Solomon Islands Health System Review

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Preface

The Health Systems in Transition (HiT) profiles are country-based reports that provide a detailed description of a health system and of policy initiatives in progress or development. HiTs examine approaches to the organization, financing and delivery of health services and the role of the main actors in health systems; describe the institutional framework, process, content and implementation of health and health-care policies; and highlight challenges and areas that require more in-depth analysis. HiT profiles seek to provide information to support policy-makers and analysts in the development of health systems. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- to assist other researchers with more in-depth comparative health policy analysis.

Compiling the profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services is based on a number of different sources, including the World Health Organization (WHO), national statistical offices, the Organization for Economic Co-operation and Development (OECD) health data, the International Monetary Fund (IMF), the World Bank, and any other sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.
The HiT profiles can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. These profiles can also be used to inform comparative analyses of health systems. This series is an ongoing initiative and material is updated at regular intervals. In-between the complete renewals of a HiT, the APO has put in place a mechanism to update sections of the published HiTs, which are called the “Living HiTs” series. This approach of regularly updating a country’s HiT ensures its continued relevance to the member countries of the region.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to apobservatory@WHO.who.int. HiT profiles and HiT summaries for Asia Pacific countries are available on the Observatory’s website at http://www.WHO.who.int/asia_pacific_observatory/en/.
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The Asia Pacific Observatory on Health Systems and Policies is grateful to Susan Ivatts (World Bank), Alejandro Herrin (Research Advisory Group, Asia Pacific Observatory on Health Systems and Policies) and Nick Dutta (WHO Solomon Islands Country Office) for comprehensively reviewing the report. Gratitude is also expressed to the numerous commentators who reviewed draft versions of the profile, including the following: Polini Boseto, Ben Lane, Sjoerd Postma and Audrey Auma. The authors acknowledge the contributions made by Philip Davies for his role in initiating and managing an early version of the report. The team is grateful to the Asia Pacific Observatory on Health Systems and Policies’ Secretariat – particularly Dale Huntington for providing technical input and continuous support throughout the process, and Ayesha de Lorenzo for coordination during the first phase of work on the profile.

The authors are grateful to staff of the Ministry of Health and Medical Services (MHMS), Development Partner Agencies, and MHMS advisers who provided information and invaluable comments on previous drafts of the manuscript and suggestions about plans and current policy options in the Solomon Islands health system.

Peer Reviewers on behalf of the Asia Pacific Observatory on Health Systems and Policies:

Susan Ivatts, World Bank
Nick Dutta, WHO Solomon Islands Country Office
Alejandro N Herrin, Asia Pacific Observatory on Health Systems and Policies
**List of abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACW</td>
<td>acute care ward</td>
</tr>
<tr>
<td>AHC</td>
<td>Area health centre</td>
</tr>
<tr>
<td>APO</td>
<td>Asia Pacific Observatory on Health Systems and Policies</td>
</tr>
<tr>
<td>BCG</td>
<td>bacille calmette-guérin (vaccine)</td>
</tr>
<tr>
<td>BFHI</td>
<td>Baby-friendly hospital initiative</td>
</tr>
<tr>
<td>CBR</td>
<td>community-based rehabilitation</td>
</tr>
<tr>
<td>CDF</td>
<td>Constituency development fund</td>
</tr>
<tr>
<td>CT</td>
<td>Computerized tomography scanners</td>
</tr>
<tr>
<td>DFAT</td>
<td>Department of Foreign Affairs and Trade (Australia)</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>DOTS</td>
<td>Directly observed treatment, short-course</td>
</tr>
<tr>
<td>DPASI</td>
<td>Disabled people’s association of the Solomon Islands</td>
</tr>
<tr>
<td>DTP vaccine</td>
<td>diphtheria, tetanus and pertussis (vaccine)</td>
</tr>
<tr>
<td>EML</td>
<td>Essential medicines list</td>
</tr>
<tr>
<td>EPI</td>
<td>Extended programme on immunization</td>
</tr>
<tr>
<td>GAVI</td>
<td>Global Alliance Vaccine Initiative</td>
</tr>
<tr>
<td>GFATM</td>
<td>The Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
</tr>
<tr>
<td>GSH</td>
<td>Good Samaritan Hospital</td>
</tr>
<tr>
<td>HFCS</td>
<td>Health Facility Costing Survey</td>
</tr>
<tr>
<td>HGH</td>
<td>Helena Goodie Hospital</td>
</tr>
<tr>
<td>HIES</td>
<td>Household Income Expenditure Survey</td>
</tr>
<tr>
<td>HIS</td>
<td>health information system</td>
</tr>
<tr>
<td>HISP</td>
<td>Health institution strengthening project</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
</tr>
<tr>
<td>HRH</td>
<td>human resources for health</td>
</tr>
<tr>
<td>HSSP</td>
<td>Health sector support programme</td>
</tr>
<tr>
<td>IMCI</td>
<td>Integrated management of childhood illnesses</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>monitoring and evaluation</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
</tr>
</tbody>
</table>
MDPAC  Ministry of Development Planning and Aid Coordination
MHMS  Ministry of Health and Medical Services
MOFT  Ministry of Foreign Affairs and Trade
NCD  noncommunicable disease
NDS  National Development Strategy
NGO  nongovernmental organization
NHSP  National health strategic plan
NMS  National Medical Store
NMTC  National Medicines and Therapeutics Committee
NPHL  National Public Health Laboratory
NPSD  National Pharmacy Services Division
NRH  National referral hospital
PBH  Provincial base hospital
RAMSI  Regional assistance mission to the Solomon Islands
RHC  Rural health clinic
RMNCAH  Reproductive, Maternal, Newborn, Child and Adolescent Health
SICHE  Solomon Islands College of Higher Education
SIG  Solomon Islands Government
SIMI  Solomon Islands Malaria Information System
SLMS  Second level medical stores
SPC  Secretariat of the Pacific Community
STEPS  STEPwise Approach to NCD Risk Factor Survey
STI  sexually transmitted infections
SWAp  Sector wide approach
TB  tuberculosis
UN  United Nations
UNFPA  United Nations Population Fund
WHO  World Health Organization
WHO PEN  WHO Package of Essential NCD interventions
Abstract

Solomon Islands is a small Pacific state with a young, rapidly growing and largely rural population of about 670,000. In recent decades, health outcomes have been comparatively good relative to the fiscal context, but the country faces important health challenges that could undermine development gains made to date. The demographic profile exacerbates these challenges. Increasing numbers of young women reaching reproductive age increases the need for maternal, newborn and child health services. At the same time, more people are living longer or reaching old age; this change, combined with the high prevalence of risk factors, is causing growth in noncommunicable diseases and related disabilities, as well as an increase in premature deaths.

With per capita spending on health of SB$600, the health system currently manages to ensure equitable access to basic health services through a network of primary care facilities and outreach services. The current model – a unified, blended system with the Ministry of Health and Medical Services as steward and manager – is appropriate given the population size, fiscal space and geographic context.

The challenge facing the government (and donors) is to strengthen the system within very real financial and human resource constraints. Achieving this, and any expansion of the basic package, will primarily rely on efficiency gains across the system. In line with the National Health Strategic Plan (NHSP 2011–2015), which prioritizes prevention and system effectiveness under the banner of “doing better”, the aim of current reforms is to strengthen the system to become “strong and affordable”, building on the resilience of rural health services over the last two decades.
Executive Summary

This Health Systems in Transition (HiT) report provides an overview of the Solomon Islands health system, one that faces many challenges in meeting the increasing demand for health care from a highly dispersed and rural population during a time of limited inclusive economic growth.

Chapter 1 introduces the country, its people and economic context. It will also describe the significant gains in health outcomes in the decades up to the 1990s, and Solomon Islands continued achievement of above-average health outcomes relative to its fiscal context.

Chapter 2 provides an overview of how the health system is organized, governed, planned and regulated; its main actors and their decision-making powers; and patient empowerment. It forms the basis for all the following chapters. The Ministry of Health and Medical Services (MHMS) is the central actor in the Solomon Islands health system. The MHMS functions as funder, regulator and provider of nearly all services. Nongovernmental organizations (NGOs) and faith-based service providers play a small but important role, with support from government. The private sector plays a very minimal role within the health sector. The service delivery model reflects the highly dispersed population: about 80% of Solomon Islanders live in small villages. A hierarchy of facilities from nurse aide posts to the National Referral Hospital (NRH) delivers primary and secondary care services. Services at the provincial level are managed as a network by Provincial Health Offices, with public health programmes operating through facilities, outreach tours and community level “Healthy Setting” activities. Services at the NRH are tailored to the Solomon Islands fiscal context.

Chapter 3 considers how much is spent on health and the distribution of health spending across different service areas. It describes the different sources of revenue for health, focusing on how revenue is collected, pooled and used to purchase health services. It also describes health coverage, which services are covered, and the extent of user charges and other out-of-pocket payments. The Solomon Islands health system
is characterized by moderate levels of health expenditure relative to national income. It is financed through general government revenue and external donor resources, with minimal out-of-pocket spending. As a consequence, the system provides relatively good financial risk protection, with negligible rates of catastrophic health spending. The current system of health financing and service delivery has produced above-average health outcomes relative to income per capita, and has been resilient to the political and economic crises that have affected the country in recent years.

However, the system is facing significant additional costs that will need to be absorbed. Fiscal space for health is unlikely to grow. Government outlays on health are already high by international standards with very limited potential for higher patient contributions or donor financing. The system is already having to do more with less at a time when there is pressure to increase the basic package. External advisers and partners can inadvertently drive costs and inefficiency, for example the current pressure on government to include new expensive vaccines in the package, with little gain in overall health outcomes. Expectations about noncommunicable disease (NCD) treatment are also driving costs. Solomon Islands already achieves reasonable coverage of a basic package of primary care services, although there are significant geographic disparities between provinces. The next step towards universal health coverage (UHC) is to ensure uniform coverage of preventive and primary care services, with expansion of the range of health interventions in the package as a secondary priority. Additional resource requirements will have to be financed through greater efficiency to maintain the high levels of financial risk protection and coverage that are the hallmarks of the present system.

Physical and human resources are described in Chapter 4. This chapter provides an overview of resources in the health system, including infrastructure, capital stock, medical equipment and information technology. The section on human resources discusses health workforce issues, such as planning, training, and mobility. The physical health network in the Solomon Islands is made up of a National Referral Hospital, provincial hospitals, area health centres, rural health clinics and nurse aide posts. Most of the provinces have access to at least one level of health facility, based on the size and distribution of their population. The condition of area health centres and rural health clinics was assessed in 2005 and again in 2012. Both surveys highlighted the urgent need for
upgrade, repair or renovation; many facilities were operating without proper water and sanitation, electricity and basic medical equipment. There are serious shortages of clinical equipment and medical supplies at most health facilities, with hospitals often relying on old and poorly maintained medical, diagnostic and surgical equipment. The availability of medicines in rural areas is improving.

Solomon Islands is served by a well-trained nursing workforce which provides the backbone of service delivery in rural areas. The number of doctors is set to rapidly increase as large numbers of medical students trained in Cuba begin to return from late 2014, placing considerable cost onto the system. Strategic workforce planning is weak, resulting in potential oversupply of some cadres (such as doctors) and workforce deficits in other areas such as medical laboratory staff, radiologists and other allied health professionals. As well as limited absolute numbers of health workers, high staff turnover is a constant issue, largely due to financing constraints, along with the migration of some specialized health workers to other countries for better salary and working conditions.

Chapter 5 concentrates on patient flows, organization and delivery of services. The respective subsections of this chapter focus on the organization and provision of services, and also provide a brief summary on the accessibility, adequacy and quality of services, as well as current developments and future reform plans. These issues are covered in-depth in subsequent chapters. The health service delivery system is based on a network of primary care facilities and an integrated public health care approach. This serves the nation well, given the country’s geography as an archipelago. The MHMS provides overall stewardship of the health sector. The Provincial Health Offices of the Ministry, headed by provincial directors, are responsible for the delivery of primary health care services and outreach programmes. There are a number of established public health programmes within Solomon Islands, including Safe Motherhood, Expanded Programme on Immunization, Integrated Management of Childhood Illnesses, nutrition, and malaria and tuberculosis control.

Services are provided by various categories of health workers within the system, which include nurse aides, registered nurses, doctors and specialists. While there is a formalized referral system in place, it is not consistently adhered to by patients or health-care workers in the provinces, with many people bypassing provincial hospitals and going directly to the NRH for care. This is also due in part to the available
transportation routes that make it easier to reach Honiara. Specialist hospital care is provided at the National Referral Hospital (NRH), with visiting specialist teams augmenting services at the NRH as well as outreach to provincial hospitals. For reasons of cost and efficiency, and to maximize coverage, most public health activities, as well as dental, mental and eye health services, are integrated into the primary care system. The Community-Based Rehabilitation (CBR) programme was established to ensure people living with disabilities have access to rehabilitation services. Faith-based and nongovernmental organizations also play a small role in the provision of a number of these services.

Individual health reforms, policies and organizational changes are set within the context of the overall reform agenda in Chapter 6. Following an initial stabilization phase after the civil unrest, a new phase of reform began when the Government set down its reform agenda for the sector in the National Health Strategic Plan (NHSP) 2011–2015. The NHSP made prevention the primary focus of service delivery and stressed the need to plan, cost and implement a basic package of primary care (including preventive) services at the provincial level as the highest priority. The “theory of change” was that by having the right mix of community-level health settings in place to encourage people to care for their own health, and the right range of services in place through the facilities to address illness promptly, the groundwork would be laid for sustained improvements in health outcomes over the medium to long term. The success of the MHMS-led malaria programme showed that good implementation could lead to rapid improvements in health outcomes.

While the pace of reform on some aspects has been slow, considerable achievements have been made. The Solomon Islands health system has both strengths and weaknesses: the ambition is to have an affordable but strong system. Success in the short term is framed around the basics: funding and resources reaching the periphery; well-trained nurses and nurse aides providing the majority of care, low drug stock-outs and minimal out-of-pocket costs. Service access and patient transport have been maintained, ensuring the referral system functions and sustaining equity of access. New national disease strategies and better provincial planning and budgeting have supported moves towards better integration and efficiency. Given Solomon Islands vulnerability in the face of economic, climatic and social shifts, the system will continue to face challenges – particularly the future costs of treating NCDs if prevention efforts fail.
Chapter 7 presents an assessment of the Solomon Islands health system against a set of internationally-recognised criteria based on the World Health Report 2000. Overall, despite the range and difficulty of issues facing policy-makers in the Solomon Islands, there have been significant achievements in health, including considerable progress in advancing population health status. The performance of the health system is positive, achieving high coverage, high satisfaction levels and steady progress on health outcomes. Both the Household Income Expenditure Survey (HIES) and the Demographic and Health Survey (DHS) show a relatively high-performing public health care system based on several indicators (antenatal care, facility-based delivery, postnatal care, immunization, and bed nets in the household), although trends will not be confirmed until repeat studies are available in late 2014 and 2015 respectively. However, considerable challenges to population health remain, including the high incidence of malaria, high maternal mortality for out-of-facility births, recent increases in sexually transmitted infection (STI) incidence, and a steady rise in patients diagnosed with noncommunicable diseases. Concerns over the quality of care provided are also valid, including ineffective vaccines due to broken cold-chains and questionable diagnosis and treatment plans.

There is a high degree of financial risk protection with low out-of-pocket payments. Possibly for this reason, health service contact rates are high by regional comparison and have been resilient to the service disruptions caused by political instability and unrest. Access and utilization of health services compares favourably with other low-income countries. Data from both the 2006 DHS and the HIES suggest that the system is relatively equitable, with no evidence of lower utilization by the poor. Average rates of use of three key maternal and child health service indicators are high and public hospital inpatient and outpatient care use are distributed equally between the richest and poorest quintiles. Gender inequality remains a matter of concern in the country; however there remains little survey data or other sources of information on which to base firm conclusions. Women, especially those living in rural areas, continue to face difficulties in accessing family planning services. Furthermore, access to healthcare services varies between provinces.

There remain several issues in terms of the health system’s efficiency in allocating finances; continuing duplication of public health programme activities at the provincial level (each supported by different donors at the central level), inefficient utilization of staff in some facilities, excessive
allocation to in-service training and workshops, and a weakly-developed service model for community-based health promotion Healthy Settings activities. Some important health interventions, such as family planning, seem to be underfunded.

Chapter 8 concludes that the Solomon Islands health system can be characterised as conceptually fit for purpose but needing ongoing maintenance and development in some key areas such as management and service administration. Analysis of the health financing system has reinforced the view that the current service delivery model, based on public sector delivery alongside small-scale, co-financed/integrated private sector/non-state provision, is efficient and cost-effective given market realities and the current limited prospects for significant economic growth. A range of analyses reinforces the point that social health insurance and a bigger private sector are not viable and would not increase health system efficiency or equity at this time.

The system has significant weakness but also considerable strengths. With limited resources, the country achieves comparatively high rates of equitable access to basic services. It achieves this through a nurse-run provincial primary care system, with a relatively functional referral system and subsidized patient transport. Coverage of basic interventions is high, with the exception of family planning services. Current reform efforts are focused on increasing coverage and quality of a basic package of preventive and primary care interventions to the whole population, and ensuring strategies are translated into services. Work is underway to reassess and cost the package, and to define the service model to be used for each. As in many low-income countries, public financial management has until recently been a neglected public health priority in Solomon Islands, but parallel reforms are focusing on strengthening operational planning, budgeting, monitoring and financial controls to ensure strategies are translated into services.
1 Introduction

Chapter summary
Solomon Islands (also referred to as “the Solomons”) made significant gains in health outcomes in the decades leading up to the 1990s. Despite a temporary setback in outcomes, the health sector was largely resilient to the political and economic crises that affected the country in the late 1990s and early 2000s. With a per capita health spend of SB$600, the country continues to achieve above-average health outcomes for its level of income. Despite the geographic challenges for service delivery, the country has made steady gains in reducing malaria morbidity and mortality and continues to achieve high coverage rates in terms of key services such as immunization and births attended by skilled health workers.

Solomon Islands is in the early stages of the disease transition, with 51% of years of life lost attributed to communicable disease and significant maternal and child mortality. Population growth is 2.3% per annum and there is high unmet need for contraceptives. Sedentary lifestyles with changing dietary intake are contributing to a steady increase in obesity, diabetes, hypertension and other associated complications. Tobacco and alcohol use is increasing and many people lack access to water and sanitation. Other emerging or re-emerging health issues include threats from dengue fever and other vector-borne diseases, pandemic flu, sexually transmitted infections, HIV and mental health.

The economy of the Solomon Islands is based largely on subsistence agriculture combined with cash cropping, fishing and forestry. With recent heavy reliance on unsustainable logging and high foreign aid dependency, the country has few prospects for inclusive economic growth. In combination with the current high population growth rate, these factors are likely to have a negative impact on the Government’s ability to continue to provide the same level of health services to the population unless efficiencies can be made.
1.1 Geography and sociodemography

Situated approximately 1800 kilometres north of Australia in the South Pacific Ocean, Solomon Islands is a double-chain volcanic archipelago comprised of more than 900 islands and atolls with a total mountainous land area of 28 370 km² (WHO, 2010b). Sharing ocean borders with Papua New Guinea to the west and Vanuatu to the east, the Solomon Islands is also situated within the Pacific “ring of fire”, making it prone to earthquakes and tsunamis (WHO, 2010b, Sade, 2005b). Like many other nations in the Pacific, the terrain within areas of the Solomon Islands is also vulnerable to rising tides and sea levels. The Solomons experience a tropical climate characterized by warm temperatures year-round and high levels of precipitation and humidity.

At the time of the 2009 Population and Housing Census the population of the Solomon Islands was 515 870 and estimated to be growing at 2.3% per annum (SISO, 2011a). The median age in 2009 was 20 years, indicating a reasonably young age structure in comparison to developed nations located within the Oceania region (WHO, 2010b). Approximately 54% of the population was within the 15–59 year age bracket with just 5% aged 60 or older. The level of urbanization in Solomon Islands is 20% although the urban population is growing at 5% per annum, more than twice the overall rate of population growth (SISO, 2011a). The Government thus faces twin challenges of continuing to service widely-dispersed and often remote communities, while also striving to respond to the pressure of urban growth.

Solomon Islands has nine provinces, ranging in size from just over 3000 people (Rennell-Bellona) to over 137 000 in the largest province, Malaita (see Table 1-1). The ethnic composition of the population is approximately 95% Melanesian, 3% Polynesian, 1% Micronesian with the remaining 1% classified as “other or unspecified” (SISO, 2011a). The most recent Demographic and Health Survey (DHS) undertaken in 2006 indicated high levels of religious fellowship: 37% Anglican; 16% Roman Catholic; 10% United Church; 21% Southseas Evangelical; 9% Seventh Day Adventist; and 7% other (SISO, 2007).
Table 1-1  Population indicators by province, Solomon Islands 2009

<table>
<thead>
<tr>
<th>Province</th>
<th>Population</th>
<th>Annual growth rate (%)</th>
<th>Population density (people/km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choiseul</td>
<td>26 372</td>
<td>2.8</td>
<td>7</td>
</tr>
<tr>
<td>Western</td>
<td>76 649</td>
<td>2.0</td>
<td>10</td>
</tr>
<tr>
<td>Isabel</td>
<td>26 158</td>
<td>2.5</td>
<td>6</td>
</tr>
<tr>
<td>Central</td>
<td>26 051</td>
<td>1.9</td>
<td>42</td>
</tr>
<tr>
<td>Rennell-Bellona</td>
<td>30 411</td>
<td>2.5</td>
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<tr>
<td>Guadalcanal</td>
<td>93 613</td>
<td>4.4</td>
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<td>Malaita</td>
<td>137 596</td>
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<td>Makira-Ulawa</td>
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<td>2.6</td>
<td>13</td>
</tr>
<tr>
<td>Temotu</td>
<td>21 362</td>
<td>1.2</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: SISO, 2011a

Results from the same DHS also demonstrate that Solomon Islands is a patriarchal society, with nine out of ten homes headed by men (SISO, 2007). The mean size of households was reported to be 5.5 people, a figure which is slightly higher in urban areas (SISO, 2011a). Just over 10% of households reported having nine or more members in the household; again, a figure which is significantly higher in urban areas (SISO, 2007). The survey also reported that in approximately one in three households, children under the age of 18 were living without the presence of their biological mother or father (SISO, 2007). Rates of gender-based violence are high (SPC, 2009).

Of the 91 251 dwellings in Solomon Islands, 2% were occupied by more than one household. Only 9% of households had access to a reticulated supply of drinking water with the majority relying on either a communal standpipe (35%) or a river/stream (25%). The proportion of households with access to a flushing toilet (private or shared) was 12%; and access to mains electricity for lighting was also 12%. While a small number of health facilities are looking to install solar panels for electricity, the high cost remains a major prohibiting factor for this technology. The majority of households reported that they used kerosene lamps for lighting (75%) and wood or coconut shells for cooking (93%) (SISO, 2011b).

Solomon Islands has also suffered a number of natural disasters in recent years. The worst tsunami, in April 2007, was triggered by an earthquake that took place some 40 km offshore from Gizo, the capital of Western Province. Fifty two people died and thousands were displaced or made homeless as a result. Following a deep undersea earthquake, a tsunami in Temotu in February 2013 caused nine deaths, with over
100 homes across five villages damaged or destroyed (Anonymous, 2013). Recently, floods caused from Tropical Cyclone Ita in April 2014 resulted in massive damage to homes, basic infrastructure, food gardens and water sources with 27 deaths, 52 000 people affected, and 30 health facilities damaged (WHO, 2014).

Table 1-2  Trends in population/demographic indicators, selected years, 1980–2013

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</thead>
<tbody>
<tr>
<td>Total population</td>
<td>228920</td>
<td>313629</td>
<td>361854</td>
<td>415554</td>
<td>473761</td>
<td>526447</td>
<td>610800</td>
</tr>
<tr>
<td>Population, female (% of total)</td>
<td>47.9</td>
<td>48.2</td>
<td>48.2</td>
<td>48.2</td>
<td>48.2</td>
<td>49.2</td>
<td>49.0</td>
</tr>
<tr>
<td>Population aged 0–14 (% of total)</td>
<td>47.7</td>
<td>45.3</td>
<td>43.6</td>
<td>42.0</td>
<td>40.5</td>
<td>41.0</td>
<td>39.3</td>
</tr>
<tr>
<td>Population aged 65 and above (% of total)</td>
<td>3.3</td>
<td>3.0</td>
<td>3.0</td>
<td>2.9</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Population growth (average annual growth rate)</td>
<td>3.5</td>
<td>2.8</td>
<td>2.8</td>
<td>2.7</td>
<td>2.6</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Population density (people per km²)</td>
<td>8.2</td>
<td>11.2</td>
<td>12.9</td>
<td>14.8</td>
<td>16.9</td>
<td>19.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Fertility rate, total (births per woman)</td>
<td>6.7</td>
<td>5.9</td>
<td>5.2</td>
<td>4.6</td>
<td>4.1</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Birth rate, crude (per 1000 people)</td>
<td>42.5</td>
<td>39.7</td>
<td>37.6</td>
<td>35.0</td>
<td>32.2</td>
<td>32.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Death rate, crude (per 1000 people)</td>
<td>6.1</td>
<td>11.5</td>
<td>9.4</td>
<td>8.0</td>
<td>6.7</td>
<td>6.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Age dependency ratio (population 0–14 &amp; 65+: population 15–64 years)</td>
<td>102.0</td>
<td>93.0</td>
<td>85.0</td>
<td>81.0</td>
<td>80.0</td>
<td>85.0</td>
<td>77.0</td>
</tr>
<tr>
<td>Urban population (% of total)</td>
<td>10.6</td>
<td>13.7</td>
<td>14.7</td>
<td>15.7</td>
<td>17.0</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Literacy rate among adults (over 15 years) (%)</td>
<td>76.6</td>
<td></td>
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</table>

Source: SISO, 2011a

Figure 1-1  Population distribution by age and sex, 2013

Source: SPC, 2014
English is the official language of Solomon Islands, with 69% of the population aged over five years able to read and write a simple sentence in English, and slightly fewer people able to do the same in Solomons Pijin or another local language (SISO, 2011b). There are 63 distinct languages in the country, with numerous local dialects (DFAT, 2014b). The overall literacy rate among the population aged 15 years and older is 84% (SISO, 2011b).

According to the 2009 Population and Housing Census, almost one sixth (16%) of the population aged 12 and older had not completed any schooling, while 57% were educated to primary level and 19% to secondary level (SISO, 2011b). The 2007 DHS reported that approximately 27% of females aged six years and above reported having no education, with a median of three years of formal education being completed by girls and women. Males reported similar results with approximately 23% of the population reporting no education, with a median of four years of education amongst males who had attended schooling [SISO N.D].

1.2 Economic context

The Solomon Islands economy is based largely on subsistence agriculture supplemented by cash cropping (cocoa and palm oil), fishing, forestry and mining. Most manufactured goods and all petroleum products are imported although the country has substantial deposits of lead, zinc, nickel and gold which remain largely unexploited. Recent years have seen rapid growth in exports of timber which have led, in turn, to concerns that the rate of logging is unsustainable. The logging sector is now expected to decline significantly over the period 2011–15. Economic growth has averaged 6% per annum since 2003, but has varied significantly year-on-year, as demonstrated in Table 1-3. For example, economic growth was over 10% in 2007 and 2011, but declined by nearly 5% in 2009 (IMF, 2014). Overall, gross domestic product (GDP) growth is projected to be some 3% per annum, roughly equal to population growth over the medium term (World Bank, 2010a).

Major civil unrest in Solomon Islands during the 1998–2003 period caused serious social and economic decline in the country, with tens of thousands of displaced people and the disruption or destruction of much public infrastructure (Auto et al., 2006b). With a decline in law and order and widespread extortion and corruption, GDP declined by 24% during 1999 to 2002, while real government tax revenues in 2001 and 2002 were only half the level of that in 1999 (Auto et al., 2006b, Foster et al., 2009a).
The deployment of the Regional Assistance Mission to Solomon Islands (RAMSI) in 2003, and the restoration of law and order and stabilization of government finances, has seen peaceful development in the years since. However, the heavy reliance on unsustainable logging and very high aid dependency are major causes of concern for the future development of the country.

### Table 1-3  Macroeconomic indicators, selected years, 1980–2013

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</thead>
<tbody>
<tr>
<td>GDP (SB$) (000 000)</td>
<td>3116</td>
<td>5968</td>
<td>6643</td>
<td>6395</td>
<td>5968</td>
<td>6643</td>
<td>6395</td>
<td>5968</td>
<td>6643</td>
</tr>
<tr>
<td>GDP (current US$, millions)</td>
<td>168</td>
<td>302</td>
<td>435</td>
<td>413</td>
<td>679</td>
<td>867</td>
<td>1008</td>
<td>1096</td>
<td></td>
</tr>
<tr>
<td>GDP per capita, PPP (current international US$)</td>
<td>2309</td>
<td>2398</td>
<td>2225</td>
<td>2056</td>
<td>2933</td>
<td>3239</td>
<td>3383</td>
<td>3455</td>
<td></td>
</tr>
<tr>
<td>GDP average annual growth rate (%)</td>
<td>8.2</td>
<td>-14.3</td>
<td>5.4</td>
<td>7.0</td>
<td>9.0</td>
<td>4.0</td>
<td>4.0</td>
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<tr>
<td>Public expenditure (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48.2</td>
<td>(2009)</td>
<td></td>
<td></td>
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<tr>
<td>Domestic debt (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.1</td>
<td>6.4</td>
<td>4.5</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>External debt (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.8</td>
<td>15.2</td>
<td>13.0</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>Goods and services exports (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48.4</td>
<td>64.1</td>
<td>63.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value added in agriculture (% of GDP)</td>
<td></td>
<td>28.9</td>
<td>44.7</td>
<td>34.7</td>
<td>34.5</td>
<td>38.9</td>
<td>(2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value added in services (% of GDP)</td>
<td></td>
<td>66.1</td>
<td>41.0</td>
<td>52.6</td>
<td>57.4</td>
<td>55.0</td>
<td>(2009)</td>
<td></td>
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</tr>
<tr>
<td>Labour force participation rate (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>62.7</td>
<td>(2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment, total (% of labour force)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.0</td>
<td>(2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poverty rate</td>
<td>8.7</td>
<td>3.5</td>
<td>8.4</td>
<td>8.4</td>
<td>1.9</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real interest rate</td>
<td>3.41</td>
<td>5.09</td>
<td>7.53</td>
<td>8.06</td>
<td>7.64</td>
<td>7.36</td>
<td></td>
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</tbody>
</table>


Data from the 2009 Population and Housing Census suggest that some 81 000 Solomon Islanders were in paid employment with a further 88 000 classified as “subsistence workers” and 41 000 “unpaid workers”. The overall labour force participation rate was 63% (SISO, 2011b). According to the DHS, 40% of women and 77% of men aged 15 to 49 reported being regularly employed within the previous 12 months. The largest source of employment was the agricultural sector which provided 32% of total employment for women and 40% for men (SISO, 2011b). Women dominated the unskilled manual labour and domestic service sector, while men dominated the skilled manual labour sector.
A wealth index, which was formulated using household assets to compare the standard of living of households, showed that the population as a whole is distributed fairly evenly between the five quintile groups with approximately 20% of the population ranked in each quintile. Large differences of wealth occurred however across geographic divides, with 82% of the urban population ranked in the highest quintile compared to only 10% of those residing in rural areas (SISO, 2011b).

The country’s total GDP was just under US$ 1.1 billion in 2013, making it one of the 17 smallest economies in the world, albeit one that is now classified as a lower-middle income country (World Bank, 2012b). The country is also highly aid dependent.

1.3 Political context

Solomon Islands has been a constitutional monarchy and member of the Commonwealth of Nations, headed by Queen Elizabeth II, since attaining independence in 1978. The Monarch’s representative in the Solomon Islands is the Governor General who is chosen by the Parliament and serves a five-year term. Solomon Islands is a parliamentary democracy with a unicameral national Parliament comprising 50 members, each of whom represents a single-member geographic constituency. Members of Parliament are elected using a “first-past-the-post” system for a four-year term but the Parliament may be dissolved earlier, and a new election held, if a majority of Members so decide (DFAT, 2014b). Suffrage is universal for those aged 18 or over.

The Prime Minister is elected by the Parliament and chooses the other Members of Cabinet. Each Ministry is headed by a Cabinet Minister. The senior career public servant in a Ministry is known as the Permanent Secretary.

Solomon Islands have been described as having emerged from colonial rule with a legacy of “poorly designed institutions of statehood” (Wainwright, 2003). Political parties in Solomon Islands are generally considered to be weak and fragmented; as a result, government is often reliant on coalitions. Individual MPs may change their allegiance, with resultant shifts in the composition of Cabinet and ministerial responsibilities. An indication of the resultant instability is the fact that the Government led by Sir Allan Kemakeza between 2001 and 2006 was the first since independence in 1978 to survive a full term in office.
The most recent national election was held in August 2010. Preparations are currently underway for the next national election in 2018. As part of this, a new voter registration system has been implemented and voters from outer provinces living in Honiara will be able to vote in Honiara. Under the previous system, voters had to travel to their “home” province to vote, with those candidates providing free transport often receiving the most votes.

Solomon Islands also has a system of provincial government. Each of the country’s nine provinces has its own elected Provincial Assembly which is empowered to pass ordinances that are not in conflict with national policy or legislation. Each Provincial Assembly is headed by an Executive which is, in turn, led by the Provincial Premier. Provincial Ministers are also appointed with specific portfolio responsibilities. The Provincial Secretary is the senior public servant at the Provincial level.

Provincial governments are largely responsible for local services such as road maintenance and municipal services. The national government is responsible for the national functions of the state, which include policing, schools and health service delivery. Arrangements for the health sector are described further below.

### 1.3.1 Governance

Much has been written about the public management capacity of the Solomon Islands Government, focusing on two aspects of governance:

1. the issue of the capacity and competence of the civil service in areas such as planning, budgeting and policy formation;

2. the question of corruption, itself linked to two structural features of the country – the concentration of wealth in a few centres such as Honiara, and a conflict between two distinct but coherent sets of norms: Western nation-state and Solomon Islands traditional political norms, which emphasize the importance of mutual support and responsibility within clans and groups (Mishra et al., 2010).

Solomon Islands was ranked 110th out of 178 countries (with a score of 2.8/10) on the Transparency International 2010 Corruption Perceptions Index (Transparency International, 2010). The Worldwide Governance Indicators, produced by the World Bank, seek to measure the following six dimensions of governance including: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption.
Figure 1-2 shows the relative position of Solomon Islands and how it has changed over the past 15 years in respect to each indicator. As shown, there was a marked decline in all six measures over the period 1998–2002, corresponding with the civil unrest at this time. “Voice and accountability” has, however, remained reasonably stable, albeit only around the median level relative to other countries. “Political stability and absence of violence/terrorism” has also recovered well; however, Solomon Islands continues to rank relatively poorly in respect of the other four measures.

As noted above, a significant event in the recent history of Solomon Islands was the period of civil unrest which lasted from 1998 to 2003. Tensions between indigenous inhabitants of Guadalcanal Island and settlers from nearby Malaita escalated into armed conflict between militia groups and a breakdown of law and order. Despite the establishment of a peace agreement brokered by the governments of Australia and New Zealand in October 2000, violence continued. The country’s economy suffered, public services deteriorated and there was significant loss of life (Dinnen, 2008).

In 2003 the Regional Assistance Mission to Solomon Islands was established and deployed to Solomon Islands. The mission was initially staffed by police officers from Australia, New Zealand and other Pacific nations who were supported by a military contingent. It succeeded in restoring law and order and subsequently expanded its role to encompass
broader state-building and capacity development activities. While RAMSI is a long-term commitment aimed at restoring peace and stability, work began in 2009 to shift activities from international partners to the Government. In mid-2013, RAMSI became a mission comprised almost entirely of police and the military component was withdrawn completely in July that year.

Civil society institutions (notably faith-based organizations) played a significant role dealing with the aftermath of the civil conflict and continue to be a significant feature in Solomon Islands, including as partners in RAMSI’s state-building activities. Their role is, in part, a reflection of the fact that, in a country that continues to be largely village-based, local systems and structures of traditional governance have proved resilient and adaptable, and continue to provide the primary frame of reference for most Solomon Islanders (Hegarty et al., 2004). Civil society has no mandated role in policy-making at the national level, although efforts are made to incorporate the views of nongovernmental organizations into planning processes.

Solomon Islands is a member of many international organizations including: Asian Development Bank; British Commonwealth of Nations; International Monetary Fund; Melanesian Spearhead Group; Pacific Community; Pacific Islands Forum; United Nations; UN Economic and Social Commission for Asia and the Pacific; UN Educational Scientific and Cultural Organization; World Health Organization and the World Trade Organization.

Major international treaties and other agreements to which the Solomon Islands is a signatory include the UN Convention on the Rights of the Child; the UN Convention on the Elimination of All Forms of Discrimination against Women, the Kyoto Protocol to the UN Framework Convention on Climate Change; the UN Convention on the Political Rights of Women; the WHO Framework Convention on Tobacco Control; the Millennium Declaration and the International Health Regulations. As a member of the Pacific Islands Forum, Solomon Islands has also committed to Pacific regional agreements, including the 2009 Cairns Compact on Strengthening Development Coordination.

1.4 Health status

In common with other Pacific nations at a similar stage of development, such as Vanuatu and Papua New Guinea, the Solomon Islands is in the
early stages of the epidemiological transition, and currently faces a
double disease burden with a high prevalence of communicable diseases
and growth in NCDs. In 2008, overall age-standardized mortality rates
for communicable diseases, NCDs and injuries were 196, 623 and 27 per
100 000 respectively (WHO, 2012). Mortality rates for men and women
have dropped over the past 10 years with a corresponding increase in
life expectancy at birth (Table 1-4). Lack of comprehensive and reliable
mortality data mean that it is difficult to assess changes in the causes
of death or to attribute improved health outcomes to specific policy
interventions.

There are no data on variations in mortality rates by socioeconomic
status or ethnicity (Thomas and Duituturaga, 2014). Solomon Islands
does not have extensive data on the causes of death. The cause-specific
mortality rate attributable to malaria was three per 100 000 in 2012,
while the mortality rate for tuberculosis among non-HIV-positive people
was estimated to be 18 per 100 000 population in 2009 (WHO, 2012,
MHMS, 2013).

Table 1-4 Mortality and health indicators, selected years, 1980–2012

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</thead>
<tbody>
<tr>
<td>Life expectancy at birth, total (years)</td>
<td>59</td>
<td>67</td>
<td>69</td>
<td>71</td>
<td>67</td>
<td>67</td>
<td>68</td>
</tr>
<tr>
<td>Life expectancy at birth, male (years)</td>
<td>58</td>
<td>65</td>
<td>67</td>
<td>69</td>
<td>66</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>Life expectancy at birth, female (years)</td>
<td>60</td>
<td>69</td>
<td>71</td>
<td>72</td>
<td>68</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>Total mortality rate, adult, male (per 1000 male adults)</td>
<td>250</td>
<td>205</td>
<td>206</td>
<td>202</td>
<td>197</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total mortality rate, adult, female (per 1000 female adults)</td>
<td>188</td>
<td>151</td>
<td>166</td>
<td>161</td>
<td>157</td>
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</tbody>
</table>


### 1.4.1 Morbidity and burden of disease

Limited burden of disease analysis has been undertaken in Solomon
Islands although it has been estimated that in 2008, 51% of years of life
lost could be attributed to the broad cause of communicable disease
with 41% being attributable to NCDs and the remainder (8%) to injuries
to NCD Risk Factor (STEPS) survey to assess the risk factors attributing
to chronic disease in the Solomon Islands. This was the first survey of
its kind on NCDs and revealed that 31% of the population reported daily
smoking, and approximately 94% reported consuming less than five
combined daily servings of fruit and vegetables (WHO, 2010). More than
25% of the male population reported consuming five or more alcoholic beverages per day within the previous week. The next STEPS survey is due to be completed in 2015.

Table 1-5 provides an overview of the most common conditions presenting at primary health clinics between 2001 and 2011 (data is missing for 2009), as reported by MHMS. Communicable diseases, such as acute respiratory infections, skin diseases and malaria, continue to dominate the burden of disease among Solomon Islanders, as demonstrated in their high presentation at primary health clinics. However the high number of conditions classified as “other” could be hiding the true burden of disease, such as the emergence of NCDs. The table also demonstrates there has been no measurable improvement in key indicators since 2001.

**Table 1-5  Proportion (%) of primary health clinic attendance by condition, 2001–2011**

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<tr>
<td>ARI</td>
<td>21</td>
<td>19</td>
<td>18</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>21</td>
<td>29</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fever</td>
<td>16</td>
<td>18</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>11</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Red eye</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>Yaws</td>
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<td>4</td>
<td>3</td>
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<td>2</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Skin diseases</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Ear infection</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td>3</td>
<td>3</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>Vaccine preventable</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
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<tr>
<td>Sexually transmitted infections*</td>
<td>&gt;0.5</td>
<td>&gt;0.5</td>
<td>&gt;0.5</td>
<td>&gt;0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Clinical malaria</td>
<td>18</td>
<td>19</td>
<td>20.8</td>
<td>17</td>
<td>17</td>
<td>16</td>
<td>15</td>
<td>12</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>32</td>
<td>31</td>
<td>31.4</td>
<td>34</td>
<td>33</td>
<td>34</td>
<td>36</td>
<td>33</td>
<td>35</td>
<td>38</td>
</tr>
</tbody>
</table>


*Includes suspected STIs (as classified by penile/vaginal discharge and ulcers)

### 1.4.2 Maternal, child and adolescent health

The maternal mortality ratio, a less stable indicator to use in small populations, has fluctuated between 100 to 150 deaths per 100 000 live births between 1990 and 2012. In looking at the absolute number of maternal deaths, the number appears to be slowly decreasing [Table 1-6]. The most common causes of maternal death were postpartum and antepartum haemorrhage, puerperal sepsis, complications from malaria in pregnancy and pregnancy-induced hypertension (Maike, 2010). Around 90% of expectant mothers receive at least one antenatal care visit with some two thirds receiving four or more visits. In 2013, 90% of births were reported as being attended by skilled health personnel (MHMS, 2014a).
Table 1-6 Maternal, child and adolescent health indicators, selected years, 1980–2013

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<tbody>
<tr>
<td>Adolescent fertility rate (births per 1000 women aged 15–19 years)</td>
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<tr>
<td>Infant mortality rate (per 1000 live births)</td>
<td>41.7</td>
<td>96.0</td>
<td>66.0</td>
<td>55.0</td>
<td>19.0</td>
<td>30.0</td>
<td>11.1</td>
<td>11.8</td>
<td>10.6</td>
<td></td>
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<tr>
<td>Under 5 mortality rate (per 1000)</td>
<td>52.7</td>
<td>38.2</td>
<td>37.5</td>
<td>73.0</td>
<td>37.0</td>
<td>36.0</td>
<td>14.7</td>
<td>15.0</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>Maternal mortality ratio (per 1000 live births)</td>
<td>550.0</td>
<td>195.0</td>
<td>223.0</td>
<td>143.0</td>
<td>140.0</td>
<td>153.3</td>
<td>110.2</td>
<td>99.7</td>
<td></td>
<td></td>
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<tr>
<td>Absolute number of maternal deaths</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20.0</td>
<td>18.0</td>
<td>23.0</td>
<td>16.0</td>
<td>15.0</td>
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</tr>
<tr>
<td>Contraceptive prevalence rate (% of married women aged 15–49)</td>
<td>10.0</td>
<td>11.0</td>
<td>35.0</td>
<td>27.0</td>
<td></td>
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Provincial health services (including those operated by the Honiara City Council) within Solomon Islands offer regular scheduled health services and child welfare clinics where mothers can bring their child in for regular check-ups, vaccinations, family planning services and general health education. The Solomon Islands 2007 DHS revealed that approximately 81% of 12–23 month-old children were fully vaccinated. Male babies have a higher vaccination rate than their female counterparts, at 90% and 75% respectively (SISO, 2007). Data on immunizations for specific diseases show varied levels of completeness over the years, ranging from 60% to 93% coverage rates (Table 1-7).

Table 1-7 Immunization coverage (%) among one-year-olds, 1990–2013

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Measles</td>
<td>70</td>
<td>87</td>
<td>60</td>
<td>68</td>
<td>72</td>
<td>77</td>
<td>68</td>
</tr>
<tr>
<td>DTP3</td>
<td>77</td>
<td>82</td>
<td>81</td>
<td>79</td>
<td>93</td>
<td>83</td>
<td>84*</td>
</tr>
<tr>
<td>HepB3</td>
<td>77</td>
<td>81</td>
<td>79</td>
<td>76</td>
<td>90</td>
<td>84*</td>
<td></td>
</tr>
<tr>
<td>Hib3</td>
<td>77</td>
<td>77</td>
<td>93</td>
<td>83</td>
<td>84*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: MHMS, 2013, 2014; WHO, 2013a

*2013 data have been sourced from the UNICEF/WHO EPI Joint Reporting Form, available at [http://www.who.int/immunization/monitoring_surveillance/data/en/](http://www.who.int/immunization/monitoring_surveillance/data/en/)
2 Organization and governance

Chapter summary
The Ministry of Health and Medical Services (MHMS) is the central actor in the Solomon Islands health system. The MHMS functions as funder, regulator and provider of nearly all services. NGOs and faith-based service providers play a small but important role, with support from government. The private sector plays a very minimal role within the health sector.

The service delivery model reflects the highly dispersed population; about 80% of Solomon Islanders live in small villages. A hierarchy of facilities from nurse aide post to the National Referral Hospital delivers primary and secondary care services. Services at provincial level are managed as a network by Provincial Health Offices, with public health programmes operating through facilities, outreach tours and community-level Healthy Settings activities. Services at the NRH are tailored to the Solomon Islands fiscal context.

Moves are underway to improve efficiency and reduce costs by investing in prevention and improving management at all levels. Provincial Health Offices and the NRH are being supported to take greater responsibility for driving efficiency. This is being done in a planned and sequenced way to ensure administrative capacity is in place and service delivery is not inadvertently affected by the move away from centralized programme delivery.

Regulatory and quality systems reflect the small, low-resource setting, and the need to ensure that the degree of regulation and additional bureaucracy imposed on the system is commensurate with the funding and capacity required for compliance and implementation. Current legislation largely reflects this context.
The Solomon Islands is the recipient of overseas development assistance and donor agencies play an important role as financiers and providers of technical cooperation. It also receives support from philanthropic sources. The MHMS is responsible for making the best use of all resources to improve health outcomes.

2.1 Overview of the health system

The MHMS is the central actor in the Solomon Islands health system. The MHMS functions as funder, regulator and provider of nearly all services. NGOs and faith-based organizations also make significant contributions in terms of additional funding and service delivery; however the MHMS is also heavily involved in the work of these organizations. The private sector plays a very minimal role within the health sector.

The MHMS is responsible for providing public health services, including maternal and child health, family planning, school-based outreach, dental services, mental health, and vaccination and immunization (JTAI, 2003). Section 10 (2) of the Health Services Act enables the Ministry to arrange with Provincial Assemblies and the Honiara City Council to undertake any of the above-mentioned public health services. Section 13 of the Act also empowers the Ministry to make arrangements with church or voluntary bodies for the provision of health services (JTAI, 2003).

2.2 Historical background

In 1893, the eastern islands of the Solomons were placed under a British Government Protectorate, while the west was controlled by Germany. Six years later, in 1899, the British protectorate was extended to cover all of the islands and it was not until 1976 that the British Government granted Solomon Islands internal self-determination, with independence following in 1978 (Maike, 2010). Solomon Islands is now a member of the Commonwealth.
2.3 Organization

Over the last decade, the structure of the health system has been largely stable. The major organizational changes have been in the donor landscape, reflecting broader developments in the global health architecture. The Ministry of Health and Medical Services is a centralized agency that is organized into four major divisions, each headed by an Undersecretary (Figure 2-1). These are (MHMS, 2011e):

1. **Health Improvement**: Multiple national public health programmes operate under this division. They are closely linked with the provincial health services and are concerned with priority national health programmes.

2. **Health Care**: This division oversees all of the clinical health services in the Solomon Islands, including the National Referral Hospital (NRH), Provincial Health Offices and the National Medical Store. Included within its mandate is the management of pharmaceuticals and diagnostic services. This division is also the regulator of professional boards for the health workforce. The NRH has its own Chief Executive Officer who is a member of the MHMS Executive, as is the National Director of Nursing.

3. **Health Policy and Planning**: This division manages all national and provincial health planning, as well as monitoring and evaluation. This division also manages the health information system, development or redevelopment of infrastructure, and procurement.

4. **Administration and Finance**: This division manages human resources in a management, planning and development capacity. It is also accountable for financial management and other financing functions as well as auditing. This is the operational arm of the Ministry relating to finances and human resources and is a very crucial link to other ministries, including Public Service and Finance and Treasury, for the purposes of accountability and transparency.
Figure 2-1 Overview of the Solomon Islands Health System

Source: Adapted from MHMS National Health Report, 2011
Functionally, different units of the MHMS operate with very different levels of resources and autonomy. The Provincial Health Offices, National Referral Hospital and National Medical Stores are the major service delivery units within the MHMS and have greater autonomy than functional areas within headquarters.

The Government system includes a centralized role for the Ministry of Finance and Treasury and the Ministry of Public Services for some finance and human resources functions. This arrangement reduces the need for duplication of functions between the central and line agencies, in a small highly resource-constrained bureaucracy.

The Solomon Islands health system delivers three types of services: curative and preventive services through fixed facilities and outreach, community-based preventive activities (“healthy settings”) and non-individual services (mass media, regulation). The organization and differing levels of those services are discussed extensively in Chapters 4 and 5 and thus the current section will only briefly discuss the general organizational structure of health facilities for contextual purposes.

There are currently five different levels of care offered in Solomon Islands. They range from the National Referral Hospital (NRH) which offers specialist hospital care, surgical facilities and inpatient services as well as operating as the Provincial Hospital for Guadalcanal Province, down to a nurse aide post which is the most basic service. Pathways to each of these services will be discussed in Section 5.2 – Patient pathways. The levels of care are as follows:

- Level 1: nurse aide post;
- Level 2: rural health clinic (RHC);
- Level 3: area health centre (AHC);
- Level 4: provincial hospital; and
- Level 5: National Referral Hospital (NRH).

Nurse aide posts are the basis of all health services within Solomon Islands. Nurse aide posts are usually located in remote areas and staffed by local nurses, thus providing strong links with the local community. Trained nurse aides working at nurse aide posts provide basic first aid care including the treatment of mild ailments or injuries, immunization services, and are also commonly used to stabilize patients until transport
can be arranged to move the patient to a higher-level service. Some nurse aides also conduct deliveries (MHMS, 2005b).

**Rural health clinics** offer the next level of care and generally play a supervisory role to multiple nurse aide posts within the same area. Multiple rural health clinics feed into larger area health centres. Rural health clinics are usually staffed by a registered nurse and a nurse aide.

**Area health centres** are the service immediately below the provincial hospitals in the organizational system. Both inpatient and outpatient care is offered; however, inpatient care is limited due to bed and service constraints. AHCs also offer specific birthing facilities as well as space for administration and staff housing. AHCs are usually staffed by at least two registered nurses, one of whom may be a trained midwife, and one or two nurse aides.

**Provincial hospitals** provide what is often the highest standard of care logistically available, particularly to people who have limited access to Honiara. Provincial hospitals generally lack infrastructure and the staffing levels to offer any surgical or specialist services although international specialist teams visit regularly (JTAI, 2006). The provincial hospitals outside Guadalcanal also serve as the home of the Provincial Health Offices, which oversees the health service network in that province.

The **National Referral Hospital** based in Honiara is the highest level of care offered in the Solomon Islands. This facility is staffed by both clinical specialists based in Solomon Islands and invited or visiting specialists from abroad. Many international outreach and development programmes operate within the region whereby specialist doctors can offer services through the NRH. These services include ear nose and throat, plastic surgery, paediatric surgery, vascular surgery, cardiology and cardiac surgery (MHMS, 2005a). It also serves as the Provincial Hospital for Guadalcanal Province.

In rural areas, faith-based and private services follow this hierarchy. In Honiara there are some specialized primary care services, such as for family planning or disability services, which do not fit the model. All services are expected to follow MHMS standards (e.g. the Essential Medicines List) and report to the Health Information System, although not all do.
2.3.1 Non-state service providers

The non-state sector plays a limited but important role in Solomon Islands. There are three faith-based hospitals in the country: Helena Goldie Hospital in Western Province, managed by the United Church; Atoifi Hospital in Malaita Province, managed by the Seventh Day Adventist Church and the Good Samaritan in Guadalcanal. These hospitals are partially-funded by churches and are administered and managed independently of the MHMS; however, as they also receive substantial government support, they also participate in the MHMS’ annual planning and budgeting process.

Local and international NGOs are generally funded by external donors. Local NGOs, such as the Solomon Islands Planned Parenthood Association and Red Cross, provide specific services. International NGOs are often involved in supporting community-level health promotion (e.g. Rural Water and Sanitation, distribution of bednets, or supporting village health committees). These tend to work in partnership with specific programme areas within the MHMS, with a variety of different agreements and Memoranda of Understanding in place. NGOs are often supported through donor-funded Pacific-wide regional (multi-country) programmes.

There are a small number of private sector medical clinics in Honiara and some private practice at the NRH and church hospitals.

2.3.2 Consumer and professional groups

There are currently no formal consumer or consumer advocacy groups in Solomon Islands. NGOs representing community views attend the National Health Conference and public views on healthcare can be expressed through the democratic system and village health committees where they exist, but there is little formal consultation with the public. The Global Fund Country Cooperating Mechanism provides a voice for those affected by HIV.

The Nursing and Medical Associations advocate for the interests of the two largest professional groups and have wider Pacific connections. Other interest groups also link into wider Pacific networks these are nascent bodies both in Solomon Islands and elsewhere.
2.3.3 Development partners

The growth in health development assistance since the early 2000s has had a considerable impact on Solomon Islands, with significant increases in donor funding and technical cooperation. The World Health Organization has a major presence, and the World Bank, UNICEF, UNFPA and Secretariat of the Pacific Community all provide support. Australia (through DFAT) is the major external financier, followed by the Global Fund against AIDS, TB and Malaria. These agencies are all signatories to the Solomon Islands Government-Development Partners Health Partnership Agreement, along with Japan and Republic of Korea.

A wide range of other groups and institutions also conduct training, research, or volunteer services. These are often funded by donors through non-bilateral programmes (not specific to Solomon Islands) or through philanthropic sources.

2.3.4 Policy formation, implementation and evaluation

Solomon Islands is a parliamentary democracy. The Parliament, Executive and Cabinet are charged with policy formation, the legislative programme and implementation. The annual National Health Conference is the primary mechanism for consultation across the sector, and for sharing information on sector strategy, performance and recent analytical work. In addition, the joint SIG-Development Partner Coordination Group and Joint Annual Performance Review enable a dialogue between the Ministry and donor partners on priorities and performance. This allows development partners such as WHO and the Australian Department of Foreign Affairs and Trade (DFAT, previously referred to as the Australian Agency for International Development) to support the implementation and evaluation of the National Health Strategic Plan (NHSP), and the strategies and policies under it, in an aligned and harmonized way.

The MHMS is the primary gatekeeper of policy formation, and in general undertake a good consultation process, usually consisting of a workshop or meeting with the major stakeholders and development partners. The Ministry does release strategic and corporate reports outlining future plans and the direction of future policy, however many policy decisions are made independent of such processes (Tyson, 2013). Resource allocation is often disproportionately influenced by external advocates or donors. An example of this has been witnessed recently with the decision to send Solomon Islanders to Cuba to complete medical training. Upon
completion of the training, the doctors are expected to return to Solomon Islands to gain employment. The lack of transparency in the process of sending the doctors abroad, which occurred without wider dialogue and consultation between the Government and the MHMS, resulted in a situation whereby no provisions were made in the national budget or health services to accommodate the newly-trained doctors on their return (scheduled for 2014).

Health sector performance is continuously monitored and evaluated. Arrangements for this are described in Chapter 5.

### 2.4 Decentralization and centralization

Reforms are underway to give greater management responsibility to the Provincial Health Officers and the NRH, particularly in relation to planning, budgeting, financial and HR management, while maintaining the flexibility required in a small system to maintain efficiency (MHMS, 2011e). Most Provincial Health Directors are clinicians and spend a significant proportion of their time providing clinical services in addition to their role in the actual planning and management of health services. For this reason, the steps towards decentralization are being carefully planned and sequenced to build up administrative capacity and ensure there is no detrimental impact on service delivery.

This includes costing and other analytical work to determine which resources are best held and managed, where, to improve the overall efficiency of the system. At present, 60% of all health funding is held and spent by the central Ministry, and over two thirds of all doctors and the majority of all managerial staff in Solomon Islands work in Honiara (MHMS, 2011e). The majority of signatory authorities who are actually in a position to expend funds are also located in Honiara.

These changes are described in detail in Chapter 6.

### 2.5 Planning

#### 2.5.1 Current planning

The MHMS is responsible for strategic planning and monitoring for the health system as a whole, as well as operational planning and management of MHMS services and activities.
The NHSP is the major document guiding the whole sector, and is accompanied by a set of core sector indicators, reported on annually. The Medium Term Expenditure Framework sets out revenue projections and the strategy for sector financing in the mid-term to achieve sector objectives. In addition to the National Plan, a series of national strategic plans for high burden conditions (maternal, newborn and child health, malaria, TB) and sub-sectors (eye health, community-based rehabilitation) set priorities and guide operational planning and decision-making to improve health outcomes in specific areas.

The MHMS planning and budget cycle is guided by the Ministry of Foreign Affairs and Trade (MOFT) and the Ministry of Development Planning and Aid Coordination (MDPAC) timetables, with different processes for the recurrent and capital (“development”) budgets (Figure 2-2). The recurrent budget is controlled by MOFT. To help the implementation of the strategic plans mentioned above, divisions, programmes and provinces must produce a costed operation plan that will inform the budget submission and the implementation of activities throughout the year. The MHMS is also working towards monitoring budget implementation against operational plans, but this type of reporting is not possible under the current system.

In relation to the development budget, the MHMS must work with MDPAC on the Medium Term Development Plan, which is a three-year rolling plan. This plan is currently focused on five sections, namely Primary, Secondary and Tertiary health care programmes, public health programmes and cross-cutting issues. The driving policy behind infrastructure work at the MHMS is the role delineation policy.

There is no current human resources plan for the sector overall: see Chapter 4.
Annual planning, budgeting and monitoring cycle

MHMS: Ministry of Health and Medical Services; MTDP: mid-term development plan; HR: human resources; RDP: rural development program
DPCG: development partner co-ordination group; OAG: office of the Auditor General; MYEA: mid-year expenditure analysis
Source: Solomon Islands Health Development Partner Co-ordination Group, 2014
2.6 Intersectorality
The NHSP puts prevention at the heart of the Government strategy for improving health outcomes. Intersectorality is recognized as an important element of prevention, both to ensure effective preventive activities are put in place and to address the social determinants of health. Intersectoral approaches across government, as well as Pacific regional approaches, are detailed in Chapter 5.

2.7 Health information management

2.7.1 Information systems
Solomon Islands has multiple mechanisms in place for the collection of data. The main mechanisms for data collection include (MHMS, 2011b):

- Health statistics unit (ongoing). The health statistics unit based in Honiara receives, collates and analyses monthly reports from primary health facilities. Data is managed using the District Health Information System (DHIS) database;
- Demographic Health Survey (2007, 2015 [planned]);
- Family Health Card surveys (annual);
- Census (1999, 2009);
- HIES; and
- birth registration (ongoing).

For more than 10 years, the primary health care information system (HIS) has collected health data from primary care clinics and hospital outpatient departments. Through the efforts of nursing staff, HIS completion rates have been consistency greater than 80–85%, even during times of difficulty in the country (MHMS, 2007e). However, the HIS has been subject to criticism. In fact, the most recent strategic plan (2011) developed by the MHMS noted that for the past two years, aggregate data had not been available due to re-programming of the data.

To address these issues, the MHMS has redeveloped the HIS, including implementing a new open-source software during 2011 and 2012; the District Health Information System version 2 (DHIS2). The DHIS2 software has been used extensively in Africa and is typically used for data management and analysis, as well as program monitoring and evaluation. The system currently relies on health facilities sending manual reports...
in to the provincial hospitals, where data input occurs. In late 2013 work began on rolling the software out into the provinces, so that data can be entered on site and shared via Internet upload with Honiara. This has been completed in 2014 with all provinces excluding Rennell-Bellona now connected.

Several public health programmes (including malaria, tuberculosis, health promotion, maternal and child health, and community based rehabilitation) capture and analyze their own routine data. Recently, the data collection tools and legacy information from several programs including tuberculosis, eye care, NCD and HIV have been migrated into HIS allowing the HIS and health programmes greater access to their information. Discussions with other programmes are ongoing, with malaria and reproductive health expected to be migrated into HIS in early 2015. The information is most commonly used within the provinces or individual primary health facilities. With this double collection that occurs frequently in the Solomons, significant costs are spent in the duplication of roles across multiple programmes (JTAI 2006 MHMS 2011e); however the reduction in global funding within the Pacific is causing programmes to re-think this strategy and link more closely with the overall HIS.

2.7.2 Health technology assessment

There is no formalized health technology assessment available for Solomon Islands, which like other low-income countries relies heavily on WHO assessment mechanisms.

2.8 Regulation

In a small, low-resource setting such as Solomon Islands the degree of regulation imposed on the system needs to be considered in light of the cost and capacity required for compliance against the expected gains in quality. Current legislation largely reflects this context, though it is in need of revision and updating to more closely reflect the current situation, particularly in regard to the private sector.

The system for regulation of providers recognizes the central role for the MHMS as funder, provider and regulator. The system for regulation of medicines, medical devices and aids rely on the National Medicines and Therapeutics Committee to oversee treatment guidelines and evidence-based practice. Wider regulation is conducted by the Pharmacy and Poisons Board, under the Pharmacy and Poisons Act. Pharmacy also
uses the National Pharmacy Standards as an assessment tool, along with clinic checklists developed over the years by the Pharmacy Division.

A Quality Management Checklist was developed in 1996, revised in 2003, and again in 2005; however the extent of its use remains unclear. More recently a version of the WHO Service Availability and Readiness (SARA) tool adapted to the Solomon Islands context has been used to assess equipment and facility standards. These tools can be used by health workers, their supervisors or external assessors as a means of checking the condition of equipment, medicines, transport, buildings and community participation. In order to complete the checklist, staff must physically walk around the facility and evaluate the condition of the infrastructure. The completed checks are then used to inform planning and budgeting. Reforms are underway to improve this process.

2.8.1 Regulation and governance of third-party payers

As described in Chapter 5, third-party payers have virtually no role in Solomon Islands.

2.8.2 Regulation and governance of providers

The MHMS provides overall stewardship of the health sector and plays a regulatory role through strategic planning, standard setting and guidelines, for both government and non-state providers. Further information is contained in Chapter 5.

To ensure quality of care, Solomon Islanders are protected by key legislative instruments that are implemented and upheld by the MHMS. They include:

- *Mental Treatment Act 1978* – which addresses “the care of persons suffering from a mental disorder or mental defect ... the custody of these persons and the management of their estates and ... the management and control of mental hospitals”;
- *Environmental Health Act 1980* – which acts to “make provisions for securing and maintaining environmental health”;
- *Health Workers Act 1989* – which regulates the functions and duties of various categories of healthworkers and establishes a Health Workers Board “to prescribe registration, deal with matters pertaining to discipline and other connected matters”;
• **Quarantine Act 1978** – “for the inspection, exclusion, detention, observation, segregation, isolation, protection, treatment, sanitary regulation and disinfection of vessels, persons, goods and things” in order to prevent the introduction or spread of diseases;

• **Pure Food Act 1996** – “for securing the safety and wholesomeness of food for sale and for human consumption”;

• **Pharmacy Practitioners Act 1997** – “to regulate the practice of pharmacy”;

• **Tobacco Control Act 2010** – “to regulate labelling, distribution, sale, advertisement and smoking of tobacco products”;

• **Medical and Dental Practitioners Act 1988** – “to regulate medical and dental practitioners” and

• **Nursing Council Act 1987** – which establishes a Nursing Council to register and regulate nurses, midwives and auxiliary nurses.

The National Pharmacy Services Division (NPSD) has a regulatory arm aimed at ensuring both the public and private sector operate within the boundaries of the two relevant Pharmacy Acts as well as any Ministry policy documents, primarily the National Medicines Policy. This includes the registration of professionals and premises, issuing of import permits and investigating suspected cases reported to be operating other than in accordance with legislative provisions, attempting to resolve breaches and reporting to the Pharmacy and Poisons Board as necessary.

### 2.8.3 Registration and planning of human resources

Both doctors and dentists are regulated by the country’s Medical and Dental Board, established under the Medical and Dental Practitioners Act 1990. Nursing and midwifery practitioners are regulated by the Solomon Islands Nursing Council, Amendment Act 1997.

Pharmacists must be registered under the Pharmacy Practitioner’s Act, which is concerned with the registration of pharmacists and overseeing examinations for new pharmacists and pharmacy officers. While the Act contains provision for a board (the Pharmacy Practitioner’s Board), in practice the board is essentially the same as the Pharmacy and Poisons Board. Registration rules are not uniform for all applicants. The Act considers persons eligible for registration those over 21 years of age, with good name and character; who have passed the final examination of the Pharmaceutical Society of Great Britain or Northern Ireland or who hold other pharmaceutical qualifications that the Board may admit.
The Act contains provisions for automatic registration of pharmacists from Australia and New Zealand. There are no re-accreditation processes in place.

Physicians and dentists are registered by the Medical and Dental Board, established under the *Medical and Dental Practitioners Act* (1990) (Davison et al., 2009). Nursing and midwifery practitioners are covered by the Solomon Islands Nursing Council, which is in turn regulated by the *Nursing Council (Amendment) Act* (1997). Table 2-1 lists the various Registration Boards by occupational group.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Registration Board</th>
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<tbody>
<tr>
<td>Physician</td>
<td>Medical and Dental Board</td>
</tr>
<tr>
<td>Nursing and midwifery</td>
<td>Solomon Islands Nursing Council</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>Pharmacy Practitioner’s Board (legally)</td>
</tr>
<tr>
<td></td>
<td>Pharmacy and Poisons Board (in practice)</td>
</tr>
<tr>
<td>Dentistry</td>
<td>Medical and Dental Board</td>
</tr>
<tr>
<td>Laboratory</td>
<td>Nil</td>
</tr>
<tr>
<td>Environment and public health</td>
<td>Nil</td>
</tr>
<tr>
<td>Other health workers</td>
<td>Nil</td>
</tr>
</tbody>
</table>

*Source: Davison et al., 2009*

Mechanisms for human resources planning include departmental strategic plans, where staffing needs are based on the staff required in order to meet broader Ministry of Health indicators. These strategic plans rely on intergovernmental support in order to be effectively implemented, such as the Ministry of Public Service for ensuring establishment positions are filled, Ministry of Education for prioritizing training in those professions most appropriate to the needs of the country and the HR division of the MHMS as far as ensuring appropriate allocation of existing staff based on skillsets.

2.8.4 *Regulation and governance of pharmaceuticals*

The National Medicines and Therapeutics Committee (NMTC) oversee the selection of pharmaceuticals for the public sector. This is done through the Standard Treatment Guidelines, which form the basis for the Essential Medicines List (EML), providing a comprehensive listing of all of the pharmaceuticals available and recommended for use within the public health system. The writing, review and updating of Standard
Treatment Guidelines is a key role of the NMTC; their “operational” arm is the Medicines Information Centre. The Centre undertakes this role under the supervision of the NMTC, which meets quarterly. Through production of these guidelines, prescribing practices are standardized, as all practitioners in the public sector are required to prescribe in accordance with National Guidelines. By the end of 2014 it is planned that a system for applications to the NMTC to advocate for the addition of a medication to the EML or to add an item of medical equipment to the procurement list will be in place.

In accordance with the National Medicines Policy, to be endorsed and adopted in 2014, all medications are provided free of charge to Solomon Islanders accessing the public health system. All medications are imported – there is no local manufacturing available. National Medical Stores (NMS) is the sole procurement body for the public sector. Quality assurance at NMS is performed through the exclusive use of pre-qualified suppliers. The pre-qualification process is based on a WHO model for quality assurance and is closely adhered to except in emergency situations, when local private pharmacies have been used. Currently, there are seven pre-qualified wholesalers to NMS, who have all undertaken a comprehensive pre-qualification process. Disreputable suppliers have been banned as recently as 2011, when the decision was made to cancel the pre-qualified status of a supplier.

The Pharmacy and Poisons Act regulates the practice of pharmacy, the sale and distribution of poisons and establishes the Pharmacy and Poisons Board (JTAI, 2003). The role of the board is administered by the Regulatory Affairs Unit of the NPSD. While the legislation requires all prescriptions to be signed by a medical practitioner, in practice nurses and nurse aides also prescribe medicines. MHMS expects to revise the legislation and the scope of practice within the Essential Medicines List once the basic service package is agreed.

Classification of pharmaceuticals is also covered by the Pharmacy and Poisons Act, which defines schedules of medications. Schedule A medications are those which may be sold by any licensed storekeeper and are not subject to other provisions of the Act, and Schedule B medications are those which require a prescription. The Regulatory Affairs Unit is responsible for the enforcement of these schedules, however the legislation is extremely out of date and in need of review and updating, making the work of the regulatory authority difficult as it is not supported by relevant legislation. This extends to the fines and penalties for non-adherence to
legislation, again, being outdated and poor assistance to on-the-ground regulatory enforcement activities.

Only a small number of private pharmacies exist in Solomon Islands. While the NMTC has no legal authority over the private sector (and thus cannot enforce any legislation), reports of pharmacies supplying medications in the absence of a prescription are received and investigated by the regulatory authority. Investigations are only carried out by the Regulatory Affairs Unit based on reports to the Pharmacy and Poisons Board; in the past 18 months, the Regulatory Affairs Unit has been quite effective in investigating and resolving reports of non-compliance. At this stage, written warnings have been sufficient to deter serious breaches of the legislation, which has never been tested in court. The Regulatory Affairs Unit concentrates on reports of premises operating without a pharmacist and dangerous dispensing practices. Private non-pharmacy-related retail outlets selling medications also contribute to quality assurance and regulatory authority difficulties but instances of this are limited and have usually been resolved through warnings.

The NPSD runs a pharmaco-vigilance unit within the Medicines Information Centre for the reporting of adverse drug reactions, however this system is poorly utilized – due to inadequate nurse training as far as recognizing adverse drug reactions, lack of time/ability to report, difficulties in getting completed forms to the Medicines Information Centre at NRH and because patients rarely return to the health facility to discuss adverse reactions. In practice, there is no sophisticated system in place and only major, widespread events would be detected.

2.8.5 Regulation of medical devices and aids

The development of an Essential Medicines Supplies List is a current NPSD project that is anticipated to be concluded by late 2014/early 2015. It is envisioned that the list will be overseen by a subcommittee of the NMTC. This list will incorporate medical consumables and regularly supplied items; it will not include one-off procurements of capital equipment or highly specialized medical supplies (e.g. for the Orthopaedic Surgery Department).

Medical consumables and general medical supplies have been determined in an ad hoc manner until recently. A new document – the National Medical Supplies List – is currently being drafted by the Pharmacy Division, which envisions that its approval and any future changes will be carried out by a subcommittee of the NMTC on an annual basis.
2.8.6 Regulation of capital investment

Equipment specifications for capital medical equipment purchases have until recently been determined by the NRH Equipment Committee. Recently, the Biomedical Department has overseen the drafting of Terms of Reference for a new National Equipment Committee. The Medium Term Development Plan of the MHMS does include budget items for infrastructure upgrades to general hospitals and staff housing in the provinces.

A number of facility assessment tools have been used over recent years. Moves are underway to finalize a standardized tool (probably based on the WHO’s SARA tool) as part of current reforms.

2.9 Patient empowerment

2.9.1 Patient information

There is limited information available to patients when making decisions about accessing health services. Levels of health literacy and patient education are low among the population, and there are limited sources of information on the quality of health services. Mechanisms to guide patients around the system are also limited: many patients, for example, are unaware of the procedures for claiming reimbursement of transport costs when referred between facilities (see Chapter 5.2).

2.9.2 Patient choice

While patients are aware of the various levels of care offered within different health facilities, choice in selecting a provider is often influenced by limiting factors, such as availability of transport and previous experiences with local facilities.

The 2014 Health Facility Costing Study (HFCS) will provide up-to-date information on patient costs and satisfaction. Preliminary results indicate that satisfaction levels have improved since the clinic utilization review carried out in 2005 (Edmonds, 2006, MHMS, 2007b, MHMS, 2014c).
2.9.3 **Patient rights**

There is no formalized patient rights advocacy group or watchdog appointed in Solomon Islands.

2.9.4 **Complaints procedures (mediation, claims)**

There is no formalized system for patient complaints in Solomon Islands.

2.9.5 **Public participation**

There is no formalized system for public commentary on the provision of services offered by the MHMS but local NGOs can and do provide comment through the media and other means.

2.9.6 **Patients and cross-border health care**

Cross-border care is not a significant issue in Solomon Islands. There are some patient transfers to Australia, New Zealand and other countries in the Pacific with a higher level of care or more available technology, with commensurate costs. Airlift evacuations occur infrequently despite the ten-bed referral programme offered by St Vincent’s Hospital in Sydney, Australia. Approximately A$1.2 million is allocated annually to this programme within the MHMS budget (Same et al., 2011).

Additional information on eligibility and referral processes for cross-border care is found in Chapter 5.5.
3 Financing

Chapter summary
The Solomon Islands health system is characterized by moderate levels of health expenditure relative to national income. It is financed through general government revenue and external donor resources, with minimal out-of-pocket spending. As a consequence, the system provides relatively good financial risk protection, with negligible rates of catastrophic health spending. The current system of health financing and delivery has delivered above average health outcomes relative to income per capita, and has been resilient to the political and economic crises that have affected the country in recent years.

Low per capita expenditure and the limited scope to increase fiscal space, along with high delivery costs (related to high costs of electricity and transport) severely limit the scope of what the system can provide. Despite this, the country is close to providing universal coverage of a basic package of care. This is a considerable achievement.

However, the system is facing significant additional costs that will need to be absorbed. Fiscal space for health is unlikely to grow, with government outlays on health already high by international standards and very limited potential for higher patient contributions or donor financing. The system is already having to do more with less at a time when there is pressure to increase the basic package of health services. External advisers and partners can inadvertently drive costs and inefficiency, for example the current pressure on government to include new expensive vaccines in the package, with little additional gain in overall health outcomes. Expectations about NCD treatment are also driving costs. Solomon Islands already achieves reasonable coverage of a basic package of primary care services, although there are significant geographic disparities between provinces. The next step towards UHC is to ensure uniform coverage of preventive and primary care services, with expansion
of the range of health interventions in the package a secondary priority. Additional resource requirements will have to be financed through greater efficiency to maintain the high levels of financial risk protection and coverage that are the hallmarks of the present system.

Nearly all health services are funded by the public sector, namely the Solomon Islands Government and its development partners. Therefore the public spend little, if any, of their income on out-of-pocket healthcare costs. The 2005/2006 Household Income and Expenditure Survey found that less than 1% of total household income was spent on health care each year. This is one factor underpinning high levels of equity in the system.

A Health Facility Costing Study is currently underway and when analysed, it will provide up-to-date data on health service costs, fees, out-of-pocket cost and patient satisfaction.

### 3.1 Health expenditure

With the exception of a slight increase in the proportion of total health expenditure from public sources in the early years of the 21st century (possibly reflecting the economic impact of the internal conflict), overall levels of health spending in Solomon Islands, and the split between public and private funding, have been reasonably stable for much of the past 15 years. Total spending on health was estimated to be SB$ 313 million in 2009; around 5.4% of GDP or SB$ 600 per capita (WHO, 2011a) (Table 3-1).
Table 3-1  Trends in health care expenditure, selected years, 1995–2012

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health expenditure per capita, PPP (constant 2005 international $)</td>
<td>79.0</td>
<td>92.0</td>
<td>162.0</td>
<td>201.0</td>
<td>200.0</td>
<td>260.0</td>
<td>0</td>
</tr>
<tr>
<td>Total expenditure on health as a percentage of GDP</td>
<td>4.1</td>
<td>5.2</td>
<td>7.8</td>
<td>7.9</td>
<td>7.4</td>
<td>8.8</td>
<td>8.0</td>
</tr>
<tr>
<td>Public expenditure on health as a percent of total expenditure on health</td>
<td>93.0</td>
<td>94.0</td>
<td>94.0</td>
<td>95.0</td>
<td>94.0</td>
<td>95.0</td>
<td>96.2</td>
</tr>
<tr>
<td>Private expenditure on health as a percent of total expenditure on health</td>
<td>0</td>
<td>0</td>
<td>5.9</td>
<td>5.4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Government health spending (public) as a percent of total government spending</td>
<td>15.0</td>
<td>21.0</td>
<td>28.0</td>
<td>21.0</td>
<td>20.0</td>
<td>25.0</td>
<td>0</td>
</tr>
<tr>
<td>Government health spending as a percent of GDP</td>
<td>3.0</td>
<td>5.0</td>
<td>8.0</td>
<td>8.0</td>
<td>7.0</td>
<td>9.0</td>
<td>0</td>
</tr>
<tr>
<td>OOP payments as a percent of total expenditure on health</td>
<td>4.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
<td>3.0</td>
<td>0</td>
</tr>
<tr>
<td>OOP payments as a percentage of private expenditure on health</td>
<td>56.0</td>
<td>57.0</td>
<td>57.0</td>
<td>57.0</td>
<td>57.0</td>
<td>57.0</td>
<td>56.7</td>
</tr>
<tr>
<td>Voluntary health insurance (VHI) as a percentage of total expenditure on health</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VHI as a percentage of private expenditure on health</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: World Bank, 2012b; WHO, 2011a

The Government and its partners accounted for 95% of health financing in Solomon Islands in 2011. Health sector allocation accounted for 16% of the Solomon Islands total government recurrent budget in 2007, and increased to 17% as a result of support from DFAT and the Health Sector Support Program (Maike, 2010). Per capita spending on health (measured in constant purchasing power parity [PPP]) roughly tripled between 2000 and 2011. Compared to a number of nations in the Pacific region, Solomon Islands level of health spending as a proportion of GDP has consistently been among the highest (Figure 3-1). On a per capita basis assessed at PPP, however, Solomon Islands spends less on health than most comparator nations (with the exception of Papua New Guinea) (Figure 3-2).
In terms of revenue sources, most other comparator countries appear to consistently meet between 75% and 85% of health costs from public
sources but the equivalent figure for Solomon Islands has almost always been 90% or higher. This reflects the high priority placed on health in the SIG budget. Likewise, spending on health has typically accounted for between 15% and 20% of total government expenditure in Solomon Islands whereas in comparator countries it has, with few exceptions, remained below 15% for most of the last 15 years (WHO, 2011a).

Recent audits (DFAT, 2013) showed that many of the issues identified in a 2005 audit of the MHMS remained, including poor accounting (often due to staff with limited or no formal training), and widespread, but low-level, petty theft, amounting to a relatively small percentage of total spending. In an “Aid Fraud” report issued by AusAID in 2011, 19 cases of fraudulent use of donor funds were reported between 2004/05 and 2010 (Anonymous, 2011). Following on from this, a “zero tolerance on fraud” agreement was signed between Solomon Islands and Australian Government in 2013, with the objectives of eliminating fraud from the aid programme, and when cases of fraud are uncovered, to prosecute those persons responsible (AHC, 2013). As described in Chapter 6, significant support has been provided since that time to enable the MHMS and the MOFT to improve the functioning of the financial management and procurement systems. While a substantial fraud case was discovered in late 2013, amounting to over SB$10 million, it would seem that measures such as the zero tolerance agreement are having an impact, with the cessation of employment for those involved, and in-depth follow-up investigations from the Government (Cooney, 2013).

3.1.1 Health expenditure by service programme

According to an assessment carried out by DFAT, public expenditure on health has a good balance between recurrent and capital spending, although there is a bias towards Honiara and high levels of expenditure on general administration and hospitals (Foster, Chamberlin et al., 2009). Table 3-2 provides a summary of planned total expenditure by programme area for 2014–2015, demonstrating the significant cut in funds allocated to tertiary-level care (55%) and corresponding increase in primary, secondary, public health and prevention, and cross-cutting themes.
Table 3-2  Medium Term Development Plan budget by programme area

<table>
<thead>
<tr>
<th>Programme area</th>
<th>2014 (SB$) (millions)</th>
<th>2015 (SB$) (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care</td>
<td>5.0</td>
<td>6.7</td>
</tr>
<tr>
<td>Secondary care</td>
<td>3.0</td>
<td>3.6</td>
</tr>
<tr>
<td>Tertiary care</td>
<td>15.0</td>
<td>8.2</td>
</tr>
<tr>
<td>Public health and prevention</td>
<td>1.0</td>
<td>2.6</td>
</tr>
<tr>
<td>Cross-cutting themes</td>
<td>2.0</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26.0</strong></td>
<td><strong>26.0</strong></td>
</tr>
</tbody>
</table>

*Source: MHMS, 2014b*

However, the geographic distribution of health spending is skewed in favour of Honiara and not consistent with the pattern of population health needs. For instance, recent survey and HIS data indicate that Malaita presents comparatively more serious health challenges than other provinces in terms of its health outcomes and service delivery needs. It also accounts for 30% of the country’s population. Yet, it receives a significantly lower share of total health expenditures than would be expected (World Bank, 2010b). As discussed previously, until primary and secondary provincial health facilities are strengthened, people will continue to go directly to the NRH, thus necessitating its need for higher funding. The logistical realities of Solomon Islands, such as the relative ease for people in South Malaita to access the NRH in Honiara as opposed to Ki’ilufi Hospital in Auki, Malaita, also play a role in the continued higher budget requirements for the NRH.

### 3.1.2 Fiscal environment

In a health system like this financed largely from general revenue sources, the availability of fiscal space for health is a critical factor. “Fiscal space for health” refers to the ability of the government to increase spending for the sector, without jeopardizing the government’s long-term solvency or crowding out expenditures in other sectors needed to achieve other development objectives (World Bank, 2010b).

In the short term, economic growth prospects in Solomon Islands are not conducive to significantly expanding fiscal space for health. Economic growth is one of the primary drivers of fiscal space for health. Income growth is a key determinant of the revenue generation capacity of government, as well as public preferences for allocating a greater share of government resources to health. In Solomon Islands, the global economic recession, which coincided with the sharp decline in logging
revenues, has weighed down growth prospects. Real GDP growth contracted by 2.3% in 2009, after growing at 6.9% in 2008 (Figure 3-3). Modest recovery is expected in 2010 with a growth rate of about 3.5% [World Bank, 2010].

**Figure 3-3  Economic outlook: real GDP growth (actual and projected), 2014**

In the short term, a tighter fiscal stance is likely in Solomon Islands, leaving little additional fiscal space for health. The economic slowdown and decline in logging revenues have significantly weakened the Government’s fiscal position. In 2009, fiscal revenues were 13.5% below projections. The government responded to falling revenues by introducing a 10% reservation on non-payroll expenditures. In addition, emergency cash management practices introduced by the Ministry of Finance led to delays in payments to suppliers and thus, disruptions to the delivery of services. There has also been a freeze on recruitment in the health sector.

As economic growth continues to falter, large budgetary financing gaps are expected to emerge in the short term, accompanied by a tightening fiscal stance. The 2010 budget assumed a 20% increase in revenues and spending over 2009, based on optimistic assumptions about a robust recovery and improved tax compliance. In the absence of improved cash flow forecasting and management, there is a very real risk that revenue projections are not realized and public spending remains constrained. Under weak economic conditions, to maintain a fully funded budget, nominal expenditure growth will need to slow down from around 29% in 2008 to 8% by 2014.
In the medium to longer term, there is scope for a combination of reforms aimed at improving revenue collection and strengthening financial management to improve fiscal sustainability. At 18.5%, the Government’s revenue as a share of GDP is relatively low. Government reforms to modernize the tax base and reduce tax exemptions are already in progress. Further tax reforms are being pursued to strengthen the tax base, shift the reliance away from direct taxation and simplify tax administration for the government, as well as the compliance burden for taxpayers. The tax reforms are being undertaken as part of a broader structural reform programme. This includes building the administrative and resource capacity of the Inland Revenue Division to enforce compliance. Reforms to strengthen public financial management by improving cash management, budget integration and accounting and audit functions are also in progress. This includes continued capacity building in the Ministry of Finance and Treasury to improve financial management and governance. IMF projections indicate that the package of economic reforms outlined in the Solomon Islands Medium Term Fiscal Strategy, including the reforms described above, could deliver an additional three percentage points of growth per annum in 2010–2013 (World Bank, 2010).

### 3.2 Sources of revenue and financial flows

The two main sources of financing for health are: general internal revenue through the government (e.g. taxes) and external development partners, who account for 94% of total health expenditures (Table 3-3). The government accounts for 65% of total financing, and external donor resources for 29%. Notably, the government share of total health financing relative to development partners has increased since 2004, when ethnic strife ended. From 2006 to 2009, the health sector accounted for between 12% and 14% of total Solomon Islands Government expenditures (World Bank, 2010).

The Government of Australia has, for many years, been the major source of development assistance to Solomon Islands. It is estimated that in 2008 Australia was responsible for some two thirds of total donor funding with other significant contributors being the European Union (which contributed 11% of donor assistance in 2008), New Zealand (6%), and Japan (4%). Table 3-3 provides details of the sources of health expenditure in 2008.
Table 3-3  Health expenditures by source, 2008

<table>
<thead>
<tr>
<th>Source</th>
<th>Total expenditures (SB$million)</th>
<th>Share of total (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIG</td>
<td>174.6</td>
<td>65.4</td>
</tr>
<tr>
<td>SIG - Recurrent</td>
<td>169.1</td>
<td>63.4</td>
</tr>
<tr>
<td>SIG - Development</td>
<td>5.5</td>
<td>2.1</td>
</tr>
<tr>
<td>External donor resources</td>
<td>92.3</td>
<td>28.6</td>
</tr>
<tr>
<td>HSSP/HISP</td>
<td>47.4</td>
<td>17.7</td>
</tr>
<tr>
<td>Tsunami relief funds</td>
<td>13.8</td>
<td>5.2</td>
</tr>
<tr>
<td>SPC</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>SIMI</td>
<td>7.8</td>
<td>2.9</td>
</tr>
<tr>
<td>AusAID - NPHL</td>
<td>6.5</td>
<td>2.4</td>
</tr>
<tr>
<td>GAVI</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Out-of-pocket</td>
<td>16.1</td>
<td>6.0</td>
</tr>
<tr>
<td>Total</td>
<td>266.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

GAVI  Global Alliance Vaccine Initiative
HSSP  Health sector support programme
NPHL  National Public Health Laboratory
SIG  Solomon Islands Government
SIMI  Solomon Islands Malaria Information System

Source: World Bank, 2010

Out-of-pocket payments, including user fees, account for around three to four per cent of total health expenditure. User fees are charged for specific services such as certain dental procedures, radiology and laboratory services, the issue of medical records and documents, as well as specialty outpatient clinic visits. General outpatient clinic services and hospitalization are provided free of charge to all Solomon Islands nationals. Although private health insurance is available, its contribution to total health financing is negligible (World Bank, 2010).

3.3  Overview of public financing schemes

3.3.1  Coverage

Publicly-funded health services are available to all Solomon Islanders. While there is no legislative definition of entitlement, tourists and expatriates are expected to meet the costs of goods and services. There is no formal specification of benefit entitlements. While the Health Act empowers the Minister to make hospital, primary care and other services available, it does not dictate what services must be provided.
3.3.2 Collection
The current health system is financed mostly by government general revenues and contributions from development partners. Government revenues are raised through taxation and income from the export of primary commodities, especially logging. Health services, which are provided on a universal basis to the whole population, are financed directly through general revenues. There are also a few health facilities established by the church or communities that are financed through general revenues. User fees are minimal for public health services, while private health services are another matter. In this manner, risks are pooled across the entire population. Public financing and provision are integrated in the current system (World Bank, 2010).

3.3.3 Pooling of funds
Not applicable.

3.3.4 Purchasing and purchaser-provider relations
Not applicable.

3.4 Out-of-pocket payments
3.4.1 Cost-sharing (user charges)
The Health Services (Hospitals) Regulations specify a range of fees to be charged in public hospitals (see Annex 1) but also indicates that they may be waived for “certain persons or classes of persons” by the Permanent Secretary of MHMS.

3.4.2 Direct payments
Unlike in many countries of the East Asia and Pacific region, out-of-pocket payments do not represent a significant burden for households in Solomon Islands. The health system provides a high degree of financial risk protection, as only 6% of total health financing is derived from household out-of-pocket sources. Moreover, households in the poorest quintile of the population allocate less than 0.05% of their monthly household budget to health care expenses (Figure 3-4).
The extent to which out-of-pocket payments disrupt household expenditures is also an indicator of financial protection. Health expenditures are defined as catastrophic if they exceed a threshold of 10% or 25% of the household budget. Figure 3-5 shows that in Solomon Islands, the proportion of households that experienced catastrophic health expenditures in 2006, when the HIES was carried out, was negligible compared to many other countries in the East Asia and Pacific region.

Source: World Bank, 2010
Despite these figures, it is worth noting that delay in seeking care due to financial barriers is an issue in Solomon Islands. In the 2012 TB Programme Review, for example, it was noted that patients often delay seeking treatment for TB due to high transportation costs.

### 3.4.3 Informal payments

There is no formal reporting of funds raised via informal patient fees. Anecdotal evidence suggests there is considerable variation in the services that attract fees, and the rates at which fees are levied, with most revenues being retained to offset operating costs at the facility level.

### 3.5 Voluntary health insurance

#### 3.5.1 Market role and size

At present, voluntary (or private) health insurance accounts for a negligible share of total health financing in the Solomon Islands. Only one private insurance company offers health insurance plans, catering mostly for the expatriate market. The standard package covers general medical care and repatriation expenses. Group policies are available, but there is
little demand for them. Voluntary health insurance (VHI) is not marketed widely and does not represent an important product for the insurance industry. VHI is seen as non-profitable because the claims expenditures are quite high. Administrative costs account for approximately 5% of total expenses. Reimbursement is by cash only (World Bank, 2010).

3.6 Other financing

There are no other significant sources of funding in the Solomon Islands health system.

3.7 Payment mechanisms

3.7.1 Paying for health services

Responsibility for service delivery rests entirely with publicly-owned facilities which are funded via fixed budget allocations. Funding levels are not varied within or between years to reflect changes in workload or outputs.

A resource allocation formula was developed in 2003 as a means to determine the level of grants to be paid to provinces. A poverty variable and updated data were added to the formula in 2007. Actual allocations do not, however, appear to routinely reflect those suggested by the application of the formula (Foster et al., 2009).

3.7.2 Paying health workers

Health workers who are MHMS employees are either employed on the Government establishment, as permanent public servants, or as Direct Wage Employees (DWEs). Most DWEs are employed at provincial level or by the larger national programmes for provincial-level activities (e.g. vector control). Most staff at health services managed by faith-based organisations are on the Government payroll. Wage levels are set by the Ministry of Public Service and, for DWEs, by provincial administrators.

Some doctors employed by MHMS also work in private practice and charge patient fees. Other health workers are employed under the terms and conditions relevant to the NGO or other employer they work for.
4 Physical and human resources

Chapter summary
The physical health network in Solomon Islands is made up of a National Referral Hospital, provincial hospitals, area health centres, rural health clinics and nurse aide posts. Most of the provinces have access to at least one level of health facility, based on the size and distribution of their population. The condition of area health centres and rural health clinics was assessed through surveys in 2005 and again in 2012. Both surveys highlighted the urgent need for upgrade, repair or renovation; many facilities were operating without proper water and sanitation, electricity and basic medical equipment. The degradation of health facilities has happened over many decades, and while some have been damaged by cyclones and other natural disasters, most are not properly and regularly maintained due to funding constraints and poor budgeting.

However, unlike in earlier periods, the MHMS now has an active strategy to address this, as described in Chapter 6, with priority being given to primary care facilities.

There are serious shortages of clinical equipment and medical supplies at most health facilities, with hospitals often relying on old and poorly maintained medical, diagnostic and surgical equipment. The availability of medicines in rural areas is improving.

The Solomon Islands is served by a well-trained nursing workforce which provides the backbone of service delivery in rural areas. The number of doctors is set to rapidly increase as large numbers of recent medical graduates trained in Cuba begin to return to the Solomon Islands from late 2014, placing considerable cost onto the system. Strategic workforce planning is weak, resulting in potential oversupply of some cadres (such as doctors) and workforce deficits in other areas such as medical laboratory staff, radiologists and other allied health professionals. As well as limited absolute numbers of health workers, high staff turnover is a constant issue, largely due to financing constraints, along with the migration of some specialist health workers to other countries for better salary and working conditions.
4.1 Physical resources

4.1.1 Capital stock investments

Current capital stock

Of the nine provinces, eight have access to a public hospital (WHO, 2008). There are also four faith-based hospitals (owned and operated through various church organizations) in the Western, Malaita, Guadalcanal and Choiseul provinces. Most of the provinces have access to a health network comprised of health centres, aid posts and village health workers (Table 4-1), based on the size and distribution of their population (Auto et al., 2006a, Natuzzi et al., 2011). The National Referral Hospital in Honiara is Solomons Islands largest hospital, with 300–400 beds, and a number of specialized departments including dentistry, general surgery, gynaecology and obstetrics, outpatients and paediatrics (Oberli, 2010). Kilu’ufi Hospital, based in Malaita, is the busiest hospital outside of Honiara and serves the most populous province, despite being one of the least resourced for its activities (Auto et al., 2006a). The new Gizo Hospital, in Western Province, is a 60-bed facility and is the country’s second referral hospital. The hospital provides health care services to Western, Choiseul and the western part of Isabel Province. The remaining provincial hospitals have between 25 and 150 beds, and are located anywhere from a one- to three-hour flight from Honiara (Oberli, 2010).

Table 4-1 Health network by province, Solomon Islands

<table>
<thead>
<tr>
<th>Health facility</th>
<th>Central</th>
<th>Choiseul</th>
<th>Guadalcanal</th>
<th>Isabel</th>
<th>Malaita</th>
<th>Makira</th>
<th>Temotu</th>
<th>Rennell &amp; Bellona</th>
<th>Western</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faith-based hospital</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>National referral hospital</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Provincial hospital</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Area health centre</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>38</td>
</tr>
<tr>
<td>Rural health centre</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>25</td>
<td>17</td>
<td>6</td>
<td>2</td>
<td>23</td>
<td>102</td>
</tr>
<tr>
<td>Nurse aide post</td>
<td>14</td>
<td>13</td>
<td>20</td>
<td>18</td>
<td>43</td>
<td>16</td>
<td>8</td>
<td>0</td>
<td>31</td>
<td>187</td>
</tr>
</tbody>
</table>

*Total column does not equal figures before due to missing data at the provincial level

Source: MHMS, 2011c, 2014c; WHO, 2010b
As summarized in Table 4-2 in the next page, the majority of hospitals in Solomon Islands are in very poor condition, with substantial, continued investment in infrastructure to maintain buildings and equipment required (Auto et al., 2006a). For power, many of the hospitals rely on generators which are often only operated during the day to save costs. A number of buildings were damaged during the conflict and in recent natural disasters, and have not been fully restored. All of the hospitals, including the NRH in Honiara, are subject to power outages, but those most vulnerable to long and frequent power outages are located in the outer provinces. These hospitals have generators as the only source of power, and the generators are used sparingly due to limited fuel supply. Overdue and non-payment of outstanding electricity bills further compounds this problem, as electricity suppliers have the right to cease supply. Two of the hospitals, Sasamunga and Good Samaritan (GSH), have solar panels that supply limited energy for lighting.

Access to running water varies throughout the country and within a given hospital. In all, 80% of the hospitals have rainwater-collecting tanks (Auto et al., 2006a). One hospital collects unfiltered water from a mountain creek located nearby (Atoifi). The plumbing at Gizo Hospital and the NRH is in need of repair as breaks in the pipes have rendered some parts of the hospital wards without tap water. On these wards, buckets of water are kept in the sink for hand washing. At the NRH, there are four functioning operating rooms. At Gizo, Kilu’ufi, and Atoifi, there is a major functioning operating room and a minor one. Lighting availability is mainly by portable operating room lights and daylight (Natuzzi et al., 2011).
### Table 4-2 Hospital infrastructure, 2014

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Communication</th>
<th>Running water</th>
<th>Electricity</th>
<th>Oxygen source</th>
<th>Working anaesthesia machine</th>
<th>Number of operating theatres</th>
<th>Notes on condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRH</td>
<td>P/I/SWR</td>
<td>Yes(^a)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gizo</td>
<td>P/I/SWR</td>
<td>Yes(^a)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td>No mains power; petrol generator during the day; lanterns or flashlights used at night</td>
</tr>
<tr>
<td>Taro</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Interrupted</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
<td>No mains power; petrol generator during the day; lanterns or flashlights used at night</td>
</tr>
<tr>
<td>Tulagi</td>
<td>P/I/SWR</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Atoifi</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HGH</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Interrupted</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Sasamunga</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kilu‘ufi</td>
<td>SWR</td>
<td>Yes(^a)</td>
<td>Interrupted</td>
<td>Interrupted</td>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>GSH</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td>Electricity supply sporadic No back-up generator Telephone lines often cut</td>
</tr>
<tr>
<td>Kirakira</td>
<td>P/I/SWR</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>0</td>
<td>No running water in the children’s ward Tap in outpatients ward runs when the generator is on</td>
</tr>
<tr>
<td>Lata</td>
<td>P/I/SWR</td>
<td>Yes(^a)</td>
<td>Yes</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P/I/SWR</td>
<td>Yes(^a)</td>
<td>Yes</td>
<td></td>
<td></td>
<td>0</td>
<td>Worn-out tiles Poor wiring system Minimal lighting in operating theatre</td>
</tr>
</tbody>
</table>

\(^{a}\) Areas of the hospital have had extended disruption of their water supply
\(^{b}\) Oxygen source can be tanks or oxygen concentrators
\(^{c}\) Includes both minor and major theatres

*Source:* Adapted from Auto et al., 2006; Natuzzi et al., 2011; Oberli, 2010
Area Health Centre (AHC) review
In 2005 a review of area health centre clinic utilization was conducted, with a view to making recommendations for health service rationalization. Based on this review, challenges facing the MHMS infrastructure were divided into two main categories: upgrading and renovating existing facilities; and increasing the management capacity of the MHMS (JTAI, 2006). Up to 70% of health clinics required significant upgrade, repair or renovation – a slight improvement of 10% from the Infrastructure Development Review conducted in 1989, which found that 80% of health facilities were in a very poor state and needed urgent maintenance or upgrading (Waqatakirewa, N.D). The degradation of health facilities has happened over many decades, and while some have been damaged by cyclones and other natural disasters, most are not properly and regularly maintained due to a lack of funding from the national government (Waqatakirewa, N.D; JTAI, 2006). Initiatives taken by the MHMS under the infrastructure policy of 1996 have continued, however, work of this nature is needed for many years to come. Two national positions and several initiatives have been put into place to improve the management of facilities, but much more work is needed, particularly on maintenance and housing (JTAI, 2006). A large proportion of funds are spent keeping the provincial hospitals at a critical operating level, yet very little reaches rural health clinics and little, if any, housing.

Following the review, there are plans to improve six of the 19 AHCs deemed to need improvement. At bare minimum, each of the remaining AHCs need an incinerator, sealed rubbish pit, clean and dirty utilities, a functioning toilet and shower, a reliable water supply and eradication of white ant infestation. A follow-up audit took place in late 2013, and results from this are just becoming available.

Rural Health Clinic (RHC) review
The preliminary results from the RHC infrastructure review showed the same trends as those found in the AHC review. The problems directly linked to poor infrastructure include:

- poor water, power supply and sanitation;
- poor housing (or no housing, with posted staff returning to villages);
- bad location and poor access to some clinics;
- poor infection control, hygiene and waste disposal;
• overcrowded outpatient departments and lack of adequate treatment areas;
• unfit or inappropriate birthing facilities;
• lack of infrastructure for primary health care activities such as outreach, antenatal classes, health education, counselling, HIV and STI awareness, condom distribution and integrated medical tours (mostly held in small crowded outpatient departments or externally);
• need for upgrade of equipment and furniture;
• lack of storage for medical supplies, pharmacy, fuel and equipment; and
• physical deterioration of buildings due to age, weather and termites.

**Investment funding**

Approximately 30–40% of the total expenditure on health is allocated for investment funding (capital expenditure), with three quarters of these funds allocated to infrastructure (MHMS, 2011b Foster et al., 2009b). Investment funding is primarily provided by donor agencies and largely used for construction or renovation of facilities, acquisition of equipment, motor vehicles, furniture and fittings (Asante et al., 2011). In 2004, for example, the Japanese Government committed to providing the required funding to build a new hospital in Gizo.

As demonstrated in Table 4-3, over the next two years there is a capital expenditure finance gap of approximately SB$ 815 million not financed by the Government. While it is difficult to forecast development partner contributions due to their varied funding cycles, if donor funds were to decrease as projected above, there remains a funding gap of SB$ 418 million when both SIG and Development Partner contributions are combined. The processes for determining and agreeing on recurrent financing for new infrastructure are weak, particularly when it is donor financed.
Table 4-3  Projected capital expenditure financing gaps (real 2011 prices in SB millions)

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital expenditure</td>
<td>174.9</td>
<td>174.9</td>
<td>239.4</td>
<td>247.7</td>
<td>82.9</td>
</tr>
<tr>
<td>SIG capital</td>
<td>21.0</td>
<td>21.0</td>
<td>21.0</td>
<td>21.0</td>
<td>21.0</td>
</tr>
<tr>
<td>Capital expenditure gap</td>
<td>153.9</td>
<td>153.9</td>
<td>218.4</td>
<td>226.7</td>
<td>61.9</td>
</tr>
<tr>
<td>Development Partner finance</td>
<td>147.3</td>
<td>103.6</td>
<td>60.8</td>
<td>56.1</td>
<td>27.0</td>
</tr>
<tr>
<td>Unfunded capital expenditure</td>
<td>6.6</td>
<td>50.3</td>
<td>157.6</td>
<td>168.6</td>
<td>34.9</td>
</tr>
<tr>
<td>Nurse aide post</td>
<td>31</td>
<td>43</td>
<td>16</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: MHMS, 2011b

4.1.2 Infrastructure

There is no comprehensive data on utilization and operating statistics, although the current Health Facility Costing Study will provide much needed information. It will also allow a more accurate estimate of the primary and secondary service mix in hospitals and health centres. As implementation of the NHSP proceeds, with greater resources going to prevention and primary care, there will be greater pressure to improve the efficiency of secondary care services and use available beds effectively.

As shown in Figure 4-1, in the mid-2000s, the number of hospital beds per 1000 population was similar to that of Fiji, Kiribati and Tonga and, as in those countries, this has been decreasing since 2000. The average number of beds in 2006 was just under 2.0 per 1000.
4.1.3 Medical equipment

According to the National Health Report (MHMS 2012), over SB$ 33 million was spent on purchasing medicines, medical supplies and equipment by the National Medical Store in 2011, with a corresponding increase in critical stock availability (to 88%). There are radiography and ultrasonography machines at all of the hospitals. Most provincial hospitals and the NRH have a blood bank and a basic medical laboratory. The NRH has neither the trained staff nor equipment to conduct diagnostic tests, other than for malaria. As a result, most tests are sent to Australia at a cost of approximately SB$ 700 000 per year (Georganas, 2010). Medical diagnostic and surgical equipment in hospitals tends to be old and poorly maintained, and it is often difficult to obtain parts to fix equipment provided by overseas donors (Georganas, 2010). The new National Equipment Committee will address such issues for capital purchases.
During 2013–2014 the MHMS conducted a Health Facility Costing Survey, with a view to situate and contextualize service delivery and supply-side readiness, and provide a snapshot of service delivery in Solomon Islands. For health facilities (excluding hospitals), the main findings in relation to medical equipment include the following (MHMS, 2014c):

- Overall, 65% of facilities had a refrigerator for storing vaccines. Makira was the best-performing province, with 100% of facilities had a refrigerator while only 30% of facilities in Central Province had a refrigerator.

- Apart from Central Province, over 80% of facilities had a delivery set available (50% of facilities in Central had a delivery set).

- The availability of foetal monitors was very low. While over 80% of facilities in Makira had them, in all other provinces this number was less than 50%. Neither Central Province nor Honiara City Council had foetal monitors available in any of their facilities.

- Over 80% of facilities had at least one thermometer, sphygmomanometer and adult stethoscope.

- Apart from Temotu, over 80% of health facilities in other provinces had at least one scale. In Temotu this number was approximately 70%.

- Health facilities in Central, Guadalcanal, Honiara City Council, Makira and Malaita had the lowest number of glucometers, with less than 65% of facilities having them available. For the remaining provinces, over 80% of facilities had a glucometer available.

- The availability of height measures varied, ranging from a low of 17% of facilities in Central, to 100% of facilities in Isabel. On average, around 60% of health facilities had height measures available.

### 4.1.4 Information technology

Communication systems at nearly all the hospitals consist of a telephone, ADSL Internet, and shortwave radio. There are frequent interruptions in the telephone and Internet services. Shortwave radios are the most reliable means of communicating between provincial hospitals, the NRH, and village-based health clinics (Natuzzi et al., 2011). They assist in clinical support, management, administrative support, staff support and health promotion (MHMS, 2004). In 2010 the MHMS conducted a radio assessment and found that 50% of clinics experienced difficulties with radio communication. While mobile phone services are expanding across the country, coverage is often weakest in the most isolated communities, making communication difficult.
4.1.5 Transport

In terms of land mass, Solomon Islands is one of the largest countries in the Pacific and many of the islands are relatively close to each other. Transportation between the country’s many islands is mainly by ferry, outboard motorboat or canoe; there are limited and expensive inter-island flights. There is a marked shortage of roads among the islands though, with only 1360 km of roads (compared to a country like Fiji, which has over 180 000 km of roads). In the 2004–2005 National Health Plan (2004), 50% of health facilities reported inadequate transport systems.

The average distance a patient must travel to get treatment at the NRH is more than 240 km, with a range of 40–600 km (Natuzzi et al., 2011). RAMSI provide emergency medical evacuation by helicopter, as do Aspen Medical Services, however this is only provided for expatriate citizens, mostly Australian Government staff.

4.2 Human resources

4.2.1 Health workforce trends

Health services in Solomon Islands are provided through its nurse-led primary health care system, with referral to doctors based in larger provincial hospitals, or the NRH. This workforce model meets WHO guidance on efficient workforce structures, and serves Solomon Islands well as it is cost-effective and able to retain high numbers of nurses in provincial areas.

As of December 2010, there were a total of 2728 health workers in the Solomon Islands public health sector, including 153 medical officers (physicians and dentists), 936 nurses and 569 other professionals such as pharmacists (Asante et al., 2011). The pie chart in Figure 4-2 shows workforce distribution by proportion of cadre. Over 50% of the health workforce is nurses or nurse aides, and two thirds of these workers are based in the provinces. There are shortages of certain cadres of health workers, particularly doctors and medical specialists, but also medical laboratory staff, radiologists and other allied health professionals (Asante et al., 2011).

Solomon Islands is classified as one of 57 countries deemed to have a critical shortage of health workers (Georganas, 2010), reflecting the absolute constraints on funding. There is no fiscal space for additional health expenditures (World Bank, 2010) and the efficiency of the
workforce is not well understood. Analytical and planning work is underway to identify the real workforce needs and priorities at provincial level.

**Figure 4-2 Distribution of health workforce by proportion of cadre, 2010**

The distribution of personnel among the provinces is relatively even (Table 4-4). Exceptions to this are Guadalcanal and Malaita, which have very low ratios of health workers to population (1:425 and 1:432 respectively).

**Table 4-4 Distribution of health personnel and facilities by province, 2010**

<table>
<thead>
<tr>
<th>Province</th>
<th>Population</th>
<th>Health facilities</th>
<th>Health personnel*</th>
<th>Ratio: health workers to population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>27 928</td>
<td>26</td>
<td>127</td>
<td>1: 220</td>
</tr>
<tr>
<td>Choiseul</td>
<td>25 870</td>
<td>28</td>
<td>110</td>
<td>1: 235</td>
</tr>
<tr>
<td>Guadalcanal</td>
<td>78 290</td>
<td>40</td>
<td>184</td>
<td>1: 425</td>
</tr>
<tr>
<td>Honiara*</td>
<td>63 311</td>
<td>14</td>
<td>124</td>
<td>1: 511</td>
</tr>
<tr>
<td>Isabel</td>
<td>26 310</td>
<td>35</td>
<td>123</td>
<td>1: 214</td>
</tr>
<tr>
<td>Makira</td>
<td>40 386</td>
<td>38</td>
<td>139</td>
<td>1: 291</td>
</tr>
<tr>
<td>Malaita</td>
<td>159 923</td>
<td>73</td>
<td>370</td>
<td>1: 432</td>
</tr>
<tr>
<td>Rennell and Bellona</td>
<td>3025</td>
<td>3</td>
<td>22</td>
<td>1: 138</td>
</tr>
<tr>
<td>Temotu</td>
<td>24 412</td>
<td>17</td>
<td>119</td>
<td>1: 205</td>
</tr>
<tr>
<td>Western</td>
<td>81 214</td>
<td>60</td>
<td>333</td>
<td>1: 244</td>
</tr>
<tr>
<td>Total</td>
<td>530 669</td>
<td>334</td>
<td>1,651</td>
<td>1: 321</td>
</tr>
</tbody>
</table>

* Includes all health personnel
# Excludes National Referral Hospital

* Source: Asante et al., 2011
As demonstrated in Figure 4-3, Solomon Islands compares favourably with other Pacific Island Countries and Territories of similar population size. While all countries selected have a very low density of pharmaceutical and dentistry workers and physicians, this reflects their nurse-based workforce models.

Figure 4-3  Density of healthcare workforce by occupation, 2002–2008

While there is no written policy to move away from its nurse-led workforce model, the number of doctors being trained in Cuba has implications for the way health care services are provided. The MHMS is in the process of completing the Solomon Islands first human resource plan for the health sector. Currently, linkages between human resource planning, development and management are lacking and therefore these three core functions appear to be disjointed (MHMS, 2011e).

4.2.2 Professional mobility of health workers

As with many other Pacific Island Countries and Territories, a number of health workers (mainly physicians) move each year to Fiji, Australia, New Zealand and the United Kingdom, possibly for better salary and working conditions including training opportunities (Same et al., 2011). In addition, students studying both undergraduate and postgraduate degrees overseas often do not return to Solomon Islands to work, and as is the case in many developing and developed countries, it is difficult to attract doctors to work in rural and remote areas (Georganas, 2010).
4.2.3 Training of health workers

Physicians

Maintaining a medical school and specialist training programmes is not cost-effective for a small low-income country like Solomon Islands, which takes advantage of the regional training role of the Fiji National University, School of Medicine and Health Sciences (previously the Fiji School of Medicine) and the University of Papua New Guinea in order to train doctors, pharmacists, laboratory technicians and other allied health workers.

On completion of their studies, Solomon Islanders who have studied medicine at the Fiji School of Medicine return to perform two-year pre-registration rotations at the NRH (Negin, 2011). Doctors trained at the University of Papua New Guinea do their two-year rotations in Papua New Guinea and become registered on their return; however, return rates are low. During the rotations, NRH staff ensure that the new Fiji-trained residents are well trained, able to perform key procedures (such as caesarean sections and appendectomies) and should be registered. The residents perform rotations in surgery, obstetrics, paediatrics, internal medicine, eye health, orthopaedics, and in the emergency department, and spend two months in the second half of their second year in the provinces. The system is currently set up to provide supervision and support to up to 10 students (Negin, 2011).

The Solomon Islands Government signed a cooperation agreement with Cuba in 2001 which has led to the supply of Cuban doctors working in-country, and to Solomon Island students being offered scholarships to study medicine in Cuba (Georganas, 2010, Asante et al., 2011). As of 2013, there were 10 Cuban doctors working in the Solomon Islands and another 96 Solomon Islanders studying medicine in Cuba (MHMS, 2014b). To address issues of permanent migration, one of the requirements for entry in the programme is that the doctors must return to their home province to practice medicine there for five years (Georganas, 2010).

The first batch of 22 new doctors is scheduled to return to Solomon Islands in late 2014 with another 74 doctors returning over the next five years. It is acknowledged that planning is needed for the return of these doctors and for policy options to be assessed across a number of issues including: pre-registration rotations, location of rotations, geographic placement, capabilities of returning doctors and payment of returning doctors (Negin, 2011). Risks already identified by the MHMS include:
a lack of HR planning, which has resulted in more doctors than needed; the absorption capacity of the Ministry, which may not have the supervisory capacity to manage returning doctors; and the current fiscal environment, which may not allow for payment of salaries and housing. An internship programme for students is currently being developed, which will include a two-week orientation programme, six-month bridging course and a final two-year registered medical officer programme to ensure the doctors are fully aware of their roles and responsibilities when they enter the system (MHMS, 2014b).

Nursing and midwifery

The Solomon Islands has three nursing schools: the School of Nursing under the auspices of the Solomon Islands College of Higher Education (SICHE), the Helena Goldie Hospital School of Nursing and the Atoifi Adventist Hospital School of Nursing. The schools offer a mix of undergraduate and postgraduate courses, and there are currently around 10–20 graduates per year from each school (Dawson et al., 2011). UNFPA also provides scholarships for the Postgraduate Certificate in Reproductive Health run by the Fiji School of Medicine, from where there have been 16 graduates to date (Dawson et al., 2011).

The awarded qualification, “Practical Nursing”, takes one-and-a-half years to complete the practical option, or three years for a Certificate or Diploma. Other locally available training for nurses and midwives include:

- In-service Diploma in Nursing – provided by MHMS, Nursing Division. Training for registered nurses to bridge certificate nurses to diploma level,

- Diploma in Nursing – provided by the SICHE School of Nursing. Training for registered nurses involved in nursing service delivery, public health and primary care and

- Advanced Diploma in Nursing (Midwifery) – provided by SICHE and MHMS, Reproductive Health Division. In-service training for registered nurses to become midwives (Davison et al., 2009).
Nurse aides
The MHMS Nursing Division also provides a certificate in nurse aide training. Qualified nurse aides are able to assist registered nurses in delivering clinical nursing care and primary health care activities. Distance education programmes are run for registered nurses and nurse aides.

Other health workers
Locally available training for health workers includes:

- The SINU provides a total of 18 days study on mental health for students in the 3 year undergraduate nursing program.
- The SICHE, School of Nursing provides a certificate in Community Based Rehabilitation (CBR aides) – CBR aides care for people living with disability, offering basic physiotherapy and occupational therapy.
- The MHMS, Pharmacy Services Division provides a certificate in Pharmacy (pharmacy aides). Pharmacy aides assist pharmacists and pharmacy officers (Davison et al., 2009).

4.2.4 Other health workers’ career paths
In 2010, the Ministry of Health carried out a series of community and primary care facility consultations. A common issue raised by staff in primary care facilities was the lack of job descriptions, which has an impact on career pathways and development (MHMS, 2010b).

4.2.6 Dual practice
There is a very limited degree of dual practice, which is legal, but only minimally regulated.
5 Provision of services

Chapter summary
The health service delivery system is based on a network of primary care facilities and an integrated public health care approach. This serves the nation well, given the country’s multi-province, multi-island setting. The Ministry of Health and Medical Services provides overall stewardship of the health sector. The Provincial Health Offices of the Ministry, headed by provincial directors, are responsible for the delivery of primary health care services and outreach programmes. There are a number of established public health programmes within Solomon Islands, including Safe Motherhood, Expanded Programme on Immunization, Integrated Management of Childhood Illnesses, nutrition, and malaria and tuberculosis control.

Services are provided through a network of health facilities, ranging from nurse aide posts to the National Referral Hospital in Honiara. Services are provided by various categories of health workers within the system, which includes nurse aides, registered nurses, doctors and specialists. While there is a formalized referral system in place, it is not well adhered to by patients or healthcare workers in the provinces, with many people bypassing provincial hospitals and going directly to the NRH for care. This is also due in part to the available transportation routes that make it easier to reach Honiara. Specialist hospital care is provided at the NRH, with visiting specialist teams augmenting services at the NRH as well as at provincial hospitals through outreach.

For reasons of cost and efficiency, and to maximize coverage, most public health activities, as well as dental, mental and eye health services, are integrated into the primary care system. The Community-Based Rehabilitation programme was established to ensure people living with disabilities have access to rehabilitation services. Faith-based and nongovernmental organizations also play a small role in the provision of a number of these services.
Solomon Islands approach to community-level interventions follows the Healthy Settings approach, in line with the commitment to the Yanuca Island Declaration on Health in the Pacific. The aim is to ensure that villages, schools, towns, health facilities and workplaces adopt healthy behaviours. The MHMS is currently developing partnerships with NGOs to extend the scope of what the MHMS can provide in communities, starting with NGO delivery of rural water and sanitation and some maternal newborn and child health village activities.

Health protection or “non-personal” services include mass communications, regulatory or financial mechanisms that protect all Solomon Islanders. The NCD and health promotion units of MHMS are primary responsible for these.

5.1 Public health

Public health services are an important element of Solomon Islands health system and are given high priority in the National Health Strategic Plan. The term “public health services” can be confusing in the Solomon Islands context, as most health services are publicly funded and provided (i.e. the system is largely a public one). The term is used here to mean services aimed at improving health, prolonging life and improving the quality of life among whole populations through health promotion, disease prevention and other forms of health intervention. Solomon Islands includes services to individuals, communities and the population at large in its definition of services, whether those are delivered at health facilities, through outreach or other community activities, or through mass media, regulatory or other non-personal services.

Public health programmes are organized at the central and provincial levels. At the central level, public health programmes sit within the Health Improvement (including Public Health), and Health Care, Divisions. At the provincial level, Provincial Directors and Provincial Health Teams are responsible for the delivery of primary health care services at health care facilities as well as integrated primary health care outreach programmes. Designated sites within each province are intended to be visited by a team comprising staff from each health department/programme for a one-week tour every month. Services provided by outreach programmes typically include public health and primary health care services, referral and specialist clinics, and on-the-spot problem solving in different parts of the province.
The Solomon Islands approach to community-level interventions follows the Healthy Settings approach, in line with the commitment to the Yanuca Island Declaration on Health in the Pacific in the 21st Century. The aim is to ensure that villages, schools, towns, health facilities and workplaces adopt healthy behaviours. Details are set out in the Solomon Islands National Health Promotion Strategic Plan 2014–2016, which extends the commitment to prevention in the NHSP.

For reasons of cost and efficiency, and to maximize coverage, most public health activities are integrated into the primary care system. Both Healthy Settings activities and public health services for individuals (such as vaccination) are delivered through the provincial health network and overseen by staff in the Provincial Health Offices. The MHMS is currently developing partnerships with NGOs to extend the scope of what the Ministry can provide in communities, starting with NGO delivery of rural water and sanitation and some MNCH village activities.

5.1.1 Organization and provision of care

The national health system is based on a public health model, and given the country’s multi-province, multi-island setting, this system serves the nation well (Maike, 2010). Public health services include all preventative and control programmes, and most provincial health divisions have some established staff posts responsible for public health functions based at the provincial headquarters (Maike, 2010).

Table 5-1 provides an overview of the main public health, preventive and integrated outreach services provided by the different levels of care within the health system, as well as an overview of the clinical services provided (further discussed in Sections 5.3 and 5.4). Health facilities are also responsible for organizing outreach activities, which include village meetings, school visits and conducting mobile satellite clinics. However, the increasing construction of nurse aide posts has reduced the need for mobile satellite clinics (MHMS, 2010a). The MHMS is currently in the process of updating the role delineation policy, which should be available in mid-2015.
<table>
<thead>
<tr>
<th>Province</th>
<th>Population</th>
<th>Health facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>• Patient referral</td>
<td>• Community development and participation in health care</td>
</tr>
<tr>
<td></td>
<td>• Management of patients who require timely and appropriate nursing care of common illnesses</td>
<td>• Environmental health, safe and proper water supply and sanitation projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Health promotion and education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Immunization (EPI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Infection control including waste management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• School health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Support, encourage and inform community-based organizations [e.g. village health committees]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vector-borne disease control programmes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• National Tuberculosis and Leprosy programme</td>
</tr>
<tr>
<td>Nurse aidepost</td>
<td>• Child health</td>
<td>• Community and patient counselling</td>
</tr>
<tr>
<td></td>
<td>• Counselling</td>
<td>• Family planning and nutrition, and promotion of breastfeeding</td>
</tr>
<tr>
<td></td>
<td>• First aid treatment for emergencies</td>
<td>• HIV/AIDS and STI prevention</td>
</tr>
<tr>
<td></td>
<td>• Management of antenatal care, low-risk births and postnatal care not requiring hospitalization</td>
<td>• Sanitation and hygiene</td>
</tr>
<tr>
<td></td>
<td>• Maternal and child health and family planning</td>
<td>• Screening for TB symptoms and performance of smear on slide</td>
</tr>
<tr>
<td>Rural health clinic</td>
<td>• Child health including IMCI</td>
<td>• Community and patient counselling</td>
</tr>
<tr>
<td></td>
<td>• Community-based rehabilitation</td>
<td>• Disaster preparedness</td>
</tr>
<tr>
<td></td>
<td>• Dental care [extraction]</td>
<td>• Health surveillance</td>
</tr>
<tr>
<td></td>
<td>• Family planning services</td>
<td>• HIV/AIDS and STI prevention</td>
</tr>
<tr>
<td></td>
<td>• Management of antenatal care, low-risk births and postnatal care</td>
<td>• Programmes for the reduction of tobacco, alcohol consumption and substance abuse</td>
</tr>
<tr>
<td></td>
<td>• Management, treatment and care of STIs including HIV/AIDS</td>
<td>• Reproductive health including access to contraceptive methods, family planning and nutrition, and promotion of breastfeeding</td>
</tr>
<tr>
<td></td>
<td>• Medical and minor surgical emergencies</td>
<td>• Screening for TB symptoms and performance of smear on slides</td>
</tr>
<tr>
<td></td>
<td>• Mental health including counselling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Outpatient consultations with full clinical assessment and holding beds for acutely ill patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Primary eye care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Treatment for chronic diseases including follow-up care</td>
<td></td>
</tr>
<tr>
<td>Area health centre</td>
<td>• Basic X-ray</td>
<td>• Programmes for the reduction of tobacco, alcohol consumption, substance abuse and obesity</td>
</tr>
<tr>
<td></td>
<td>• Child health including IMCI</td>
<td>• Reproductive health including access to contraceptive methods, family planning and nutrition, and promotion of breastfeeding</td>
</tr>
<tr>
<td></td>
<td>• Dental care [extraction, fillings and dentures]</td>
<td>• Screening for TB symptoms and performance of smear on slides</td>
</tr>
<tr>
<td></td>
<td>• Family planning services</td>
<td>• Supervision of lower levels for TB control</td>
</tr>
<tr>
<td></td>
<td>• Management of antenatal care, birthing and postnatal care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Management, treatment and care of STIs including HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Medical and minor surgical emergencies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Mental health including counselling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Minor pathology of blood collections and basic analyses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Outpatient consultations [ambulatory care] with full clinical assessment and minimum designed inpatient beds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Primary eye care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Treatment for chronic diseases including follow-up care</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** MHMS, 2005b
5.1.2 Environmental health

Environmental health services management is under the responsibility of the MHMS, which includes a wide range of issues such as environmental protection, quarantine, food processing standards and water supply and sanitation (JTAI, 2003). Although community demand for improvements in both water and sanitation is high, access to improved sanitation remains very low (18%) with a huge urban–rural divide (77% coverage versus 5%) (Jack, 2011b). In a survey carried out in 2012, of the 152 health facilities sampled, 88% did not have functioning water supply and/or sanitation in a given year (MHMS, 2014a). As such, many health facilities, especially nurse aide posts, do not have a clean water supply or latrines. The National Rural Water Supply and Sanitation Programme does have sufficient financial support to meet its aims of providing a safe water supply and improved sanitation to rural communities. The Rural Safe Water and Sanitation Policy aims to increase rural and remote communities’ access to clean water and sanitation.

Vector control (for malaria, dengue, lymphatic filariasis, chikungunya, etc.) is the responsibility of the Vector Borne Disease programme, which works closely with MHMS Provincial Health Offices, Provincial Administration, Honiara City Council and Environmental Health Division.

5.1.3 Mechanisms for notification and surveillance

The National Surveillance Unit conducts surveillance for five priority syndromes: acute fever and rash, diarrhoea, influenza-like illness, prolonged fever, and dengue-like illness. There are eight sentinel surveillance sites in five provinces, and all health workers are expected to report anything unusual to the surveillance unit; this is referred to as “event-based surveillance”.

At the provincial level, provincial coordinators collate surveillance reports from health facilities and send these to Honiara on a monthly basis (although there are often delays in sending the forms). While radios are used to report outbreaks, many are not working. Infection control nurses play a crucial role in disease notification and surveillance, including:

- collecting and following-up on lab specimens;
- ensuring sites have sufficient resources (staff and stock including laboratory and medicines) to identify, contain and prevent disease;
- identifying potential disease threats by monitoring trends;
• identifying and investigating outbreaks;
• mitigating the impact of infectious diseases by coordinating with key agencies and divisions to disseminate health promotion messages and other disease prevention resources (i.e. bednets);
• providing feedback and information to clinicians on disease management; and
• improving communication and coordination between key health personnel and divisions within both the public health and hospital sectors (Sio and Bishop, 2009).

5.1.4 Reproductive and child health

The Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Division is responsible for planning programmes and services to improve health outcomes for women and children, and supporting MHMS to implement those. RMNCAH operates under a five-year plan and covers EPI, integrated management of childhood illness (IMCI), hospital care for children, safe motherhood, neonatal care, and nutrition (Maike, 2010). Activities related to adolescent health aim to protect adolescents from STIs and HIV/AIDS as well as early/unplanned pregnancies and exploitation by providing education, counselling and support (Jack, 2011b).

Safe motherhood programme

The safe motherhood component covers family planning; antenatal care; clean, safe delivery and essential obstetric care; postnatal care; sexually transmitted infections/reproductive tract infections and HIV control (MHMS, 2006). The safe motherhood programme links maternal health and child health, and ensures safety of the mother and baby throughout pregnancy, labour, delivery, the postpartum period, and the control of fertility through provision of family planning. The programme is founded on social equity, delivery of primary healthcare and education to ensure that all mothers are healthy and cared for throughout pregnancy and childbirth.

Over the years, RMNCAH has also aligned its programme to the conceptual framework of the WHO Global Reproductive Health Strategy. Activities implemented under the programme include: training of nurses through workshops and/or conferences; conducting an obstetric survey; development of interventions and protocols for obstetric/gynaecological complications and overseas training of more family planning nurses,
midwives and reproductive health male nurses (MHMS, 2006). Other activities include the establishment of the Midwifery School, supporting health centres, developing the reproductive health surveillance system, improvement of data collection and reporting of reproductive health indicators.

WHO, UNICEF and UNFPA are currently working with MHMS to improve the quality and relevance of technical support for maternal and child health.

Child health
One of the goals of the programme is to reduce morbidity and mortality of children less than five years of age due to common childhood illnesses. This is to be achieved through:

- strengthening of early diagnosis, appropriate treatment and management of childhood infections, via the Integrated Management of Childhood Illnesses Programme;
- improving family knowledge of common childhood infections and the importance of prevention and seeking early care;
- increasing outreach and appropriate interventions and treatment in high-incidence areas;
- strengthening the EPI to increase immunization coverage; and
- increasing multisectoral collaboration to reduce common childhood diseases (Maike, 2010).

Neonatal care is not a separate programme, but is a focus and outcome of all key child health programmes including safe motherhood, hospital care for children, integrated management of childhood illnesses (IMCI) and EPI. Neonatal care is highlighted for special emphasis because of its high burden of disease and disproportionate contribution to under-five mortality (44%) and because most neonatal deaths are associated with high-risk pregnancies, labour and delivery (Jack, 2011b). Efforts to reduce neonatal mortality are closely linked to the safe motherhood programme. Antenatal clinics continue to be a very important preventative tool to improve neonatal care, including maternal screening for common diseases (MHMS, 2006).

Expanded Programme on Immunization
The EPI has a national coordinator and each province has an EPI coordinator who has now become the provincial child health coordinator.
The EPI has several points of routine delivery: weekly immunization clinics (child welfare clinics), a three-yearly measles assessment and provinces conduct a once-a-year catch up campaign (Jack, 2011b). The programme collaborates with the Pharmacy Division on procurement and distribution of vaccines, and logistics to ensure the cold chain is maintained including fridges, vaccine carriers and spare parts to vaccine distribution centres that include hospitals and identified health centres throughout the country (MHMS, 2006).

Vaccine-preventable disease surveillance is also a major activity in the programme. A vaccine-preventable diseases sentinel surveillance system operates in five sites for investigating cases of acute flaccid paralysis, fever and rash, whooping cough and neonatal tetanus (Jack, 2011b).

**Integrated Management of Childhood Illnesses Programme**

Solomon Islands adapted the WHO/UNICEF IMCI approach in 2000 and initially two paediatricians underwent IMCI Facilitator Training in Fiji. At the end of 2005 a total of 146 health workers had been trained in IMCI, almost all of these nurses. By 2007, 18 facilitators and 197 first-level health workers had been trained in seven provinces with the exception of Choiseul, Renbel and Temotu provinces (MHMS, 2007c, Jack, 2011b). Since that time, three people have been trained in the IMCI Computerized Adaptation and Training Tool and a major review and update of the guidelines was undertaken in order to adapt IMCI guidelines to meet policy changes (MHMS, 2006). These changes included management of sick newborns from the first week of life, management of malaria, diarrhoea and pneumonia, introduction of new vaccines and a modification of the infant and young child feeding recommendations (Jack, 2011b).

**Nutrition**

Nutrition has a National Programme Coordinator and representation in the provinces by Health Promotion Officers who deliver nutrition education (Jack, 2011b). The programme was established after the first (and only) Nutrition Survey (1989/1990). The main current activities of the National Nutrition Programme include: the Baby Friendly Hospital Initiative (BFHI), growth assessment and counselling training, a new Child Health Record Book, policy and guideline development on breastfeeding and vitamin A, and development of resource materials. There are now three BFHI accredited hospitals (Choiseul Taro, Helena Goldie and Gizo) with four hospitals working towards accreditation, however, funding is
lacking for this initiative. Growth assessment using the new WHO growth standards, as well as counselling training on infant and young child feeding, are being rolled out, with at least one worker from each province now trained in measuring, plotting, interpreting and counselling through the integrated Growth Assessment and Education training course.

The STEPS survey (planned for implementation in late 2014) will have a nutrition component. MHMS is also working with DFAT to implement the Food Safety Act 2013, which mandated flour fortification. Following the 2014 floods in Guadalcanal, a nutrition survey is also being carried on affected populations. There is also a review of severe acute malnutrition in the NRH, with appropriate policies and training related to clinical malnutrition being developed and implemented post-floods.

**5.1.5 Malaria and tuberculosis programmes**

The malaria control programme in the Solomon Islands is well established and forms the major activity of the vector-borne disease control programme, which also deals with dengue and lymphatic filariasis. Under the guidance of the National Strategic Plan (2015–2020), the malaria programme has wide-ranging activities involving the following areas:

1. vector control;
2. diagnosis and case management;
3. epidemiological surveillance, monitoring and evaluation;
4. commodities procurement and supply chain management;
5. malaria elimination;
6. institutional management and integration;
7. epidemic emergency preparedness response;
8. advocacy, communication and social mobilization; and
9. operational research (Garcia et al., 2014).

Under the leadership of the MHMS, the vector-borne disease control programme and partners work with guidance from the Malaria Steering Committee and the Solomon Island National Country Coordination Mechanism. Oversight from the MHMS and the Country Coordination Mechanism was designed to improve accountability and governance, to ensure that interventions are delivered efficiently and effectively (Garcia et al., 2014).
The approach between 2015 and 2020 is to build a strong foundation that will facilitate the sustained elimination of malaria in Solomon Islands by 2035. The programme will continue to reduce the burden of disease from malaria, by intensifying control efforts in higher transmission areas and maintaining high coverage in medium transmission areas. In lower transmission areas (such as Temotu and Isabel), pre-elimination and elimination provinces will be prioritized for health systems strengthening, which is required to ensure that elimination activities can be sustained over the long term.

The Tuberculosis (TB) and Leprosy Unit is under the MHMS Division of Public Health and the TB Programme receives funding from the Global Fund. The programme provides support to the health system to increase coverage of directly observed treatment, short-course (DOTS) [MHMS, 2013b]. TB/HIV surveillance is a recent initiative in Solomon Islands along with prison inmate screening and raising community awareness.

Solomon Islands has the highest number of TB cases of the Pacific Island Countries and Territories after Papua New Guinea. With political commitment and with the support of the key development partners, principally WHO and the Global Fund, the MHMS and the National Tuberculosis Programme, through sustained TB prevention and control efforts, have made excellent progress towards achieving the related MDGs and the global targets set by the Stop TB Partnership for 2015: the burden of morbidity and mortality has been decreasing steadily since 1990, falling respectively by 79% and 76% in comparison with 1990 figures [MHMS, 2013b].

Similarly, the country has already reached the WHO Western Pacific Region goal in the Regional Strategy to Stop TB in the Western Pacific 2011–2015 to reduce by half the morbidity and mortality from all forms of TB by 2015, relative to 2000 levels. The current National Strategic Plan runs from 2013 to 2017 and its goal is to reduce the burden of TB by 2017. Objectives and primary programme areas are as follows (MHMS, 2013b):

- **Objective 1:** Pursue high quality DOT Short Course expansion and enhancement:
  - Improve patient-friendly DOT during the whole treatment
  - Improve access to TB diagnosis
  - Improve tuberculosis laboratory diagnosis
- Improve supply of quality-assured anti-tuberculosis medicines
- Improve quality of reported data
- Strengthen programme management at the central and provincial levels, including supervision and use of routine data

- **Objective 2:** Address HIV/TB, MDR-TB, and vulnerable groups such as contacts, diabetics and prisoners
- **Objective 3:** Contribute to health systems strengthening
- **Objective 4:** Engage all health care providers to achieve better tuberculosis care
- **Objective 5:** Empower people and communities living with tuberculosis
- **Objective 6:** Enable and promote programme-based operational research.

### 5.1.6 Noncommunicable diseases

NCDs pose a serious threat – both in terms of health outcomes and in terms of cost. MHMS is committed to improving health promotion and primary prevention, and implementing basic NCD service provision through the primary care system. The current revision to the Role Delineation Policy includes analysis of the WHO Package of Essential NCD Services approach.

### 5.2 Patient pathways

The healthcare system consists of a network of five different levels of health facilities from nurse aides to the National Referral Hospital (Figure 5-1). This system constitutes the backbone of health services in the country, and defines typical “patient pathways” through the system. Ideally referrals flow from nurse aide post to rural health clinic or area health centre, and so on to the provincial hospital [Sade, 2005a]. However, there are some nurse aide posts and RHCs that are close to the hospital and send patients directly there. If patients cannot be adequately treated at each level, they are referred to the next level of care within the province and ultimately to the NRH [Negin, 2011]. The cost of a referral from a provincial hospital to NRH is borne by the provincial hospital, while return costs are borne by individuals. During the period between referral and return, many of the basic costs of daily living (such as food and personal expenses) are covered by extended family and relatives who live in Honiara.
The AHC acts as the major referral point for the catchment area for patient flow and referral from RHCs and nurse aide posts (MHMS, 2005b). In accordance with the Patient Referral Guidelines, patients who require inpatient medical care are only transferred to the provincial hospital following medical consultation and approval to transfer (MHMS, 2005a). The beds within RHCs are holding beds only and not designed as inpatient beds. Patients are assessed, held for observation and discharged or referred based on clinical condition, clinical guidelines and treatment regimes. However, many people report not understanding how the referral system works, particularly how to obtain reimbursement for transport costs for referred cases (Edmonds, 2006). Some people go directly to a hospital expecting to get reimbursed for travel without holding a valid referral, while others have been referred but do not understand the procedure for reimbursement (MHMS, 2014b). Many households also bypass the referral system, going first to a hospital rather than the nearest clinic, due to past negative experiences with the local clinic, or due to convenience and costs: “...if I went to the clinic in the city by truck I would get there faster than going to my town clinic by foot, which takes two to three hours”. (Edmonds, 2006, MHMS, 2011c).

According to the MHMS Guideline for Patient Referral to the National Referral Hospital, patients can only be referred from a provincial hospital to the NRH if they have been seen at the provincial hospital and their case is referred by the Medical Superintendent or delegate of the Hospital (Negin, 2011). The Medical Superintendent must fill out and sign the referral document and must have that approved by the relevant Clinical Consultant at the NRH who then approves the referral. The patient must have a completed and signed referral document and must present that on their arrival at NRH. A patient who does not have such paperwork is regarded as a “self-referral” and will not be eligible for reimbursement of travel costs to and from the NRH. This rule can and has been overruled by NRH staff in special cases of emergency. These guidelines are not always adhered to by provincial hospital and NRH staff, though the exact levels of non-adherence are unclear. There is also general consensus that the MHMS and NRH would rather err on the side of caution than be unnecessarily strict when it comes down to life-or-death issues such as medical referral (Negin, 2011).
For someone living in the provinces, a typical patient journey should start at a nurse aide post or rural health centre and continue through each facility level until appropriate care can be given (Figure 5-1). For people living in urban areas, their pathway would begin at a clinic or area health centre, depending on facilities available. It is the responsibility of each facility to provide the patient with a referral to the next health facility. According to the MHMS Guideline for Patient Referral to the National Referral Hospital, patients seeking care at the NRH should only do so with a referral from a provincial hospital (Negin, 2011).

In practice however, this is rarely the case. As the health system is highly centralized, and resources are pooled at the NRH, most patients with serious ailments want to be treated there. Another issue with the referral system is related to the cost involved with transportation for a patient who does follow the correct referral procedure. In many cases, it is less time-consuming and more cost-effective to seek health care at the NRH in the first instance, rather than a patient having to work their way through the different facility ranks (Same et al., 2011).

About three quarters of the population lives within one hour’s travel time from the nearest health facility, which for most is either an AHC or RHC (MHMS, 2006). However, as highlighted in Table 5-2, referral times from health facility to hospital vary widely within Solomon Islands and depend on the type of transportation available (by foot, vehicle, canoe, boat or plane), the weather, and how long it takes to organize transportation, which in turn depends on whether boats, ships or aeroplanes are ready. Various factors combine to prevent or delay a visit to a clinic, including
inaccessibility of transport, misdiagnosis, and self-medication (Edmonds, 2006). Travel logistics and costs are a major barrier to accessing services given rugged terrain, the large catchment area of some clinics, the high cost of fuel, variable income, unpredictable weather, poor road conditions, and so on. Transportation costs are highest for villages that generally rely on outboard motorboats to access clinics.

Rennell and Bellona, to the south of Guadalcanal, and Temotu to the south-east, are the two most difficult provinces from which to obtain transport for referral to a secondary or tertiary health facility.

### Table 5-2  Referral time from health facility to hospital

<table>
<thead>
<tr>
<th>Province</th>
<th>Minimum referral time (hours)</th>
<th>Maximum referral time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choiseul</td>
<td>0.25</td>
<td>4.50</td>
</tr>
<tr>
<td>Central</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Western</td>
<td>0.75</td>
<td>4.00</td>
</tr>
<tr>
<td>Rennell and Bellona</td>
<td>12.00</td>
<td>24.00</td>
</tr>
<tr>
<td>Malaita</td>
<td>0.75</td>
<td>3.50</td>
</tr>
<tr>
<td>Temotu</td>
<td>3.00</td>
<td>24.00</td>
</tr>
<tr>
<td>Guadalcanal</td>
<td>0.75</td>
<td>3.00</td>
</tr>
<tr>
<td>Isabel</td>
<td>3.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Makira</td>
<td>2.00</td>
<td>3.00</td>
</tr>
</tbody>
</table>

*Source: Baravilala, 2007*

The average number of patients evacuated by helicopter from the provinces to the NRH is approximately 20 people per year (Natuzzi et al., 2011). Adequate transportation is essential for the referral of cases, outreach services, medical supply distribution and supervision and training (MHMS, 2004). The Ministry of Health covers the cost of transportation and repatriation of patients to hospitals for treatment at an estimated value of more than US$ 250,000 per year (Natuzzi et al., 2011). These arrangements are an important part of the service delivery model which recognizes that the population in most provinces is too small to sustain quality secondary care and specialized services.

### 5.3 Primary/ambulatory care

As discussed in Section 5.1, public health activities are integrated into the primary care system. This means that a range of services that larger, wealthier and less geographically dispersed countries might deliver as
standalone services are delivered through the primary care system. A network of hospitals, health centres, nurse aide posts and health workers provide government health care services (Section 5.1).

Health service contact rates are high by regional comparison and have been resilient to the service disruptions caused by political instability and unrest (World Bank, 2010b). A survey in 2006 found that nearly 87% of people sought care when ill. Of those who sought care, 85% went to a public sector provider and 4% to a private sector provider (mostly in Honiara); only 3.5% went to traditional healers (Maike, 2010). By comparison, in many low-income countries in the East Asia and Pacific region, only 60–75% of the population seeks care when ill. The HIS indicates that annual acute care contacts decreased from 1999 onwards, reaching a low of between 1.2 and 1.8 contacts per capita in 2002–03, when political instability and social unrest were at their peak. While rates for Malaita remain low (1.1 in 2013), recent HIS data suggest that contacts per capita have recovered, ranging between 1.4 (Isabel) to 2.8 (Rennell-Bellona) outpatient consultations per capita per year (MHMS, 2014a).

The 2006 DHS found that 87% of women sought antenatal care from a trained provider during their pregnancy, and 85% of women gave birth with the assistance of a skilled birth attendant (SISO, 2007). This is higher than in most other countries in the Asia-Pacific region at a similar level of income. Another good indicator of access to modern health services is the share of children underfive who received treatment for fever from a health facility or trained provider. In Solomon Islands, 68% of children underfive received treatment for fever from a trained provider or health facility, compared to an average of 54% in low and lower-middle income countries in the Asia-Pacific region (SISO, 2007).

Overall however, coverage of essential primary care interventions is inadequate to protect the health of the population or make a substantive and sustained improvement in health outcomes. These issues are explored further in Chapters 6 and 7.

5.4 Inpatient care
Specialist hospital care is provided at the NRH either by specialist national clinicians or by specialists invited to visit the country. Visiting specialist services are often provided as part of international outreach programmes and are partially or completely self-sufficient apart from infrastructure. Specialist outreach in the past has included ear-nose-and-
throat, plastic surgery, paediatric surgery, vascular surgery, cardiology and cardiac surgery. Patients requiring care or procedures not available in the country may be referred overseas. Delivery of specialist outreach services is dependent on the skills mix of nurses and medical staff at a particular location (Waqatakirewa, N.D).

5.4.1 Day care/day hospitals/day clinics/surgi-centers

Solomon Islands does not have a formalized system for the provision of “day care” (the provision of medical services delivered to patients who are formally admitted for diagnosis, treatment or other types of health care with the intention of discharging the patient the same day).

5.5 Emergency care

Emergency care is provided through the standard health care system, with its network of hospitals, health centres, nurse aide posts and village health workers (Waqatakirewa, N.D). While the assumption is made that onward referrals to the NRH in Honiara is the final pathway for emergency care, this is not always the case (Baravilala, 2007). Small aeroplanes do not fly at night, so the time of day an emergency occurs is an important variable. A woman who develops an obstetric emergency in a remote location early in the evening, for example, is liable to face difficulties in obtaining timely skilled care. Depending on her location, the availability of transport and fuel, and weather conditions, there is no guarantee that she will be able to be moved rapidly to a facility providing emergency obstetric care.

Until recently, the RAMSI transported emergency patients by helicopter from provincial hospitals to the NRH. A limited number of seriously ill patients are transferred from the NRH to Sydney under the St Vincent Hospital’s 10-bed programme, however, as discussed at the recent National Health Conference, this programme is no longer functioning effectively, and there is a considerable number of people on the waiting list for care (MHMS, 2014b).

5.6 Pharmaceutical care

The MHMS National Pharmacy Services Division manages the provision of pharmaceuticals to the population. In its recent Five Year Strategic Plan (2011–2015) the Division committed to strengthening four core areas: provincial strengthening; rational use of medicine; procurement; and essential medicines policy and management. The overall goal of NPSD is
to ensure complete, equal and safe access to essential medicines for the entire population of Solomon Islands (MHMS, 2011f).

Within the NPSD, the National Medical Stores has the responsibility for procurement, storage, inventory management, shipping to secondary storage points in the provinces, and assisting provincial management of stocks and distribution (MHMS, 2008a). NMS uses an electronic inventory system to track stock (mSupply); this system is also used by the National Referral Hospital. At NMS, mSupply is used as the stock management tool to assist in consumption-based forecasting, to track usage and expiries and ensure distribution to facilities. At the hospital level, mSupply allows for stock management, dispensing (printing of a computerized label with dosing instructions, patient name) and patient history record keeping.

At Second Level Medical Stores (SLMS), mSupply Mobile is being rolled out to manage inventory, place orders to NMS and manage orders for clinics. The system is currently operating in six sites and the rollout will continue this year.

The vaccine distribution system does not follow the national health system in the sense that vaccines are not delivered through the levels of the health system in a strictly sequential fashion (MHMS, 2010a). All drugs and medical supplies are distributed through a network of 14 SLMS located throughout the nine provinces. Each SLMS orders its supplies through the NMS and then distributes the supplies to the clinics and health centres in its catchment area. The SLMS are staffed by pharmacy officers who also provide medicine-related information to the public and other health professionals.

The NPSD has achieved much in the past five years, including infrastructure projects, launching National Pharmacy Standards, building and refurbishing eight SLMS, training in stock management, and a review of the National Medicines Policy (MHMS, 2011f). Prior to the development of National Pharmacy Standards in 2008, many SLMS did not have suitable storage space, security or conditions for storing and distributing large volumes of pharmaceuticals. This caused increasing difficulties as the availability of stock improved at the national level. The standards establish uniform minimum requirements for facilities and staff to ensure the proper quantification, ordering, storage, distribution and rational use of pharmaceuticals across all health facilities (MHMS, 2011f). A Provincial Pharmacy Infrastructure Strengthening project was initiated to improve
physical buildings and equipment at each SLMS, to ensure compliance with the standards.

Enormous progress has been made in provincial pharmacy infrastructure but NMS infrastructure is now inadequate and this problem is likely to worsen as stock levels continue to increase, a factor of improved procurement and increasing population (MHMS, 2011f). Excess stock is currently being stored in shipping containers in the NMS carpark, and the overcrowded warehouse impacts on stock storage conditions and workplace safety.

5.7 Rehabilitation/intermediate care
The Community Based Rehabilitation (CBR) programme is a partnership between the Ministry of Health and Medical Services and the Disabled Peoples Association of the Solomon Islands (DPASI), with the objectives of:

- Assisting individuals who have been disabled by disease, traumatic injury or another cause to achieve their maximum potential in terms of physical activity, functional ability, independence in daily living and the potential for being a useful and important member of society; and
- ensuring that people with disabilities are rehabilitated to be adaptive to the national, provincial and community environment changes through the National Community Based Rehabilitation programme (Waqatakirewa, N.D.).

Services in the provinces are provided through a system of field workers who provide home-based rehabilitation and care. A team of physiotherapists also work out of the NRH in Honiara.

5.8 Long-term care
There is no formal system of long-term care for the elderly or disabled.

5.9 Services for informal carers
There is no formalized system for the provision of services for informal carers in Solomon Islands. However, the government does cover expenses (travel, accommodation and food) for family members of patients referred to the NRH.
5.10 Palliative care
Palliative care is provided on a limited scale through the network of hospitals, health centres, and nurse aide posts in the public health care system.

5.11 Mental health care
The Integrated Mental Health Service headquarters are located at the National Referral hospital. The service sits within the MHMS and is responsible for policy and planning, monitoring and evaluation, and human resource development of mental health services in Solomon Islands (Same et al., 2011). The mental health service has both national and provincial arms. The 500-bed National Referral Hospital has four beds for mental health in the Acute care ward (ACW). The ACW also provides outpatient clinics for the assessment, treatment and review of clients, provides basic counselling, and referral to the National Psychiatric Unit. Where possible, it also provides community outreach services, such as home visits and mental health awareness. The Unit is situated on the grounds of Kilu’ufi Provincial Hospital in Malaita and has a total of 20 beds for mental health patients (Same et al., 2011).

Provincial hospitals do not have specialized inpatient departments, and as such, they do not have reserved beds for mental health patients. Instead, provincial services are delivered by a team of trained mental health nurses (psychiatric coordinators) in six provinces: Choiseul, Guadalcanal, Isabel, Makira, Temotu, and Western. Tasks include public education, mental health talks to nurses and doctors, and clinical care and referral within their remit.

Primary health care facilities have the capacity to treat and refer mental health patients; however most facilities are poorly equipped to provide support to people with mental illness. The extent of access is relatively unknown although indications from two provinces involved in the trial of the primary health care information system (2008) reported over 90 contacts from people seeking help for mental health problems in just over six months.

Additionally, local and international nongovernmental organizations deliver a range of welfare services and psychosocial interventions to women, youth and families including counselling and community development. Most programmes are based in Honiara although some do have a provincial presence (Same, Funk et al. 2011).
5.12 Dental care
Dental care is provided by a cadre of health workers, with dental services identified in the role delineation guidelines for provision at RHC level and above. AHC and hospitals have dental health clinics, with dental services integrated into overall facility services.

5.13 Complementary and alternative medicine
Utilization of available services is determined by health-seeking behaviour. In Solomon Islands this is heavily influenced by traditional medical beliefs, the availability of medicines, and the availability of appropriately skilled staff and their attitudes towards people (Maike, 2010). Traditional healers and birth attendants still play an important role in most parts of the country. The 2006 HIES Health Module found that 3.5% of the surveyed population use traditional healers first for all sickness (Maike, 2010) (updated information will be available in the HFCS). Regardless of ongoing sociocultural change, Melanesian societies such as Solomon Islands still hold strong traditional beliefs which influence their response to illness and health-seeking behaviour. This is demonstrated by the following passage from the Child Health Review (Jack, 2011a):

“One child with severe malaria had come for treatment but due to traditional beliefs had gone home to seek traditional treatment first. The child became more seriously ill and returned to the RHC where they were immediately referred to a hospital but the child died on the way.”

One of the most important terms is the notion of kastom, especially kastom medicine and kastom illness (Edmonds, 2006). In local usage kastom medicine overlaps with but is also distinct from kastom doctors. Kastom medicine refers to a wide range of practices and botanical remedies either prepared at home or by specialists, which treat disease, injuries, mental afflictions, of both physical and spiritual/social origin, and confer protection from sorcery and spirits. It is used to treat a wide range of illnesses, including: diarrhoea, malaria, ulcers, constipation, diabetes, cancer, STIs, high blood pressure, asthma, yellow fever, pneumonia, and hepatitis. There are also kastom abortifacients, postnatal and antenatal treatments, and contraceptive methods (Edmonds, 2006). Kastom doctors are healers with specialized knowledge, who use a combination of plant-based medicines and physical manipulations of the body, sometimes in a ritual context. In some cases, they are perceived
to possess healing powers derived from either Christian or traditional spiritual sources. Some specialize in treating a wide range of complaints, including: diarrhoea, pneumonia, bleeding, burns, bone setting, and mental illness. It should be noted that healing traditions are in a state of rapid change and vary considerably in different regions of the country, with some villages reporting that they no longer have a kastom doctor. All regions did however report practicing some form of kastom medicine (Edmonds, 2006).

5.14 Health services for specific populations
There is no formalized system for the provision of health services to specific populations who do not have access to the mainstream health system or have special access to other health services (i.e. prisoners, refugees, homeless people). Such care is provided on a limited scale through the standard health care system, within the network of hospitals, health centres, nurse aide posts and village health workers.
Chapter summary

Following an initial stabilization phase after the civil unrest, a new phase of reform began when the Government set down its reform agenda for the sector in the National Health Strategic Plan (NHSP) 2011–2015.

The NHSP made prevention the primary focus of service delivery and stressed the need to plan, cost and implement a basic package of primary care (including preventive) services at the provincial level as the highest priority. The “theory of change” was that by having the right mix of community-level Healthy Settings in place to encourage people to care for their own health, and the right range of services in place through the facilities to address illness promptly, the groundwork would be laid for sustained improvements in health outcomes over the medium to long term. The success of the MHMS-led malaria programme showed that good implementation could lead to rapid improvements in health outcomes.

The NHSP was the starting point for a sustained programme of work to put that in place, led by the MHMS, under the banner of universal health coverage and role delineation. It also committed the MHMS to “doing better” – which led to a concerted effort to diagnose shortcomings in essential administrative and management systems, and put remedial action in place. The third priority was to develop and sustain a culture of performance across the sector.

While the pace of reform on some aspects has been slow, considerable achievements have been made. The Solomon Islands health system has both strengths and weaknesses: the ambition is to have an affordable but strong system. Success in the short term is framed around the basics: funding and resources reaching the periphery; well-trained nurses and nurse aides providing the majority of care, low drug stock-outs and minimal out-of-pocket costs. Service access and patient transport have been maintained, ensuring the referral system functions, and sustaining equity of access. New national disease strategies and better provincial
planning and budgeting have supported moves towards better integration and efficiency.

In another reform, the Government introduced a Sector Wide Approach (SWAp), and DFAT commenced sector budget support in 2007. MOFT and MHMS were quick to see the merits of having aid financing flow through Solomon Islands systems, and the MHMS welcomed the commitment of development partners to support Ministry-led implementation of reforms, services and programmes.

The SWAp and sector budget support have helped to move towards more efficient and effective use of donor financial and technical resources. The partnership agreement underlying the SWAp provides a vehicle for dialogue on sector resourcing and performance, and for the MHMS Executive to lead a rolling programme of policy analysis, surveys and reform with the coordinated support of its development partners.

Progress has been constrained by major disasters and disease outbreaks, which have pushed an already stretched MHMS and services (including NRH) close to breaking point. A major fraud allegation in 2013 and ongoing investigation also threatened the sector budget support from the Australian Government and Global Fund to Fight AIDS, Tuberculosis & Malaria (GFATM) funding. Nonetheless, these challenges have also supported the reforms. The additional financial controls imposed have created significant workloads for finance staff, but will strengthen service delivery in the long run. Similarly, the dengue outbreak strengthened the case for greater efficiency at the NRH.

Given Solomon Islands vulnerability in the face of economic, climatic and social shifts, the system will continue to face challenges – particularly the future costs of NCDs if prevention efforts are not successful.

6.1 Analysis of recent major reforms

In 2008 the MHMS and key bilateral and multilateral development partners agreed to work as partners in a SWAp. The key objectives were to help the Government meet the recurrent costs of service delivery, reduce the fragmentation of donor support (both financial and technical), and to conduct an ongoing, evidence-based dialogue, linked to funding, about resource allocation and sector performance.
During 2010, a new NHSP was developed through a consultative process to address both health service and organizational challenges. The reform agenda, framed in a series of substantive (health) and organizational policies, was to “do better” within a nil or low growth resource scenario. The NHSP committed the sector to improving prioritizing investments in prevention, maximizing efficiency to make best use of scarce resources and creating fully functional administrative systems (Public Financial Management, procurement, HIS and Human Resources Management). More resources and managerial responsibility for public health programmes would shift to Provincial Health Offices, so Provincial Health Directors could have greater control of resources and drive efficiency. Funding for the NRH was capped to drive efficiency there.

**Table 6-1  Major reforms and policy initiatives 2001–2014, Solomon Islands**

<table>
<thead>
<tr>
<th>Province</th>
<th>Minimum referral time (hours)</th>
<th>Maximum referral time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Choiseul</td>
<td>0.25</td>
<td>4.50</td>
</tr>
<tr>
<td>Guadalcanal</td>
<td>0.75</td>
<td>3.00</td>
</tr>
<tr>
<td>Isabel</td>
<td>3.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Makira</td>
<td>2.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Malaita</td>
<td>0.75</td>
<td>3.50</td>
</tr>
<tr>
<td>Rennell and Bellona</td>
<td>12.00</td>
<td>24.00</td>
</tr>
<tr>
<td>Temotu</td>
<td>3.00</td>
<td>24.00</td>
</tr>
<tr>
<td>Western</td>
<td>0.75</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Source: Asia Pacific Observatory on Health Systems and Policies

The NHSP also drew on the findings of a Financing Options paper (World Bank, 2010a), which concluded that the primarily publicly financed and managed system was a cost-effective and equitable option for Solomon Islands. The report concluded that fiscal space was best expanded by improving the efficiency of both Government and donor funding, noting the limited economic growth prospects, the need for fiscal tightening, the very limited scope for substantial increases in government allocations for health in the short- to medium-term, and possible reductions in financial support from external donor sources.

The report helped reinforce the decision made by DFAT when entering the SWAp to provide sector budget support (SBS) and channel funding through the fiscal system, and focused the SWAp dialogue on the totality of resources available to MHMS. The 2010 MTEF provided a fiscal framework for implementation of the NHSP.
The NHSP aimed for incremental improvement in health outcomes (given health indicators were generally seen to be good compared with similar low-middle income countries) but big improvements in systems and prevention. It encompassed two types of reform. The first was focused on the policies and strategies required to expand provincial service delivery to underserved areas, and to ensure universal coverage of a basic package of primary care and health promotion interventions. The second aimed to ensure the systems and analytics required to get the right resources to the right places to improve health outcomes are fully functional, and that that the system remains equitable so that those who are most poor and vulnerable do not end up having to pay large amounts of money for quality basic services (relative to their incomes).

The NHSP has a series of both substantive (i.e. health) and organizational priorities, with a focus on improving service delivery and overall stewardship and performance of the sector. It commits the Government to working towards an incremental improvement in health outcomes, shifting resources and responsibility to Provincial Health Offices and “doing better” with the expectation that there would be no or very limited growth in resources. Primary health care and prevention at community level, consistent with the Healthy Islands/Healthy Settings approach are stated as priorities.

The first SWAp partnership agreement was signed in 2008, and later updated in 2013. The Joint Annual Performance Review and Development Partners Coordination Group were established as the primary forum for the joint MHMS-development partners policy dialogue, and both these meetings have been held regularly from 2008. Under the SWAp umbrella, the MHMS was able over time to embark on a rolling programme of analytical work, supported by the development partner group, to plan, cost and guide implementation of the reform agenda set down in the NHSP 2011–2015. Increasing efforts to coordinate technical assistance have also been made through the same mechanisms. The following major reforms were set in place under the NHSP.

**Universal health coverage – the basic service package, role delineation policy and related assessments**

The NHSP committed Solomon Islands to maintaining and expanding basic MNCH, communicable disease and NCD services, with a focus on prevention. The implementation process has three key elements: definition of the basic health interventions and the delivery mechanism...
for each (documented in a “service package”); resource mobilization through improved planning and budgeting, and health facility assessments; and placing management control over public health programmes with Provincial Health Offices. The three largest provinces (Guadalcanal, Malaita and Western) were chosen to pilot the change on the basis that they had the greatest existing management capacity to take on the extra responsibilities. A major costing study analysing the complete cost of service delivery at facility level was undertaken to provide the information needed to guide prioritization and efficiency decisions.

At the time of writing, work was underway to bring the various strands of work together in a way that supports simplified provincial planning, budgeting and monitoring, and to ensure the planned decentralization of national programme resources was managed with no loss of momentum or quality in public health programme implementation. The “theory of change”, consistent with international lessons and the Solomon Islands malaria experience, is that providing universal access to an affordable service package, costed and prioritized, operationalized through the planning and budgeting system, delivered through government services and non-state providers and monitored through HIS and routine surveys is the most efficient and effective way to sustainably improve health outcomes at the population level. There is still some way to go to refine templates so that service packages link to planning and monitoring tools and health service managers get the feedback they need to monitor coverage, costs and overall performance.

**Decentralization of national programmes**

While there is an ongoing problem of stand alone national public health programmes, each with a strategy prepared with support from different external players, the NHSP has created an expectation that each such strategy will prioritize prevention and commit to greater integration and efficiency in the service delivery models. The MHMS hopes this will bring major efficiency improvements, although implementation has been held up by the lack of clarity about how these resource and management shifts will be made. A next step would be for each national programme to complete an implementation chart showing management roles and budget centres for the different costs, including what costs would be covered by the national programme cost centre and what would be covered by the provincial health budget.
Efficiency at NRH
The NHSP capped funding to the NRH and limited the service package to those already available there, instead putting the focus on improvements to service quality and efficiency. However, despite a commitment by the NRH management in 2012 to commence a quality improvement programme and some early steps forward, the management team did not proceed with this. With an increasing number of medical specialists leaving NRH to take up private practice or positions in other countries, the Cabinet endorsed an increase in salaries for selected specialists, although the process for selecting the positions to receive these increases was questioned. In addition, the Cabinet requested analysis of options for greater NRH autonomy, raising further concerns about the commitment to efficiency improvements.

Human resources for health
The NRH example is one of many showing that human resource issues, particularly those requiring complex policy-making, continue to prove intractable. Important decisions about the future role of nurses and nurse aides, the number of students to send for medical, nursing and allied health worker training and the roles and responsibilities of senior managers have not yet been addressed. This is despite the 2010 NHSP consultations showing staffing as the top issue and a consistent call from MHMS for better performance management and clarity about roles and responsibilities.

While the reforms described above are all works in progress, the NHSP and SWAp have enabled Solomon Islands to move from hand wringing about the weak system, along a pathway towards a strong affordable system. For the Solomon Islands that means a system that prioritizes prevention and basic care, turns that into services (facility, outreach and community-based), makes best use of all resources (domestic government funds as well as those from development partners and private sources), uses government, private and NGO/FBO resources efficiently and does not try to deliver what it cannot sustain.

Supporting service delivery through improved administrative systems
Through the period since 2008 there has been a concerted effort to improve the functioning of basic administrative systems: HIS, Public Financial Management System, the core Government budget process, procurement and Human Resources management. While the focus has been on the MHMS, there is a wider system benefit for all service
providers. A series of audits and assessments were applied, remediation steps agreed and system improvement roadmaps put in place. While improvements are still underway in all those areas, there have been some marked areas of progress e.g. the HIS can now report monthly, financial arrears have been minimized, accounts are being paid in a timely way and budget process now meets MOFT requirements. Steps have been taken to improve planning, budgeting and budget execution in all Provincial Health Offices.

**Improvements to PFM and procurement outcomes**

Slow progress on financial management and procurement reform, and a major fraud investigation case in 2013 have reinforced the basic bargain underpinning sector budget support – which is that flexibility of financing is dependent on a high standard of financial management and transparency, and zero tolerance to fraud. The SWAp partners (including Secretariat of the Pacific Community (SPC) as the GFATM Principal Recipient) have supported a series of audits and financial assessments, system diagnostics (Public Financial Management, HIS, Human Resources Management) and system improvement roadmaps with coordinated technical assistance.

Procurement and finance assessments and audits in 2013 demonstrated the need to support the Government in planning, budgeting and acquitting all funding to improve budget execution and sustain service delivery, and to improve procurement [DFAT, 2013]. Improvements were aligned to the MOFT Policy Reform Matrix and the assessments also built central agency commitment.

**Performance culture and indicators**

The NHSP called for a major shift in mindset from a “budget focus” to a “performance focus” and for HRH to be the top priority for policy-making and reform. There is no documented strategy for developing a performance orientation across the sector or clarifying what is intended. Within the MHMS, the Human Resources unit led a process to clarify reporting arrangements and reinvigorate the Disciplinary Committee.

The National Health Conference has not yet fulfilled its potential as a performance or solution focused forum. The JAPR has provided one avenue for dialogue about a performance-oriented approach to resource allocation, monitoring and dialogue. Other efforts to place a focus on performance have been the creation of core sector indicators and the
introduction of a performance funding component by AusAID (continued by DFAT). It is hard to argue that either of these initiatives has led to appreciable or demonstrable change in mindset for the MHMS or the broader partner group.

On a more positive note, improvements in data through the HIS, high quality analysis and increased use of peer review and other quality assurance processes are beginning to create a culture of open discussion and enquiry.

Assessment of NHSP progress to date
A major constraint for determining progress towards NHSP targets has been the slow development of an agreed set of core sector indicators and ongoing challenges with data quality. The NHSP includes a great number of possible indicators, many of which did not have a baseline or relationship to the HIS dataset or standard surveys. Reports from the DHIS since 2011 provide an increasingly accurate picture of service outputs at provincial level, except for Malaita where the Provincial Hospital has not reported since 2010. No data is available from the NRH and a strategy [informed by the Medical Records and Patient Flow Process Mapping] is being developed to address that. Mortality data is unreliable due to the absence of a functioning Civil and Vital Registration System with the result that accurate assessments of key health outcome statistics will not be available until after the 2014 STEPS and 2015 DHS are completed.

An assessment of service delivery outputs and access shows that access continues to be good, indicating that resources (staff, medicines and funding) are reaching the periphery (MHMS, 2014c). Consistent with the NHSP, the national programmes are beginning to plan for efficiency improvements e.g. integrating aspects of the malaria programme into provincial services, contracting out Rural Water Supply, Sanitation and Hygiene services to the non-state sector and partnering with NGOs for delivery of preventive activities in schools and communities.

Assessing the SWAp
The SWAp itself continues to be a work in progress, with a series of reviews pointing to areas for improvement in the collaboration between the Government and its development partners (Tyson, 2011, Tyson and Dodd, 2012, Kelly and Tuckwell, 2014). These are international challenges, and the Solomon Islands SWAp appears consistent with the
“7 behaviours” endorsed by the International Health Partnership (IHP+, 2014). The Technical Cooperation Inventory and rolling programme of analytical work (both managed by the WHO Solomon Islands Country Office) are two areas where efforts have been made to support MHMS leadership and improve the effectiveness of technical assistance.

6.2 Future developments

While progress has been made, the practical and political challenges of identifying and removing inefficiencies remain considerable. Two areas which have not yet received attention are the training arrangements and technical assistance.

There is scope for further efficiency in the current training arrangements. Many staff trained overseas do not return, and there is no workforce plan to guide decision-making for scholarship programmes. There is considerable scope for savings in national programme expenditures on in-service training and workshops (Tyson, 2013). A high percentage of total donor funding supports these activities, and one area of reform would be to develop an integrated in-service training programme at SINU. The role of the UN and SPC could then move from workshop coordinators and training providers to providing curriculum development and teaching support.

These issues also relate to the future of Technical Assistance provision. Work is needed to identify the skills and expertise that can be sustained on an ongoing basis in Solomon Islands, and which would be more cost-effectively provided through regional or global mechanisms. In addition, technical agencies and advisers could do more to support the reforms by assisting with routine annual planning, budgeting, monitoring and reporting.

One reform outside the health sector expected to have an impact on the health sector is the expansion of the Constituency Development Fund (CDF) in 2013. Each Member of Parliament is now able to access the fund for use in their constituency. Concerns are that the total amount of funding will divert Government resources away from line agencies such as the MHMS, particularly at a time when increasing amounts are being spent on overseas scholarships, another large budget item. While there has been some early discussion around how funds could be used to improve health outcomes for respective constituencies, there have been no guidelines developed for MPs about how funds might be
used effectively to achieve better health results, nor around the related accountabilities for such a process.

Current trends suggest that the health sector will face difficult challenges in the future. Continued volatility in the financing landscape (with likely reduced per capita expenditure on health), increasing disability, hardship and vulnerability in the population related to disaster risk (due to climate change and population growth), social dislocation and urbanization, and changing patterns of both communicable and noncommunicable diseases are all expected.

Awareness of the social determinants of health outcomes is growing inside and outside the health sector. Trade and finance ministers across the Pacific are becoming aware that NCD treatment costs will be unaffordable if NCD risk factors not urgently addressed. An historic meeting of Pacific Island Forum Economic and Health Ministers planned for July 2014 is expected to lead to coordinated action on controlling tobacco, unhealthy food and alcohol across the Pacific.

The SWAp itself continues to be work in progress. While various reviews and assessments (Negin, 2010a, Tyson, 2011) have recommended improvements, all have agreed that the basic framework should remain in place.
Chapter summary

The National Health Strategic Plan sets the overall vision for the health sector, which is to have a strong, affordable and efficient health system that improves population health status. As part of the plan, a number of substantive and operational policies were agreed upon, as well as a set of core sector performance indicators. However, a number of indicators are without baseline data or targets, making it difficult to track progress. Specific strategies, roadmaps and policies have been created for different elements of the system, along with a set of core performance indicators for the sector.

There is a high degree of financial risk protection with low out-of-pocket payments. Possibly for this reason, health service contact rates are high by regional comparison and have been resilient to the service disruptions caused by political instability and unrest. Satisfaction with services is high.

Access and utilization of health services compares favourably with other low-income countries. Data from the 2006 Demographic and Health Survey and Health Income and Expenditure Survey both suggest that the system is relatively equitable, with no evidence of lower utilization by the poor. Average rates of use measured by three key maternal and child health service indicators are high, and public hospital inpatient and outpatient care use is distributed equally between the richest and poorest quintiles. Gender inequality remains a matter of concern in Solomon Islands; however, there remains little survey data or other sources of information on which to base firm conclusions. Women, especially those living in rural areas, continue to face difficulties in accessing family planning services. Furthermore, access to healthcare services varies between provinces.

Despite the range and the difficulty of issues facing policy-makers in Solomon Islands, there have been significant achievements in health,
including considerable progress in advancing population health status. The performance of the health system is positive, achieving high coverage, high satisfaction levels and steady progress on health outcomes. Both the HIES and DHS show a relatively well-performing public health care system based on several indicators (antenatal care, facility-based delivery, postnatal care, immunization, and bednets in the household), although trends will not be confirmed until repeat studies are available in late 2014 and 2015 respectively. Yet considerable challenges to population health remain, including the high incidence of malaria, high maternal mortality for out-of-facility births, recent increases in STI incidence, and a steady rise in patients diagnosed with noncommunicable diseases. Concerns over the quality of care provided are also valid, including ineffective vaccines due to broken cold-chains and questionable diagnosis and treatment plans.

There remain several issues in terms of the health system’s efficiency in allocating finances: continuing duplication of public health programme activities at the provincial level (each supported by different donors at the central level), inefficient utilization of staff in some facilities, excessive allocation to in-service training and workshops, and a weakly developed service model for community-based health promotion Healthy Setting activities. Some important health interventions, such as family planning, seem to be underfunded.

Attempts by the MHMS to take a systems approach, and to plan and budget for integrated service delivery, are sometimes challenged by the availability of earmarked resources for disease-based programmes. This can undermine implementation of the NHSP, and associated attempts to increase expenditure on integrated service delivery at provincial level.

While the NRH, and many provincial hospitals, consume very large proportions of total public health resources, they cannot reliably report on the effectiveness or efficiency of services provided. Evidence on the effectiveness of the health system overall is limited, and this is in part due to transparency and accountability issues that are yet to be resolved. Poor management and regulatory capacity compound the challenges faced by the health sector overall.
7.1 Stated objectives of the health system

The Government’s National Development Strategy (2011–2020) aims to “build better lives for all Solomon Islanders” and Objective 3 specifically relates to the health sector: “ensure all Solomon Islanders have access to quality health care and combat malaria, HIV, non-communicable and other diseases” (MHMS, 2011e). As stated in the National Health Strategic Plan (2011–2015), the overall goal of the health sector is to improve system performance and achieve incremental improvements population health status by 1–2% by 2015. This will be assessed by analysing the average changes in key population health indicators. The Plan includes a series of policies covering substantive (disease- and condition-related) and organizational (related to system functioning) thematic areas. Alongside the NHSP there is a series of public health strategic plans (e.g. malaria, health promotion, among others), and system improvement strategies and roadmaps (e.g. HIS, medical supplies, financial management). These provide guidance to all sector stakeholders, and translate into operational plans and budgets for the MHMS.

The Ministry also developed seven core values (MHMS, 2011e):

1. **Comprehensiveness.** The “menu” of services provided should be logically decided and related to all levels of care.

2. **Universality.** All residents of the country must be entitled to the national health services, however this does not imply all will get equal care.

3. **Equity/accessibility.** Citizens should have reasonable access to hospital, medical and surgical-dental services.

4. **Quality and caring services.** This implies both medical and public health quality and the subjective aspects of care and compassion when providing a service.

5. **Effectiveness.** The health sector is working at optimal efficiency at both the macro (health status) and micro (service delivery) levels.

6. **Responsiveness.** Whether and how well health services respond to client or patient needs. Also includes biotechnology and medical technology responsiveness.

7. **Transparency.** The extent to which the public truly understands the issues of the health sector.
7.2 Financial protection and equity in financing

7.2.1 Financial protection

Unlike in many countries in the Asia Pacific region, out-of-pocket payments do not represent a significant burden for households in Solomon Islands (MHMS, 2011e World Bank, 2010a). The health system provides a high degree of financial risk protection, with approximately 6% of total health financing derived from household out-of-pocket sources. The main cost to households is time and travel for those not close to a facility, and this has been reported as a main reason for not seeking care (Maike, 2010).

Informal charges at health facilities are generally less than SB$ 2 per occasion of service and do not appear to be a significant deterrent for most users, with those unable to pay at the time of service able to pay later, or in kind (Maike, 2010) (updated information will be available in the HFCS). Moreover, households in the poorest quintile of the population allocate less than 0.05% of their monthly household budget to health care expenses (see Chapter 3.4).

7.2.2 Equity in financing

The current health system is financed through general government revenues and contributions from development partners (DFAT and GFATM), with minimal revenue raised through user-fees or insurance schemes. This has been accepted as the most cost-effective and equitable approach for the Solomon Islands context (MHMS, 2011e World Bank, 2010a). Government revenues are raised through taxation and income from the export of primary commodities, such as logging. There are few administrative costs associated with this form of revenue collection compared with other mechanisms as indirect taxes are harder to evade and relatively cheap to collect. Further, direct taxation is generally the most progressive form of health care financing, as it imposes a greater share of all payments on wealthier groups, rather than poorer groups.

7.3 User experience and equity of access to health care

7.3.1 User experience

Health service contact rates are high by regional comparison and have been resilient to the service disruptions caused by political instability and unrest.
The 2006 HIES found that nearly 87% of people sought care when ill and overall satisfaction is high.

The People’s Survey carried out by RAMSI in 2013 found that 21% of respondents thought health services had improved a lot in the past five years, and 56% thought there had been some improvement (ANU, 2013). Further information will be available in the HFCS once published in late 2014.

7.3.2 Equity of access to health care

The Solomon Islands health system aims to deliver an affordable level of basic primary and secondary care, along with comprehensive public health programmes focused on prevention: that is, a strong, affordable and sustainable system. That means some services will only be offered at a basic level, or to those patients who have the greatest clinical need.

While the Solomon Islands Government is committed to working towards achieving the MDG targets, poverty, gender and ethnic inequality have received little specific attention in national health sector policy or funding agreements with major donors and technical partners (Thomas and Duituturaga, 2014). Overall though, access and utilization of health services compares favourably with other low-income countries. The 2013 RAMSI People’s Survey, which asked about access to basic health services, found the following opinions on availability and quality:

• 16% of respondents had a health facility in their village or community; a further 51% could reach a facility within an hour; and the rest took up to half-a-day or longer to reach a facility;

• in the preceding year, 71% of respondents had visited a health centre at least once, implying an average per capita outpatient contact of at least 2.5;

• access appears equitable with no significant differences between income groups in immunization coverage, and rural populations are no less likely to seek treatment from a health facility;

• poor and rural women, and those with less education, are slightly less likely to receive skilled assistance in delivery or to deliver in a facility (ANU, 2013).
While information is scarce, it appears that admission to the NRH, and access to specialized services (including the services of visiting specialists and the St Vincent’s 10 bed scheme) is mostly based on clinical need. Any change to that situation would have an impact on equity.

Maintaining a tightly-scoped provincial-level service package (including community-based prevention and rehabilitation) with an efficient, equitable and quality health service model will be crucial for maintaining the equity of access to those services.

**Poverty**

There is no extreme poverty in Solomon Islands as seen elsewhere in the world; however poverty does exist in terms of lack of access to basic services and opportunities to earn income. Honiara, which has a higher percentage of its population living under the basic needs poverty line (32%), ranks third lowest in health services utilization (82%) (Maike, 2010). Most rural families face difficulties accessing services in provincial centres due to irregular and inconvenient shipping routes.

Data from the Demographic and Health Survey (2007) suggest that the system is relatively equitable, with no evidence of lower utilization by the poor. Both the DHS and the HIES show that health care utilization rates are relatively equal across rich and poor households, and in some cases, are quite pro-poor. As Figures 7-1 to 7-3 show, the average rates of use of three key maternal and child health service indicators are higher, and disparities between the richest and poorest groups lower in Solomon Islands compared to the rest of the region.
Figure 7-1  Percentage of women who received antenatal care from a trained provider, by wealth quintile and country

Source: World Bank, 2010

Figure 7-2  Percentage of women who gave birth at a health facility, by wealth quintile and country

Source: World Bank, 2010
Moreover, Solomon Islands is one of the few countries in the region where hospital inpatient care is not adversely affected by income level, as shown in Figure 7-4. In most countries, public hospital inpatient care is the aspect most likely to be concentrated amongst the rich because of high financial and physical barriers to access. In Solomon Islands, as in Malaysia and Sri Lanka, the poorest 20% of the population account for over 20% of public hospital inpatient care use. Public hospital outpatient care use is distributed equally between the richest and poorest quintiles, as shown in Figure 7-5.
Figure 7-4  Public hospital inpatient care use by the poorest and richest wealth quintile, by country

Source: World Bank, 2010

Figure 7-5  Public hospital outpatient care use by the poorest and richest wealth quintile, by country

Source: World Bank, 2010

Gender

Gender inequality remains a matter of concern in Solomon Islands; however, there remains little survey data or other sources of information on which to base firm conclusions (Mishra et al., 2010). The Demographic and Health Survey had several gender-related findings, including
high dropout rates on immunization for girls. Health-related gender inequality and potential disparities include the current burden of illnesses associated with gynaecological malignancy and pre-malignant lesions, and the lack of access to oncology services throughout the country. Further compounding this is the lack of access to family planning services, the burden of childbearing and high fertility rates, and limited information on preventative care (Maike, 2010).

Disability/mental health
Services for people with disabilities and mental health are currently being reviewed in the Rural Development Programme/service package process, which will take into account the roles played by families, nongovernmental and faith-based organizations. Consistent with broader policy settings, the range of services provided is limited by the overall health resource envelope. The Community-Based Rehabilitation Unit within MHMS has yet to increase its rural reach. Plans for expansion are contingent on finding efficiencies. The main psychiatric unit is in Malaita, effectively limiting access by most of the other provinces.

7.4 Health outcomes, health service outcomes and quality of care

7.4.1 Population health

Health in Solomon Islands is characterized by a medium to high level of infectious disease, and an increasing burden of NCDs. While malaria has been one of the leading causes of mortality in children and infants, responsible for up to onethird of all acute care attendances, rates of admission and mortality have been declining since 2009 (WHO, 2013b, Mishra et al., 2010). In parallel with this, rates of NCDs have been steadily increasing: almost half of all surgical and medical ward admissions at the NRH are now related to complications arising from common NCDs such as diabetes, cancer and hypertension (MHMS, 2012).

In terms of progress toward meeting the internationally agreed MDGs, Solomon Islands has made progress as follows:

- MDG 1 (improved child nutritional status) has already been achieved, however one third of children remain stunted, which is a measure of chronic malnutrition;
- MDG 4 is on-track (infant and under-five mortality rates), with substantial declines in mortality in recent years; however, measles
immunization coverage continues to vary considerably between provinces;

- MDG 5 (improving maternal health) is on target and there has been a substantial decline in maternal deaths since the 1990s, with a corresponding high number of mothers giving birth with the assistance of skilled health personnel (Mishra et al., 2010).

While these are solid achievements, further gains will rely on freeing up resources within the system. The NHSP sets a cautious target for health outcome improvements in the short term, recognising that time and effort needs to go into identifying areas for efficiency if resources are to be freed up to expand the essential interventions that underpin health outcome improvements.

### 7.4.2 Health service outcomes and quality of care

**Outcomes**

The central tenet of the NHSP, while not couched in these exact terms, is that the Government and health stakeholders are committed to universal coverage of affordable basic care. On that measure universal health coverage in Solomon Islands is largely on track, and aligned with the exceedingly limited resources available. The performance of the health system is positive, achieving high coverage [three quarters of the population use public health facilities and around 90% of mothers give birth in a facility] (MHMS, 2014a), high satisfaction levels and steady progress on health outcomes with relatively equitable access. In this country, 68% of children under-five received treatment for fever from a trained provider or health facility in 2009, compared to an average of 54% in other countries of the Asia Pacific region (World Bank, 2010). Out of pocket expenditures are low.

In line with the priorities of NHSP 2011–2015, the 20 indicators set for monitoring progress (Table 7-1) also show general signs of improvement:

- **Determinants of health.** Shows limited progress. A benchmark of 70% of the population with access to clean water and sanitation was set in 2011, however a target for 2015 has not been agreed, and evidence suggests that only 5% of the rural population has access to improved sanitation (MHMS, 2011e).

- **Health system.** Shows mixed progress. While health worker-to-population ratios remain very low, 90% of deliveries occur with a
skilled birth attendant in a health facility (MHMS, 2014a). Measles immunization coverage among one-year-olds is varied, ranging from 40% to 96% between the provinces (MHMS, 2014a). Sixty-eight percent of children under-five received treatment for fever from a trained provider or health facility, compared to an average of 54% in low and lower-middle income countries in the Asia-Pacific region. Tuberculosis notification and treatment success rates are also high (64% and 89% respectively) (MHMS, 2014a). Baseline data and targets are missing for outpatient department service utilization, proportion of centres offering basic emergency obstetric care and population satisfaction with services. There has been a concerted effort to improve the HIS as well as MHMS administrative systems in recent years. This had led to significant improvements in the timeliness and accuracy of information, quality of planning, budgeting and financial monitoring, and basic HR processes within the MHMS. These systems are essential for improving overall health system efficiency. In future years it should be possible to report with accuracy on budget execution, vacancies, the number of positions with job descriptions, accuracy and timeliness of HIS data, utility of plans and budgets, and procurement adherence.

- **Health status.** Both the under-five and infant mortality rates have been decreasing, as has the maternal mortality ratio. A very small number of confirmed cases of HIV have been detected, but underreporting is likely. Malaria incidence, admission rates to hospital and mortality rates have been steadily declining since 2009. Tuberculosis continues to be a serious problem along with other infectious diseases such as dengue fever, which are prone to sudden outbreaks. NCDs such as cardiovascular and cerebrovascular diseases, neoplasms, respiratory diseases and diabetes mellitus are increasing (WHO 2012a).
### Table 7-1  Key indicators for monitoring progress of the National Health Strategic Plan (SISO, 2011a, MHMS, 2011e, MHMS, 2014a)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline 2009</th>
<th>Status 2010</th>
<th>Status 2012</th>
<th>Status 2013</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Determinants of health</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to clean water and sanitation (%)</td>
<td>60.0</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td><strong>Health system</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient department service utilization (visits per capital)</td>
<td>na</td>
<td>1.9</td>
<td>1.6</td>
<td>1.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Doctor: population ratio</td>
<td>na</td>
<td>1:7,510</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Registered nurse: population ratio</td>
<td>na</td>
<td>1:883</td>
<td>1:743</td>
<td>1:707</td>
<td>na</td>
</tr>
<tr>
<td>Proportion of children under five with diarrhoea in the preceding two weeks who received oral rehydration therapy (%)</td>
<td>37.7</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Proportion of one-year-old children immunized against measles (%)</td>
<td>87.3</td>
<td>90.4</td>
<td>82.0</td>
<td>68.0</td>
<td>93.0</td>
</tr>
<tr>
<td>Proportion of population satisfied with services (%)</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>&lt;baseline</td>
</tr>
<tr>
<td>Proportion of births attended by skilled health personnel (%)</td>
<td>84.5</td>
<td>86.0</td>
<td>88.0</td>
<td>90.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Proportion of pregnant women and children who slept under an insecticide-treated net the previous night (%)</td>
<td>36.5</td>
<td>38.0</td>
<td>na</td>
<td>na</td>
<td>60.0</td>
</tr>
<tr>
<td>Tuberculosis detection rate (%)</td>
<td>46.0</td>
<td>62.2</td>
<td>68.4</td>
<td>63.7</td>
<td>95.0</td>
</tr>
<tr>
<td>Tuberculosis cure rate (%)</td>
<td>82.0</td>
<td>88.2</td>
<td>88.0</td>
<td>89.1</td>
<td>85.0</td>
</tr>
<tr>
<td><strong>Health status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant mortality rate (per 1000 live births)</td>
<td>26.1</td>
<td>30.0</td>
<td>11.8</td>
<td>10.6</td>
<td>25.0</td>
</tr>
<tr>
<td>Neonatal mortality rate (per 1000 live births)</td>
<td>16.8</td>
<td>na</td>
<td>7.5</td>
<td>7.1</td>
<td>na</td>
</tr>
<tr>
<td>Under-five mortality rate (per 1000 live births)</td>
<td>37.2</td>
<td>36.0</td>
<td>15.0</td>
<td>14.2</td>
<td>29.0</td>
</tr>
<tr>
<td>Maternal mortality ratio (per 100000 live births)</td>
<td>184.0</td>
<td>140.0</td>
<td>110.0</td>
<td>100.0</td>
<td>120.0</td>
</tr>
<tr>
<td>HIV prevalence among 15–24 year old pregnant women</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>&lt;baseline</td>
</tr>
<tr>
<td>Incidence of malaria (per 1000 people)</td>
<td>250.0</td>
<td>79.0</td>
<td>44.0</td>
<td>45.1</td>
<td>50.0*</td>
</tr>
<tr>
<td>Sexually transmitted infection incidence rate (per 1000 people)</td>
<td>13.1</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

*a NHSP target
b Malaria Programme target
na, not available

Source: MHMS, 2011e, 2014; SISO, 2011a

### Quality of care

While overall health service utilization is high, there are concerns over the quality of care provided. Reported problems include invalid vaccines due to broken coldchains, as well as questionable validity of diagnosis and treatment (Foster, Chamberlin et al., 2009). Unless a programme of regular support and supervision, along with performance monitoring, is established, quality of care will continue to be an issue.
The MHMS does have two tools to assess the quality of equipment and status of health facilities, although implementation and follow-up are unclear:

1. The Quality Management Checklist can be used by all health workers to check the equipment, medicines, transport, buildings and level of community participation. Checklists are often used by senior staff who report findings back to the Ministry.

2. The Clinic Infrastructure Evaluation Tool was developed for monitoring the quality of health clinic infrastructure. The tool assesses power supply, access to water, infection control measures, sanitation facilities, waste disposal methods and building conditions (WHO, 2012a).

In the most recent review of rural health clinics (2012), common issues included no water or sanitation, little implementation of infection control, no incinerators, and a significant number of facilities without sterilizers. These results are similar to those found in the 2010 survey of area health centres, which highlighted serious issues in the quality of health facilities.

7.4.3 Equity of outcomes

Despite general consensus on gender inequalities in the country, data presented in national plans and reports is not disaggregated by gender. Infant mortality rates, the only health outcome variable for which data on socioeconomic differentials are available, are characterized by few inequalities between rich and poor groups, as shown in Figure 7-6.
7.5 Health system efficiency

7.5.1 Allocative efficiency

In Solomon Islands there is a broad consensus that the limited resources available to the sector are directed towards purchasing an appropriate mix of health services – for the present. The system functions effectively as a nurse-led primary care system, providing equitable access to basic services based largely on clinical need, although there are geographic disparities and coverage of preventive services is low. Current policy settings reflect this, with the NHSP focused on prevention and “doing better”.

There are three major concerns in terms of allocative efficiency. The first is that the intention to shift resources to provincial service delivery and invest more in prevention may not eventuate, as it is dependent on improved planning and budgeting processes, and management (see Section 7.5.2). The second is that pressures to expand the basic package, particularly the range of NCD screening and treatment services, as well as new vaccines, will crowd out funding for other more cost-effective interventions. The third is that HRH policy decisions continue to be made by default, without adequate consideration of the full costs and implications. For example, a de facto policy of replacing primary care nurses with doctors would be an expensive change for little health gain.
The technical and political elements of prioritization are challenging. The country is highly reliant on external partners for technical advice on the most effective and cost-efficient health interventions. The political economy of decision-making is also complicated in such a donor-dependent environment. Attempts by the MHMS to take a systems approach, and to plan and budget for integrated service delivery are routinely undermined by external actors who support centralized resourcing for disease-based programs, rather than adhering to the NHSP, which is attempting to shift resources to support integrated service delivery at provincial level.

The Medium Term Expenditure Framework (currently being updated) can play an important role in supporting allocative shifts if it translates high-level policy priorities into a multi-year budget strategy. The National Health Conference and Development Partner Coordination Group mechanisms are the primary vehicles for discussions about sector performance, but as yet these are weakly linked to Government decisions about overall allocations and the budget process. A well-designed and transparent formula for provincial funding will be an essential element for achieving planned increases in provincial funding (with absorptive capacity being largely a technical planning, budgeting and management capacity issue).

In a small, unified health system such as in the Solomon Islands, the planning and budgeting system plays a very important role in improving allocative efficiency. Current moves to strengthen the system and provincial management capacity have a number of elements and are highly reliant on better cost information.

### 7.5.2 Technical efficiency

The NHSP, drawing on a number of studies (World Bank, 2010a Foster et al., 2009b), identified the scope for, and necessity of, finding and implementing changes that would improve the efficiency with which health systems outputs are produced. Managers in the system are well aware of the scope for efficiency improvements, many of which are within their span of control, or can be addressed by improvements in administrative processes and improved information (e.g. timely information on service provision from the HIS, integration of the planning and budgeting systems). An improvement in staff productivity is another area often cited as vital for improving overall system efficiency.
To date, however, there has been little information available to help identify the most efficient and equitable service model or with which to reassess existing policies. The NRH and many provincial hospitals consume very large proportions of the total public resources for health, yet cannot report reliably on the effectiveness or efficiency of those resources or services (MHMS, 2008a). At the provincial level, the duplication of resources and activities for public health programmes, particularly those under central control, has long been seen as undermining efficient resource utilization, but very little information is available for Provincial Health Directors to assess overall efficiency.

The current Health Facility Costing Study will provide much needed analysis of the options for improving technical efficiency. In particular it will enable informed decision-making about the ideal role of different levels of facility in the service hierarchy, taking into account the need to maximize economies of scale, maintain the current high levels of access and equity and extend coverage of basic interventions to underserved areas.

It is worth noting in that context that while earlier commentators have identified the policy of free services and subsidized patient transport to the NRH, and high cost per bed night that results, as an efficiency problem (Foster, Chamberlin et al. 2009), it is now recognised that those policies have a crucially important impact on equity, as long as the right patients are referred.

Informed assessments are needed to enable the NHSP policy of shifting resources to the provinces to gain actual efficiencies. Equally importantly, some policy settings are sound and should only be changed with caution. An example is the extended role for primary care nurses and nurse aides, which makes a major contribution to the cost-effectiveness of the system as a whole.

### 7.6 Transparency and accountability

As steward of the Solomon Islands health system, the MHMS has primary responsibility for ensuring transparency and accountability. Formal processes for strategy development and performance review are generally transparent and allow for engagement of a wide range of stakeholders. Major budget and policy decisions can be less transparent, and have sometimes been made by agencies other than MHMS, such as the decision by the Department of Foreign Affairs to send large numbers
of students to Cuba for medical training or the decision by Cabinet to substantially increase the salaries of some specialists at the NRH in 2013. In the past, the Government has not had the benefit of information about the full costs and benefits key policy settings, a situation that is changing as the relevance, quality, timeliness and accessibility of analytical work improves.

While public participation in formal decision-making is low, feedback loops at the community level do create a degree of accountability and patient empowerment, particularly as modern communications technology reaches remote communities. Solomon Islanders do expect good primary care services to be available when they need them, although those living in remote areas are likely to be less aware of the health benefits to which they are entitled.

The NHSP places a high value on fostering a performance culture within the system. Such a culture is gradually emerging, as information about resource allocation and sector performance becomes more widely available and discussed. Processes such as peer review and quality assurance of data are also supporting that change. Improvements in the health information system and financial reporting are enabling a better dialogue about resource allocation and performance both within the health system and between the MHMS and the Ministry of Finance. For example, the Core Sector Indicator Report is now published annually, and is presented at the National Health Conference along with sector budget priorities. Wider civil services reforms aimed at improving accountability are getting some traction, although progress is slow.

Improvements in systems and transparency have been effective in both identifying and demonstrating the impact of corruption. In the low resource setting of the Solomon Islands, any misuse of scarce resources diverts that resource from more effective use. This issue is gradually becoming recognized in the health care system. Whether that translates into real behaviour change remains to be seen.
8 Conclusions

Solomon Islands is a small, low-middle income Pacific island country. With a population of some 670 000 and per capita health spend of SB$ 600 a year, its health system can be characterized as conceptually “fit for purpose” but needing ongoing maintenance and development in some key areas such as management and service administration. Analysis of the health financing system has reinforced that the current service delivery model, based on public sector delivery alongside small scale, co-financed/integrated private sector/non-state provision, is efficient and cost-effective given market realities and the current limited prospects for significant economic growth. A range of analyses reinforces the view that social health insurance and a bigger private sector are not viable and would not increase health system efficiency or equity at this time.

As the main funder, provider and regulator of the system, the Ministry of Health and Medical Services has overall responsibility for improving health outcomes. The service delivery functions of the Ministry are decentralized – with Provincial Health Offices and the National Referral Hospital responsible for delivering the bulk of services (Provincial government is neither funded nor responsible for health service delivery).

The system has significant weaknesses but also considerable strengths. With limited resources, the country achieves comparatively high rates of equitable access to basic services. It achieves this through a nurse-run provincial primary care system, with a relatively functional referral system and subsidized patient transport. Coverage of basic interventions is high, with the exception of family planning services.

Current reform efforts are focused on increasing the coverage and quality of a basic package of preventive and primary care interventions to the whole population, and ensuring strategies are translated into services. Work is underway to reassess and cost the package, and to define the service model to be used for each (the primary care system delivers health interventions through health facilities, outreach and community-
level Healthy Settings. As in many low-income countries, public financial management has until recently been a neglected public health priority in Solomon Islands, but parallel reforms are focusing on strengthening operational planning, budgeting, monitoring and financial controls to ensure strategies are translated into services.

The aim is to develop a strong and affordable health system, which prioritizes equity and depth (i.e. tightly limiting the package to what will achieve the best health gains for the majority in an affordable and sustainable way) of service coverage to the population, while controlling the breadth of the package until either efficiency or fiscal space provide additional resources for its expansion.

As in any system, reform is both a technical and political process. Prioritizing prevention and primary care means both shifting resources and changing what health workers do. Finding greater efficiency at the NRH requires committed management and strict priority setting.

The strengths of the system are often overlooked. Solomon Islands has a predominately nurse-led service which has served the country well in terms of its health outcomes as well as its broader fiscal and geographic context. Despite challenges with weak public administration and governance, compared with other low-middle income countries, resources do reach the periphery, evidenced by the low drug stock-out rates at facilities, relatively high staff attendance, high levels of patient satisfaction and low out-of-pocket costs. The system is oriented to primary care, with even the NRH functioning as a major primary care provider.

The main system weakness is its capacity to use limited resources efficiently. Ad hoc policy processes have seen a large number of students sent to train as doctors in Cuba, with the risk that they will replace rural nurses with very limited (if any) gain in quality and much higher costs. This is one of many examples where the failure to assess the full costs and implications of the offer of external support has undermined sensible resource allocation and prioritization.

**Lessons learnt from system changes**

Funding and partnerships for Healthy Settings will save the most money in the long run. The Ministry and its private sector (and UN) partners have not yet developed a process for jointly planning and budgeting the
community level Healthy Setting interventions in the basic package. This step of the reform process will determine its overall success.

Prioritizing prevention and primary care is largely dependent on improved management. One of the main system weaknesses is inadequate management capacity. Where staff in senior roles are engaged, well-informed about the issues they are dealing with, lead effective teams and use good processes to reflect on service statistics (HIS and other), financial reports (budget execution), and HR reports (vacancies, performance), they can achieve significant efficiency improvements. Improvements to administrative systems and clarity about roles and responsibilities can underpin but not replace effective management.

The Sector Wide Approach has shown that there is value in an informed dialogue about sector performance and resource allocation, and for commissioning shared analytical work. Work underway will provide much needed baseline data to inform future policy choices. The SWAp has also demonstrated that building a performance culture is challenging for both Solomon Islanders and their development partners.

**Remaining challenges**

The Solomon Islands health sector faces a future of constrained resources and difficult choices. The history of ad hoc decision-making creates an environment where some of the most expensive choices may be made with the least information, particularly in relation to human resources for health. The choices made on the extent of autonomy given to the NRH, the future of the nurse aide workforce, the scope of the basic package, the response to medical specialist wage claims and the point at which no further students will be sent to Cuba will all determine the future affordability of the system.

Similarly, the basic features of the primary care system need to be protected, particularly the role of nurses and nurse aides, the referral system and the Ministry’s Provincial Health Offices, while planning and implementing efficiencies without undermining equity.

While some progress has been made to improve internal controls, reporting and auditing with the financial management and procurement system, fraud continues to be a considerable risk, undermining the financial sustainability of the system if donor financing were to be withdrawn. Donors’ zero tolerance of fraud is not likely to change, and corruption undermines the best use of scarce resources.
There is an opportunity to improve the performance of the system through reforms to health worker training. The current in-service training system is highly inequitable and inefficient, and the same may apply to pre-service training. All training should build the skills and know-how which drive efficiency, make best used of scarce resources and sustain quality.

The vulnerability of the system has been highlighted in recent disease outbreaks (dengue, rotavirus) which have led to unnecessary deaths and suffering as well as costs. Moves have been made to strengthen the surveillance and response system, and to build capacity to respond to both disease and disasters. The frequency of both is predicted to increase as the climate changes. The resilience of the system will also be tested by the twin forces of globalization and economic growth, bringing new risk factors and social change. Engaged and competent management will be needed.

Solomon Islands is actively addressing the challenge of managing an effective health system in a low-income context with limited scope for economies of scale. While the system currently needs considerable support, if management competencies are addressed and cost drivers are managed well, the system should be able to be both strong and affordable.
9 Appendices

9.1 References


9.2 Useful web sites

Secretariat of the Pacific Community National Minimum Development Indicator Database. Available at http://www.spc.int/nmdi/


9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with an external editor and the Secretariat of the Asia Pacific Observatory based in the WHO Regional Office for the Western Pacific in Manila, the Philippines. HiTs are based on a template developed by the European Observatory on Health Systems and Policies that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The template has been adapted for use in the Asia Pacific region and is available online at: http://www.WHO.who.int/asia_pacific_observatory/hits/template/en/

Authors draw on multiple data sources for the compilation of HiTs, ranging from national statistics, national and regional policy documents to published literature. Data are drawn from information collected by national statistical bureaux and health ministries. Furthermore, international data sources may be incorporated, such as the World Development Indicators of the World Bank.

In addition to the information and data provided by the country experts, WHO supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the Western Pacific Country Health Information Profiles (CHIPs) and the WHO Statistical Information System (WHOSIS). HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.
The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are subject to wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to:

- A rigorous review process consisting of three stages. Initially, the text of the HiT is checked, reviewed and approved by the Asia Pacific Observatory Secretariat. It is then sent for review to at least three independent experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate authority, and policy-makers within those bodies to check for factual errors.

- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.

- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and, in close consultation with the authors, ensures that all stages of the process are taken forward as effectively as possible.

### 9.4 About the authors

Nicola Hodge graduated from the University of Queensland with a Masters in International Public Health in 2010, after completing her undergraduate degrees at the University of Auckland. Nicola worked at the University of Queensland Health Information Systems Knowledge Hub from 2010–2013, where she was involved in a number of research projects relating to health information. Her current role at the University of Queensland continues to focus on improving evidence-based decision-making among Pacific Island Countries and Territories through strengthening local health information systems. She is also the Secretariat for the Pacific Health Information Network. Nicola has served on various WHO projects related to providing policy advice on public health issues, based on the critical analysis of health information.

Beth Slatyer is an Honorary Fellow at the Nossal Institute for Global Health and an independent policy analyst. She was previously a Senior Health Specialist with AusAID and the Australian Department of Foreign Affairs and Trade. Beth has had a long career in health policy and administration in Australia and internationally, focusing on health system
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Linda Skiller graduated from the University of Queensland with a Bachelor of Health Science majoring in Public Health, and a Diploma in Global Issues in 2012. During her studies, Linda worked for the University of Queensland Health Information Systems Knowledge Hub as a Research Assistant and was involved in multiple projects relating to Health Information in the Pacific. Linda currently works for the Australian Bureau of Statistics within the Australian Mortality Data Centre as a Data Analyst and Mortality Coder, where she continues her strong affiliation with Health Information. She continues to pursue opportunities for related work in the Pacific region.
The Asia Pacific Observatory on Health Systems and Policies is a collaborative partnership which supports and promotes evidence-based health policy making in the Asia Pacific region. Based in WHO’s Regional Office for the Western Pacific it brings together governments, international agencies, foundations, civil society and the research community with the aim of linking systematic and scientific analysis of health systems in the Asia Pacific region with the decision-makers who shape policy and practice.