Health Labour Market Analysis:  
Sri Lanka

Ministry of Health, Nutrition and Indigenous Medicine - Sri Lanka and World Health Organization
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Foreword

Health workforce of adequate number and the right skill mix is the foundation of a well-functioning health system that is able to deliver quality health care services to everyone, everywhere.

The Ministry of Health, Nutrition and Indigenous Medicine of Sri Lanka in collaboration with the World Health Organization conducted a Health Labour Market Analysis (HLMA) to understand the needs on Human Resources for Health (HRH), identify bottlenecks and improved understanding on impact of health workers’ migration. The study and analysis also inform the overarching national vision for Sri Lanka to be a developed country focussed on export-oriented economy. The study also provides key insights for achieving the Universal Health Coverage goals for the country as HRH is one of the key pillars for UHC.

The study highlights the need for strengthening information on healthcare workers in Sri Lanka, including those in the private sector; identifying the service gaps and better forecasting of staffing needs based on workload analysis; and to develop a health workforce policy and action plan for the period of 2019-2030.

Our sincere appreciation and gratitude to officials from the Ministry of Health, Ministry of Higher Education, private healthcare providers, academia and experts for their valuable contribution. We would also like to thank officials and staff from the WHO HQ, Regional Office for South East Asia and Country Office for their support.

We hope to take forward the key recommendations of the report to further strengthen HRH in Sri Lanka towards achieving Universal Health Coverage and contributing to the overall national socio-economic vision.

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Director General of Health Services
Ministry of Health, Nutrition and Indigenous Medicine

Dr Razia Pendse
Country Representative for Sri Lanka
World Health Organization
Executive Summary

The scope of this work is to provide an overview of the state of the health labour market in Sri Lanka in order to provide insight into key health workforce issues. The focus for this report is medical and nursing officers, but much of the information will be useful for developing a country-level human resources for health development plan.

This health labour market analysis was conducted using data made available from several ministries. The macroeconomic situation, absorption capacity, migration and distribution of medical and nursing officers in Sri Lanka were the main focus of this study. Based on the results of the health labour market analysis ten main issues were highlighted and ten recommendations are put forth.

These recommendations which are specific to the Sri Lankan context are based on information and data gathered for this report. They are summarized in the following table:

<table>
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<tr>
<th>Issue</th>
<th>Recommendation</th>
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<tr>
<td>Lack of internal mechanism to manage human resources for health</td>
<td>Accelerate the operationalization of the Human Resources for Health - Coordination Unit</td>
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<td>Uncertainty regarding health workforce requirements</td>
<td>Undertake a study to project staffing needs based on workload, out/in migration flows, service gaps analysis in health workforce planning.</td>
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<td>Lack of coordinated long-term policy regarding the health workforce</td>
<td>Develop a health workforce policy and action plan for the period 2019-2030 with multisector consultations.</td>
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<td>Limited transparency and information on the private sector</td>
<td>Improve oversight of private sector notably through regulation and data monitoring systems</td>
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<td>Limited ability to ensure the adherence to quality standards by educational institutions (state and private)</td>
<td>Improve accreditation mechanism for all educational institutions</td>
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<td>Lack of a nationally coordinated approach among key ministries and stakeholders involved in the migration of health workers and public health impact of health workforce migration from Sri Lanka not well taken into account</td>
<td>Develop a multi-sectoral common policy on health workforce migration in conjunction with the ILO based on the principles of the WHO Global Code of Practice on the international recruitment of health personnel</td>
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<td>Limited understanding of motivation and productivity of health workers</td>
<td>Undertake a survey on motivation and productivity of health workers</td>
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<td>Medical and nursing officers may not be located where they are most needed</td>
<td>Identify service gaps and ensure that deployment and incentive policies are streamlining healthcare workers into the places where they are the most needed</td>
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<td>Health workforce data limitations and fragmentation of information systems</td>
<td>Improve the health workforce information system. Implement National Health Workforce Account modules and harmonize fragmented information systems</td>
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<td>Underutilization of economic potential of health workforce</td>
<td>As recommended by the High Level Commission on Health Employment and Economic Growth invest in the job creation in the health sector to increase inclusive economic growth</td>
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## List of Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AMC</td>
<td>Australian Medical Council</td>
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<tr>
<td>CAT</td>
<td>Computer Adaptive Test</td>
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<td>CCT</td>
<td>Certificate on Completion of Training</td>
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<td>DH</td>
<td>Divisional Hospital</td>
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<td>ERPM</td>
<td>Examination for Registration to Practice Medicine</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GMC</td>
<td>General Medical Council</td>
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<td>GMOA</td>
<td>Government Medical Officers Association</td>
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<td>HEI</td>
<td>Higher Education Institutions</td>
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<td>HLM</td>
<td>Health Labour Market</td>
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<td>HRH</td>
<td>Human Resources for Health</td>
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<td>IMG</td>
<td>International Medical Graduates</td>
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<td>LMIC</td>
<td>Lower Middle-Income Countries</td>
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<td>MCQ</td>
<td>Multiple Choice Questions</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>OOP</td>
<td>Out Of Pocket</td>
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<td>OSCE</td>
<td>Objective Structured Clinical Examination</td>
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<td>PMCU</td>
<td>Primary Medical Care Unit</td>
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<td>PHC</td>
<td>Primary Health Care</td>
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<td>PSC</td>
<td>Public Service Commission</td>
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<td>SAITM</td>
<td>South Asian Institute of Technology and Medicine</td>
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<td>SEAR</td>
<td>South East Asian Region</td>
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<td>SLMA</td>
<td>Sri Lanka Medical Association</td>
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<td>SLMC</td>
<td>Sri Lanka Medical Council</td>
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<td>SLNC</td>
<td>Sri Lanka Nursing Council</td>
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<td>UGC</td>
<td>University Grant Commission</td>
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<td>USD</td>
<td>United States of America- Dollars</td>
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<td>WHO</td>
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Introduction

Context and Objectives

Sri Lanka has a pluralistic healthcare system with allopathic healthcare services dominating the service provision. Comprehensive promotive, preventive & curative services are available through the public sector allopathic services and are spread island wide. These services are funded by public finances free of charge at the point of delivery ensuring access for low socio-economic groups. The public sector provides most inpatient curative care (88%) and half of the outpatient care. The private sector focuses mostly on curative care providing 12% of the inpatient care and 50% of outpatient care (Withanachchi and Uchida, 2006, Ministry of Health Nutrition and Indigenous Medicine, 2018a). An expanding private sector is operating in selected urban settings complimenting the State sector hospitals.

The state curative facilities are organised into a tiered structure each providing a defined level of care. They range from Teaching Hospitals attached to universities having super-specialties, Provincial, District General and Base Hospitals with selected specialties to Divisional Hospitals (outpatient care and inward care) and Primary Medical Care Units offering only outpatient care. There are also a few specialised hospitals which serve as centres of excellence in the system.

The preventive and promotive arm of the health care system provides a comprehensive care package at field level through an islandwide network of 354 Health Units / Medical Officer of Health Units. Both domiciliary and clinic based care is delivered to a geographically defined population by a team of health care professionals. The services are mainly focused on maternal and child health, school health, environmental sanitation, food and water hygiene and prevention and control of communicable diseases.

An important change in the system of health care provision came with the devolution of power to the provinces in 1989 resulting in the establishment of provincial health ministries, provincial and divisional directors of health services and shared responsibilities for the provision of care. Teaching Hospitals, Specialized Hospitals, Provincial General and selected District General Hospitals are under the central Ministry of Health (MoH), while the rest of the facilities including the preventive health care services are under the administrative purview of the Provincial Health Ministries.

The private sector comprises a mix of large hospital groups, small hospitals and private nursing homes and full-time and part-time general practices. The private hospitals are located mainly in urban areas which are staffed by both full-time private doctors and government doctors working in their off duty hours. Private general practices mainly providing ambulatory care, have wider coverage throughout the island. These are led by full-time general practitioners some of whom are specialist in general practice or by government medical officers working part-time in their off duty hours. The private sector is increasing in importance in Sri Lanka and it is important to consider the implication on the health labour market.

In addition, the Ministry of Health in Sri Lanka is embarking on a reorganization of primary curative care service delivery and strengthening primary preventive services to include NCDs. The main objective is to “provide citizen-centric integrated health care that is affordable, sustainable and ensures a continuum of care for every patient” to contribute to the achievement of universal health coverage. This reorganization will clearly have implications on the health labour market and therefore it is becoming increasingly timely to assess the dynamics in the health labour market.

The scope of this work is to provide an overview of the state of the health workforce in Sri Lanka based on available data in order to provide insight into key health workforce issues. The focus for this report is medical and nursing officers, but much of the information will be useful for developing a country-level human resources for health development plan.

The specific objectives are to:

(1) Identify opportunities and challenges for the health labour market in relationship with the overall labour market and macro-economic factors;

(2) Review and analyse the key factors affecting the demand for medical officers and nurses in Sri Lanka;

(3) Review and analyse the key factors affecting the supply of medical officers and nurses in Sri Lanka;

(4) Examine in detail the issue of international migration of health care workers from Sri Lanka (including the cost of medical education) and;

(5) Make recommendations and define strategies for addressing key challenges related to medical and nursing officers.
Framework for health labour market analysis

The analysis in this report adopts a health labour market approach. The health labour market can be defined as a dynamic system comprising two distinct but closely related economic forces: the supply of health workers and the demand for such workers. This dynamic is central in determining the level of health employment. Notable factors affecting the supply of health workers are education and training capacity and output, and migration. Notable factors affecting the demand for health workers from the public side are budget, socio-economic factors and development of health services. A health labour market analysis captures both these supply and demand side elements.

The labour market for health workers is dynamic and multidimensional. The figure below illustrates the Health Labour Market Framework which is the foundation of the labour market analysis conducted in Sri Lanka. It comprises of the production of health workers through the education system, the absorption capacity of health workers by the health system and the analysis of important elements of the health workers engaged in the health sector (productivity, performance, skill mix and geographic distribution).

Health Labour Market Framework for UHC

The production of health workers is an open system with an international component. Therefore some health workers trained in Sri Lanka are lost due to emigration. Immigration of qualified internationally trained health workers into Sri Lanka is mostly by Sri Lankan nationals who train abroad and return to Sri Lanka to seek employment. It is important to understand the absorption of health workers into the health system. In addition, not all qualified health workers will be actively participating in the health labour market, some might be unemployed and some will work in other sectors. Of the pool of health workers engaged in the health sector, productivity, performance, skill mix and geographic distribution are important elements, particularly if the aim of the health system is universal health coverage.

Methods

As per the objectives of the study the analysis focuses on several key concepts which form the major lines of inquiry for the labour market analysis. These key concepts are: (1) macroeconomic factors that affect the supply and demand of doctors and nurses, (2) the absorption capacity of the Sri Lankan government/public health care sector and the private health care sector in Sri Lanka, (3) in/out migration of health care workers, and (4) the distributional factors related to the nursing and medical workforce in Sri Lanka. The information and data used in the analysis were provided by the Ministry of Health, Ministry of Higher Education, Ministry of Local Government, Ministry of Finance, the University Grants Commission, Sri Lanka Medical Council, Sri Lanka Medical Association, Private Hospitals as well as Provincial Directorate of Health Services – North central Province, among other sources.
Health labour market in the context of the general labour market and macroeconomic factors

Undertaking a health labour market analysis requires a good understanding of economic factors beyond the limits of the health sector. While the health labour market has specificities, it is also important to understand it from a general labour market perspective and to account for the economic context.

It is clear that labour market and economic growth have a close relationship. Empirical studies highlight that economic growth tends to be positively associated with job creation key in boosting economic growth (see Basnett and Sen, 2013). Recent macroeconomic thinking is urging governments to relax austerity measures in favour of fiscal expansion policies, prioritizing investment in job creation as a means to generate inclusive economic growth (UN Commission, 2016). Within this context creating jobs and reducing unemployment are crucial in the growth of an economy. With more people employed resulting in a higher potential to add economic value to society. Low levels of unemployment are linked to high levels of growth with output remaining largely dependent on the amount of labour used.

In this Chapter some key macro-economic elements as well as some key factors related to the general labour market are presented in order to have a better understanding of the health labour market.

**Economic growth in Sri Lanka is led by the service sector but job creation remains a concern**

Sri Lanka is a lower middle-income country with a total population of 21.4 million and a GDP per capita of USD 3,835. Although for the past six years (2010-2016) the economy grew at an average rate of 6.2%, GDP growth in Sri Lanka is only expected to reach 4.7% in 2017. GDP is predicted to grow at around 5% over the next few years (World Bank, 2017). GDP growth in Sri Lanka is slightly lower than other South Asian countries, where GDP growth is expected to be an average of 7% in 2017 (Asian Development Bank, 2017).

The Sri Lankan economy is transitioning from a rural-based economy towards a more urbanized economy oriented around manufacturing and service. Growth in Sri Lanka is now primarily driven by urban development, notably in Colombo, with the Western Province which generates around 45% of the country’s GDP but containing only 28% of its population (World Bank, 2017b).

As expected, the service sector has overtaken agriculture as the largest employer. In 2016 of the 7.9 million jobs in Sri Lanka almost 47% were in the service sector compared to 26% in industry and 27% in agriculture. Figure 1.1 shows that over the past decade most of the growth in jobs in Sri Lanka was derived from growth in the service sector, with over 866,000 new jobs created since 2006. However, it is clear that job growth in Sri Lanka has slowed recently and although the economy has created 866,000 jobs since 2006; most of the occurred between 2006 and 2008 when 547,000 jobs were created. In the 8 year period since 2008 net creation of jobs has only been 319,000.

Figure 1.1: Employed population by industry 2006-2016

In Sri Lanka it is estimated that around 60% of all employment is informal employment. 54% of females that are working are working in the informal sector (Ministry of National Policies and Economic Affairs, 2016). The informal sector generally plays a very important role in health care provision. However, there is very limited information on the informal health sector in Sri Lanka.

Figure 1.2: Percentage employment growth by sector between 2006 and 2016

Figure 1.2 shows that the service sector is leading the employment growth in Sri Lanka, with service sectors jobs growing at over 25% compared to a reduction in agriculture jobs with 5%.

The success of job creation in the service sector contributed to the overall fall in unemployment in Sri Lanka. The unemployment rate decreased from 14.5% in 1992 to 4.7% in 2015 (Byiers et al., 2015; Ministry of National Policies and Economic Affairs, 2015).

Nevertheless, job creation remains a concern. This is of particular importance with regard to future economic growth in Sri Lanka. While the reduction of unemployment suggests some success in terms of job creation, it should be noted that some of the reduction in unemployment rate is likely attributable to reduction in labour force participation (shown in Figure 1.4). Long term unemployment can result in individuals losing hope of finding paid work and dropping out of the labour force as they no longer count as unemployed, this can result in a reduction of measured unemployment in a country.

In addition, it has been suggested that employment elasticity of economic growth (the ratio of percentage change in employment to the percentage change in real GDP) in Sri Lanka has been low and falling. Chandrasiri (2013) suggest that between 1996-2002 employment elasticity was 1.16 and for the period of 2002-2010 is was 0.17, therefore the employment elasticity of economic growth in Sri Lanka is low.

This concern about job creation is also illustrated in Figure 1.3 which compares the historical annual average labour force growth rate in selected Asian economies between 1990 and 2008 and the predicted annual average for 2008-2020. Sri Lanka has seen relatively low labour force growth rates and although labour force growth rates are expected to decline in many Asian economies, the rate of decline is expected to be greatest in Sri Lanka (Ministry of Labour Relations and Manpower, 2009).
It is clear that Sri Lanka’s rapidly aging population is a speed breaker to Sri Lanka’s post-war growth. Sri Lanka has one of the fastest-growing ageing populations in Asia, with the share of the population aged 60 years or more expected to increase rapidly over the coming years (United Nations Department of Economic and Social Affairs, 2015). Sri Lankan census data shows that in 2012 the elderly accounted for 12.4% of Sri Lanka’s population this is expected to increase to around 20% by 2032 (de Silva 2015). Average life expectancy is approximately 75 years of age and fertility has declined to near replacement level (at 2.2 births per woman) (Department of Census and Statistics, 2016). Within this context, generating more jobs, improving labour force participation and increasing productivity are central tenets in sustaining strong economic growth.

**Female labour force participation rate continues to challenge the economy**

While the scale of the number of jobs needed to be created is debated, it is imperative to focus on generating good quality jobs that are targeting youth unemployment and low female labour force participation. Sri Lanka has one of the biggest gender-based labour force participation gaps in Asia (Ministry of Labour Relations and Manpower, 2009). Females in Sri Lanka are far less likely to have a formal job or be seeking paid work.

The overall labour force participation rate in Sri Lanka is about 54%; 75% for males and 36% for females (Ministry of National Policies and Economic Affairs, 2016). Female labour force participation remains low and lags male rates by nearly 40 percentage points, notwithstanding of the high literacy rates for females in Sri Lanka. Literacy rate of the population aged 10 years and above in Sri Lanka is 95.7%; with males having a literacy rate of 96.6% and females 94.6% (Census of Population and Housing, 2012). In addition, as is shown in Figure 1.4 the female labour force participation rate in Sri Lanka has shown no increase over the past decade. The worldwide average for female labour force participation is around 50% (ILOSTAT database, 2017).

**Figure 1.4: Labour force participation rate 2006-2016**

Given the low female labour force participation rate it is not surprising that the unemployment rate for females is 7%; which is more than double that of males which sits at 3% (Ministry of National Policies and Economic Affairs, 2016).

Moreover, youth unemployment is the highest from all age groups in Sri-Lanka. Unemployment of individuals ages 20-24 is almost 20% (Ministry of National Policies and Economic Affairs, 2016).

**Growth in health and social work jobs is lagging behind but health sector offers great opportunity for increasing labour force participation for females and youth**

Of the over 3.5 million people working in the service sector only 142,000 people work in health and social work. Therefore in Sri Lanka the jobs in health and social work comprised only 1.8% of all employment in 2016, which is much lower than the OECD average, where health and social work comprise 11% of total employment (OECD, 2016). The 1.8% of total employment by health and social work in Sri Lanka is relatively low when compared to education with 4.1% of employment and public administration and defence with 7.7% of total employment (Ministry of National Policies and Economic Affairs, 2016). Figure 1.5 demonstrates that jobs in the health and social sector in Sri Lanka are scarcer and have been slower to grow when compared to other service sectors such as education and public administration. Since 2013, 42,069 new jobs have been created in the education sector and the public administration and defence sector has seen an increase of 38,854 new jobs, whereas only 13,802 new jobs were created in the health and social sector.

Figure 1.5: Employment growth in the service sector 2013-2016

The health and social work sector is an opportunity to address the female and youth jobs gap. There is great prospect for youth job creation in the health and social work sector as 85% of health and social work jobs being held by those 40 years of age or older (Ministry of National Policies and Economic Affairs, 2016). In health and social work, female jobs surpasses that of males, with 62% of health and social work jobs being held by females on 2016 (Ministry of National Policies and Economic Affairs, 2016). Most nurses in Sri Lanka are female and since 2000, more than half the medical students in Sri Lanka have been female, and around 70% of students enrolled in paramedical education are female.
Expenditure on health represents a relatively low proportion of GDP in Sri Lanka

Worldwide almost 10% of the gross domestic product was spent on health in 2014. In 2014 Sri Lanka’s total health expenditure was 3.5% of GDP, slightly lower than India at 4.7% and Nepal at 5.6% (World Health Organization, 2017). Over the past 20 years total health expenditure in Sri Lanka has been around 3-4% of GDP. Figure 1.6 shows growth in health expenditure as a proportion of GDP in Sri Lanka has been stagnant since 2014.

Figure 1.6: Total expenditure on health as a percentage of GDP, 2000-2015

Source: WHO Global Health Observatory Data, 2017

Public health expenditure as a proportion of GDP is estimated at 2% in Sri Lanka (World Bank, 2017b), this places Sri Lanka between a number of neighbouring countries in the region as illustrated in Figure 1.7.

Figure 1.7: Public health expenditure as a percentage of GDP for SEAR countries

Although the overall expenditure on health as a percentage of GDP has remained constant, there has been a slight decline in the general government expenditure on health as a percentage of total government expenditure. As shown in Figure 1.8 WHO Global Observatory Data suggests that general government expenditure on health as a percentage of total government expenditure was above 10% until 2006 then declined until 2013-2014 where it increased by 1 percentage point, but has since declined to 8%. The global average is 15.5% of total government expenditure being dedicated to health (World Health Organization, 2017).
As Figure 1.9 shows that government expenditure on health has exceeded private health expenditure, but private health expenditure has been increasing in importance (World Health Organization, 2017). In 2015 it comprised 45% of health spending.

Given that almost 96% of private expenditure on health in Sri Lanka is out of pocket expenditure (OOP), it is projected that 43% of all expenditure on health in Sri Lanka is OOP, which is much higher than the global average of 18% of total expenditure on was being OOP (World Health Organization, 2017). It is well known that higher OOP greatly increases the risk of catastrophic health expenditures. Thus it is not encouraging to see increasing importance of private expenditure on health which increases the relative proportion of health care expenditure from OOP. In 2015 it was estimated that households in Sri Lankan paid 127,462 million rupees out of pocket on health (World Health Organization, 2017).

Low revenues have impacted Sri Lanka’s fiscal position

It is important to understand the financial constraints facing the health system. A main cause of low revenues is the low number of tax payers in Sri Lanka. It is reported that less than 7 percent of the labour force and formal establishments are paying income tax (World Bank, 2017). According to the World Bank “low revenues combined with largely non-discretionary expenditure in salary bill, transfers, and interest payments has constrained critical development spending have squeezed expenditure on health, education and social protection, which are low compared to peers” (World Bank, 2017).

The Sri Lankan government has implemented fiscal reform to tackle macroeconomic imbalances and public debt (Asian Development Bank, 2017). Increasing revenues has been a major policy goal in Sri Lanka and a recent
increase in revenues and rationalization of expenditures has brought the fiscal deficit to 5.2 percent of GDP for 2017 (World Bank, 2017). Further revenue-increasing policy measures along with improved tax administration will help increase revenues and reduce the deficit to 3.5 of GDP by 2020 (World Bank, 2017). This creates potential space for increases in public investment. However, slowing economic growth may limit the revenue-increase.
Chapter 2

The absorption capacity for health care workers by the health labour market

A central tenet of health labour market is the absorption capacity. Absorption capacity refers to how well health care workers are integrated into the health system. Absorption capacity captures the dynamics between the supply of health workers (mainly through education and immigration) and the ability of the health system (which includes both the public and the private sector) to fully and productively employ the pool of available qualified health workers.

In the following section, the absorption capacity for health workers is reviewed based on the HLM framework presented in the introductory Chapter. Specifically it refers to what happens to the pool of qualified health workers as highlighted in Figure 2.1.

Figure 2.1: Absorption capacity in the context of the Health Labour Market Framework

From a policy perspective, Sri Lankan health policy dating back to 1996 states “human resource development will be supported and strengthened in keeping with contemporary needs” (National Health Policy of Sri Lanka, 1996). A HRH Strategic Plan 2009-2018 was developed focusing on 7 strategies and a National Consultation to develop a health workforce action plan was convened. While some of the objectives of the HRH Strategic Plan 2009-2018 has been partially achieved, several objectives have not been addressed at all. Within this context, the National Strategic Framework for Development of Health Services: 2016-2025 advised the creation of a human resource development plan. This Framework led to the Report of the Committee Appointed by the Minister on Human Resource Management and Development in January 2017. The report found that the planning, monitoring and management of the health workforce were decentralized under six different Deputy Director Generals. The report concluded that there was an urgent need to establish new mechanisms to manage human resources for health in the country. This lack of coordination led the committee to recommend the establishment of a Human Resource Coordinating Unit within the Ministry of Health.

As this Chapter shows, one of the key characteristics of the health labour market in Sri Lanka has been the fact that virtually all newly trained medical and nursing officers in the public sector have had thus far had the possibility to be fully employed in the health labour market. This is a significant achievement as there has been a large increase in the number of health workers over the past decade. However, this situation also has generated some challenges in terms of flexibility of the health labour market, notably in terms of irregular and variable recruitments. The lack of a coordinated health workforce strategy has contributed to volatility in the health labour market. In addition, there is growing concern about the ability of sustaining a strong absorption capacity in a context of increasing supply and macro-economic constraints.

Large increases in the number (stock) of health care workers, driven mainly by growth-spurts nursing numbers

The total human resources in the Ministry of Health is 123,855 with 66,993 in the line ministry and 56,852 in the provinces (Health Information Unit, 2015). According to the Annual Health Bulletin (Sri Lankan Ministry of Health, 2015) 76,852 key of these are key health care workers; 18,243 medical officers, 42,420 nurses (which includes 8,369 pupil nurses) and 16,189 working in other cadres such as pharmacists, laboratory technologists and physical therapists. Figure 2.2 demonstrates that the number of health workers in Sri Lanka has been steadily increasing since 2005, when there were only 41,966 public sector health care workers in Sri Lanka.
Given the population did not grow as fast as the number of health workers, the increase in health workers led to a great improvement in the number of health workers per person in Sri Lanka. In 2005 there were 2.2 health workers (including doctors, nurses and other cadres) per 1,000 population and by 2015 there were 3.7 health workers per 1,000 population (Ministry of Health, 2015). This represents a 70% increase in the ratio of health workers to population over the past decade in Sri Lanka.

Clearly it is not just the ratio of health workers to population that is important, but the composition of health workers is of great importance to the functioning of the health system. Therefore although the ratio of health workers to 1,000 population was 3.7, the ratio of doctors per 1,000 population in Sri Lanka was 0.87 doctors per 1,000 population. This is lower than the OECD average of 3.4 doctors per 1,000 population in 2015 and the United Kingdom (2.8 in 2015), but as Figure 2.3 demonstrates by 2012 Sri Lanka had the highest nurse and doctor to population ratios in selected SEAR countries (OECD, 2017; World Health Organization, 2017; Ministry of Health, 2015).

The ratio of nurses to population in Sri Lanka was about two nurses per 1,000 population in 2015, up from about one nurse per 1,000 population in 2005 (Sri Lankan Ministry of Health, 2015). As Figure 2.3 demonstrates this is high compared to other the South East Asian countries. Nevertheless, this is still significantly lower than the average across OECD countries, where there were around nine nurses per 1,000 population in 2015 (OECD, 2017; World Bank data, 2017).

The skill mix of health care workers ensures that the health system functions efficiently and therefore it is important to plan the number in each cadre and speciality concurrently. In 2015 there were 2.32 nurses per medical officer in Sri Lanka (Sri Lankan Ministry of Health, 2015), compared to India where there are 1.4 nurses per doctor (World Health Organization, 2017). The OECD average in 2015 was three nurses per doctor (OECD, 2017).
As Figure 2.4 demonstrates, the greatest increase in the past decade came from the more than doubling of the nursing population (a 113% increase). Due to a domestic shortage the government of Sri Lanka has been promoting the training of nurses. The policy to increase substantially the number of nurses is illustrated by the Sri Lanka’s Health Ministry announcement in 2012 of its plans to recruit 25,000 more nurses to raise the nursing staff to 50,000. The number of training facilities increased since 2005. However as the pool of potential nursing students was not large enough, pre-requisites required to enter government supported nursing training were lowered.

![Figure 2.4: Health workers by cadre in Sri Lanka, 2005-2015](image)


As Figure 2.4 shows growth in the number of nurses was 113% over the past decade, growth in the number of medical officers over the past decade was 79%, whereas growth in other health worker cadres was more modest with only a 37% increase in numbers since 2005. Figure 2.4 also shows that the rate of growth in medical officers has been smooth since 2006, whereas the increase in the number of nurses has been unsteady, with large surges in the number of nurses experienced in 2006, 2007, 2010, 2014 and 2015, and declines in 2008 and 2013. This is likely attributable to a lack of long-term planning. Long term planning generally leads to smoother growth trends over time.

**A complex public-private relationship is impacting and influencing the health system**

Although health care in Sri Lanka is comprised mainly of public health providers, there is an increasing presence of private providers. Private hospital provision has shown robust growth and reaching an estimated 4.7 million outpatient visits and 266,000 admissions in 2011 by 125 private hospital having 4,210 beds. Most private hospitals, 38%, had between 20-49 beds; 35% had between 10-19 beds, 12 % had few than 10 beds, 9% had between 50-99 beds and only 6% had 100 beds or more  (Amarasinghe et al., 2015).

Information about health workforce participation in the private sector is rather scarce. It is estimated that there are 424 medical officers working full-time in the private sector (Amarasinghe et al., 2015). Uncertainty is even greater regarding “dual practice” which is authorized in Sri Lanka. While Amarasinghe et al., 2015 estimated that there are 4,845 medical officers working part-time that is, approximately 30% of government employed doctors, another recent study De Silva (2017) estimates that close to 60% of government doctors and 90% of consultants are engaged in dual practice.

This strong dual practice is likely to be explained to a large extent by the fact that doctors retain their full-time employment in the public health care system and can work in the private system outside of regular office hours (i.e. before 8 am or after 4 pm).

**How dual practice is operationalized in Sri Lanka**

Anecdotal evidence suggests significant wage differential between public and private sector for doctors, with the private sector offering a higher salary, but a lack of incentives such a pension and tax benefits. Given that medical officers are permitted to work in dual practice after hours, many opt to work full time in the public sector and do after hours care in the private sector to increase their base income. The majority of private consultations needing inpatient care result in public inpatient care. A private consultation ranges from 10-20 USD for a specialist and 2-3 USD for a medical officer; however inpatient private care ranges from 100-500 USD, making it a prohibitively expensive out of pocket cost for most.

Dual practice allows medical officers to have thriving practices in both the public and private sectors, high inpatient cost for private care results in majority of those accessing private care requiring hospitalization to do so in the public sector.
In many LMICs, dual practice among health professionals is used as a supplementary source of income to increase base salaries that are considered inadequate (Asiimwe et al., 1997; Roenen, 1997). Dual practice can be used as a mechanism for improving recruitment and retention in rural areas. Nevertheless, international evidence about dual practice suggests that it can have implications on the equity, efficiency and quality of health care provision (Garcia-Prado and Gonzalez, 2007). Lack of productivity, frequently absenteeism or tardiness, and inefficiencies in service provision are some of the concerns raised about doctors engaging in dual practice (Ferrinho 2004). Table 2.1 outlines the countries regulatory responses to manage dual practice and includes a brief overview of the objectives and challenges of each approach.

Table 2.1: Policy options to manage dual practice

<table>
<thead>
<tr>
<th>Dual practice policy</th>
<th>Country examples</th>
<th>Rationale</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete ban</td>
<td>China, Greece (1983-2002), Portugal (before 1993) some states in India, Saudi Arabia and Turkey (with the exception of university hospitals)</td>
<td>Avoids adverse effects of dual practice</td>
<td>Difficult to enforce</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Increase in informal payments to health workers in public hospitals</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Brain drain of qualified/senior physicians to the private sector or other countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extra cost to monitor activities</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Increase in waiting time for treatment</td>
</tr>
<tr>
<td>Licensure restrictions</td>
<td>Kenya, some states in India, Indonesia, Zambia, Zimbabwe</td>
<td>Difficult to monitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Violation of policy</td>
</tr>
<tr>
<td>Restrictions on physicians’ earnings</td>
<td>France, United Kingdom.</td>
<td>Reduces profit maximization intention of physicians</td>
<td>Only practical in countries with efficient systems to monitor private sector activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Physicians might quit public practice if private sector revenue is very high</td>
</tr>
<tr>
<td>Exclusive contracts and perks in public sector</td>
<td>Spain, Portugal, Italy, Thailand, some Indian states</td>
<td>Discourage physicians from private practice</td>
<td>Only works when dual practice is for financial purpose and if the increase compensates for revenue loss from non-practice in private sector</td>
</tr>
<tr>
<td>Increased public sector salaries</td>
<td>Studies in Norway and Bangladesh</td>
<td>Efficient regulation and monitoring of private health provision</td>
<td>Governments in low income countries cannot offer wages that compensate for loss of private sector earning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Offering such contracts only to physicians creates resentment across other health workers</td>
</tr>
<tr>
<td>Private practice allowed in public hospitals</td>
<td>France, Germany, Ireland, Austria</td>
<td>Efficient regulation and monitoring of private health provision</td>
<td>Appropriate policies must exist to avoid misuse of public resources and determine the types of private practice interventions to be allowed</td>
</tr>
<tr>
<td></td>
<td>Experimented in Spain, Portugal, Ethiopia</td>
<td>Synergies between public and private sector</td>
<td>Conflict of interest for physicians is a possibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adds revenue to the public sector</td>
</tr>
<tr>
<td></td>
<td>Bahrain, Nepal, Ghana</td>
<td>Prevents physician brain- drain to private sector</td>
<td>The difference in price and possibly treatment options in the same hospital can be seen as socially discriminatory</td>
</tr>
<tr>
<td>Limitations on types of services offered in private sector</td>
<td>Canada</td>
<td>Discourage people from using the private sector for services available in public hospitals</td>
<td>Only works in countries with universal health coverage and efficient financial monitoring systems</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>United Kingdom</td>
<td>Ensure high-quality of care and discourage ill effects of dual practice</td>
<td>Does not work in developing countries with low salary, low morale and weak or absent monitoring systems and not as empowered professional bodies and civil society</td>
</tr>
</tbody>
</table>

Source: Alaref et al., 2017
In 2011, the number of nurses working in private hospitals was approximately 4,500; most working full-time (Amarasinghe et al., 2015). Much of the nursing tasks in private hospitals are done by nursing assistants. Nursing assistants are trained within the private sector through short training programs, generally lasting up to six months. The training does not provide externally recognised qualification; therefore they only capable of working within the private sector. In addition there are an unknown number of partially qualified or unqualified practitioners working in pharmacies, laboratories, and directly in clinics (Govindaraj et al., 2014). The use of unqualified or underqualified health workers clearly raises critical issues for quality of care and patient safety, which need to be addressed.

In response to such a clear need for increased regulation of the private health care sector the government of Sri Lanka introduced a Private Health Medical Regulations Act in 2008, which requires private health institutions to be registered with the Ministry of Health (Govindaraj et al., 2014). In addition the Private Health Services Regulatory Council (PHSRC) which is an independent statutory body established by the Private Medical Institutions Registrations Act (dating to 2006) is responsible for licensing, regulating and monitoring the standards of private medical institutions. However, it has been suggested that “actual design, implementation and enforcement of the licensing function has been weak and ineffective. The performance of the Sri Lanka PHSRC in this respect compares poorly with comparable regulatory authorities in the region, such as in Hong Kong SAR, Malaysia, Singapore and Thailand. PHSRC performance is also deteriorating over time.” (Amarasinghe et al., 2015).

**Most of the growth in the pool of health workers is coming from the domestic education pathway producing newly trained health workers**

Supply of health workers in Sri Lanka is mainly generated from domestic public education programs. The private education sector in Sri Lanka is small with only one private medical college in Sri Lanka, which is not currently recognised by the Sri Lankan Medical Council (SLMC). For nurses, there are a number of private nursing educational institutions offering nursing education in Sri Lanka. The duration of the course varies but is generally one year apart from the nursing schools attached to major private hospitals. the exception of courses with an international collaboration or an international affiliation, the curriculum and training for private nursing education remains to be accredited or recognized. Nurses who follow the private education pathway may be recruited to the private sector, but not to the state sector where these trainings are not recognized. Nevertheless, most of these private training institutions have obtained permission from Tertiary and Vocational Education Commission. In addition to domestic education, medical officers can be trained internationally and enter the health system though a registration procedure. Entry into the workforce for medical officers is regulated by the Sri Lankan Medical Council. Medical officers must obtain registration with the SLMC in order to legally practice medicine in Sri Lanka. The SLMC grants registration to local graduates on satisfactory completion of a year’s internship. Registration is granted to foreign qualified graduates after they have passed all segments of the Examination for Registration to Practice Medicine (ERPM) and completed a year's internship (de Silva et al., 2008).
Domestic education fuelling most of the growth in medical officers, but foreign training is increasing in importance

The Government of Sri Lanka through the University Grants Commission (UGC) hold the responsibility of funding and delivering medical education in Sri Lanka, planning and coordinating university education, allocation of funds to Higher Educational Institutions (HEIs), maintenance of academic standards, regulation of the administration of HEIs and regulation of admission of students to HEIs. Currently there are eight UGC approved universities conducting medical and related programs. There is also one private medical college in Sri Lanka, the Malabe Private Medical College, which is a part of the South Asian Institute of Technology and Medicine (SAITM). However, medical degrees conferred by the SAITM are not recognized by the Sri Lankan Medical Council. A decision to close the SAITM in 2017 has left the currently enrolled 700 students in limbo.

Undergraduate medical education in Sri Lanka is five years, plus a one year internship. Postgraduate medical education in Sri Lanka is through the Post Graduate Institute of Medicine, under the Faculty of Medicine, University of Colombo. Persons entering this stream do so through competitive screening exams. Once the postgraduate exams have been successfully completed and the degrees conferred postgraduates are required complete at least one year of foreign exposure at designated centres of excellence. Upon return to the country following the completion of the foreign training component the respective boards of study will assess them and approve them as Board Certified Specialists to be given appointments as consultants to work in Sri Lanka.

Public HEIs in Sri Lanka are fully financed by the government; therefore there are no tuition fees for attending. Public education in Sri Lanka is very popular. Medical students attending a private medical college in Sri Lanka are likely to pay about 12,000,000 LKR (80,000 USD) in tuition. Furthermore, no private medical colleges have successfully integrated into mainstream medicine in Sri Lanka, as Sri Lankan Medical Council does not currently recognize any private medical colleges. Therefore graduates from private medical schools in Sri Lanka cannot legally practice medicine in Sri Lanka.

An example of the pipeline for domestic publically trained medical officers in 2014 is provided in Figure 2.6, however, cohort data was not available, and therefore attrition rates cannot be calculated.

Figure 2.6: Medical public education pipeline for 2009 admissions

<table>
<thead>
<tr>
<th>Applications 2009</th>
<th>Admission 2009</th>
<th>Graduates 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,294</td>
<td>1,166</td>
<td>1,150</td>
</tr>
</tbody>
</table>


As Figure 2.6 suggests medical education is a very attractive formation, there are almost 6 applicants for each admission. According to University Grants Commission data over 5,000 applicants to medical schools in Sri Lanka were not admitted in 2009 it is clear that some of these applicants go abroad to study medicine. Notwithstanding the large number of non-admissions to medical school, as demonstrated by Figure 2.7 admissions into medical schools in Sri Lanka have been increasing, particularly since 2003. In 2003 there were two batches of medical student admitted leading to a spike in admissions. It is hypothesized that taking in two batches of medical officers was done in response to a backlog in the system rather than an overt policy to increase the numbers of medical officers in the country.
One of the clear drivers in the attractiveness to study in Sri Lanka are the zero tuition policy. This matched with a relatively high wage rate and large set of benefits, including pension and tax benefits, for medical officers makes studying medicine an attractive option for students interested in working in the health sector, and also has the possibility to supplement their income with dual practice.

Recruitment and deployment of medical officers

For a medical undergraduate to practice medicine in Sri Lanka, they have to have a valid qualification from a registered medical faculty. Those local graduates who have the necessary academic qualifications will be given provisional registration from SLMC to proceed with their internship. The internship will be in an identified secondary or tertiary care hospital under a Board Certified specialist. The internship will include both surgical (general surgery or Obstetrics and Gynaecology) and medicine (General Medicine or Paediatrics). Once the graduate has completed two tenures of 6 months, they can apply for full SLMC registration. Once full registration is granted, they are able to practice medicine in Sri Lanka. Those medical graduates coming from foreign universities need to get through the ERPM examination before going on to complete the internship training.

Up to now, all medical graduates getting through the internship had been recruited to the state sector in full as preliminary grade medical officers.

Once recruited into the state sector, the medical officers will be required to apply for a placement, in the post intern vacancy list that will be put out by the Ministry of Health. The application and posting will be based on the merit score for each of the participants. The placement will be for a period of four years and once two years have been completed they are eligible for apply for annual lists that will be put out each year. All posts for medical officers are processed, advertised, recruited and deployed at national level (deployed through national recruitment). No provincial level recruitment of medical officers is allowed in Sri Lanka.

Post graduate courses: Post graduate medical education for medical officers is found only at the Post Graduate Institute of Medicine under the Faculty of Medicine, University of Colombo. PGIM offers courses in 24 broad streams and range from Diploma to Masters to Doctorate in Medicine, the highest qualification in Sri Lankan qualifications framework. Post graduate medical education is conducted free to those getting selected. Medical Officers practicing at any station are released without replacement if they are selected for post graduate training.

As Table 2.1 shows medical officers have the highest starting salary, fastest salary progression and the highest maximum wage of the health professions. Nonetheless, it is important to note that the salary for medical officers is similar to that of law officers; with a starting and maximum wage slightly lower than law officers, but a quicker salary progression than their law counterparts.
The proportion of females admitted to medical school has increased from 43% in 1997 to 60% by 2011, and it has remained around this level since. The proportion of females studying medicine signals that medicine is an attractive career choice for females in Sri Lanka. Therefore if a policy to increase the low female labour force participation rate in the country (see Chapter 1) were to be implemented, investing in health care employment will be an obvious mode of increasing female participation in formal labour market activities.

Admission numbers are generally a strong predictor of the number of medical school graduates after an appropriate time lag, although some attrition is expected. Medical education in Sri Lanka takes about 6 years, including the internship portion of the programme. Yet as Figure 2.8 demonstrates the trend in graduates from medical school does not follow that of admissions. It is not clear why there was a decrease in output in 2013, nor when the two batches of admissions made in 2003 graduated as there is not a peak in output. In Sri Lanka there are about 6 medical graduates per 100,000 people in Sri Lanka.

Figure 2.8: Annual output of medical officers in Sri Lanka, 2006-2015

For those studying medicine abroad, they must sit the Examination for Registration to Practise Medicine (ERPM) in Sri Lanka conducted by the Sri Lanka Medical Council (SLMC) in order to be eligible to practice medicine in the in Sri Lanka. In order to be eligible to sit the ERPM you must be a citizen of Sri Lanka and possess a MBBS degree of equivalent from a medical school recognized by the SLMC. The ERPM is composed of four parts: Part A is a written exam on psychiatry, paediatrics, surgery and obstetrics and gynaecology; Part B is an interactive clinical assessment; Part C is an oral examination on subjects of medicine; and Part D is written exam on community and

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### Table 2.1: Salary structure for the public service, 2016

<table>
<thead>
<tr>
<th>Job category (salary code)</th>
<th>Initial step LKR (USD)</th>
<th>Years</th>
<th>1st slab LKR (USD)</th>
<th>Maximum LKR (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paramedical (MT5-2016)</td>
<td>31,635 (206 USD)</td>
<td>10</td>
<td>445 (3 USD)</td>
<td>58,145 (380 USD)</td>
</tr>
<tr>
<td>Nurse (MT7-2016)</td>
<td>32,525 (212 USD)</td>
<td>10</td>
<td>445 (3 USD)</td>
<td>59,035 (385 USD)</td>
</tr>
<tr>
<td>Nurse, PSM Special grade (MT8-2016)</td>
<td>50,200 (327 USD)</td>
<td>10</td>
<td>1,345 (9 USD)</td>
<td>76,690 (500 USD)</td>
</tr>
<tr>
<td>Medical officers (SL2-2016)</td>
<td>52,955 (345 USD)</td>
<td>3</td>
<td>1,335 (9 USD)</td>
<td>1,04,355 (681 USD)</td>
</tr>
<tr>
<td>Medical Consultants (SL3-2016)</td>
<td>88,000 (575 USD)</td>
<td>12</td>
<td>2700 (17.6 USD)</td>
<td>1,20,400 (787 USD)</td>
</tr>
<tr>
<td>Law officers (SL5-2016)</td>
<td>58,295 (380 USD)</td>
<td>5</td>
<td>1,335 (9 USD)</td>
<td>1,05,670 (689 USD)</td>
</tr>
<tr>
<td>Teacher (GE2-2016)</td>
<td>33,300 (217 USD)</td>
<td>5</td>
<td>495 (3 USD)</td>
<td>71,650 (467 USD)</td>
</tr>
<tr>
<td>Police (RS2-2016)</td>
<td>32,010 (209 USD)</td>
<td>9</td>
<td>370 (2 USD)</td>
<td>43,755 (285 USD)</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Public Administration and Management, 2016. Exchange rate estimated at 1 USD = 153 LKR.
forensic medicine. Most parts of the ERPM are conducted in English. Roughly 100-400 medical officers enter via this route per year (Sri Lankan Medical Council, 2014).

As Figure 2.9 demonstrates, that in 2015, medical officers entering the service via the ERPM route comprised around 25% of new entrants into the medical officer labour market. The number of candidates completing ERPM has doubled from just over 100 in 2010 and 2011, to over 200 in 2013 and 2014, and in 2015 it hit its peak at 400, in 2016 is was estimated to be 285. This increase is likely driven by the high interest in practicing medicine by Sri Lankans, as noted by the high number of applications to study medicine domestically in Sri Lanka. Given the limited spaces in medical schools, some of the 5000 or so applicants each year who do not get admitted to medical faculties in Sri Lanka are seeking alternative routes to practicing medicine in Sri Lanka.

Overall, although the majority of new medical officers have been educated domestically (comprising 73-91% of new entrants annually), the number of candidates completing ERPM has been increasing in importance.

Figure 2.9: Source of new medical officers in Sri Lanka, 2010-2015

Source: Sri Lankan Medical Council, 2017; Source: University Grants Commission, 2017

As shown in Figure 2.9, in addition to the domestic education and ERPM pathways, medical officers are returning to Sri Lanka after completing postgraduate overseas training. This postgraduate education is financially supported by the government of Sri Lanka. Medical officers who undergo post MD overseas training sign a bond to re-pay to the Sri Lankan government if they do not return and provide a minimum of four years’ service in Sri Lanka, in turn the Sri Lankan government funds their overseas postgraduate medical experience. The bond is only returned if the specialist medical officer returns to Sri Lanka and practices at a designated post. Most return to Sri Lanka.

Demand for doctors by the public health care system has thus far been largely unrestricted

This section examines the demand for health workers in the health labour market, particularly issues related to the recruitment and retention of doctors and nurses.

Sri Lanka has an implicit policy of employing all medical officers trained within the Sri Lankan education system; this includes postgraduates who have received government support to for foreign experience. Specialists who return from overseas experience are given a temporary post as an acting consultant while they apply for board certification and get Public Service Commission (PSC) approval. Once they are approved by the PSC their names are advertised in the immediate specialist annual list and they will be placed based on their respective grade seniority. Recruitment for undergraduate medical officers is done via a merit list; with those higher up on the list having choice to select their preferred posts and those lower down generally being sent to the least attractive, usually more rural, posts. Currently all qualified medical officers (including domestically trained and those who have passed the ERPM) in Sri Lanka are recruited by the public health system.

The flow of doctors into the health care system is increasing at about 10% annually. Therefore the inflow of medical officers into the system via domestic education, return of overseas postgraduates and ERPM is larger than the outflow from temporary exists, retirement and emigration. The SLMC requires its members to renew their registration every five years to remain active. De Silva et al., (2008) estimated that up to 2008 the annual average loss was about 50 doctors per year. Some of these exits will be due to migrating overseas and other due to retirement. The retirement age in Sri Lanka is 60 years old. All medical officers leave the system at this age; any that want to continue to practice medicine beyond this age must enter the private health care system.

Figure 2.10 outlines the age distribution of medical officers practicing in Sri Lanka in 2015; most of the medical officers in Sri Lankan are between 31 and 50 years of age. It suggests that exits from the market attributed to retirement (at age 60) will likely not be an issue until 2025 through to 2035. It will be important to monitor the under 35 category to ensure it grows sufficiently to replace the preceding age categories.
The continuation of the implicit policy to employ all recognised medical and nursing officers is attributable to the fact that the demand for nurses and medical officers, as measured by the number of approved positions, far exceeds the medical and nursing officers in the system. By the end of 2016 there were over 2,100 unfilled posts for medical officers, over 6,100 vacant nursing posts, and almost 500 midwife posts, vacancy rates vary slightly by cadre but are over 20% for medical officers and nurses and almost 30% for midwives.

**Recruitment model for nurses leads to volatility in nursing output**

For nurses and midwives practicing in the public health care system, education is done through publicly funded training programs. Only a small minority of nurses in Sri Lanka attend university and receive a university degree after three years of study. Most nurses follow a three year training program directly in the public health care system where training takes place mostly in the hospital. Although there is a clear international distinction regarding the recognition of nursing degrees obtained at a University and nursing diplomas obtained through the domestic training program, domestically in Sri Lanka they are considered equivalent and follow the same pay structure.

Sri Lanka has a policy of recruiting and then training nurses, leading to 100% absorption of publically trained nurses into the public health care system. With no governmentally imposed restriction on recruitment of nurses the limiting factor in the number of nurses recruited is the capacity at training facilities. Publically funded training programmes are the only path to working as a nurse in the public health system. Nurses trained abroad and those trained at private institutions do not hold the recognised training and therefore not able to obtain employment in the public health care system.

**Nurse Recruitment and deployment**

Currently the nursing training is conducted in 18 Nurse Training Schools, under the Ministry of Health. In addition to this, BSc Nursing is offered by four universities in Sri Lanka. Nurse recruitment is done by the MoH from school leavers who have undertaken study in Biology Stream for their Advanced Level examination (grade 11 – 13 in Sri Lanka educational system) nationally. The recruitment is done nationally based on the perceived need of the national and provincial level requirements / needs. Some consideration is given for district level recruitment as well. Once recruited, the training is undertaken in one of the 18 training centres (NTS) using a single curriculum. The training is for a period of three years. On completion they are given a diploma by the MoH. The training is a mix of theory and hospital based clinical training. On successful completion they are given the SLNC registration prior to being deployed. From the time of recruitment as a student nurse, they are given an allowance.

Nurses who undertake the BSc in nursing (four years) need to complete the degree prior to SLNC registration and subsequent recruitment to the state service. BSc nurses need to further complete a six month clinical training before recruitment. They are offered state recruitment irrespective of the numbers. Private candidates coming from overseas are not given registration from the SLNC.

Once a batch of nurses has successfully completed their training, a list of vacancies is put forward by the MoH for them to apply. Based on the perceived need of the central ministry institutions and provincial institutions, posts will be advertised and selection will be based on their merit score and national ranking. Once selected, they will be sent to the respective stations. They are not having a systematic transfer mechanism such as the one for Medical Officers and need to work on transfers on individual bases, within the province or between the province and line ministry.
For nurses, both admissions into publicly funded training programmes and output from these programs have been volatile. Recruitment into nurse training programmes is not always done on an annual basis therefore some years have seen no recruitment. This has created volatility in output which creates difficulty in planning and projecting the nursing workforce. Figure 2.11 shows that nursing admissions have ranged from zero (in 2009 and 2011) to over 3,000 (in 2007, 2010, 2014 and 2015).

Figure 2.11: Annual admission for nursing degrees in Sri Lanka, 2005-2016

![Figure 2.11: Annual admission for nursing degrees in Sri Lanka, 2005-2016](image)

*Source: Ministry of Health, 2017*

This wide range of year by year admission into nursing training programs has obviously led to great volatility in the number of graduates from nursing programs, given there is little attrition. Figure 2.12 shows that there were over 3,000 nursing graduates in 2010, compared to no nursing graduates in 2012, therefore it is not surprising that the stock of nurses in Sri Lanka, although trending upward has seen periods of decline (see Figure 2.2).

Figure 2.12: Annual output of nurses in Sri Lanka, 2006-2015

![Figure 2.12: Annual output of nurses in Sri Lanka, 2006-2015](image)

*Source: Ministry of Health, 2017*

The government of Sri Lanka recognizes only its own training facilities for nurses. It absorbs all the nurses produced by them. The large private hospitals have therefore created their own nurse training programs (nursing assistant); however these programs and the nurses trained by them remain unrecognized by government of Sri Lanka (Govindaraj et al., 2014) and data on numbers is not available.
Primary Health Care in Sri Lanka

Primary Health Care (PHC) in Sri Lanka is delivered through two PHC sub-systems: preventive and curative, with limited coordination between them. Preventive care services are publicly provided free of charge through 340 “Medical Officer Health Units” (MOH) distributed countrywide, which are managed by Medical Officers and Public Health Staff that includes public health midwives, public health nursing sisters and public health inspectors. Preventive services of MOH units is mainly focused on maternal and child health and communicable diseases (Perera, 2015).

Primary curative health services are delivered free of charge on “Primary Medical Care Units” (PMCU) and Divisional Hospitals (DH). PMCU offer outpatient services and the DH both outpatient and inpatient services. Outpatient services in PMCU are provided by medical officers and outpatient and inpatient services in DH are provided by medical officers (non-specialists), nurses, dispensers, dental surgeons and medical laboratory technicians (Perera, 2015).

However, as there is no gatekeeping function in PHC and there can be a low level of trust by patients in PMCU and DH. Therefore many patients seek primary curative services in outpatient departments of public and private secondary and tertiary hospitals, in private practices run by medical officers (usually also working in the public sector) and occasionally by unlicensed or unqualified practitioners (Balabanova et al., 2011). Overall, around 50% of outpatient visits are delivered by the private sector, whereas only 5% of inpatient admissions are in private hospitals.

Sri Lanka has made remarkable progress in providing quality "preventive" primary health care for communicable diseases and maternal and child health (World Health Organization, 2017b). However, results of "curative" PHC have shown substantial scope to improve quality of services (Senanayake et al., 2017).

Current epidemiological and demographic transitions in Sri Lanka are leading to an increase in the burden of disease particularly by NCDs. This could impede further improvement and even reverse the health gains made in the past several decades.

Both the "preventive" and the "curative" PHC subsystems are not currently well equipped to cope with these changing needs (especially the "curative" subsystem). Therefore, a reorganization of primary health care is critical in order to address these challenges.

The Ministry of Health in Sri Lanka is currently embarking on a reorganization of primary curative care service delivery and strengthening primary preventive services to include NCDs. The main objective is to "provide citizen-centric integrated health care that is affordable, sustainable and ensures a continuum of care for every patient" to contribute to the achievement of universal health coverage.
Chapter 3

The role of migration in the health labour market

Issues related to migration of workers have gained increased attention in Sri Lanka. In 2007 the Sri Lankan government created a separate Ministry for Foreign Employment Promotion and Welfare and in 2008 the Ministry developed their national labour migration policy with technical assistance from the International Labour Office. The creation of a separate Ministry for foreign employment and specific policy in this domain was considered a unique and pioneering initiative for the South Asian Region. The policy aims at ensuring a labour migration process that adheres to principles of good governance and rights and responsibilities for all men and women to engage in migration for decent and productive employment in conditions of freedom, dignity, security and equity (Ministry for Foreign Employment Promotion and Welfare, 2008). Although migration of Sri Lankan nationals for employment tends to be mainly for unskilled and housemaid categories, skilled migration is increasing in importance.

Labour migration has both positive and negative socio-economic consequences. Reducing unemployment pressures, remittances and migrants returning with savings and new skills are positive consequences to labour migration, however, labour migration can also result in the loss of highly trained people; this is especially true for health workers. Given that undergraduate and postgraduate medical education in Sri Lanka is funded by the government a migration of trained personnel represents a loss of investment.

Labour migration plays an important role in the Sri Lankan economy

It is estimated that there are over 1.8 million Sri Lankans working abroad (United Nations Sri Lanka, 2015). According to the Sri Lanka Bureau of Foreign Employment, a total of 263,307 Sri Lankan nationals (66% males and 34% females) left for foreign employment in 2015. The Middle East is the main destination of Sri Lankan migrant employees; the Kingdom of Saudi Arabia, Qatar, United Arab Emirates and Kuwait alone received 84% of the total migrant employees in 2015 (Sri Lanka Bureau of Foreign Employment, 2015).

Foreign employment has generated substantial inflows of remittances, and relieved local unemployment pressures. In Sri Lanka migrant worker remittances play a key role in the economy comprising the key foreign exchange earning source for the country and accounting for 9% of the country’s GDP in 2015 (Sri Lanka Bureau of Foreign Employment, 2015).

In 2015 Sri Lanka received approximately 7.2 US$ billion per year in remittances. This is far less than India (68.9 US$ billion), Pakistan (19.3 US$ billion), or Bangladesh (15.4 US$ billion). Nonetheless, remittances are important to Sri Lanka as it sums to 9.4% of GDP compared to only 3.4% in India1. Data on the remittances sent by doctors and nurses overseas is unknown.

Although there was a marked increase in departures of professionals in 2015, with 6,257 departures compared to 5,372 in 2014, the professional category still only comprises 2.4% of departures for foreign employment. There has been some suggestion that the Ministry for Foreign Employment Promotion and Welfare should start to encourage more skilled migration. In the health sector, attention has mostly been given to encouraging nursing migration, in general for the personal health carer / nurse assistant categories, however, it is clear that many medical officers are also migrating likely though means other than the Ministry for Foreign Employment Promotion and Welfare.

Within the framework of the health labour market migration affects the quantity and potentially the quality of qualified health workers.

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1 Dilip Ratha, Supriyo De, Sonia Plaza, Kirsten Schuettler, William Shaw, Hanspeter Wyss, Soonhwa Yi 2016 “Migration and Remittances – Recent Developments and Outlook” Migration and Development Brief 26, April 2016, World Bank, Washington, DC.
There are over 5,000 Sri Lankan doctors in OECD countries

In 2000 the number of Sri Lankan born doctors working in OECD countries was estimated to be 4,668 (OECD, 2007), by 2010 it was estimated to have reached 5,784 (OECD, 2015); an increase of 24%. Nonetheless, the expatriation rate for doctors was 28% in 2010 compared to 31% in 2000.

Figure 3.2 shows the annual stock of foreign trained Sri Lankan doctors in five English-speaking OECD countries. The UK and Australia are the largest recipients of Sri Lankan doctors, both with over 1,300 Sri Lankan trained doctors in 2014 (OECD, 2017).

Figure 3.2: Stock of Sri Lankan doctors in OECD countries: 2000-2014

Source: OECD.Stat, 2017

It is not clear how many Sri Lankan doctors are in other parts of the world. It is known that there are a large number of foreign trained doctors in the Gulf States (World Health Organization, 2017). What proportion of these are Sri Lankan trained or Sri Lankan born is unclear given the paucity of data available.
The flow of medical officers from Sri Lanka appears to be stagnate

Although data on the destination of all Sri Lankan trained health workers who departed Sri Lanka to work abroad was not available, data from OECD countries shows that there is a decrease in the flow of Sri Lankan trained doctors registering to practice medicine in Australia and the UK.

Decrease in the flow of Sri Lankan trained doctors into the United Kingdom

There are two main pathways for foreign nationals to become medical doctors in the UK. The first is to follow a General Medical Council approved domestic training program. These doctors would be foreign born, but locally trained. In 2014 33 Certificates of Completion on Training (CCT), a document that confirms that a doctor has completed an approved training programme in the UK, were awarded to Sri Lankan born doctors; in 2015 26 were awarded. Therefore the number of Sri Lankan born students choosing to study medicine in the UK is fairly small.

The second pathway is to apply through the specialty trained equivalence route as a Specialist Register (CESR) or a GP Register (CEGPR). In 2015 20 Sri Lankan trained doctors attempted the CESG/CEGPR; 9 were approved. In 2016 there were 19 attempts with only 9 approvals (General Medical Council, 2017). Therefore the number of Sri Lankan trained medical officers choosing to practice medicine in the UK is also fairly small.

Fewer Sri Lankan trained doctors passing the Australia medical assessment

It is not clear how many Sri Lanka born students are studying medicine in Australian Universities, but data is available on Sri Lankan trained medical officers. The Australian Medical Council examination operates under the provisions of the Health Practitioner Regulation National Law (2009) as a screening examination for international medical graduates seeking non-specialist registration in Australia. There are three assessment pathways for international medical graduates. Firstly, the standard pathway requires the primary qualifications must be from a training institute recognised by the Australian Medical Council (AMC). In Sri Lanka these are: Faculty of Health-Care Sciences, Eastern University; Rajarata University; Faculty of Medicine and Allied Sciences University of Colombo Faculty of Medicine; University of Jaffna Faculty of Medicine; University of Kelaniya Faculty of Medicine; University of Peradeniya Faculty of Medicine; University of Ruhuna Faculty of Medicine; and the University of Sri Jayewardenepura Faculty of Medical Sciences (AMC, 2017).

In general the standard pathway assesses candidates by examination; both a theoretical and clinical examination is required. The AMC examination consists of two stages that must be passed – a computer-administered MCQ format test of applied medical knowledge followed by a 16 station Objective Structured Clinical Examination (OSCE) format assessment of basic clinical skills. The AMC examination covers the disciplines of Adult Health Medicine, Surgery, Child Health (Paediatrics), Women’s Health (Obstetrics & Gynaecology) and Mental Health (Psychiatry). The standard of the AMC examination is formally defined as the level of medical knowledge and clinical skills required of a graduate of an Australian medical school at the completion of the medical course (that is, at the beginning of intern training.) Alternatively, a workplace-based assessment can be conducted in-lieu of the clinical examination. On successful completion of the assessments of either of the alternatives an AMC Certificate is issued. The second pathway is the Competent Authority Pathway. IMGs who have completed the requirements of a Board-designated competent authority can apply to the Board for assessment under this pathway. Finally, certain foreign trained specialists from institutions recognised by the AMC, and who have satisfied all the training and examination requirements to practise in their field of specialty in their country of training can apply for assessment under this pathway.

The Standard Pathway is the most common, in 2015 out of 156 attempts, 48 Sri Lankan trained doctors successfully passed in the clinical exam and were presumably awarded an AMC certificate. Four Sri Lankan trained doctors passed workplace-based assessments in 2015 and five entered through the Competent Authority Pathway. Although the numbers of Sri Lankan trained medical officers entering Australia is higher than the UK, as Figure 3.3 demonstrates the number of Sri Lankan trained doctors who qualify to receive an AMC certificate has been decreasing since 2010.
Success rate of Sri Lankan doctors in the clinical component of the Australian Medical Council is falling

Although fewer Sri Lankan trained doctors qualified for AMC certification in 2014 and 2015 than previous years, it does not appear to be attributable to a decrease in interest for AMC certification. Rather it appears to be attributable to a lower success rate at the clinical exam stage of the assessment. Figure 3.4 and Figure 3.5 demonstrate the attempts and success rate of the clinical component of the assessment pathways for international medical graduates from Sri Lanka.
Figure 3.5: AMC Clinical Exam Attempts by Sri Lankan trained doctors, 2008-2015

![Graph showing AMC Clinical Exam Attempts by Sri Lankan trained doctors, 2008-2015](image)

Source: AMC annual reports 2008-2015

The AMC was contacted to discuss the decrease in the number of Sri Lankan trained medical officers passing the exam. The AMC stated that in 2011, the MCQ examination was changed to Computer Adaptive Test (CAT) format of 150 items. Although the method of delivery of the test was changed the performance standard was not altered. The CAT format MCQ provides a substantially more reliable assessment of candidate ability than was available in the previous fixed format MCQ examinations. In addition in 2014, following an external review and recommendations by an international team of specialists in assessment and medical education, a new scoring system was implemented with the AMC clinical examination that defined performance in terms of key steps and level of performance observed for each of the 16 stations in the clinical examination. The AMC stressed that there were no other changes to the content or pass standard required for the clinical examination. The new scoring system, together with the commissioning of a state of the art national test facility to provide real-time monitoring and recording of individual candidate performance at the clinical examinations, has resulted in a more transparent and accurate assessment of clinical skills in the OSCE examination.

In the decade prior to the National Law being implemented in 2010, the AMC examined a total of 1,313 International Medical Graduates (IMGs) from Sri Lanka in the MCQ examination and 652 in the clinical examination. Sri Lankan IMGs had pass rates of 75.55% in the MCQ examination and 66.25% in the clinical examinations. This compared to the total cohort of all IMGs with pass rates of 55.50% (MCQ) and 60.17% (clinical). In the six years following the implementation of the National Law (2010 – 2017) the AMC examined 1,328 IMGs from Sri Lanka in the MCQ examinations. The pass rate for Sri Lankan IMGs in the MCQ examination was 76.65% of the total number of candidates examined compared to 54.76% of the total cohort of IMGs examined. The AMC stated that neither the Sri Lankan candidates nor the cohort overall had any significant change to their MCQ pass rates since 2010.

In the clinical examination the AMC examined 652 IMGs from Sri Lanka. In this period the pass rates for Sri Lankan IMGs has fallen from 66.25% in the previous 10 years to 52.46%. However, at the same time the pass rate for all IMGs has also fallen from 60.17% to 43.13% since 2010. This would suggest that the changes to the scoring system for the clinical examination, which involve a more structured approach to the assessment of clinical skills, has had an impact on the pass rates of all candidates and not merely on the performance of the cohort of Sri Lankan candidates. Sri Lankan candidates are still performing better than the total cohort of IMGs (52.46% / 43.13%).

The case of the Postgraduate Institute of Medicine programme for Sri Lankan Post Graduates

Post graduate medical education is completed through the Post Graduate Institute of Medicine, under the Faculty of Medicine, University of Colombo. Persons entering the post graduate stream do so through competitive screening exams. Once the post graduate exams have been successfully completed and the degrees conferred they are also required to have at least one year of foreign exposure at designated centres of excellence. Upon return to the country following the completion of the foreign training component the respective boards of study will assess them and approve them as Board Certified Specialists to be given appointments as consultants to work in Sri Lanka.
The Post Graduate Institute of Medicine has been sending over 200 medical officers a year overseas since 2007. Over half of this foreign experience occurred in the United Kingdom, 29% have taken place in Australia, and far fewer are studying in Singapore, New Zealand and the USA (3-4% in each), among others.

Medical officers sign a bond to pay approximately 5,000,000 LKR (35,000 USD) to the Sri Lankan government if they do not return to Sri Lanka and practice at a designated post for four years. Between 2005 and 2016, 2,631 postgraduates were sent and 2,146 returned, therefore as many as 18% of medical officers with postgraduate training were lost to international migration. Therefore almost 2 in 10 specialists are leaving Sri Lanka.

Although there is a lack of data on the migration of non-specialist medical officers out of Sri Lanka, one survey of undergraduate medical students (n=374) in the Faculty of Medicine at the University of Colombo found that 24% of respondents expressed intention to migrate. For those who expressed intention to migrate their preference countries were Australia, the UK, and the USA. The most common reasons given for intending to migrate were: better quality of life (69%), higher income (48%) and availability of better medical services (30%) (de Silva et al., 2014).

**Increasing number of Sri Lanka medical student studying abroad**

Undergraduate medical education overseas is becoming more common. Those studying medicine abroad who wish to practice medicine in Sri Lanka must sit the Examination for Registration to Practise Medicine (ERPM) in Sri Lanka conducted by the Sri Lanka Medical Council (SLMC) in order to be eligible to practice medicine in Sri Lanka. In order to be eligible to sit the ERPM you must be a citizen of Sri Lanka and possess a MBBS degree of equivalent from a medical school recognized by the SLMC.

There has also been an increase in medical officers entering the health system by passing the Examination for Registration to Practise Medicine (ERPM), therefore suggesting an increase in the number of Sri Lankan nationals studying medicine abroad. Although data is not available, it is clear that a number of the students who study medicine abroad will not return to Sri Lanka once they complete their undergraduate medical training. It seems reasonable to assume that without the incentive of a bond, as is the case for the postgraduates, the immigration loss of self-funded medical education abroad would be far in excess of the 20% loss observed in the foreign exposure component of the Post Graduate Institute of Medicine.

As Figure 3.6 demonstrates, at its peak in 2015, 400 medical officers entered the market via the ERPM route. The number of candidates completing ERPM has doubled from just over 100 in 2010 and 2011, to over 200 in 2013 and 2014, and in 2015 it hit its peak at 400, in 2016 it was estimated to be 285. This increase is likely driven by the high interest in practicing medicine by Sri Lankans, as noted by the high number of applications to study medicine domestically in Sri Lanka. Given the limited spaces in medical schools, some of the applicants each year who do not get admitted to medical faculties in Sri Lanka are seeking alternative routes to practicing medicine in Sri Lanka.

**Figure 3.6: Number of students passing the Examination for Registration to Practise Medicine, 2010-2015**

**Source:** Sri Lanka Medical Council, 2017

**Uncertainty around the stock and flow of Sri Lankan trained nurses**

The number of Sri Lankan born nurses working in OECD countries was estimated to be 2,032 in 2000 (OECD, 2007) and by 2010 it had more than doubled and was estimated to be 5,372 (OECD, 2015). This would suggest a large outflow of nurses from Sri Lanka. However, OECD data suggest that the highest number of nurses was 191 in the United States in 2014, Australia, Canada and New Zealand all had fewer than 100 nurses. Data provided by
the Nursing and Midwifery Council in the UK showed that there were only 83 nurses of Sri Lankan nationality and training in the UK in 2017 (85 in 2014). Given that the OECD data is self-declared, it could be that many of the 5,372 Sri Lankan “nurses” are not registered nurses, but rather more informal carers.

One of the main issues in the migration of nurses is that a large majority of nurses in Sri Lanka don’t hold university degrees, therefore their nursing training may not be recognised outside of Sri Lanka. Data on the flow of Sri Lankan trained nurses is sparse, but OECD data suggest that flow is very low; in 2014 a flow of 10 nurses to Canada, one nurse to New Zealand, no nurses to the United States were recorded. UK data suggest that in there were two Sri Lankan trained nurses gaining registration in the UK and in 2017 there were three (New Zealand Medical Council, 2017). Low flow of nurses could be attributable to the fact that only a small minority of nurses in Sri Lanka attend University and receive a University degree. Given that there is a clear international distinction regarding the recognition of nursing degrees obtained at a University and nursing diplomas obtained through the domestic training program.

**The Kerala case study**

Kerala is known for the high number of nurses migrating abroad. During the last decade demand for BSc Nursing courses increased while GNM diploma courses saw a decline in demand. The number of BSc nursing colleges increased from 12 in 2005 to 133 in 2016, being most of them private colleges. At the same time the number of General Nursing & Midwifery (GNM) schools in the province was reduced from 219 in 2012 to 204. Consequently, the number of BSc nursing registrations with the Kerala Nurses and Midwives Council almost doubled from 2,633 in 2009 to 4,890 in 2016, while the number of GNM graduates halved from 4,899 in 2005 to 2,152. This is explained, in part, by the fact that the BSc qualification strengthened prospects of foreign employment.

As a consequence of the increased production capacity Kerala has the highest density of nurses and midwives in India. The current stock of nurses in Kerala is estimated to be 61,619 qualified nurses and midwives, resulting in a density of 1.9 per 1,000 population, which is 6 times higher than the National density of nurses and midwives (0.3 per 1,000 population) (Rao, K. D. et al., 2016).

According to the Bulletin on Rural Health Statistics, Kerala performs well in terms of staffing of nurses at Primary Health Centers (PHC) and Community Health Centers (CHC), both vacancy and shortfall statistics have largely seen a surplus over the past decade. In fact, currently Kerala has a “negative” vacancy rate of nursing staff at public Primary Health Centers and Community Health Centers. Out of the 3,610 sanctioned post 3,969 positions are covered.

Kerala exports a significant number of nurses abroad. According to the Kerala Migration Survey 30,038 nurses and nurse assistants were working abroad in 2011, which represented a 32.8% emigration rate. This number has been reduced during the last 5 years to 20,622 nurses and nurse assistants working abroad in 2016, representing a 23.2% migration rate. The main destination for Kerala’s nurses in 2016 was South Arabia (21.5%), followed by United Arab Emirates (15.3%) and Kuwait (12.0%), United Kingdom (10.2%) and USA (6.1%).

Kerala has significantly increased the production of BSc nurses during the last decade, mainly by increasing the number of private nursing colleges. This has led to an oversupply of nurses in Kerala but at the same time has allowed Kerala to export significant number of nurses overseas and increase remittances. During the last five years the number of nursing migration abroad and the emigration rate has been reduced posing a challenge for the Kerala’s health labour market.

**Migration of skilled manpower is often encouraged**

The Sri Lanka Bureau of Foreign Employment actively encourages the migration of skilled manpower which includes doctors, nurses and paramedics as a policy to augment the amount of remittances sent back to Sri Lanka. Figure 3.7 shows there has been an increasing number of health carers have been sent to countries such as Israel and Hong Kong.
However, it is clear that this policy, without a high level of coordination, can be at odds with health workforce planning policies, which generally aim to train a specific amount of health care workers to fulfill domestic need. Clear lines of communication between the Ministry of Health and the Ministry of Foreign Employment are needed to ensure the appropriate overall demand (domestic and those destined for foreign employment) are being met. In addition an initiative to send nurses to the USA was made; however, this has not been successful.
Chapter 4

Distribution of health workers

While absolute quantity of health workers in a country constitutes an important element of what is required to have an efficiently running health system, the distribution of health care workers is as important as their overall quantity. Distribution, refers to geographic distribution, but also distribution among skills and specialties, and the distribution between the public and private health sectors. All of these elements are important in understanding the efficiency of the health workforce deployed across a country.

A more detailed picture of the distribution of medical and nursing officers requires an understanding of the number of medical officers (generalists and specialist) and nurses by province and district; the vacancy rate for doctors and nurses in Sri Lanka (Public/Private) by province and district for each speciality, vacancy rate for Medical Officers in PMCU; vacancy rate for doctors and nurses by level of care (primary, secondary & tertiary care hospitals). In addition the number of medical officers and nurses working in the private sector is important to understand the distribution of medical officers and nurses across the entire health sector.

Figure 4.1: Distribution in the context of the Health Labour Market Framework

This chapter focuses mainly on the distribution of medical and nursing officers across provinces in Sri Lanka.

Jobs in health and social work are less evenly distributed among provinces than all jobs

Table 4.1 demonstrated that the percentage of population and proportion of all employment are equally distributed across provinces in Sri Lanka. However, the picture is different when viewed from a sector level. The percentage of all health and social work jobs are more unequally distributed across provinces then all jobs.
Table 4.1: Distribution of people, jobs, and health and social sector jobs across the provinces

<table>
<thead>
<tr>
<th>Province</th>
<th>% Population</th>
<th>% All employment</th>
<th>% Health/ Social employment</th>
<th>% Medical Officers (non-specialists)</th>
<th>% Medical Officers (specialists)</th>
<th>% Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western</td>
<td>29</td>
<td>29</td>
<td>38</td>
<td>38</td>
<td>39</td>
<td>36</td>
</tr>
<tr>
<td>Central</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Southern</td>
<td>12</td>
<td>12</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Northern</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Eastern</td>
<td>8</td>
<td>6</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>North Western</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>North Central</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Uva</td>
<td>6</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Sabaragamuwa</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Census of Population and Housing Sri Lanka, 2012; Source LFS, 2016; Source: LFS, 2015; Sri Lankan Ministry of Health, 2017

Although 29% of all people and 29% of all employment were located in the Western province, it contains 38% of employment in the health and social work (and 39% of specialists), this is likely due to the National Hospital and most of the specialized hospitals being located in the Western Province. The North Western province had the highest discrepancy between population and health workers with 12% of the population and 12% of all employment located there, but only 7% of health and social work jobs and only 6% of specialists. North Central, UVA and Sabaragamuwa provinces all had a smaller proportion of medical officers than population.

Distribution of medical and nursing officers across provinces is uneven

Table 4.1 demonstrates that the density of medical and nursing officers, measured as number per 1,000 population, is not even across the provinces. Using census population data (from the latest census in 2012) and numbers of doctors and nurses in each province, the provincial densities of doctors and nurses are calculated and compared.

Figure 4.1: Provincial density of medical and nursing officers across provinces in Sri Lanka


The Western province has the highest density of doctors with 1.2 per 1,000 population, Central had 1.0 doctors per 1,000 population, Norther and Eastern each had 0.9 doctors per 1,000 population. The North Western and Sabaragamuwa provinces had the lowest densities of doctors both with about 0.6 doctors per 1,000 population. With regards to nursing density, both the North Western and Sabaragamuwa provinces rank the lowest with 1.5 and 1.6 nurses per 1,000 population respectively. Surprisingly the Northern province which had the third highest doctor density, had the third lowest density of nurses with 1.6 nurses per 1,000 population. The highest nursing density was in the Western, Southern and Central provinces, with 2.6, 2.2, and 2.1 nurses per 1,000 population respectively. What is striking is that the best served province (Western) had twice as many doctors per 1,000 population as the
least served provinces (North Western and Sabaragamuwa).

This higher proportion of medical and nursing officers in the Western province is somewhat expected as many of the National Hospital and most of the specialized hospitals (Lady Ridgway children's Hospital, Castle Street Hospital for Women, De Soysa Maternity Hospital, The Eye Hospital, Cancer Institute, Nephrology Hospital, Infectious Disease Hospital, Ragama and Colombo South Teaching Hospitals, Rehabilitation Hospital, etc.) being located in the Western Province. These national hospitals serve populations coming from outside of the Western province, therefore conclusions regarding access to services needs to be further examined.

It is also important to note that the distribution of doctors and nurses is not even across the provinces. Table 4.2 outlines the average nurse to doctor ratio across the provinces.

Table 4.2: Nurse to doctor ratio in Sri Lanka, 2015

<table>
<thead>
<tr>
<th>Province</th>
<th>Nurse to doctor ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western</td>
<td>2.2</td>
</tr>
<tr>
<td>Central</td>
<td>2.2</td>
</tr>
<tr>
<td>Southern</td>
<td>2.7</td>
</tr>
<tr>
<td>Northern</td>
<td>1.7</td>
</tr>
<tr>
<td>Eastern</td>
<td>2.2</td>
</tr>
<tr>
<td>North Western</td>
<td>2.6</td>
</tr>
<tr>
<td>North Central</td>
<td>2.6</td>
</tr>
<tr>
<td>Uva</td>
<td>2.7</td>
</tr>
<tr>
<td>Sabaragamuwa</td>
<td>2.6</td>
</tr>
</tbody>
</table>

*Source: Sri Lankan Ministry of Health, 2015*

The Northern province is the only province with fewer than 2 nurses per doctor. The nurse to doctor ratio impacts the health workers skill mix and the ability of the overall efficiency of the health system.

Without vacancy rate data it was difficult to decipher the contributing factors to the unequal distribution of doctors and nurses. The location of many national speciality hospitals in Colombo certainly contributes to the higher density in the Western province. In addition, a lack of wage differential based on location can impact the attractiveness of certain locations.

**Very high female participation rate in the health sector**

Data from the University Grants commission (2016) indicates a high female participation rate in the health sector with around 60% of admission into medicine and 70% of admission into paramedical degrees being female. Furthermore, in 2016 92% of students in nursing were female.

As discussed in Chapter 2 most of the medical officers in Sri Lankan are between 31 and 50 years of age; 55% of medical officers in Sri Lanka are over the age of 40 compared to 57% of all employed persons in Sri Lanka being over the age of 40 (Health Information Unit, 2015 and Ministry of National Policies and Economic Affairs, 2016). No information on the age distribution of nurses was available.

**Distribution of vacant posts is important**

While the above suggests that there is, from a geographic standpoint, distributional inequality for medical and nursing officers, it is difficult to discuss the drivers of this inequality in absence of geographically coded vacancy rate data. It is important to calculate if the number of posts (filled or unfilled) per population, the equality in the number of posts will largely determine the appropriate policy response for addressing distributional inequality. If the number of posts per capita is equally distributed, then the main issue is unfilled vacancies. This suggests there is an issue of unattractive posts, which would need to be analysed to improve understanding of the drivers behind location choice of medical and nursing officers in Sri Lanka. At this stage there is a lack of information on motivation of the health workforce explaining what are the main factors driving location choice, productivity and exit decisions. If instead the number of posts (both filled and unfilled) are unequally distributed then the policy question pertains more to what the demand mechanism for posts is and how this could be improved to achieve a more equal distribution of health workers in the country.
Discussion and policy recommendations

This section aims to present several policy recommendations that are based on the results of the health labour market analysis presented in the previous chapters. Overall 8 recommendations are discussed.

**Strengthen health workforce policies and strategies**

Over the past decade, there has been a large increase in the number of health care workers in Sri Lanka, driven mainly by growth-spurts in nursing numbers. Concern regarding health workforce shortages, particularly that of nurses, has fuelled increases. However this increase has happened in a context of a lack of coordination between planning, managing and monitoring of the health workforce illustrated by the fact that different divisions of the Ministry of Health are undertaking different human resources for health functions.

The lack of medium and long term planning has resulted into a large volatility in the recruitment cycles especially for nurses, and in the future the health labour market absorption capacity could face challenges with the increasing number of domestically trained health workers and Sri Lankan medical students who are studying abroad and returning to Sri Lanka to work as medical doctors.

Sri Lanka has utilized standard health workforce per population ratios as the preferred staffing indicator to assess the availability of health staff of the country at national and sub-national levels. This indicator is based on the available cadres and the size of the population provides little or no information for national and sub-national planners to assess the real health workforce needs for the country. Undertaking a workload study in Sri Lanka will be foundation for the country to develop staffing norms based on workload and contributes to appropriate health workforce planning.

Within this context, the recent establishment of a Human Resource Coordinating Unit within the Ministry of Health following the recommendation of the Committee Appointed by the Minister of Health, on Human Resource Management and Development in January 2017 is a very positive and encouraging development in view of strengthening health workforce policies in Sri Lanka. However, currently the unit functions without the necessary and approved cadres, hampering the coordination efforts and also decreasing the effectiveness of the unit. The proper functioning of the unit will require the necessary technical and logistical details.

**Recommendation 1:** Accelerate the operationalization of the Human Resources Coordination unit, notably through the recruitment of a team with the relevant skills, capacity development of the team with specific knowledge, and provision of the necessary technological and logistical support to ensure the long term sustainability of unit.

**Recommendation 2:** Undertake a study to identify staffing needs based on the workloads of different institutions in order to develop norms and facilitate the undertaking of health workforce planning, including the projections.

**Recommendation 3:** Develop a health workforce policy for Sri Lanka and health workforce action plan for the period 2019-2030 action through a national multisectoral consultation process taking into account key considerations such as demographic, epidemiological and disease burden projections, private sector, and migration. This policy should evaluate and build on the HRH Strategic Plan 2009-2018.

**Ensure that the private sector is better regulated and monitored**

There is a complex relationship between the public and private sector in Sri-Lanka. This is illustrated by a combination of different factors that include the extent of dual practice for doctors and regulation around nurses and doctors trained in private institutions not being authorized to practice in the public sector. The scarcity of information on the private sector and dual practice also contributes to lack of good understanding of the dynamics of the inter-action between private and public sector in Sri Lanka.

While information is sparse, it appears that a significant proportion of health care is provided by the private sector in Sri Lanka. The health workforce in the private sector is composed by medical officers who engage in dual practice, a few full time general practitioners, retired medical officers and nurses and nurse assistants as well as those trained by the private sector.

As for the latter, the lack of accreditation for training curricula in private institutions has also raised concerns about the quality of the training in private institutions.

**Recommendation 4:** Improve oversight in the private sector notably through regulation and data monitoring systems.
Recommendation 5: Improve accreditation mechanism for both state and private educational institutions to ensure high quality training across private and state institutions.

Develop an intersectoral approach for managing health workforce migration

The issue of the migration of health workers from Sri Lanka has been capturing increasing attention over the past years. There is lack of detailed data to assess the exact scope of migration of health workers from Sri Lanka. Until recently, migration of health workers was mostly an individual decision; the Ministry of Foreign Employment is now encouraging and promoting the migration of skilled workers notably health workers. This policy has not been developed in full coordination with the Ministry of Health and Education. In the mid and long term, a lack of coordination between the different ministries is very likely to impact of the stock of health workers in Sri Lanka. Currently there is no intersectoral approach to the issue of health workforce migration in Sri Lanka.

Recommendation 6: Develop a multi-sectoral common policy on health workforce migration through the establishment of a coordination committee that should at least comprise the Ministry of Health, Ministry of Education, Ministry of Foreign Employment, Ministry of Foreign Affairs, and Ministry of Finance. This common policy should be based on the principles of the WHO Global Code of Practice on the International Recruitment of Health Personnel and in consultation with the International Labour Organization (ILO).

Improving deployment and retention of the health workforce

While various initiatives have been undertaken to ensure better deployment and retention of the health workforce, subnational level disparities still remains. Motivation for the health workforce to select a carrier in health and remain in a carrier in health has yet to be conducted in the country. Further, no study has yet been conducted on the productivity of the health workforce in Sri Lanka.

Recommendation 7: Undertake a survey for motivation and productivity of health workers.

Recommendations 8: Identify service gaps and ensure that deployment and incentive policies are streamlining healthcare workers into the places where they are the most needed.

Prioritize coordinated and systematic HRH data collection

While the health workforce information system for the state sector in Sri Lanka is pretty robust, there are still important areas for which there is a lack of information, notably regarding recruitment, training and career progression. Further, the information system is seen to be fragmented (HRMIS, accounting software, separate system for transfers and trainings) and sometimes duplicated. The HRH information for the private sector is sparse. It is limited to the registration of the private establishments and information on recruitment, training, dual practice, motivation and productivity are seen lacking.

Recommendation 9: Improve the health workforce information system including through the implementation of the National Health Workforce Accounts modules and harmonization of fragmented information system.

Investing in job creation in the health sector as a strategy for inclusive growth

The recent report of the High Level Commission on Health Employment and Economic Growth showed the contribution of job creation in the health sector for inclusive economic growth. From a job creation perspective, there seems to be a potential to invest more in health employment creation in Sri Lanka. Indeed, growth in the health sector employment in Sri Lanka is less than other public sectors, and overall job growth in Sri Lanka is lower than countries in the region.

Recommendation 10: In line with the recommendation of the High Level Commission on Health Employment and Economic Growth, invest in the job creation in the health sector to improve population health and contribute to inclusive economic growth in Sri Lanka.
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