has established and administers the Human Development Fund with potential to provide further source of training funds.</p>

⁴⁹ UNDP, *Timor-Leste Human Development Report 2011: Managing Natural Resources for Human Development*, 2011, <http://hdrstats.undp.org/en/countries/profiles/TLS.html>.

⁵⁰ Joseph Rees, "USAID Strategic Plan for East Timor: A New Nation Moving Forward, 2005-2009" (2009).

⁵¹ Ibid.p.42

⁵² Angela Dawson and Natalie Gray, *Human Resources for Health in Maternal , Neonatal and Reproductive Health at Community Level: A Synthesis of the Literature with a Focus on the Asia and Pacific Regions*, 2010, [http://www.hrhhub.unsw.edu.au/HRHweb.nsf/resources/HRH+in+MNRH+literature+synthesis+2009.pdf/\\$file/HRH+in+MNRH+literature+synthesis+2009.pdf](http://www.hrhhub.unsw.edu.au/HRHweb.nsf/resources/HRH+in+MNRH+literature+synthesis+2009.pdf/$file/HRH+in+MNRH+literature+synthesis+2009.pdf).

⁵³ John Dewdney et al., "Strengthening Human Resources for Health in Timor-Leste: Progress, Challenges and Ways Forward (Draft)" ((unpublished), 2009).

3.3.4. HRH Capacity: Planning, Management and Administration

Challenges	Opportunities
<p>Significant deficits in managerial and administrative capacity have been identified at both central and sub-regional levels in the health system,⁵⁴ and were noted by interviewees. Identified areas for improvement include:</p> <ul style="list-style-type: none"> • Basic managerial, supervisory and administrative skill • Planning, coordination and strategic development • Intersectoral collaboration • Data collection, management and interpretation <p>Inadequate HRH information and information systems at all levels</p> <p>The current priority short term focus on the influx of Cuban-trained physicians may distract from the strategic decision making which is needed on the effective skill mix and budget allocation to support this.</p> <p>Language barriers add difficulty to implementing policy and programs.</p>	<p>High level policy frameworks for the sector are already in place (e.g. SDP, NHSSP).</p> <p>Provision of additional technical assistance for MoH planned in both HRH data collection and HRH planning.</p> <p>A number of capacity-building projects underway seeking to improve management capacity.</p>

3.3.5. HRH Working conditions, infrastructure and support

Challenges	Opportunities
<p>Little documented evidence on working conditions experienced by most health professionals, though reportedly it has been poor in the past⁵⁵.</p> <p>Accurate and complete position descriptions (or other form of job role delineation) are not always present and positions can be inconsistently graded⁵⁶, affecting pay levels</p> <p>Improvements needed in supervision, performance management and ongoing professional development for staff at all levels.</p> <p>Lack of clarity about future role of Cuban-doctors in relation to other staff including</p>	<p>Incentives to encourage rural practice already introduced as part of the Basic Services Package</p> <p>NHHSP includes commitment for improving housing for health workers as part of capital works on health posts</p> <p>SDP incorporates objective to institute comprehensive performance management⁵⁷</p> <p>Project underway to develop and implement standard job descriptions for midwives</p> <p>New career regime developed [but it is understood to have not yet received final</p>

⁵⁴ Asante, Hall, and Roberts, *A Review of Health Leadership and Management Capacity in Timor-Leste*.

⁵⁵ Maggie Huff-Rousselle, *Starting From Scratch in Timor-Leste Establishing a Pharmaceutical and Medical Supplies System in a Post-Conflict Context* (Washington, 2009).

⁵⁶ Dawson et al., *Human Resources for Health in Maternal, Neonatal and Reproductive Health at Community Level: A Profile of Timor-Leste*.

⁵⁷ Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011 - 2030*.

managerial structures and reporting relationships	approval].
No full costing of total package of infrastructure improvement required to enable effective deployment of Cuban trained doctors	

4. Developing an HRH Plan: Framework and Evidence

How can the various HRH challenges and opportunities identified in the previous section be addressed effectively, in a co-ordinated and appropriately sequenced manner? The obvious solution is to develop a national HRH plan that maximizes the opportunities noted above, addresses the constraints and challenges, and provides linked support to delivering the National Health Plan. To develop an HRH plan requires a clear appreciation of the country context and health service priorities. Whilst it is appropriate that its development should be led by the Ministry of Health, it is unlikely to be effective if it is not jointly “owned” by key stakeholders, notably relevant government Ministries and agencies.

This section is in two parts. The first provides an overarching HRH framework within which to identify the various elements of HRH policy that should be considered when developing an HRH plan. The second reports on key messages from a review of the relevant HRH evidence.

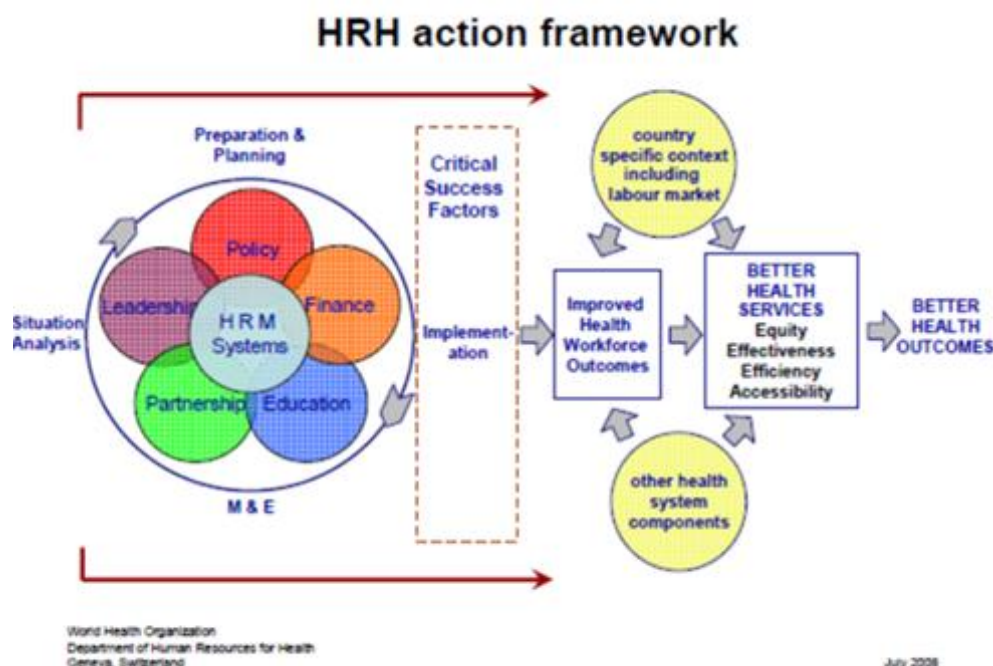
4.1. The HRH Action Framework

When developing an HRH plan, the policy elements must be appropriate to the context and based on agreed policy priorities. These elements are interconnected, with scope to optimize positive impact through linkage, co-ordination and sequencing. Developing an HRH plan should not be regarded as a static “one off” exercise, it is a dynamic process that should lead to a policy instrument that is robust and comprehensive but is also adaptable to changing external policy challenges over time.

There are a number of different existing HRH frameworks which can assist policy makers and planners to think through policy elements, connections and sequencing when developing an HRH plan⁵⁸. The WHO HRH Action Framework provides one such framework, identifying the key elements that need to be addressed in a comprehensive HRH plan and strategy. The Action Framework also emphasizes that the ultimate goal is “better health outcomes”- it is not more staff, or better trained staff, which are intermediary objectives. The six key elements of the Framework are policy, finance, education, partnership, leadership and human resources management (HRM) systems, as outlined in Figure 3, below.

⁵⁸ See for example: World Health Organization, Models and Tools for Health Workforce Planning and Projections, 2010; Noriko Fujita et al., “A Comprehensive Framework for Human Resources for Health System Development in Fragile and Post-conflict States,” PLoS Medicine 8, no. 12 (December 2011): e1001146, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3243715&tool=pmcentrez&rendertype=abstract>; Stephen Birch et al., “Health Human Resources Planning and the Production of Health: Development of an Extended Analytical Framework for Needs-based Health Human Resources Planning,” Journal of Public Health Management and Practice : JPHMP 15, no. 6 Suppl (November 2009): S56–61, <http://www.ncbi.nlm.nih.gov/pubmed/19829233>.

Figure 3: HRH Action Framework



Source: WHO⁵⁹

The Framework is available on-line (<http://www.capacityproject.org/framework/>). Each of the six components of the Framework is discussed below in brief and are described more fully in Appendix 4.

4.1.1. Human Resource Management (HRM) Systems

Human resource management and planning is at the core of any policy implementation- it is the delivery mechanism for HRH policies. This requires good HRH data but is about much more than information. There are several components which have to be fully considered and developed as part of a comprehensive approach to HRM^{60, 61}. These include:

- clearly defined job roles, responsibilities and accountabilities
- performance management systems, including supportive supervision (clinical and non-clinical)
- systematic identification of development needs of staff, linked to relevant in service training/ CPD
- established salary and career structure; supportive working conditions

⁵⁹ World Health Organization, "HRH Action Framework" no. July (2008): 2008, <http://www.who.int/hrh/tools/en/>.

⁶⁰ World Health Organization, *Guide to Health Workforce Development in Post-conflict Environments* (Geneva, 2005).

⁶¹ Marjolein Dieleman, Barend Gerretsen, and Gert Jan van der Wilt, "Human Resource Management Interventions to Improve Health Workers' Performance in Low and Middle Income Countries: a Realist Review.," *Health Research Policy and Systems / BioMed Central* 7 (January 2009): 7, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2672945&tool=pmcentrez&rendertype=abstract>.

- effective and unbiased discipline and grievance procedures
- HR information systems (HRIS)

The current situation in Timor-Leste falls short of meeting these key elements of effective HRM- there is limited HRM capacity, weak performance management and no effective HRIS.

4.1.2. Policy

Effective HRH policy development and implementation underpins HRM. This includes a comprehensive understanding of the current workforce status and environment, establishing clear directions for future development and ensuring that policies are implemented.

A five step approach to developing HRH policy has been suggested:

- assessing current indicators of the status of the health workforce against benchmarks;
- developing criteria for prioritizing problems relating to human resources for health;
- choosing policies to improve the health workforce;
- sequencing the implementation of policies; and
- developing a political strategy to increase support for policies⁶².

Policy areas include strategic intelligence on the workforce and labour markets; mechanisms for stakeholder engagement; a national planning framework; professional licensing, standards and accreditation; scopes of practice for health cadres, and employment laws and rules⁶³. These are all areas where progress has been slow in Timor-Leste..

4.1.3. Finance

Effective fiscal planning and budgeting is essential to ensuring adequate funding for HRH and to meet HRH costs. These include most obviously salaries and allowances where funding must be allocated to enable employment of current staff and those planned to enter the workforce for training and elsewhere. The imminent arrival of Cuban trained doctors in Timor-Leste is one relevant example. However, in a publically funded system it will also include costs associated with initial and ongoing training and development of the workforce; ensuring education institutions are adequately funded to provide both facility-based education and clinical placements; and that sufficient funds are set aside for any special initiatives (e.g. incentives for rural placements). This will require close co-operation between Ministries of Education, Health, Finance and Civil Service Commission.

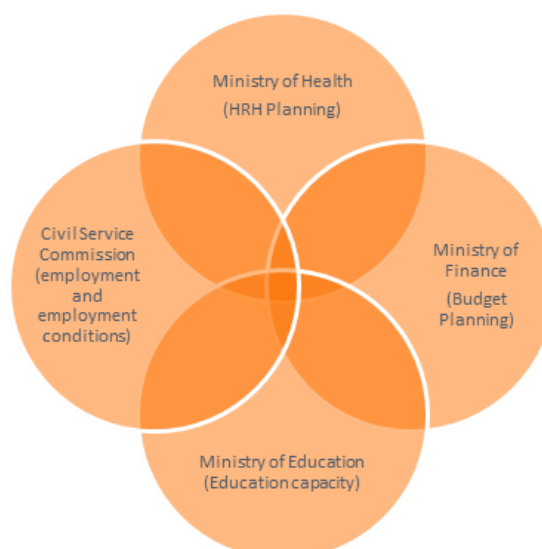
4.1.4. Partnerships

Effective partnerships are an essential part of HRH development and planning, which is by its nature is inter-sectoral.

⁶² Thomas J Bossert et al., *Assessing Financing, Education, Management and Policy Context for Strategic Planning of Human Resources for Health* (Geneva, 2007), http://www.who.int/hrh/tools/assessing_financing.pdf.

⁶³ World Health Organization, "HRH Action Framework."

Figure 4: Partnerships between government departments and agencies for HRH: Timor-Leste examples.



Source: Authors

The development of an effective HRH plan in Timor-Leste will have to align with the planning processes of other relevant departments and agencies so that, for example, training priorities identified in the HRH plan will be reflected in the planning processes of the Education Department. In addition, non-government bodies will also be crucial, such as professional bodies and associations, private and NGO sectors, (accreditation and professional development) and development partners (funding and technical assistance).

4.1.5. Leadership

The HRH Action Framework stresses the importance of leadership to provide direction, align people and mobilize resources to reach goals. This includes leadership development of HRH managers at all levels, which, as noted above is currently weak in Timor-Leste, and developing the capacity for collaboration within and between sectors, and strengthening professional associations.

4.2. HRH Policy Interventions

The first part of this section, above, sets out the elements to consider when developing an overarching HRH plan. In this second part more detailed consideration is given to synthesizing the evidence on specific HRH policy interventions that are likely to be main priorities in Timor-Leste, given the HRH challenges identified earlier. The evidence is drawn from a rapid review that identified more than 325 papers and reports⁶⁴. This synthesis of HRH evidence and lessons is structured under four main headings, which emerged in discussions with AusAID as likely areas for policy intervention:

- scaling up
- change skill mix/ task shift
- improve retention
- improve distribution

⁶⁴ Please refer to Appendix 5 for more detail on the research method used.

Each of these four areas is discussed below. Key messages from the evidence review are highlighted; source material such as guidelines and systematic reviews is identified, case study examples are provided, and issues for consideration are noted. The aim is to provide pointers to any subsequent fuller development of an HR plan or related interventions.

The four areas are not mutually exclusive; it is likely that an effective HRH plan and strategy will consider and align aspects of all four. It is also evident that there are links between the different areas- for example policies to improve retention can assist in improving distribution; scaling up can be supported by improved retention, etc. Finally it should be noted that not all the specific evidence points that are noted will have equal relevance or applicability in meeting current HRH priorities in Timor-Leste. They are highlighted as being worthy of consideration in terms of shaping policy direction, but must be subject to full assessment.

4.2.1. Scaling Up

- Scaling up can focus on training more staff, training new/different cadres of staff, or up-skilling current staff, or can reflect a scaling up of performance of the health system more generally. Effective scaling up the health workforce requires the same attention to planning, costing, stakeholder engagement, and funding as other HRH interventions⁶⁵.
- Key enablers of successful scaling up are effective coordination and planning; the development of educational capacity, including both curriculum development; and securing a skilled faculty, and the coordination and commitment of key stakeholders⁶⁶.
- Scaling up can include the use of Community Health Workers (CHW); effective deployment of CHW requires the same scaling up strategies as for other cadres- stakeholder involvement, workforce planning, assessment of training implications, costing of training and infrastructure⁶⁷; large scale up of CHWs could be effective in child survival but success depends on context⁶⁸
- The costing of scaling up is often not fully developed prior to implementation; however costing is an important element in stakeholder engagement and in providing a framework for assessing HRH policy options⁶⁹

The Task Force for Scaling Up Education and Training of Health Workers identified a range of critical success factors and key strategies⁷⁰. The critical success factors, which included high level and sustained political commitment, effective workforce planning linked to expanded training capacity, and the use of “enabling strategies” (e.g. good information systems and effective leadership) are all relevant to the

⁶⁵ Gilles Dussault et al., *Scaling Up the Stock of Health Workers: A Review* (Geneva: International Centre for Human Resources in Nursing, 2009).

⁶⁶ Nigel Crisp, Bience Gawanas, and Imogen Sharp, “Training the Health Workforce: Scaling up, Saving Lives,” *Lancet* 371, no. 9613 (February 23, 2008): 689–91, <http://www.ncbi.nlm.nih.gov/pubmed/18295028>.

⁶⁷ Global Health Workforce Alliance (2010) *Community Health Workers: Key Messages*. GHWA Geneva.

⁶⁸ Andy Haines et al., “Achieving Child Survival Goals: Potential Contribution of Community Health Workers,” *Lancet* 369, no. 9579 (June 23, 2007): 2121–31, <http://www.ncbi.nlm.nih.gov/pubmed/17586307>.

⁶⁹ Amanda K Tyrrell et al., “Costing the Scaling-up of Human Resources for Health: Lessons from Mozambique and Guinea Bissau,” *Human Resources for Health* 8 (January 2010): 14, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2902408&tool=pmcentrez&rendertype=abstract>

⁷⁰ Task Force for Scaling Up Education and Training for Health Workers, *Scaling Up, Saving Lives* (Geneva, 2008).

current situation in Timor-Leste. As stakeholders in Timor-Leste review the options for scaling up, there should be close consideration of the success factors that are set out in the Task Force report, and the associated case studies. Some of the case studies are summarised below, and all have some degree of relevance for Timor-Leste, in terms of the approaches used, and lessons learned.⁷¹

Scaling up in Cambodia: midwife incentives and scale up

In Cambodia, a midwife allowance was introduced in 2008 following a ministerial announcement of the previous year. It provides for an allowance to be paid to the midwife for each live delivery, with the stated objective to “drastically reduce maternal and infant mortality rate”⁷². An allowance equivalent to approximately US\$15 is paid for each live delivery in a health facility or post, with a slightly lower rate of US\$10 applying if the delivery is in a national or referral hospital or a national health centre. Administration of this scheme utilizes existing funding and data collection mechanisms. The current cost is approximately US\$3 million, and the allowance forms up to ten per cent of midwife wages⁷³. It is understood that the allowance is sometimes distributed to other staff such as traditional birth attendants, as an incentive for referral. The midwife incentive was one of a number of initiatives introduced to improve maternal health, including increasing the numbers of midwives and health centres, improvements to continuity of care, increased coverage on emergency and neonatal care services, as well as sector-wide reforms to health funding and administration, including improvements to management support and contract/performance management. However, there have been significant improvements in the maternal mortality ratio since its introduction, and the incentive appears to have contributed to these outcomes⁷⁴.

Scaling up in Afghanistan: Community midwives

Afghanistan increased the proportion of women delivering with the skilled attendants from six per cent to 19.9 per cent between 2002 and 2006 by investing in skilled birth attendants and creating a new cadre called community midwives. This cadre comprised women with at least nine years formal education from remote communities. They were trained for 18 month in the practice and theory of managing normal deliveries and recognising and referring complication. Communities have been involved in establishing criteria for trainee selection, helping to overcome initial difficulties in recruitment. Women commit to working back at their communities for at least three years when undertaking training. Merlin, that supports two community midwife schools, reports that the programme also has a positive impact in empowering women and providing them with an independent income⁷⁵.

Issues to Consider

The Task Force report identifies the lessons learned and criteria for success to consider when planning to scale up HRH. These highlight that any planned scaling up of the production of health workers has to be aligned with both medium and long term workforce planning. Both are critically reliant on the availability of accurate data on the current health workforce, the projected future need, and the capacity to project costs of both training and employment with a reasonable level of accuracy.

⁷¹ Ibid, 101–110.

⁷² Royal Government of Cambodia, *Inter-Ministerial Announcement (Prakas) on Allowance for Midwives*, 2007.

⁷³ The World Bank, *Cambodia More Efficient Government Spending for Strong and Inclusive Growth: Integrated Fiduciary Assessment and Public Expenditure Review (IFAPER)*, 2011.

⁷⁴ Ibid.

⁷⁵ Merlin, *Investing in Health Workers to Save Lives in Fragile States* (London, 2009).

The current situation in Timor-Leste, with limited data and planning capacity, is not well developed to meet these criteria for success. Without support for improvements in these areas, there is a high risk that scaling up will not meet objectives. Policy makers in Timor-Leste should also note that pitfalls in scaling up efforts in other countries have been a lack of country-level coordination of health training, inequitable access to training, interrupted services, failure to reinforce skills and knowledge training by addressing other performance factors⁷⁶, and failure to allocate sufficient funds to achieve scaling up targets and employ the workers that are produced.

4.2.2. Change Skill mix / Task shift

- “Skill mix” refers to the combination of health worker competencies and skills. The optimal skill mix is that combination that produces a given level of service or a particular quality at the lowest cost. “Task Shifting” refers to the process of moving specific tasks to health workers with shorter training and fewer qualifications, or delegating tasks to newly created cadre⁷⁷. It is an important policy option for improving skill mix imbalances as well as for addressing workforce shortages^{78, 79}.

Each of the main different technical and policy approaches to making decisions on skill mix has strengths and weaknesses- no single approach is “best” in all situations⁸⁰. Global recommendations and guidelines on task shifting were developed by WHO in 2008 and are provided at Appendix 6. The recommendations emphasise the need for a coordinated approach to task shifting based on sound information about the demography of HRH, including private and public sectors, as well as the extent to which task shifting may already be taking place informally. Task shifting needs to be supported by the development of an appropriate framework of legislation, regulation and guidelines, including defining the scope of practice and required competencies for the workers involved. A framework for monitoring and quality assurance should also be developed. The task shifting report also presents case studies where task shifting has been identified as having achieved positive improvements.

Task shifting in South Sudan: Clinical Officers

In South Sudan, the health workforce, as well as facilities, services and institutions were depleted after 20 years of conflict, and health indicators were amongst the worst in the world. In response, the African Medical Research Foundation (AMREF) and the National Health Training Institute (NHTI) trains a cadre of mid-level health

⁷⁶ Pape a Gaye and David Nelson, “Effective Scale-up: Avoiding the Same Old Traps,” *Human Resources for Health* 7 (January 2009): 2, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2631469&tool=pmcentrez&rendertype=abstract>.

⁷⁷ Fulton et al., “Health Workforce Skill Mix and Task Shifting in Low Income Countries: a Review of Recent Evidence.”

⁷⁸ Brent D Fulton et al., “Health Workforce Skill Mix and Task Shifting in Low Income Countries: a Review of Recent Evidence,” *Human Resources for Health* 9, no. 1 (January 2011): 2, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3027093&tool=pmcentrez&rendertype=abstract>.

⁷⁹ Larissa Jennings et al., “Task Shifting in Maternal and Newborn Care: a Non-inferiority Study Examining Delegation of Antenatal Counseling to Lay Nurse Aides Supported by Job Aids in Benin,” *Implementation Science : IS* 6, no. 1 (January 2011): 2, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3024964&tool=pmcentrez&rendertype=abstract>.

⁸⁰ James Buchan, Jane Ball, and Fiona O'May, *Determining Skill Mix in the Health Workforce: Guidelines for Managers and Health Professionals* (Geneva, 2000), http://www.who.int/management/determining_skill_mix.pdf.

professionals, described as mid-way between a doctor and a nurse, called Clinical Officers. Clinical Officers provide preventative and curative services to rural populations in health centres and hospitals. Students begin practical training and supervision in the first year of the course, and then undertake a full year of heavily supervised practical work experience before they qualify. According to AMREF, clinical officers are trained for one tenth of the cost of training a doctor and training takes and approximately half the time.⁸¹

Task shifting in Ethiopia: Health Extension Workers (HEWs)

HEWs have been deployed to rural areas in Ethiopia; they receive one year training and work as part of the formal health system receiving a monthly salary.

Task shifting in Benin: Nurses Aides

The task of providing antenatal counselling was shifted from nurse-midwives to nurses aides. Training was provided to both cadres, with nurse-midwife training focusing on competencies to assist them in supervision and feedback⁸².

Issues to Consider

In Timor-Leste, the approach to task-shifting or skill mix based change must be appropriate to the context; stakeholders should be involved; costs and benefits of any change should be assessed; any unnecessary legislative and regulatory constraints identified [or enablers utilized] and training implications of skill mix change identified. There is also a need to assess the implications for pay and working conditions.

These latter two points are of particular relevance to the current context in Timor-Leste. Firstly, the current training capacity is limited, and any focus on skill mix change that had training implications would have to be fully assessed for its impact on the training institutions. Secondly, skilling up of a cadre will raise expectations that they will receive additional pay.

4.2.3. Improve Retention

- Any unnecessary turnover of staff represents a cost to the organization; greater health workforce stability can contribute to system productivity and improved health outcomes⁸³
- Retention efforts must take account of the fact that motivational factors will be context specific. Whilst financial incentives are important, career development and management issues are also core^{84, 85}
- Unhealthy, unproductive work environments (characterised by occupational hazards, physical and psychological violence, unreasonable workloads, poor

⁸¹ Sarah Hall, *People First: African Solutions to the Health Worker Crisis* (London, 2007), <http://www.amref.org/silo/files/people-first--african-solutions-to-the-health-worker-crisis.pdf>.

⁸² Ibid.

⁸³ James Buchan, "Reviewing the Benefits of Health Workforce Stability.," *Human Resources for Health* 8, no. 1 (January 2010): 29, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3016248&tool=pmcentrez&rendertype=abstract>

⁸⁴ Willis-Shattuck et al., "Motivation and Retention of Health Workers in Developing Countries: a Systematic Review."

⁸⁵ Lyn N Henderson and Jim Tulloch, "Incentives for Retaining and Motivating Health Workers in Pacific and Asian Countries.," *Human Resources for Health* 6 (January 2008): 18, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2569066&tool=pmcentrez&rendertype=abstract>.

remuneration, limited job opportunities and/or deteriorating working conditions) have a negative impact on recruitment and retention⁸⁶.

There is a significant body of evidence on the factors which incentivise and demotivate staff, and that influence their intention to stay. Basic employment conditions such as a reliable and fair wage⁸⁷, a basic level of safety, and the availability of facilities and equipment needed to perform their duties need to be in place for additional, targeted incentives to be effective. The quality of the working environment has been identified as an important element in efforts to recruit and retain staff. Similarly, a poor organizational and management environment can act as a strong demotivating force, and reducing disincentives such as these can be as important as creating positive incentives⁸⁸. A career structure and opportunities for personal development and learning are also important⁸⁹.

Both financial and non-financial incentives play a significant role in retaining staff⁹⁰, and efforts to retain staff will be most effective when they include a range of measures combined in an overall retention strategy⁹¹. Guidelines: Incentives for Health Professionals, developed by the International Council of Nurses identifies the range of different types of incentives and identifies the following success factors in effective implementation:

- clear objectives
- realistic and deliverable
- reflects health professionals' needs and preferences
- well, designed, strategic and fit for purpose
- contextually appropriate
- fair, equitable and transparent
- measurable
- incorporates financial and non-financial elements

Improving health worker retention in South and East Africa: Use of non-financial incentives

A review of the use of non-financial incentives to improve health worker retention in health sector in countries in South and East Africa found that a range of Incentives were is use. These included:

⁸⁶ International Council of Nurses et al., "Positive Practice Environments: Quality Workplaces for Quality Care: Campaign Overview" (International Council of Nurses, International Pharmaceutical Federation, World Dental Federation, World Medical Association, Global Health Workforce Alliance, International Hospital Federation and World Confederation for Physical Therapy, n.d.), <http://www.ppecampaign.org/sites/ppecampaign.org/files/toolkit/en/Campaign-Overview.pdf>

⁸⁷ Mireille Kingma, *Nurses on the Move: Migration and the Global Health Care Economy* (Ithaca: Cornell Press, 2006)

⁸⁸ Capacity Development Group, Bureau for Development Policy, and United Nations Development Programme, "Incentive Systems : Incentives, Motivation, and Development Performance," 2006, 1–25

⁸⁹ Henderson and Tulloch, "Incentives for Retaining and Motivating Health Workers in Pacific and Asian Countries."

⁹⁰ Charles Hongoro and Charles Normand, "Chapter 71 Health Workers : Building and Motivating the Workforce" 1999 (2003).

⁹¹ International Council of Nurses et al., *Guidelines : Incentives for Health Professionals*; Hongoro and Normand, "Chapter 71 Health Workers : Building and Motivating the Workforce."

- housing in Lesotho, Mozambique, Malawi and Tanzania;
- staff transport in Lesotho, Malawi and Zambia;
- childcare facilities in Swaziland;
- employee support centres in Lesotho.

Most countries reported that they had improved working conditions or plan to improve working conditions by, for example, offering better facilities and equipment and providing better security for workers. All countries had developed or are developing human resource management (HRM) and human resource information systems (HRIS). In many countries, these have been instrumental in improving health worker motivation through better management.⁹²

Improving health worker retention in Indonesia: Rural physicians

A range of strategies have been employed to improve physician coverage in rural Indonesia. Medical graduates are required to perform compulsory service as a prerequisite for licensing, but pay is tied to remoteness, with those in very remote regions receiving about twice the pay of those in 'ordinary' regions, though in practice income supplements from private practice make the difference much smaller. In addition, rural service increases the chance of civil service appointment, with those working in very remote regions given a 90 per cent chance of a civil service appointment, those in remote regions with a 50 per cent chance, and those in ordinary areas a 10 per cent chance. These posts are highly sought after as civil servants are eligible for subsidized specialist training. Potential negative outcomes of this approach include inequitable access to training for those unable to accept rural posting (for example women with children), the unfavourable impact on the selection process for specialist training, and the fact that it delays entry into training to the extent that the duration of specialist practice is reduced.⁹³

Issues to Consider

The impact of any specific incentive may also vary according to personal factors such as age, career stage⁹⁴, or gender⁹⁵. These complexities, and the fact that efforts to retain staff are often introduced in conjunction with a range of other organizational or sector-wide changes, mean that it can be difficult to establish direct relationship between interventions to improve retention and outcomes⁹⁶.

Policy makers in Timor-Leste will have to consider that the design and implementation of any financial or non-financial incentives to improve retention

⁹² Dambisya Y (2007) A review of nonfinancial incentives for health worker retention in east and southern Africa. Equinet Discussion Paper no. 47
<http://www.equinet africa.org/bibl/docs/DIS44HRdambisya.pdf>

⁹³ KM Chomitz et al., *What Do Doctors Want? Developing Incentives for Doctors to Serve in Indonesia's Rural and Remote Areas*, n.d.,
<http://elibrary.worldbank.org/docserver/download/1888.pdf?expires=1354749466&id=id&accname=gues t&checksum=D50540075BAD09569A3B8A5A68D6BFF3>; Uta Lehmann, Marjolein Dieleman, and Tim Martineau, "Staffing Remote Rural Areas in Middle- and Low-income Countries: A Literature Review of Attraction and Retention.," *BMC Health Services Research* 8 (January 2008): 19,
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2259330&tool=pmcentrez&rendertype=abstract>; Ferry Efendi, "Health Worker Recruitment and Deployment in Remote Areas of Indonesia.," *Rural and Remote Health* 12 (January 2012): 2008, <http://www.ncbi.nlm.nih.gov/pubmed/22670640>.

⁹⁴ Hongoro and Normand, "Chapter 71 Health Workers : Building and Motivating the Workforce."

⁹⁵ Capacity Development Group, Bureau for Development Policy, and United Nations Development Programme, "Incentive Systems : Incentives, Motivation, and Development Performance."

⁹⁶ L Grobler et al., "Interventions for Increasing the Proportion of Health Professionals Practising in Rural and Other Underserved Areas (Review)" no. 2 (2009),
<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005314.pub2/pdf>.

should be based on a thorough understanding of the circumstances of the health workers targeted, and it is important to avoid “knock on” or unintentional consequences (e.g. demotivating others in the workplace not eligible for an incentive; achieving improved outcomes in one program area at the expense of other key services). They should also develop agreed retention indicators to enable identification of relevant targets, and the extent to which these are achieved.

Management and administrative processes required to implement any retention strategy package should be considered in overall cost estimates. The current limited capacity of local management and supervision in Timor-Leste would be a constraint on implementing fairly and effectively any incentives package that required local management implementation.

4.2.4. Improve Distribution: health workers in rural/ remote areas

- WHO have published an evidence based review and global policy recommendations on improving retention of health workers in rural/ remote areas. It emphasizes the need for broad based strategies that meet professional and education needs as well as the need for appropriate incentives⁹⁷.
- Financial incentives to redistribute health workers can be effective, but much of the evidence as to effectiveness is from the developed world⁹⁸.
- Financial incentives are usually not sufficient in isolation to achieve sustained improvement in geographic distribution. Strategies that also include efforts to increase social acceptance and recognition of rural health professionals have often been more successful^{99, 100}.

Many factors have been identified as contributing to health workers' preference for urban over rural work places, including better working environment and equipment, increased income opportunities through dual practice or additional employment, more career development opportunities (including mentoring and networking), better access to further education and professional development, better access to services and facilities (health, education, leisure), and more employment and other opportunities for spouses and other family members.

The 2010 WHO evidence based recommendation¹⁰¹ are provided in full at Appendix 8. There are four main areas of potential policy intervention identified in the evidence:

- Education: in Timor-Leste consideration could be given to several of the recommendations, including providing rotations during training to rural areas.

⁹⁷ World Health Organization, *Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention: Global Policy Recommendations* (Geneva, 2010), http://whqlibdoc.who.int/publications/2010/9789241564014_eng.pdf.

⁹⁸ Till Bärnighausen and David E Bloom, “Financial Incentives for Return of Service in Underserved Areas: a Systematic Review.,” *BMC Health Services Research* 9 (January 2009): 86, <http://www.biomedcentral.com/content/pdf/1472-6963-9-86.pdf>.

⁹⁹ Gilles Dussault and Maria Cristina Franceschini, “Not Enough There, Too Many Here: Understanding Geographical Imbalances in the Distribution of the Health Workforce.,” *Human Resources for Health* 4 (January 2006): 12, <http://www.human-resources-health.com/content/pdf/1478-4491-4-12.pdf>

¹⁰⁰ Uta Lehmann, Marjolein Dieleman, and Tim Martineau, “Staffing Remote Rural Areas in Middle- and Low-income Countries: A Literature Review of Attraction and Retention.,” *BMC Health Services Research* 8 (January 2008): 19, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2259330&tool=pmcentrez&rendertype=abstract>.

¹⁰¹ World Health Organization, *Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention: Global Policy Recommendations*.

- Regulation: for example, examining the potential for a rural “bonding” scheme.
- Financial incentives: for example, additional payments for rural hardship postings.
- Personal and professional support: such as supporting a peer network for rural health professionals.

Improving the distribution of health workers in underserved areas in the Pacific: Education strategies

Vanuatu has made attempts to recruit nurse trainees from more remote areas to increase the likelihood of return to these areas, and also to recruit men to nursing. Both Vanuatu and Samoa have included a remote posting as part of the clinical placements for nurses during training. In Vanuatu, it has reportedly been too late in the training period to be effective. In Samoa, this approach is being developed as part of the orientation programme for new nursing graduates.

In Samoa, the absence of doctors willing to work in rural and remote areas (i.e. anywhere outside the two main towns) has been a stimulus to develop the nursing workforce as the main health professional cadre throughout the country. Nurses lead the community care and outreach, and staff the clinics; advanced roles, such as Clinical Nurse Consultants (CNCs) have been developed to play a key part in delivering primary care. The current reform of the professional regulatory structure in Samoa may further enable advanced nursing practice, and will support the new initiative to provide prescribing rights to CNCs.¹⁰²

Issues to Consider

Guiding principles for rural retention strategies are also outlined in the WHO Recommendations. These would be important to consider and include:

- adhering to the principles of health equity
- ensuring strategies are grounded in the national health plan
- developing interventions that are grounded in an in-depth understanding of the health workforce
- engagement of stakeholders
- A commitment to monitoring and evaluation

The evidence base highlights that many effective policies that improve distribution relate to education interventions. In Timor-Leste, this will require close co-ordination between the Ministries of Health and Education Policy makers. In Timor-Leste, this should also begin with an assessment of current distribution of staff, and develop a target range, timeline and monitoring plan to assess improvements in distribution as the underpinning of any policy intervention¹⁰³.

¹⁰² Buchan, J. Connell, J. Rumsey, M (2011) Recruiting and retaining health workers in remote areas: Pacific Island case studies. WHO: Geneva.
http://www.who.int/hrh/resources/small_islands/en/index.html

¹⁰³ Grobler et al., “Interventions for Increasing the Proportion of Health Professionals Practising in Rural and Other Underserved Areas (Review).”

5. Assessing the HRH Policy Interventions and Options

5.1. Introduction

The previous section set out a framework to develop a comprehensive HRH plan, and highlighted key messages from the evidence base. In this final section of the report, an approach to assessing HRH policy options and interventions is outlined.

At this preliminary stage in the overall development of an HRH plan in Timor-Leste, it is important not to rule out potential elements of any overall plan without careful consideration. Equally it has to be recognised that a comprehensive plan must have internal consistency. In summary, a national HRH plan and strategy for Timor-Leste should be:

- aligned with, and support, an overall plan for the health sector
- comprehensive, taking into account identified HRH priorities and interconnections
- configured to be sustainable, with ambitious but realistic objectives
- “owned” by stakeholders, and led by the Ministry of Health

The aim of an HRH plan, as summarized in the 2006 World Health Report¹⁰⁴ should be to ensure that the health workforce has the right skills, in the right place, at the right time, doing the right things. The HRH plan will have to look at short, medium and long terms issues. The overall objective should be to support the delivery of the Health Plan.

5.2. Assessment Criteria

HRH strategy and planning should aim to be practical, realistic and, particularly in post-conflict environments it must be “straight-forward and uncomplicated, rather than based on the experimental or more sophisticated frontiers of external technical assistance know-how¹⁰⁵. The five assessment questions posted in the WHO guidelines on rural retention are useful in this respect, intended to “guide policy makers in the selection, design, implementation and monitoring and evaluation of appropriate rural retention interventions”, but also applicable to broader HRH planning:

- a) Relevance: which interventions best respond to national priorities?
- b) Acceptability: which interventions are politically acceptable and have the most stakeholder support?
- c) Affordability: which interventions are affordable?
- d) Effectiveness: have complementarities and potential unintended consequences between various interventions been considered?
- e) Impact: what indicators will be used to measure impact over time?¹⁰⁶

¹⁰⁴ World Health Organization, *Working Together for Health: The World Health Report 2006* (Geneva, 2006).

¹⁰⁵ Huff-Rousselle, *Starting From Scratch in Timor-Leste Establishing a Pharmaceutical and Medical Supplies System in a Post-Conflict Context*.p.35

¹⁰⁶ World Health Organization, *Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention: Global Policy Recommendations*.

The assessment matrix (Appendix 9) provides a means to assess potential strategic interventions as part of an overall HRH plan. A risk assessment of proposed strategic interventions is also recommended as part of the overall design of any HRH plan¹⁰⁷. For illustrative purposes, the matrix is populated with some potential interventions drawn from those identified in the review of international evidence.

The matrix provides a prompt about what issues need to be considered in the design of HRH plans and strategies, and can also help identify what information is required to inform selection of appropriate interventions. The matrix could be fully developed and used by a project or working group as a transparent means to compare the relative value of different interventions in order to decide the most effective and realistic overall HRH approach.

6. Conclusion

This report paints a picture of a capacity constrained HR function with a weak foundation of workforce data to support planning and inform policy; limited capacity at the national level to provide HRH leadership, policy analysis, planning and strategic intelligence; and poor capacity locally to provide effective HRH line management and supervision.

The report identifies the HRH Action Framework as a suitable tool to engage stakeholders in identifying the core elements or “building blocks” that need to be considered in developing an HRH Plan. It illustrates the policy linkages that need to be considered. The Framework is in essence an aide memoire for those charged with developing a viable and sustainable plan.

The evidence base summarised in the report is packaged under four main areas of potential intervention: scaling up, skill mix/task shifting, retention and distribution. These reflect the HRH issues and challenges that emerged as priorities in Timor-Leste from the interviews and document review. They may not cover all the necessary “bundles” of intervention required but give a good starting point. In particular, the international evidence base on scaling up, skill mix/ task shifting and retention in rural areas is all well documented and with several helpful synthesis reports and recommendations/ guidelines.

HRH capacity constraints, data limitations and functional weaknesses identified in the report will not all be addressed quickly, or solved solely by the development of a national HRH plan or strategy, but the process of development of a plan can have a double benefit. Firstly, the development process itself can be used to achieve shared ownership of key HRH issues and improve capacity on HRH within the country. Secondly, the outcome, a comprehensive HRH Plan, can be a catalyst for longer term sustained improvement in HRH policy development and planning.

The critical point is to ensure that the development of an HRH Plan does not become and end in itself, but is regarded as part of a longer term process of better alignment of resources to HRH issues, and of HRH inputs to health service outputs. Design is a technical intervention, but it can also have strategic and long term pay-back if the design process is used to engage stakeholders, transfer knowledge, and initiate capacity building.

¹⁰⁷ Bossert et al., *Assessing Financing , Education , Management and Policy Context for Strategic Planning of Human Resources for Health*.

Appendix 1: List of Interviewees

1. 15 November 2012: Dr Ranjesh Pandev, World Health Organization
2. 22 November 2012 – Ms Tanya Wellsbrow, USAID
3. 23 November 2012 – Ms Yi Koung Lee, The World Bank
4. 24 November 2012 – Dr Graham Roberts, HRH Hub, UNSW
5. 29 November 2012 – Dr Duarte, Director, Human Resources, Ministry of Health

Appendix 2: Health sector targets, Timor-Leste Strategic Development Plan 2011-2030¹⁰⁸

By 2015:

- Sucos with a population between 1,500 and 2,000 located in very remote areas will be serviced by Health Posts delivering a comprehensive package of services
- The delivery of health services by private providers and the not-for-profit sector will be fully regulated and be in compliance with the public health care system
- 70% of pregnant women will receive antenatal care at least four times
- 65% of women will have an assisted delivery
- 90% of children will be immunized against polio, measles, tuberculosis, diphtheria and hepatitis B
- There will be increased awareness of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), tuberculosis and malaria and other vector-borne diseases
- 80% of malaria outbreaks will be controlled
- 90% of Ministry of Health buildings will have access to electricity, water and basic sanitation

By 2020:

- All Health Posts will be staffed by at least one doctor, two nurses and two midwives • There will be a Health Post for every 1,000 to 5,000 people
- Sub-district health centres will provide care for 5,000 to 15,000 people and manage approximately four Health Posts
- Villages more than one hour walking distance from a Health Post will have a local village midwife or community health worker who has been trained by the Ministry of Health
- Cardiac, renal and palliative health care services will be available at the National Hospital
- Fifty four district health centres will be located in the five districts that do not have hospitals
- Focus will shift from primary care to the delivery of specialist health care

By 2030:

- There will be a district hospital in all 13 districts
- There will be a specialist hospital in Dili
- 100% of health facilities will be fully equipped and staffed for management of chronic diseases
- 100% of health services will be delivered from infrastructure that is functional, safe, environmentally friendly and sustainable

¹⁰⁸ Government of Timor-Leste, *Timor-Leste Strategic Development Plan 2011 - 2030*.pp.42-43

- There will be comprehensive high quality health services accessible to all Timorese people

Appendix 3: National Health Sector Strategic Plan 2011-2030. Section V: Human Resources for Health

v.1 Development of Human Resources

Objective: to produce adequate numbers and skills of the different cadres of human resources for the health sector.

Strategies:

1. Ensure the availability of HR for Health Development Plan
2. To develop the capacity of training and education institutions on production of qualified health human resources
3. Create enabling environment to improve performance and work motivation of existing and newly recruited workforce
4. Develop and implement mechanisms for registration, regulation and quality control of all health practitioners

Expected Results/ Key Indicators:

1. National human resources development plan for health elaborated and endorsed by the Government by 2012;
2. % of HR Gaps filled every five years;
3. Staff/Population Ratio clearly identified by 2013;
4. National Curriculums developed for major health sciences and health leadership management by 2012;
5. National training institutions with regionally recognized accreditations by 2015;
6. Integration of HR data into the HMIS by 2013

v.2 Management of Health Human Resources

Objective: to promote excellence and ethics in all cadres of health professional functions.

Strategies:

1. Strengthening leadership, management, supervision and accountability, all with a view to enhance health worker motivation and performance
2. Redeployment of staff (over- and understaffing) addressed, in particular redeployment of nurses and midwives to accelerate BSP implementation at lower levels and redeployment of doctors to poorly staffed CHCs and district hospitals
3. Creating an enabling environment (norms, values, guidelines and tools) for health workers to improve their performance

Expected Outcomes/ Key Indicators:

1. Mechanisms for making managers at all levels accountable for the results they are expected to achieve in their work plans designed and implemented, and tools for rewards/sanctions in place by 2014;

2. Computerized staff tracking system in place and maintained at central MoH on the basis of regular reporting by all central, districts and personalized health services by 2015;
3. Comprehensive human resource management guidelines elaborated and adopted in 2012;
4. Overall improvement in the application of staffing rights and obligations

Source: National Health Sector Strategic Plan 2011-2030¹⁰⁹

¹⁰⁹ Ministry of Health Timor-Leste, *National Health Sector Strategic Plan 2011-2030*.

Appendix 4: HRH Action Framework

HRH Action Framework¹

Action field	Definition	Areas of Intervention
Policy	Legislation, regulation, and guidelines for conditions of employment, work standards, and development of the health workforce	<ul style="list-style-type: none"> Professional standards, licensing, and accreditation Authorized scopes of practice for health cadres Political, social, and financial decisions and choices that impact HRH Employment law and rules for civil service and other employers
Finance	Obtaining, allocating, and distributing adequate funding for human resources	<ul style="list-style-type: none"> Salaries and allowances Budget for HRH National health accounts with HRH Mobilizing financial resources (e.g., government, Global Fund, PEPFAR, other donors)
Education	Development and maintenance of a skilled workforce	<ul style="list-style-type: none"> Development and standardization of training material Pre-service education tied to health needs In-service training including continuing education Capacity of training institutions Training of community health workers and non-formal care providers
Partnerships	Formal and informal linkages aligning key stakeholders (e.g., service providers, priority disease control programmes, consumer/patient organizations) to maximize use of human resources for health	<ul style="list-style-type: none"> Agreements in place between MOH and other health providers to supplement the delivery of health services Mechanisms in place to mobilize community support for health services Mechanisms in place for coordination of donors and other stakeholders
Leadership	Capacity to provide direction, align people, mobilize resources, and reach goals	<ul style="list-style-type: none"> Identification, selection, and support of HRH champions and advocates Leadership development for HRH managers at all levels Capacity for multi-sector and sector-wide collaboration Modernizing and strengthening professional associations
Human resource management systems	Integrated use of data, policy, and practice to plan for necessary staff, recruit, hire, deploy, develop, and support health workers	<ul style="list-style-type: none"> Personnel systems: workforce planning (including staffing norms), recruitment, hiring, and deployment Work environment and conditions: employee relations, workplace safety, job satisfaction, and career development HR information system integration of data sources to ensure timely availability of accurate data required for planning, training, appraising, and supporting the workforce Performance management: performance appraisal, supervision, and productivity Staff retention: financial and non-financial incentives

¹ The HRH Action Framework: <http://www.who.int/hrh/tools/en/>

Appendix 5: Research Method

A mixed method review was conducted comprising:

- a) A review of the available documentation on scaling up, and on deployment and retention in remote and underserved areas, complemented by key HRH lessons derived from available country case studies. Within the context of the available resources and timeline for the project, the aim was to provide a rapid synthesis of relevant material. The synthesis focussed on relevant documents and “grey” material already provided to the project team, complemented by on line search of two main relevant databases- CINAHL and Medline. This English language search covered a five year period, , and used core key words and variants: “health professional” “doctor” “physician” “nurse” “midwife” and “scaling up”, “geographic distribution” , “rural” , “remote”, “underserved” , “task shifting” and “skill mix” . Search terms were expanded and revised if necessary as the data collection process proceeded. A full systematic review was not conducted, in light of time constraints.
- b) Telephone interviews with key informants, using a semi-structured interview schedule. The list of key informants was agreed with AusAID. The interviews were conducted by telephone, with contemporaneous note taking. Interviewees were provided with the agreed project description in advance of the interview. Interviews covered the key research questions outlined above, with specific emphasis as appropriate to the interviewee’s role. Discussion topics included (1) discussion on key HRH issues and themes identified reflecting the preliminary findings of the project; and (2) discussion on the HRH scaling up related initiatives, experiences and priorities most relevant to that organisation or interviewee.

Appendix 6: Task Force report: Scaling Up, Saving Lives

“Scaling Up, Saving Lives” sets out proposals for concerted action on a massive scale – with the international community fully supporting national leaders – to make sure that everyone has access to a suitably trained and motivated health worker as part of a functioning health system, and that:

- national governments draw up 10-year scale-up plans and implement an immediate and huge increase in community- and mid-level health workers – trained, paid, supervised and able to refer on to more skilled workers – alongside the expansion of education and training for all groups of health workers;
- education and training curricula are focused on the health needs of the country, are community- and team-based, draw on the resources of the public and private sectors and the skills of international partners, and make greater use of innovative means to increase training capacity, such as information and communication technologies and regional approaches; and
- development partners and international organizations give strong backing to national scale-up plans, with a big increase in dedicated long-term funding for education and training and much better coordination and cooperation

10 recommendations for concerted action

1. Presidents and prime ministers of developing countries create the framework for concerted action on scaling up the education and training of health workers in their country. They bring together leaders from the public and private sectors, civil society and international organizations, as part of a concerted effort, to develop shared plans as an integral part of their wider poverty reduction and social and economic development programmes. They seek to provide the substantial funding needed for scale-up plans – as part of the overall development of health systems – with contributions from government itself, development partners and international organizations.
2. Governments and local, national and international organizations use the findings from this Task Force on the critical success factors for national scale up and the principles and strategies for education and training – which are based on evidence of what has worked in the past – as a common framework for country action.

Within this framework:

3. Governments, led by health ministers, and including education, labour and finance ministers and, where appropriate, the civil service commissioner, set out a clear vision for their health workforce, which describes the full range of health workers needed, and lead the development of a 10-year scale-up plan – with short-, medium- and long- term actions, including a massive and immediate increase in community- and mid-level health workers alongside expansion of education and training for more highly trained and specialized health workers.
4. Education ministers and heads of education institutions support the scaling up of health workers with new curricula that are community-, competency- and team-based, aligned with country health priorities and are an integral part of health service delivery – and begin implementation with immediate practical actions such as training trainers, increasing the number of qualified faculty,

- reducing attrition of teaching staff and students, maximizing use of facilities, and enabling staff to return to healthcare.
5. Local, regional and international organizations build South–South, South–North, regional and public–private partnerships, to deliver increased investment; build up the necessary infrastructure of knowledge and expertise in basic science, public health and management; create centres of excellence; and deliver innovative education and training, based on countries’ burdens of disease and healthcare systems, and with support from developed countries.
 6. All development partners commit a significant proportion of their financial support to a country as dedicated funding for a country’s health plan, in agreement with the government, including the Finance Minister. Some of this would be used to finance the strengthening of health systems, including education and training of health workers, with the exact proportion agreed locally. As an example, the World Health Report 2006 proposes that 50% of development aid for health is spent on strengthening health systems, with 50% of this being spent on health workforce plans, including education and training. This needs to be accompanied by greater flexibility from finance ministries and the International Monetary Fund, to allow increased support for human capital development and greater investment in the development of health and education systems.
 7. The global health initiatives, nongovernmental organizations and all other international health organizations working in a country align their education and training programmes with country health plans and priorities, allocate funds to pre-service education to achieve an appropriate balance between pre-service education and in-service training, tackle fragmentation and duplication, and support the development of wider country health infrastructure. They should also commit to keeping staff pay broadly in line with that of publicly funded health workers.
 8. National governments, with support from regional and international organizations, agree on quality assurance systems for education and training, including accreditation, and indicators of progress appropriate to the needs of their country, and develop systematic methods for quality improvement, including quality standards for service and monitoring.
 9. The new international initiatives which are addressing health systems and human resources and are part of the Global Campaign for the Health Millennium Development Goals, support 10-year country scale-up plans for human resources, aligned to country health plans, and coordinate their financial and other support. They should sponsor ‘real-time’ collaborative learning on scaling up among groups of countries with critical health workforce shortages and research on human resources for health, in both developing and developed countries.
 10. The Global Health Workforce Alliance (GHWa) continues to play a central role in focusing world attention on education and training as part of wider human resources issues in health, and in the dissemination of learning and good practice.”¹¹⁰

¹¹⁰ Task Force for Scaling Up Education and Training for Health Workers, *Scaling Up , Saving Lives*.

Appendix 7: Task Shifting: Global Recommendations

A. Recommendations of adopting task shifting as a public health initiative

Recommendation 1:

Countries, in collaboration with relevant stakeholders, should consider implementing and/or extending and strengthening a task shifting approach where access to HIV services, and to other health services, is constrained by health workforce shortages. Task shifting should be implemented alongside other efforts to increase the numbers of skilled health workers.

Recommendation 2:

In all aspects concerning the adoption of task shifting, relevant parties should endeavour to identify the appropriate stakeholders, including people living with HIV/AIDS, who will need to be involved and/or consulted from the beginning.

Recommendation 3:

Countries deciding to adopt the task shifting approach should define a nationally endorsed framework that can ensure harmonization and provide stability for the HIV services that are provided throughout the public and non-state sectors. Countries should also explore a framework for the exploration of task shifting to meet other critical public health needs.

Recommendation 4:

Countries should undertake or update a human resource analysis that will provide information on the demography of current human resources for health in both the public and non-state sectors; the need for HIV services; the gaps in service provision; the extent to which task shifting is already taking place; and the existing human resource quality assurance mechanisms.

B. Recommendations on creating an enabling regulatory environment for implementation

Recommendation 5:

Countries should assess and then consider using existing regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where possible, or undertake revisions as necessary, to enable cadres of health workers to practice according to an extended scope of practice and to allow the creation of new cadres within the health workforce.

Recommendation 6:

Countries should consider adopting a fast-track strategy to produce essential revisions to their regulatory approaches (laws and proclamations, rules and regulations, policies and guidelines) where necessary. Countries could also simultaneously pursue long-term reform that can support task shifting on a sustainable basis within a comprehensive and nationally endorsed regulatory framework.

C. Recommendations on ensuring quality of care

Recommendation 7:

Countries should either adapt existing or create new human resource quality assurance mechanisms to support the task shifting approach. These should include processes and activities that define, monitor and improve the quality of services provided by all cadres of health workers.

Recommendation 8:

Countries should define the roles and the associated competency levels required both for existing cadres that are extending their scope of practice, and for those cadres that are being newly created under the task shifting approach. These standards should be the basis for establishing recruitment, training and evaluation criteria.

Recommendation 9:

Countries should adopt a systematic approach to harmonized, standardized and competency- based training that is needs-driven and accredited so that all health workers are equipped with the appropriate competencies to undertake the tasks they are to perform.

Recommendation 10:

Training programmes and continuing educational support for health workers should be tied to certification, registration and career progression mechanisms that are standardized and nationally endorsed.

Recommendation 11:

Supportive supervision and clinical mentoring should be regularly provided to all health workers within the structure and functions of health teams. Individuals who are tasked with providing supportive supervision or clinical mentoring to health workers to whom tasks are being shifted should themselves be competent and have appropriate supervisory skills.

Recommendation 12:

Countries should ensure that the performance of all cadres of health workers can be assessed against clearly defined roles, competency levels and standards.

D. Recommendations on ensuring sustainability

Recommendation 13:

Countries should consider measures such as financial and/or non-financial incentives, performance-based incentives or other methods as means by which to retain and enhance the performance of health workers with new or increased responsibilities, commensurate with available resources in a sustainable manner.

Recommendation 14:

Countries should recognize that essential health services cannot be provided by people working on a voluntary basis if they are to be sustainable. While volunteers can make a valuable contribution on a short term or part time basis, trained health workers who are providing essential health services, including community health workers, should receive adequate wages and/or other appropriate and commensurate incentives.

Recommendation 15:

Countries and donors should ensure that task shifting plans are appropriately costed and adequately financed so that the services are sustainable.

E. Recommendations on the organization of clinical care services

Recommendation 16:

Countries should consider the different types of task shifting practice and elect to adopt, adapt, or to extend, those models that are best suited to the specific country

situation (taking into account health workforce demography, disease burden, and analysis of existing gaps in service delivery).

Recommendation 17:

Countries should ensure that efficient referral systems are in place to support the decentralization of service delivery in the context of a task shifting approach. Health workers should be knowledgeable about available referral systems and trained to use them.

Recommendation 18:

Non-physician clinicians can safely and effectively undertake a majority of clinical tasks (as outlined in Annex 1) in the context of service delivery according to the task shifting approach.

Recommendation 19:

Nurses and midwives can safely and effectively undertake a range of HIV clinical services (as outlined in Annex 1) in the context of service delivery according to a task shifting approach.

Recommendation 20:

Community health workers, including people living with HIV/AIDS, can safely and effectively provide specific HIV services (as outlined in Annex 1), both in a health facility and in the community in the context of service delivery according to the task shifting approach.

Recommendation 21:

People living with HIV/AIDS who are not trained health workers can be empowered to take responsibility for certain aspects of their own care. People living with HIV/AIDS can also provide specific services that make a distinct contribution to the care and support of others, particularly in relation to self-care and to overcoming stigma and discrimination.

Recommendation 22:

Cadres, such as pharmacists, pharmacy technicians or technologists, laboratory technicians, records managers and administrators, could be included in a task shifting approach that involves the full spectrum of health services.

Appendix 8: Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations

A. Education Recommendations

1. Use targeted admission policies to enrol students with a rural background in education programmes for various health disciplines, in order to increase the likelihood of graduates choosing to practise in rural areas.
2. Locate health professional schools, campuses and family medicine residency programmes outside of capitals and other major cities as graduates of these schools and programmes are more likely to work in rural areas.
3. Expose undergraduate students of various health disciplines to rural community experiences and clinical rotations as these can have a positive influence on attracting and recruiting health workers to rural areas.
4. Revise undergraduate and postgraduate curricula to include rural health topics so as to enhance the competencies of health professionals working in rural areas, and thereby increase their job satisfaction and retention.
5. Design continuing education and professional development programmes that meet the needs of rural health workers and that are accessible from where they live and work, so as to support their retention.

B. Regulatory Recommendations

1. Introduce and regulate enhanced scopes of practice in rural and remote areas to increase the potential for job satisfaction, thereby assisting recruitment and retention.
2. Introduce different types of health workers with appropriate training and regulation for rural practice in order to increase the number of health workers practising in rural and remote areas.
3. Ensure compulsory service requirements in rural and remote areas are accompanied with appropriate support and incentives so as to increase recruitment and subsequent retention of health professionals in these areas.
4. Provide scholarships, bursaries or other education subsidies with enforceable agreements of return of service in rural or remote areas to increase recruitment of health workers in these areas.

C. Financial Incentives Recommendations

1. Use a combination of fiscally sustainable financial incentives, such as hardship allowances, grants for housing, free transportation, paid vacations, etc., sufficient enough to outweigh the opportunity costs associated with working in rural areas, as perceived by health workers, to improve rural retention.

D. Personal and Professional Support Recommendations

1. Improve living conditions for health workers and their families and invest in infrastructure and services (sanitation, electricity, telecommunications, schools, etc.), as these factors have a significant influence on a health worker's decision to locate to and remain in rural areas.

2. Provide a good and safe working environment, including appropriate equipment and supplies, supportive supervision and mentoring, in order to make these posts professionally attractive and thereby increase the recruitment and retention of health workers in remote and rural areas.
3. Identify and implement appropriate outreach activities to facilitate cooperation between health workers from better served areas and those in underserved areas, and, where feasible, use telehealth to provide additional support to health workers in remote and rural areas.
4. Develop and support career development programmes and provide senior posts in rural areas so that health workers can move up the career path as a result of experience, education and training, without necessarily leaving rural areas.
5. Support the development of professional networks, rural health professional associations, rural health journals, etc., in order to improve the morale and status of rural providers and reduce feelings of professional isolation.
6. Adopt public recognition measures such as rural health days, awards and titles at local, national and international levels to lift the profile of working in rural areas as these create the conditions to improve intrinsic motivation and thereby contribute to the retention of rural health workers.

Appendix 9: Suggested matrix for assessing HRH interventions. Adapted from Buchan (2005) and WHO (2010)

AREA (Examples below)	STRATEGIC INTERVENTIONS (examples only)	ASSESSMENT CRITERIA					RISK ASSESSMENT
		RELEVANCE	ACCEPTABILITY	AFFORDABILITY	EFFECTIVENESS	IMPACT	
		<ul style="list-style-type: none"> -addresses identified priorities -contextually appropriate 	<ul style="list-style-type: none"> - has support of key stakeholders - politically acceptable - capacity for implementation 	<ul style="list-style-type: none"> - short-term implementation and establishment costs - associated long-term/ recurrent expenditure 	<ul style="list-style-type: none"> - evidence based - identifies key responsibilities and accountabilities - contextually appropriate 	<ul style="list-style-type: none"> - indicators of success - ability to measure - timeframe 	
1. SCALING UP	Expand midwifery training						
	Implement effective Absence management policy						
2. SKILL MIX/ TASK SHIFT	Review legislative and						

		ASSESSMENT CRITERIA					RISK ASSESSMENT
AREA (Examples below)	STRATEGIC INTERVENTIONS (examples only)	RELEVANCE -addresses identified priorities -contextually appropriate	ACCEPTABILITY - has support of key stakeholders - politically acceptable - capacity for implementation	AFFORDABILITY - short-term implementation and establishment costs - associated long-term/recurrent expenditure	EFFECTIVENESS - evidence based - identifies key responsibilities and accountabilities - contextually appropriate	IMPACT - indicators of success - ability to measure - timeframe	
	regulatory framework to assess any unnecessary constraints on task shifting						
	Increase utilisation of local lay workers/CHW's to support service delivery and referral						
3. RETENTION	Fully develop job						

		ASSESSMENT CRITERIA					RISK ASSESSMENT
AREA (Examples below)	STRATEGIC INTERVENTIONS (examples only)	RELEVANCE -addresses identified priorities -contextually appropriate	ACCEPTABILITY - has support of key stakeholders - politically acceptable - capacity for implementation	AFFORDABILITY - short-term implementation and establishment costs - associated long-term/ recurrent expenditure	EFFECTIVENESS - evidence based - identifies key responsibilities and accountabilities - contextually appropriate	IMPACT - indicators of success - ability to measure - timeframe	
	descriptions/terms of reference for all posts						
	Introduce systematic approach to provision of inservice training and continual professional development						
4. DISTRIBUTION	Introduce comprehensive incentive						

		ASSESSMENT CRITERIA					RISK ASSESSMENT
AREA (Examples below)	STRATEGIC INTERVENTIONS (examples only)	RELEVANCE -addresses identified priorities -contextually appropriate	ACCEPTABILITY - has support of key stakeholders - politically acceptable - capacity for implementation	AFFORDABILITY - short-term implementation and establishment costs - associated long-term/ recurrent expenditure	EFFECTIVENESS - evidence based - identifies key responsibilities and accountabilities - contextually appropriate	IMPACT - indicators of success - ability to measure - timeframe	
	package for staff in remote areas						
	Establish and support peer network for rural health professionals						

Bibliography

Alonso, Alvaro, and Ruairí Brugha. "Rehabilitating the Health System After Conflict in East Timor: a Shift from NGO to Government Leadership." *Health Policy and Planning* 21, no. 3 (May 2006): 206–216. <http://www.ncbi.nlm.nih.gov/pubmed/16565152>.

Asante, Augustine, John Hall, and Graham Roberts. *A Review of Health Leadership and Management Capacity in Timor-Leste*, 2011.

AusAID East Timor Health Team. "Terms of Reference: Review of Human Resources for Health (HRH)." AusAID, 2012.

Birch, Stephen, George Kephart, Gail Tomblin Murphy, Linda O'Brien-Pallas, Rob Alder, and Adrian MacKenzie. "Health Human Resources Planning and the Production of Health: Development of an Extended Analytical Framework for Needs-based Health Human Resources Planning." *Journal of Public Health Management and Practice: JPHMP* 15, no. 6 Suppl (November 2009): S56–61. <http://www.ncbi.nlm.nih.gov/pubmed/19829233>.

Bossert, Thomas J, Till Bärnighausen, Diana Bowser, Andres Mitchell, and Gedik Gúlin. *Assessing Financing , Education , Management and Policy Context for Strategic Planning of Human Resources for Health*. Geneva, 2007. http://www.who.int/hrh/tools/assessing_financing.pdf.

Buchan, James. "Reviewing the Benefits of Health Workforce Stability." *Human Resources for Health* 8, no. 1 (January 2010): 29. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3016248&tool=pmcentrez&rendertype=abstract>.

———. *Scaling up Health and Education Workers: Increasing the Performance and Productivity of an Existing Stock of Health Workers: Literature Review*. Vol. 44, 2005.

Buchan, J. Connell, J. Rumsey, M (2011) Recruiting and retaining health workers in remote areas: Pacific Island case studies. WHO: Geneva. http://www.who.int/hrh/resources/small_islands/en/index.html

Buchan, James, Jane Ball, and Fiona O'May. *Determining Skill Mix in the Health Workforce: Guidelines for Managers and Health Professionals*. Geneva, 2000. http://www.who.int/management/determining_skill_mix.pdf.

Bärnighausen, Till, and David E Bloom. "Financial Incentives for Return of Service in Underserved Areas: a Systematic Review." *BMC Health Services Research* 9 (January 2009): 86. <http://www.biomedcentral.com/content/pdf/1472-6963-9-86.pdf>.

Capacity Development Group, Bureau for Development Policy, and United Nations Development Programme. "Incentive Systems: Incentives, Motivation, and Development Performance." 1–25, 2006.

Crisp, Nigel, Bience Gawanas, and Imogen Sharp. "Training the Health Workforce: Scaling up, Saving Lives." *Lancet* 371, no. 9613 (February 23, 2008): 689–91. <http://www.ncbi.nlm.nih.gov/pubmed/18295028>.

Dambisya Y (2007) A review of nonfinancial incentives for health worker retention in east and southern Africa. Equinet Discussion Paper no. 47 <http://www.equinetafrica.org/bibl/docs/DIS44HRdambisya.pdf>

Dawson, Angela, and Natalie Gray. *Human Resources for Health in Maternal , Neonatal and Reproductive Health at Community Level: A Synthesis of the Literature with a Focus on the Asia and Pacific Regions*, 2010. [http://www.hrhhub.unsw.edu.au/HRHweb.nsf/resources/HRH+in+MNRH+literature+synthesis+2009.pdf/\\$file/HRH+in+MNRH+literature+synthesis+2009.pdf](http://www.hrhhub.unsw.edu.au/HRHweb.nsf/resources/HRH+in+MNRH+literature+synthesis+2009.pdf/$file/HRH+in+MNRH+literature+synthesis+2009.pdf).

Dawson, Angela, Tara Howes, Natalie Gray, and Elissa Kennedy. *Human Resources for Health in Maternal, Neonatal and Reproductive Health at Community Level: A Profile of Timor-Leste*. Sydney, 2011.

Dewdney, John, Joao Martins, Augustine Asante, and Anthony Zwi. "Strengthening Human Resources for Health in Timor-Leste: Progress, Challenges and Ways Forward (Draft)." (unpublished), 2009.

Dieleman, Marjolein, Barend Gerretsen, and Gert Jan van der Wilt. "Human Resource Management Interventions to Improve Health Workers' Performance in Low and Middle Income Countries: a Realist Review." *Health Research Policy and Systems / BioMed Central* 7 (January 2009): 7. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2672945&tool=pmcentrez&rendertype=abstract>.

Dussault, Gilles, and Maria Cristina Franceschini. "Not Enough There, Too Many Here: Understanding Geographical Imbalances in the Distribution of the Health Workforce." *Human Resources for Health* 4 (January 2006): 12. <http://www.human-resources-health.com/content/pdf/1478-4491-4-12.pdf>.

Dussault, Gilles, Inês Fronteira, Helen Prytherch, Mario R Dal Poz, Dorothy Ngoma, Juliana Lunguzi, and Kaspar Wyss. *Scaling Up the Stock of Health Workers: A Review*. Geneva: International Centre for Human Resources in Nursing, 2009.

Fujita, Noriko, Anthony B Zwi, Mari Nagai, and Hidechika Akashi. "A Comprehensive Framework for Human Resources for Health System Development in Fragile and Post-conflict States." *PLoS Medicine* 8, no. 12 (December 2011): e1001146. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3243715&tool=pmcentrez&rendertype=abstract>.

Fulton, Brent D, Richard M Scheffler, Susan P Sparkes, Erica Yoonkyung Auh, Marko Vujicic, and Agnes Soucat. "Health Workforce Skill Mix and Task Shifting in Low Income Countries: a Review of Recent Evidence." *Human Resources for Health* 9, no. 1 (January 2011): 1. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3027093&tool=pmcentrez&rendertype=abstract>.

Gaye, Pape a, and David Nelson. "Effective Scale-up: Avoiding the Same Old Traps." *Human Resources for Health* 7 (January 2009): 2. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2631469&tool=pmcentrez&rendertype=abstract>.

Government of Timor-Leste. "Publications: The Fifth Constitutional Government Program," n.d. <http://timor-leste.gov.tl/?cat=32>.

———. *Timor-Leste Strategic Development Plan 2011 - 2030*. Dili, 2011.

———. *Timor-Leste Strategic Development Plan 2011-2030*, 2011.

Grobler, L, Marais Bj, Mabunda Sa, Marindi Pn, H Reuter, J Volmink, BJ Mariais, SA Mabunda, and PN Marindi. "Interventions for Increasing the Proportion of Health Professionals Practising in Rural and Other Underserved Areas (Review)" no. 2 (2009). <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005314.pub2/pdf>.

Haines, Andy, David Sanders, Uta Lehmann, Alexander K Rowe, Joy E Lawn, Steve Jan, Damian G Walker, and Zulfiqar Bhutta. "Achieving Child Survival Goals: Potential Contribution of Community Health Workers." *Lancet* 369, no. 9579 (June 23, 2007): 2121–31. <http://www.ncbi.nlm.nih.gov/pubmed/17586307>.

Henderson, Lyn N, and Jim Tulloch. "Incentives for Retaining and Motivating Health Workers in Pacific and Asian Countries." *Human Resources for Health* 6 (January 2008): 18. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2569066&tool=pmcentrez&rendertype=abstract>.

Hongoro, Charles, and Charles Normand. "Chapter 71 Health Workers : Building and Motivating the Workforce" 1999 (2003).

Huff-Rousselle, Maggie. *Starting From Scratch in Timor-Leste Establishing a Pharmaceutical and Medical Supplies System in a Post-Conflict Context*. Washington, 2009.

International Council of Nurses, International Hospital Federation, International Pharmaceutical Federation, World Confederation for Physical Therapy, World Dental Federation, and World Medical Association. *Guidelines: Incentives for Health Professionals*, 2008. http://www.who.int/workforcealliance/documents/Incentives_Guidelines_EN.pdf.

International Council of Nurses, International Pharmaceutical Federation, World Dental Federation, World Medical Association, Global Health Workforce Alliance, International Hospital Federation, and World Confederation for Physical Therapy. "Positive Practice Environments: Quality Workplaces for Quality Care: Campaign Overview." International Council of Nurses, International Pharmaceutical Federation, World Dental Federation, World Medical Association, Global Health Workforce Alliance, International Hospital Federation and World Confederation for Physical Therapy, n.d. <http://www.ppecampaign.org/sites/ppecampaign.org/files/toolkit/en/Campaign-Overview.pdf>.

Jayasuriya, Rohan, Maxine Whittaker, Grace Halim, and Tim Matineau. "Rural Health Workers and Their Work Environment: The Role of Inter-personal Factors on Job Satisfaction of Nurses in Rural Papua New Guinea." *BMC Health Services Research* 12, no. 1 (January 2012): 156. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3471005&tool=pmcentrez&rendertype=abstract>.

Jennings, Larissa, André Sourou Yebadokpo, Jean Affo, Marthe Agbogbe, and Aguima Tankoano. "Task Shifting in Maternal and Newborn Care: a Non-inferiority Study Examining Delegation of Antenatal Counseling to Lay Nurse Aides Supported by Job Aids in Benin." *Implementation Science: IS* 6, no. 1 (January 2011): 2.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3024964&tool=pmcentrez&rendertype=abstract>.

Kingma, Mireille. *Nurses on the Move: Migration and the Global Health Care Economy*. Ithaca: Cornell Press, 2006.

Lehmann, Uta, Marjolein Dieleman, and Tim Martineau. "Staffing Remote Rural Areas in Middle- and Low-income Countries: A Literature Review of Attraction and Retention." *BMC Health Services Research* 8 (January 2008): 19. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2259330&tool=pmcentrez&rendertype=abstract>.

Medhanyie, Araya, Mark Spigt, GeertJan Dinant, and Roman Blanco. "Knowledge and Performance of the Ethiopian Health Extension Workers on Antenatal and Delivery Care: a Cross-sectional Study." *Human Resources for Health* 10, no. 1 (2012): 44. <http://www.human-resources-health.com/content/10/1/44>.

Ministry of Health Timor-Leste. *Basic Services Package For Primary Health Care and Hospitals: Achieving the MDGs by Improved Service Delivery*. Dili, 2007.

———. *Human Resources for Health Country Profile: Timor-Leste*. Dili, 2012.

———. *National Health Sector Strategic Plan 2011-2030*, 2011.

———. "National Health Workforce Plan Democratic Republic of Timor-Leste 2005-2015" no. May (2005).

Razee, Husna, Maxine Whittaker, Rohan Jayasuriya, Lorraine Yap, and Lee Brentnall. "Listening to the Rural Health Workers in Papua New Guinea - the Social Factors That Influence Their Motivation to Work." *Social Science & Medicine* (1982) 75, no. 5 (September 2012): 828–35. <http://www.ncbi.nlm.nih.gov/pubmed/22632846>.

Rees, Joseph. "USAID Strategic Plan for East Timor: A New Nation Moving Forward, 2005-2009" (2009).

Da Silva, Joao Olivio. *Mid Term Review Health Sector Performances 2008 - 2010*, 2010.

Task Force for Scaling Up Education and Training for Health Workers. *Scaling Up , Saving Lives*. Geneva, 2008.

The World Bank. *Policy Note on Population Growth and Its Implications in Timor-Leste*. Washington, 2008.

Tyrrell, Amanda K, Giuliano Russo, Gilles Dussault, and Paulo Ferrinho. "Costing the Scaling-up of Human Resources for Health: Lessons from Mozambique and Guinea Bissau." *Human Resources for Health* 8 (January 2010): 14. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2902408&tool=pmcentrez&rendertype=abstract>.

UNDP. *Timor-Leste Human Development Report 2011: Managing Natural Resources for Human Development*, 2011. <http://hdrstats.undp.org/en/countries/profiles/TLS.html>.

UNFPA. "Timor-Leste." In *State of the World's Midwifery 2011*, 138–139. UNFPA, 2011.

http://www.unfpa.org/sowmy/resources/docs/country_info/profile/en_TimorLeste_SoWMy_Profile.pdf.

Willis-Shattuck, Mischa, Posy Bidwell, Steve Thomas, Laura Wyness, Duane Blaauw, and Prudence Ditlopo. "Motivation and Retention of Health Workers in Developing Countries: a Systematic Review." *BMC Health Services Research* 8 (January 2008): 247.
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2612662&tool=pmcentrez&rendertype=abstract>.

World Health Organization. *Guide to Health Workforce Development in Post-conflict Environments*. Geneva, 2005.

———. "HRH Action Framework" no. July (2008): 2008.
<http://www.who.int/hrh/tools/en/>.

———. *Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention: Global Policy Recommendations*. Geneva, 2010.
http://whqlibdoc.who.int/publications/2010/9789241564014_eng.pdf.

———. *Models and Tools for Health Workforce Planning and Projections*, 2010.

———. "Task Shifting: Rational Redistribution of Tasks Among Health Workforce Teams: Global Recommendations and Guidelines." World Health Organization, 2008.
<http://www.capacityproject.org/framework/2011/01/task-shifting-rational-redistribution-of-tasks-among-health-workforce-teams-global-recommendations-and-guidelines/>.

———. "WHO Timor-Leste Country Cooperation Strategy 2009-2013," n.d.
http://www.tls.searo.who.int/en/Section3_101.htm.

———. *Working Together for Health: The World Health Report 2006*. Geneva, 2006.

———. *World Health Statistics 2006*. Geneva: World Health Organization, 2006.
http://www.who.int/gho/publications/world_health_statistics/whostat2006_erratareduce.pdf.

———. *World Health Statistics 2011*. Geneva: World Health Organization, 2011.
http://www.who.int/gho/publications/world_health_statistics/EN_WHS2011_Full.pdf.

Zwi, Authors Anthony B, Ilse Blignault, Diana Glazebrook, Veronica Correia, Catherine R Bateman, Elias Ferreira, and Basilio M Pinto. *Timor-Leste Health Care Seeking Behaviour Study: Final Report*, 2009.

HLSP Disclaimer

The Health Resource Facility (HRF) provides technical assistance and information to the Australian Government's Australian Agency for International Development (AusAID). The Health Resource Facility is an Australian Government, AusAID funded initiative managed by Mott MacDonald Limited trading as HLSP in association with International Development Support Services Pty Ltd (IDSS), an Aurecon Company.

This report was produced by the Health Resource Facility, and does not necessarily represent the views or the policy of AusAID or the Commonwealth of Australia.

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of HLSP being obtained. HLSP accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person other than the Commonwealth of Australia, its employees, agents and contractors using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm his agreement, to indemnify HLSP for all loss or damage resulting therefrom. HLSP accepts no responsibility or liability for this document to any party other than to the agency and agency representatives or person by whom it was commissioned.