

SOLOMON ISLANDS

HEALTH FINANCING SYSTEM ASSESSMENT

\$PEND BETTER



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1818 H Street NW
Washington, DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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SOLOMON ISLANDS
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Solomon Islands has made some impressive gains in health outcomes over the last two decades. Continued improvements will require more effective governance to manage finite resources at all health service levels. Now more than ever, with decreasing real per capita health expenditure, greater focus is needed on spending health dollars better. More efficiency. More quality of service delivery. More targeted interventions for vulnerable groups to improve equity.

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Executive Summary

This report identifies critical opportunities and constraints faced by Solomon Islands health system as it makes progress towards Universal Health Coverage (UHC), and works to protect health outcomes through effective management of changes in financial and other institutional arrangements in the health sector.

[How are health outcomes tracking?](#)

Many population health outcomes have improved significantly in Solomon Islands in the two decades to 2017. Life expectancy increased from 57 in 1990 to 68 years in 2014 (World Bank 2017). There has been a marked decline in the prevalence of malaria and tuberculosis (TB), and overall immunization coverage has improved but remains volatile. With a relatively low reported under-five mortality rate of 28 per 1,000 live births¹ and a neonatal mortality rate of just over 12 per 1,000 live births in 2015, the country is well positioned to achieve some of the key health-related Sustainable Development Goals (SDGs) by 2030 (World Bank 2017).

Despite these positive indicators, there have been mixed ratings on preventive, promotive and treatment results when compared with other countries with similar income levels. Recent outbreaks suggest immunization coverage is still insufficient. Malaria remains a concern, particularly for vulnerable groups such as children under five years of age and pregnant women. Poor sanitation continues to be a significant issue, and TB and chronic respiratory infections remain a significant share of the disease burden. Very little progress has been seen in improvement to family planning outcomes, despite reported high demand for these services, particularly for the use of long-acting reversible contraceptives.

Noncommunicable diseases (NCDs) now make up the major share of the overall burden of disease. There are high and increasing rates of such risk factors as smoking, poor nutrition, alcohol consumption and physical inactivity. Diabetes and adult obesity are also rising. At the other end of the calorie spectrum, stunting and wasting in children under five years of age also remain a key health issue (National Statistics Office, NSO et al. 2015). Ongoing challenges with communicable diseases and maternal, neonatal, and nutritional health persist. The Solomon Islands is suffering the classic “double burden of disease”, similar to most other countries in the region.

[What resources are currently invested in health?](#)

In principle, Solomon Islanders have low-cost access to some form of basic health care, delivered predominantly by the Ministry of Health and Medical Services (MHMS) through a network of over 300 public facilities. Key constraints to access include poor maintenance of health facilities, high rates of facility closure, and inadequate referral systems. At 1.3 per 1,000, the hospital bed-to-population ratio is relatively low (World Bank 2017)². While there is no discrimination in access to care through policy mechanisms, there are disparities due to a population spread over a difficult geographic terrain. Hospital access is most readily available for those in provincial centers and the capital, Honiara. Although the number of health workers per capita has improved in recent years, the skill mix and distribution of health workers across provinces, disease burden, and national programs is generally inequitable and supply-

¹ The Ministry of Health and Medical Services (MHMS) Core indicator reports an under-five mortality rate of 25 per 1,000 (MHMS 2016). For consistency and comparison across countries we used the World Development Indicator (WDI) database in this report.

² The latest year available is 2012.

driven. Outpatient visits were 2.1 per person in 2016, similar to most other low-middle income countries in the region (MHMS 2016).

Total health expenditure (THE) per capita was US\$102 (SB\$753)³ in 2014, comparable to other countries with similar levels of income (World Bank 2017). In nominal terms, total and per capita health expenditure increased between 2007 and 2014. In real terms, however, THE has only slightly increased while THE per capita has decreased by 8 percent, reflecting high population growth.

[Who is paying for health and what is the money used for?](#)

The large majority of health expenditure is publicly⁴ funded by the Solomon Islands Government (SIG), from both domestic and development partner (DP) funding. In 2014, public expenditure on health was 92 percent of THE, the highest share in the region. Solomon Islands almost tripled its nominal domestic allocation to MHMS between 2007 and 2016 and has consistently allocated MHMS the second largest recurrent budget after the education sector. Patients' out-of-pocket (OOP) payments are low but there are significant indirect costs such as travel and time. This health financing landscape is very particular to Pacific Island Countries, and very different to other countries with similar levels of income outside of the Pacific.

MHMS's largest expenditure is on payroll and staff benefits, and the largest spending groups are provincial divisions, followed by the National Referral Hospital (NRH) and corporate services. In 2016, just over one-half of MHMS total recurrent expenditure was spent on payroll and staff benefits. Goods and services represented one-quarter of total recurrent expenditure, but this share is declining as the share of expenditure on grants to provincial divisions is increasing. Provincial divisions incurred 40 percent of total recurrent expenditure in 2016, followed by the NRH (just under 20 percent). This is in line with MHMS policy to move resources to the provincial divisions to deliver services for the majority of the population that still lives outside of the main urban center of Honiara.

[What role does external financing play in the health sector, and what changes are expected?](#)

The health sector is highly dependent on external funding, with DPs providing more than four out of every ten dollars spent on health on average between 2004 and 2014 (World Bank 2017).⁵ While there is a great push from DPs to contribute through established government systems, referred to as 'on-system', clear budget and expenditure data for off-system DP contributions continues to be difficult to access. Although DPs increasingly reflect their support on budget or use systems for part of their support (from one DP on system in 2014 to potentially 13 in the 2018 budget), less than one-half of DP contributions were estimated to be delivered through the government system in 2015 and 2016. The Australian Department of Foreign Affairs and Trade (DFAT), the largest DP in the sector, channels most of its support on system, the Global Fund (GF) started channeling program implementation support on system in 2016, however, Gavi remains completely off system.

³ Exchange rate from WDI database data used for conversion otherwise specified. See Appendix Three.

⁴ Public expenditure for health (or government expenditure) includes both domestic and DP support.

⁵ The average for the period 2004 to 2014 is 45 percent. DP funding represents three out of every ten dollars if including only DPs using SIG financial management system (on-system DP) based on domestic data.

Following a decade of substantial external financing to the health sector, DP support has started to decrease; this trend is expected to continue, but will most likely remain significant. Some of the more notable changes to date include: (i) decreasing DFAT budget support—from US\$70 million to US\$57 million between 2012-16 and 2016-20 (AU\$80 million to AU\$66 million; SB\$534 million to SB\$435 million);⁶ (ii) transition from Gavi support to immunization by end of 2022⁷ means that MHMS will have to increase expenditure on vaccine procurement from an estimated US\$102,220 in 2017 to US\$483,030 per year from 2022 (SB\$783,000 to SB\$3.7 million); and (iii) decreasing GF support for malaria, TB and HIV will need to be managed as malaria grants were more than halved between 2012-14 and 2015-17 and will be cut by a further 9 percent for 2018-20, whereas TB/HIV grants decreased by 46 percent and will be cut by a further 18 percent in those same periods. While MHMS has started increasing domestic funding to some of the national programs facing cuts from external financing, it is unlikely it will be able to maintain past levels of financing. More effective approaches to integrated service delivery therefore need to be implemented.

[What can MHMS do now to strengthen health services?](#)

As MHMS has recognized in its National Health Strategic Plan (NHSP) 2016-2020, the ministry is committed to increasingly focus on improving its efficient use of all resources available to make every dollar go further. Increased financing opportunities for MHMS are limited due to the modest macroeconomic growth forecast, the already large share of the national budget allocated to health, and the overall decreasing trend in DP funding. Current health challenges, high population growth, more expensive chronic diseases management, longer life expectancy and ongoing health security risks continue to place further pressure on the health system. The policy options set out below build on the MHMS strategic plan's objectives and focus on a limited number of high-impact actions that align with MHMS priorities.

In this resource-constrained environment, it is increasingly important for MHMS to have a clear understanding of all resources available to provide the most efficient, quality, and equitable health care. In keeping with the spirit of the new Partnership Arrangement (2016-2020) under the Sector Wide Approach (SWAp), the health sector would benefit from increased efforts by MHMS and DPs to work together on more integrated approaches for resource management and service delivery. This requires better reporting of off-system expenditures by DPs. MHMS would gain from increasing work with other ministries as part of a government-wide approach to tackle the social determinants of health, such as water and sanitation, nutrition, adequate housing and education. The transition from donor-financed programs has already encouraged institutional improvements such as integration of health information systems and program-specific staff.

Increased action from MHMS and DPs to improve the routine monitoring of quality and efficiency of expenditures, particularly in high spending areas, is necessary, as is more focus on equity of resource allocation. This means targeting high disease burden and cost-effective interventions and focusing on vulnerable groups; particularly for the majority of the population that lives in rural areas. Increasing information is available that shows where the poorest and most vulnerable are, but this is yet to be used in any systematic way to inform decisions on how health resources are allocated and used.

⁶ The exchange rate used was US\$1 to AU\$1.15, the average of the last decade using WDI database data.

⁷ Solomon Islands transition date from Gavi support was extended from the end of 2021 to the end of 2022.

Policy Recommendation Summary

Two priority actions have been identified below as issues within MHMS' control that can be implemented to achieve immediate and ongoing substantial improvements to health service delivery.

Priority Action One: Improving governance and accountability arrangements at all levels of MHMS is a clear prerequisite to improving efficiency, quality and equity of service delivery.

1. **Policy Recommendation One: MHMS, with DP when relevant, to clarify/finalize and then implement required governance and accountability arrangements.**

Finalizing and implementing existing governance and accountability arrangements (such as committee meetings, health sector reviews, the Role Delineation Policy - RDP) would enable more regular and thorough performance monitoring and evaluation (M&E) and allow MHMS management and DPs to adjust work programs, and funding, according to needs and results. Solomon Islands has been on the forefront of performance-based financing for health in the Pacific, for example through DFAT's performance-linked aid, and GF's Cash-on-Delivery approach. Improved governance and accountability arrangements would enable MHMS to continue building on its performance, learning from the lessons emerging from these performance-based funding arrangements.

Priority Action Two: Increasing efficiency of health spending will likely remain the most important source of additional fiscal space for health in the near to medium-term.

2. **Policy Recommendation Two: MHMS to conduct efficiency analysis on identified priority areas, implement change, then monitor progress on a quarterly basis.**

In the context of decreasing donor financing, modest macroeconomic forecast, and the already relatively large share of the national budget allocated to health, MHMS' commitment to making every dollar go further to provide good quality and valued investments for health requires concerted action. This includes, but is not limited to, focusing on large expenditure items, and/or large return for investment areas.

Abbreviations

AHC	Area Health Center
ANC	Antenatal Care
AOP&B	Annual Operational Plan & Budget
API	Annual Parasite Incidence
ARV	Anti-Retroviral (Treatment)
AU\$	Australian Dollar
BCG	Bacillus Calmette-Guérin
CoD	Cash-on-Delivery
DFAT	Department of Foreign Affairs and Trade
DHIS	District Health Information System
DP	Development Partner
DPT	Diphtheria Pertussis Tetanus
DWE	Direct Wage Employee
EAP	East Asia and Pacific
EPI	Expanded Program on Immunization
EVM	Effective Vaccine Management
FBO	Faith-based Organization
GDP	Gross Domestic Product
GF	Global Fund
GNI	Gross National Income
HCC	Honiara City Council
HDI	Human Development Index
HFCS	Health Facility Costing Study
HFSA	Health Financing System Assessment
HIES	Household Income Expenditure Survey
HIS	Health Information System
HPV	Human Papillomavirus Vaccine
HR	Human Resources
HSS	Health System Strengthening
HSSP	Health Sector Support Program
IHME	Institute of Health Metrics Evaluation
IMR	Infant Mortality Rate
IPV	Inactivated Polio Vaccine
JICA	Japan International Cooperation Agency
LLIN	Long-lasting Insecticidal Net
LMIC	Lower-Middle-Income Country
MCMR	Malaria Case Management Register
MDG	Millennium Development Goal
MDPAC	Ministry of Development Planning and Aid Coordination
M&E	Monitoring & Evaluation
MHMS	Ministry of Health and Medical Services
MIS	Malaria Information System
MoFT	Ministry of Finance and Treasury
MPS	Ministry of Public Service
NCD	Noncommunicable disease

NA	Non-appropriated
NAP	Nurse Aid Post
NC	Notified Case
NGO	Nongovernment Organization
NHSP	National Health Strategic Plan
NIU	National Immunization Unit
NMS	National Medical Stores
NRH	National Referral Hospital
NVBDC	National Vector-Borne Disease Control
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
OPV	Oral Polio Vaccine
PCV	Pneumococcal Vaccine
PFM	Public Financial Management
PIC	Pacific Island Countries
PNG	Papua New Guinea
RDT	Rapid Diagnostic Test
Renbel	Rennell and Bellona
RHC	Rural Health Clinics
RMCH	Reproductive Maternal and Child Health
SDG	Sustainable Development Goals
SI	Solomon Islands
SB\$	Solomon Islands Dollar
SIG	Solomon Islands Government
SIMTRI	Solomon Islands Malaria Training and Research Institute.
SLMS	Second-Level Medical Store
STI	Sexually Transmitted Infection
SWAp	Sector Wide Approach
TA	Technical Assistance
TB	Tuberculosis
TFR	Total Fertility Rate
THE	Total Health Expenditure
TSR	Treatment Success Rate
TT	Tetanus Toxoid
UHC	Universal Health Care
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
US\$	United States of America Dollar
VII	Vaccine Independent Initiative
VIG	Vaccine Introduction Grant
WB	World Bank
WDI	World Development Indicators
WHO	World Health Organization

Section One: Introduction

Solomon Islands:	Population (2012/13) ⁸ : 615,804	Lower-Middle-Income Status	Gross National Income (GNI) per capita (2016): US\$1,880
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1. **After years of overall—if volatile—economic growth since the early 2000s, Solomon Islands is now facing a more modest economic forecast and the impact of changes in the global health landscape characterized by shrinking donor budgets.** This is further accentuated by the change in the country’s eligibility for accessing international aid due to their Lower-Middle-Income Country (LMIC) status. More specifically, after a long period of generous external financing, the health sector is facing reduced contributions from some of its main Development Partners (DPs), notably from: (i) the Australian Department of Foreign Affairs and Trade (DFAT) which has been supporting the Solomon Islands Government (SIG) and the Ministry of Health and Medical Services (MHMS) since 2003; (ii) Gavi, which has been supporting MHMS since 2008, but from which Solomon Islands enters the accelerated transition phase in 2017 and will fully transition from support by the end of 2022; and (iii) the Global Fund (GF), which has recently changed its support to Malaria, Tuberculosis (TB), HIV and AIDS to smaller, performance-based cash-on-delivery (CoD) grants. While other DPs are continuing their support, this has not so far offset the decrease from more traditional DPs, and the support they offer is very much earmarked to specific public health programs.

2. **In light of changes to the health-financing landscape, MHMS and DPs have initiated reviews and changes in the management arrangements and financing, not only of DP-funded vertical programs, but also of overall financial and institutional arrangements.** This Health Financing System Assessment (HFSA) assesses the country’s health-financing system and aims to help inform the financial and institutional sustainability of health programs as Solomon Islands transitions from various donor-financed arrangements, while supporting MHMS’s commitment to improve coverage, access and reach of services on its path to Universal Health Coverage (UHC). It will also help effectively manage the transition from, and/or integration of, donor-financed programs in the country, while protecting health outcomes from these transitions. Health financing is not only about assessing the sufficiency of resources spent on health in the country, but also about how equitably and efficiently resources are raised, pooled and allocated to make progress towards UHC. The HFSA will not only look at the overall health system but also delve deeper into some of the programs most affected by these transitions: the immunization, malaria, TB, and HIV program.

3. **This HFSA provides context and emphasizes key issues and messages aimed at providing MHMS and key DPs with a platform to help with this transition.** An HFSA builds on a Public Expenditure Review in that it goes beyond public expenditure on health (although in the Solomon Islands health expenditures are largely public) and frames health financing in the broader national context. It builds on, rather than fully repeats, comprehensive work that has been done in recent years. This includes the Solomon Islands

⁸ We used the population from the 2012/13 Household Income and Expenditure Survey (NSO 2015) because the most recent 2015 DHS (NSO 2017) used the 2009 Census population (515,870). The 2016 projection from the National Statistics Office estimates the total population as 639,157 but we didn’t have the breakdown by provinces at the time of the HFSA. The World Development Indicators (WDI) database (World Bank 2017) also has different population estimates.

Health System Review (WHO 2015), the Solomon Islands Health Financing Options paper (World Bank 2010), the Health Facility Costing Study (HFCS) (Lorgelly et al. 2015), and yearly MHMS Expenditure and Trend Analysis, all of which are available for a more complete analysis of the health sector. The HFSA uses data from global databases that usually has two-year lag and more up-to-date country sources for expenditure data to 2016 where available. Global database data was used for international comparison and macrolevel health expenditure information, while more up-to-date country source information was used when available for more detailed health expenditure analysis. Data often differs between the global and domestic databases, explaining different numbers for the same indicator. We have noted source of data throughout the HFSA to help with this issue.

4. **The HFSA and its key policy recommendations are intended to be used by leadership and policy makers in the MHMS, by DPs, but also by central agencies such as the Ministry of Finance and Treasury (MoFT) and the Ministry of Development Planning and Aid Coordination (MDPAC) who control government resources allocations, and any party with a stake at improving health in Solomon Islands.** This report aims to provide some guidance to the Sector Wide Approach (SWAp) partners as they implement the National Health Strategic Plan (NHSP), the Role Delineation Policy (RDP), and the SWAp arrangements. The HFSA serves as a live document for reference and can be used to inform adjustments to how resources are allocated and used, particularly as part of the country's rolling annual planning and budget cycle.

5. **The paper is structured into eight sections, including this introduction.** Section Two provides background information on the Solomon Islands country context, including economic growth and a summary of the macroeconomic context. Section Three summarizes health outcomes and the health system, including an assessment of progress towards UHC. Section Four briefly reviews health care organization and delivery. Section Five provides the landscape of the health-financing system, while a more detailed section on the immunization and the malaria, TB and HIV programs, are respectively provided in Sections Six and Seven. Lastly, the paper concludes with a discussion of policy recommendations for consideration.

Section Two: Background

Summary:

- After years of overall– yet volatile–growth since 2003, Solomon Islands is now facing a more modest economic forecast. Coupled with ongoing high population growth, this is expected to result in overall marginal improvements in living standards. Despite past economic growth, Solomon Islands has a low Human Development Index (HDI), and 13 percent of the population is classified as poor. Rural households are more likely to be poor than urban ones.
 - External financing has been a major contributor to SIG revenue and to economic growth. Grants contribution to Solomon Islands are expected to remain significant but some have started, and are projected to continue, declining.
 - SIG has shown a strong and growing commitment to the social sector, with significant contributions to both health and education, in nominal terms and as a percentage of the total national budget.
 - The health sector receives significant support from DPs, all with different funding modalities, systems and processes. Noteworthy progress has been made towards getting DPs on-plan, on-budget and where relevant on-system. However, significant challenges remain that will need ongoing management, particularly as the sector undergoes changes in financing and institutional arrangements, and implements its RDP.
-

2.1 Economic Growth, Poverty and Shared Prosperity

6. **Solomon Islands is an archipelago comprised of more than 900 islands grouped in nine provinces, with a total land area of 28,400km² over 1.3 million km² of Pacific Ocean, situated in the Pacific ‘ring of fire’.** This makes the country very prone to natural catastrophes such as earthquakes and tsunamis—more recent ones include earthquake-triggered tsunamis in 2007 and 2013, deadly floods in 2014 caused by a tropical cyclone, and a volcanic eruption near Temotu province in October 2017. Furthermore, like most of the Pacific, Solomon Islands is vulnerable to rising sea levels. The population of 615,804 (NSO 2015) Solomon Islanders⁹ is largely rural (81 percent), living in households averaging six people, and young—over one-half of the population is under 20 years of age (National Statistics Office – NSO 2015). Some 28 percent of the population resides in Malaita, the most populated province, whereas Rennell-Bellona (Renbel), the least populated province, accounts for less than 1 percent of the total population. These country characteristics all contribute to a challenging service-delivery environment—including health-service delivery.

7. **Real Gross Domestic Product (GDP) per capita in 2015 was lower than in 1995, but has been increasing almost constantly since the end of the civil unrest in 2003 (Figure 2-1).** Solomon Islands had a Gross National Income (GNI) per capita of US\$1,880 (SB\$14,344) in 2016 (World Bank 2017)—ranking lower than its regional peers. Indeed, amongst selected neighboring Pacific Islands Countries (PICs)¹⁰ had an average GNI per capita of US\$3,280 (SB\$25,026) that year. The country has transitioned in its World

⁹ The 2016 projection from the National Statistics Office estimates the total population as 639,157, while the DHS 2015 (NSO et al. 2017) used the 2009 census population (515,870). The World Development Indicators (WDI) database (World Bank 2017) also has different population estimates.

¹⁰ Includes Solomon Islands, Vanuatu (2014 data), Kiribati, Papua New Guinea, Samoa, Tonga and Fiji.

Bank (WB) income classification multiple times since 1995, with a latest transition to LMIC in 2010.

Figure 2-1: GDP per Capita (1995-2015)

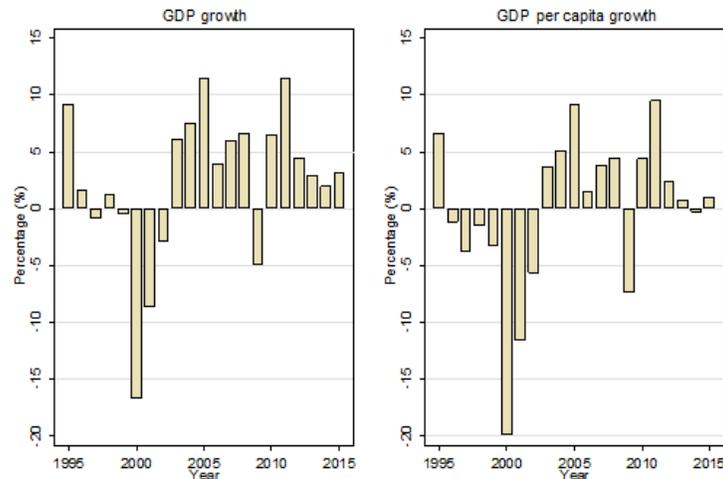


Source: World Bank 2017.

Note: Gross Domestic Product (GDP) per capita in 2015 Constant US\$.

8. **Although volatile economic growth is, to some extent, expected given the small size of the country, the variation is very high even when compared to similarly sized countries.** Economic growth has vacillated between a high of more than 10 percent to a low of more than -10 percent within a span of a few years (Figure 2-2). The standard deviation of its GDP growth was 6.7 percent (6.9 percent in per capita terms), the highest among PICs.

Figure 2-2: Gross Domestic Product (GDP) Growth and GDP Per Capita Growth (1995-2015)



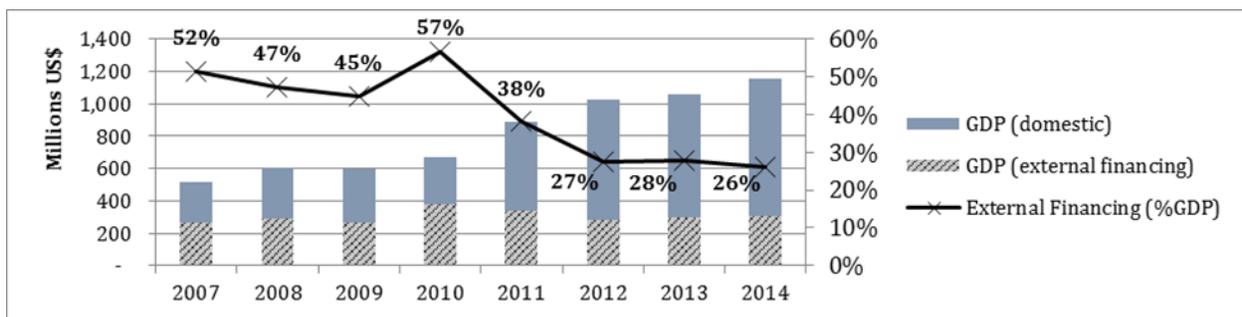
Source: World Bank 2017.

9. **This economic volatility has been the result of several factors but has mostly been the result of major civil unrest (also known as “the tensions”) between 1998 and 2003.** This caused serious social and economic problems, including the large-scale destruction of public infrastructure and a significant drop in GDP and led to four consecutive years of negative growth between 1999 and 2002. Things have improved

since the Regional Assistance Mission to Solomon Islands (RAMSI)¹¹ began in 2003 and economic growth rebounded. Recent events such as the 2009 global financial crisis and the 2014 flash floods and consequent closure of the Gold Ridge mine have, however, adversely impacted the economy and, as a result, growth rates have declined more recently.

10. **RAMSI was accompanied by significant external financing to the country, a major contributor to economic growth.** External financing as a share of GDP hit a high of almost 60 percent in 2010. The overall trend has since been decreasing, however, with external financing as a share of GDP dropping to 26 percent in 2014 (Figure 2-3). In nominal terms (dollar amounts) external financing has also been decreasing after an all-time high of US\$381.2 million (SB\$3,072 million) in 2010, but in 2014 was still slightly higher than the 2007 amount.

Figure 2-3: External Financing Contribution to Solomon Islands GDP (2007-14)



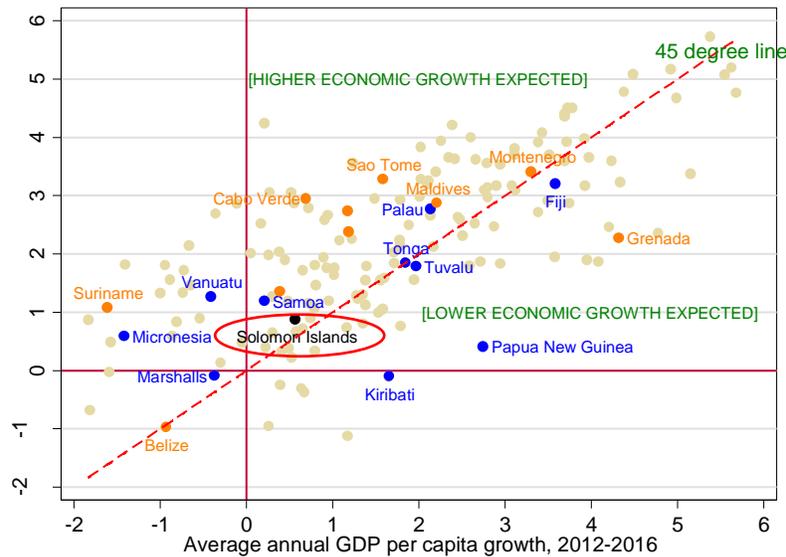
Source: Organisation for Economic Co-operation and Development (OECD) 2017; World Bank 2017; and World Bank staff calculation.

Note: Gross Domestic Product (GDP).

11. **Moderate growth prospects (Figure 2-4) over the medium-term—coupled with relatively high population growth—are expected to result in overall marginal improvements in living standards.** Projected annual GDP per capita growth between 2017 and 2021 is just under 1 percent, while population growth in the decade to 2017 was 3.8 percent per annum and is unlikely to drastically decrease in coming years. The broader macroeconomic environment presents a mixed outlook for the country. Since recovery from the global financial crisis in 2010, inflation has been relatively stable (until 2015) and low (Figure 2-5), owing to lower global fuel prices—a major cost component of the country’s imports—and lower domestic food prices.

¹¹ RAMSI was a partnership between the Solomon Islands and 15 countries of the Pacific that arrived in the Solomon Islands in July 2003 at the request of SIG to help restore and lay foundations for long-term stability, security and prosperity after the 1998-2003 civil unrest.

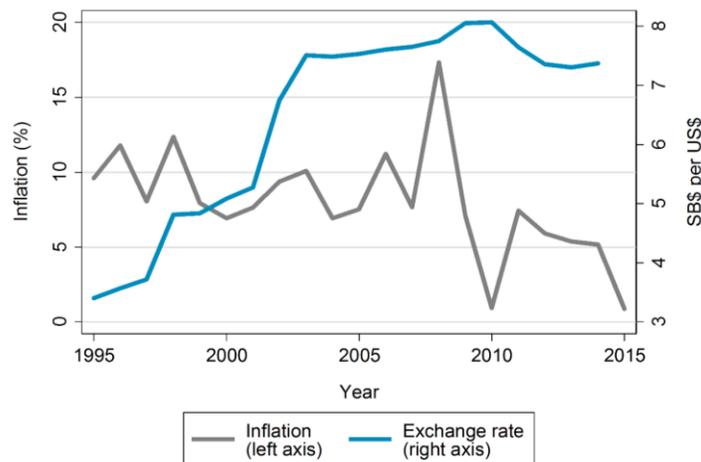
Figure 2-4: Projected Annual GDP per Capita Growth (2017-21)



Source: World Bank 2017.
 Note: Sao Tome is São Tomé and Príncipe

12. **The Solomon Islands dollar has stabilized between SB\$7 and SB\$8 to the US\$ in the decade to 2017(Figure 2-5), however, since 2011, it has gradually appreciated against the AU\$, from SB\$8.50 to SB\$5.90 to the AU\$ by December 2015.** While this appreciation means that Solomon Islands pays less for goods imported from its biggest trading partner, Australia, it also translates into lower external financing from the country’s main DPs in SB\$ amounts. This is particularly relevant to the health sector as it receives significant contributions from DFAT. Furthermore, high costs of medical goods and services and nonmedical inputs (electricity and fuel, which is denominated in US\$) can significantly add to health care delivery cost pressures.

Figure 2-5: Inflation and Exchange Rate (to US\$) (1995-2015)



Source: World Bank 2017.

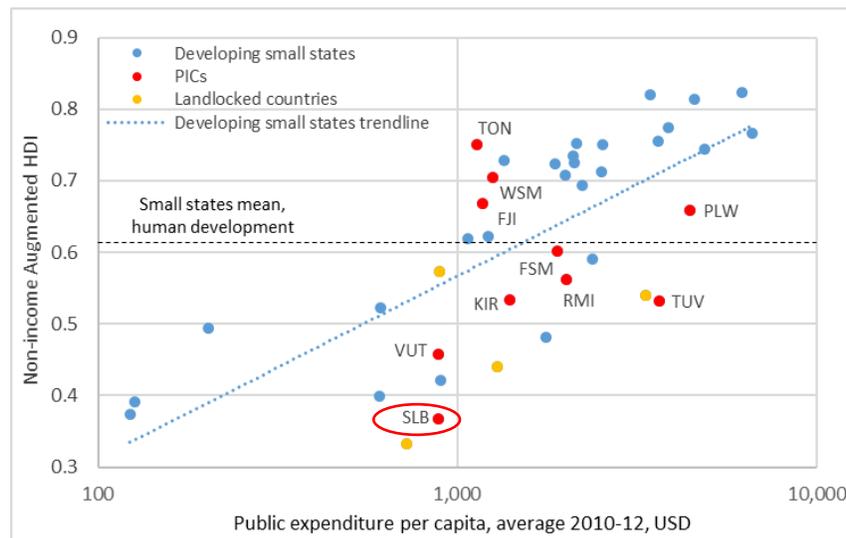
13. **While the HDI increased between 2000 and 2015 (0.442 to 0.515), it still places Solomon Islands in the low index group (UNDP 2016).** The country ranks 156 out of 188 countries, and ranks lower than the East and Asia Pacific (EAP) region (0.720), and slightly lower than Vanuatu (0.597) and Kiribati (0.588).

Solomon Islands has achieved very low non-income augmented HDI¹² compared to other small states with similar levels of public expenditure per capita (Figure 2-6).

14. **About 13 percent of the population is classified as poor, living under the poverty line (NSO and WB 2015).** This poverty is predominantly rural: rural households are more likely to be poor than urban ones, and 87 percent of poor households live in rural areas. The worst-off provinces are Makira (the overall poorest) and Guadalcanal (excluding Honiara City Council, HCC)—overall the most inequitable. The distribution of income throughout the country demonstrates a high degree of income inequality, which is relatively higher in urban areas than in rural areas. The poorest 50 percent of households earn less than one-fifth of total household income for the country, and urban households earn almost three times the average income of rural households, and twice the median and per-person income.

15. **Solomon Islands has a very large informal sector.** In 2012-13, the main occupation of the population was production of subsistence goods or studying (both 28 percent), other (15 percent), private or public employment (12 percent), unpaid household work and for-sale production (both 8 percent) (NSO 2015).¹³ Female-headed households constitute only 8 percent of all households, and while the incidence of poverty for female-headed households is lower than the national average for all households, female-headed households by income group earn less than males. More men than women were engaged in private or public employment and in the production of goods for sale, while more women were engaged in nonmonetary activities.

Figure 2-6: Relationship Between Human Development and Public Spending per Capita in Small States



Source: World Bank 2017a.

Note: Pacific Island Countries (PICs), Solomon Islands (SLB), Vanuatu (VUT), Kiribati (KIR), Tuvalu (TUV), Republic of Marshall Islands (RMI), Federated States of Micronesia (FSM), Tonga (TON), Palau (PLW), Fiji (FJI), Samoa (WSM- as per the ISO country code).

¹² Augmented HDI includes only the health and education components of the original index, with additional indicators on infrastructure such as electricity and Internet.

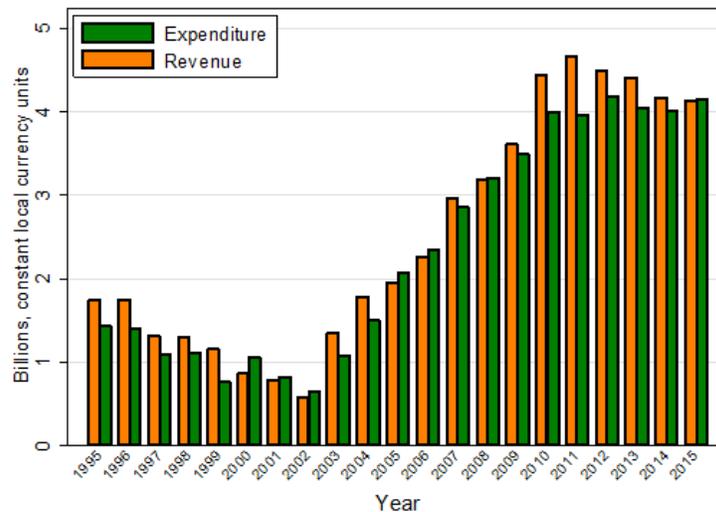
¹³ These percentages are based on the population over 10 years of age who were not classified as students.

2.2 Macroeconomic Context

16. **Despite economic volatility, real government revenues (including external financing) increased steadily from the early 2000s to 2011, with slight declines since.** The government has had a long period of economic surplus (Figure 2-7) and relatively low levels of debt; however, there was a fiscal deficit equivalent to 0.3 percent of GDP in 2015 (Figure 2-8) and, although a deficit of 5.7 percent of GDP is budgeted for 2016, this is unlikely to fully materialize. The debt-to-GDP ratio is expected to increase to around 25 percent in the medium term, reflecting SIG borrowing for the Tina River Hydropower Development Project and submarine cable projects.

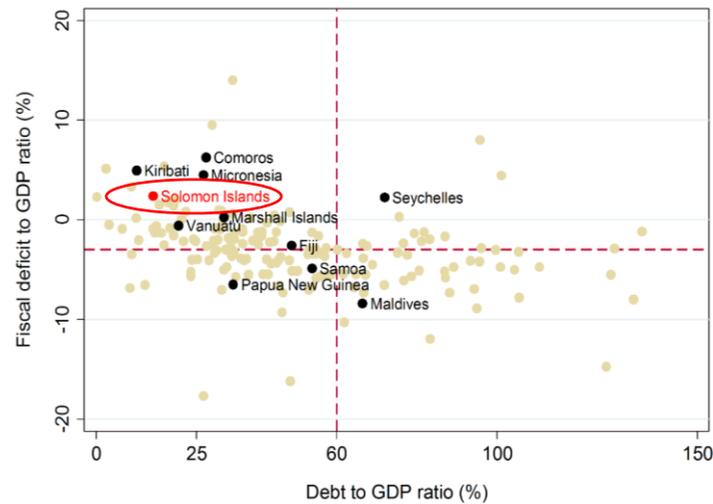
17. **Economic prospects for the coming five years are fair.** Economic growth (driven by the somewhat risky sectors of mining, construction, and telecommunications) is expected to be in the range of 3 percent per year—similar to population growth—resulting in overall marginal improvements in living standards. Since 2010, SIG revenues as a percentage of GDP have been declining and are forecast to stagnate just above 40 percent up to 2021 (IMF 2016). As with other PICs, public expenditures as a share of GDP are often high due to their inability to achieve economies of scale given their size and their scattered population, in addition to the high cost of largely imported inputs (World Bank 2017a).

Figure 2-7: Government Revenue and Expenditure (1995-2015)



Source: International Monetary Fund (IMF) 2017.

Figure 2-8: Fiscal Deficit and Debt Ratio (2015)



Source: IMF 2017.

18. **Income and goods and services taxes are consistently the largest source of revenue for SIG, followed by grants, then customs duties.** Following the external financing trend highlighted earlier, external grants have started declining both in SB\$ terms and as a share of total revenue, and this share is projected to continue declining (Table 2-1). It is, however, expected that external financing will remain an important source of finance over the long term, as with other PICs (World Bank 2017a). The health sector does not currently contribute directly to SIG revenues; however, arrangements are being put in place for earmarking tobacco licensing revenues to a bank account for MHMS usage, managed through the consolidated MoFT Account. Limited revenues raised by health facilities are not accounted for, either in MHMS or MoFT financial management information systems (FMIS).

19. **While SIG funds are in part transferred to the nine provinces and HCC, the larger share of government expenditure occurs at the central level (90 percent of compensation of employees, 99 percent of goods and services, 76 percent of grants and subsidies).** This may, however, be partly due to budget classification, and funds spent at the central level often make their way down to the provinces (for example, the Ministry of Infrastructure Development would cover most SIG projects centrally, including in the provinces; all drugs and dressings purchases are done at the central level by MHMS and distributed to the provinces). Between 2013 and 2015, over one-half of total government expenditure was spent on goods and services, one-quarter on compensation of employees, and between 14-17 percent on grants and subsidies¹⁴ (Table 2-2).

¹⁴ In the case of MHMS, grants to provinces are also used to pay for Direct Wage Employees, increasing the total amount (and share) of expenditure on compensation of employees.

Table 2-1: Solomon Islands Government Revenue and Expenditure (2013-17) (Millions of SB\$)

Category	2013	2014	2015 (est.)	2016 (proj.)	2017 (proj.)
Total Revenue and Grants	4,204	4,093	4,128	4,208	4,374
Total revenue	2,763	2,835	3,103	3,038	3,193
Tax revenue	2,469	2,487	2,621	2,685	2,835
Income and profits	936	863	991	1,021	1,123
Goods and services	879	907	855	921	955
International trade and transactions	655	717	776	744	756
Other revenue	294	348	482	353	359
Grants	1,441	1,259	1,025	1,170	1,181
Development grants	1,145	1,086	795	885	890
Recurrent budget grants	296	172	230	285	291
Expenditure	3,863	3,948	4,151	4,338	4,434
Recurrent expenditure	2,252	2,400	2,557	2,456	2,587
Compensation of employees	747	847	1,005	1,001	1,022
Interest payments	15	11	40	8	9
Other recurrent expenditure*	1,490	1,542	1,512	1,447	1,556
Development expenditure	1,608	1,516	1,588	1,882	1,847
Government funded	560	474	842	997	957
Grant funded	1,047	1,042	747	885	890
Discrepancy	3	32	6	0	0
Overall balance	341	145	-23	-130	-60
Total financing	-341	-145	23	130	60
Foreign (net)	-50	-43	-14	-20	146
Domestic (net)	-290	-102	37	150	-86

Source: IMF 2016.

Note: * Includes budget support. Figures might not fully add up due to the effect of rounding.

Table 2-2: Government Expenditure by Economic Classification (2013-15)

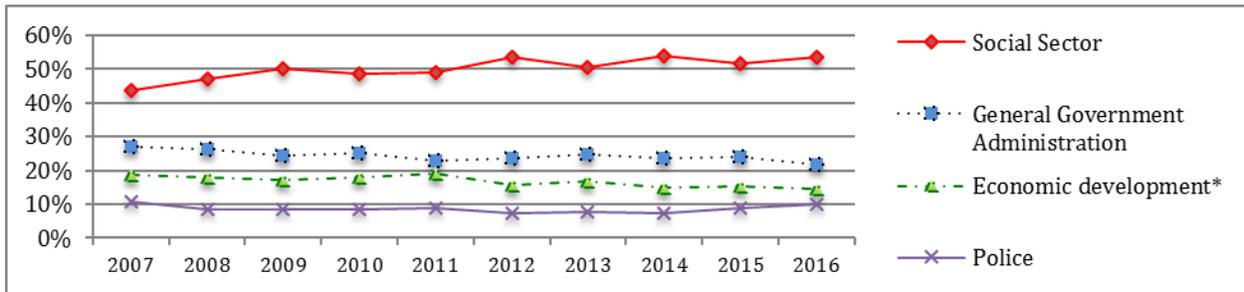
Expenditure Category	2013	2014	2015
Use of Goods and Services	57%	56%	52%
Compensation of Employees	25%	26%	27%
Grants & Subsidies	17%	14%	15%
Debt & Interest	1%	2%	5%
Social Benefits	1%	1%	1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: SIG FMIS and WB staff calculations.

Note: Figures might not fully add up due to the effect of rounding.

20. **SIG has a strong and growing commitment to the social sector, as represented by the annual budget allocations.** Since 2007, SIG has not only constantly allocated a large share of its national budget to the social sector (mainly Ministry of Education and Human Resource Development and MHMS)—with an all-time high of 54 percent in 2014—but has also increased that share from 44 percent to 53 percent between 2007 and 2016 (Figure 2-9). Of that total allocation to the social sector, 36 percent went to MHMS, while the large majority was allocated to education. It must be noted that Economic Development includes the Ministry of Infrastructure Development—which covers most SIG infrastructure projects centrally—and that allocations to this ministry might include some health infrastructure.

Figure 2-9: Central Government Budget Allocations by Function (2007-16)



Source: SIG FMIS and WB staff calculations.

Note: *Economic development includes infrastructure and rural development.

Section Three: Health and UHC Outcomes

Summary:

- The population of Solomon Islands has generally become healthier in the decade to 2017. Nevertheless, the country is doing about average relative to comparator countries on key health outcomes. It did not reach significant 2015 Millennium Development Goals (MDGs) and will need to sustain progress to attain the Sustainable Development Goals (SDGs) by 2030.
- The Solomon Islands' health system faces several remaining and some new emerging challenges. Noncommunicable diseases (NCDs) are increasing, and now account for the largest share of the disease burden and cause of death. Despite significant improvements in TB and malaria control, both remain a challenge, and further expanding immunization is proving difficult. Poor sanitation and stunting continue to be a considerable problem.
- Based on UHC tracer indicators:
 - Solomon Islands is making great headway with financial protection—although access to facilities remains challenging in rural areas where the vast majority of the population live, so there is likely to be at least some component of people deciding to forego care;
 - Solomon Islands has mixed results on preventive, promotive and treatment indicators when compared to per capita health expenditure of other countries in the region or countries with similar levels of income.

UHC for Solomon Islands means a stronger emphasis on basic services for underserved and vulnerable populations, with a focus on completing the communicable disease agenda and early detection and treatment of NCDs.

3.1 Demographic and Population Health Outcomes

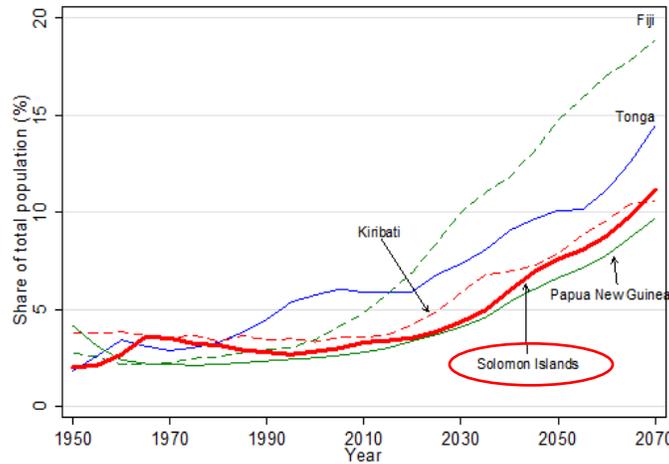
21. **Solomon Islands has a relatively high total fertility rate (TFR) of 4.4 per woman (NSO et al. 2017),¹⁵ and a population growth rate of over 3.8 percent per annum over the decade to 2017 (NSO 2015).** Nevertheless, the overall size of the population remains relatively small and United Nations (UN) population projections suggest that the population will reach 1 million only around 2050. The age distribution of the population is an important factor influencing the utilization of health services: younger and older subgroups generally tend to have much higher utilization rates. The population is relatively young, and younger than other countries in the region: about 41 percent of the population is below 15 years of age (52 percent under 20)—compared to Fiji (39 percent), Papua New Guinea (PNG) and Vanuatu (both 37 percent) (World Bank 2017)—and only 2.1 percent is above 65 years of age (NSO 2015). The median age is only 19. As with Kiribati and PNG, the UN projects that an increase in the proportion of the population over 65 years of age to over 10 percent is not expected to occur until at least 2070 (Figure 3-1).

22. **The population has generally become healthier over the past several decades.** Life expectancy at birth increased to 70.5 years in 2016, up from 57 years in 1990 and 49 years in 1960 (World Bank 2017). Women fared better than men with life expectancies of 72 versus 69 respectively (World Bank 2017; UNDP

¹⁵ The urban fertility rate is 3.4 and rural fertility rate is 4.7.

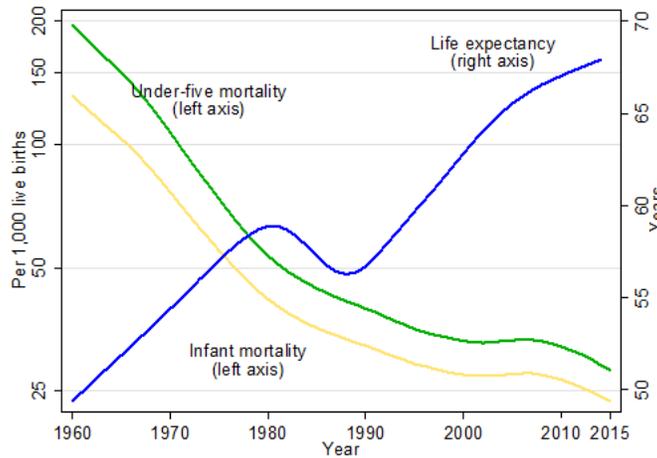
2016).¹⁶ The under-five mortality rate declined from 196 per 1,000 live births in 1960 to 40 in 1990 and 28 in 2015 (Figure 3-2; Table 3-1), and was higher for males (30.7) than for females (25.5) in 2015. Although the country did not attain the child-health MDG of an under-five mortality rate of 13 by 2015, it is almost close to the SDG of 25 per 1,000 live births by 2030. The Infant Mortality Rate (IMR) has declined five-fold since 1960, down to 24 per 1,000 live births in 2015 (Table 3-1)—as is the case with the under-five mortality rate, the IMR for males (25.4) was higher than for females (21.4) in 2015.

Figure 3-1: Share of the Population Over 65 Years of Age



Source: UN 2013.

Figure 3-2: Selected Health Indicators (1960-2015)



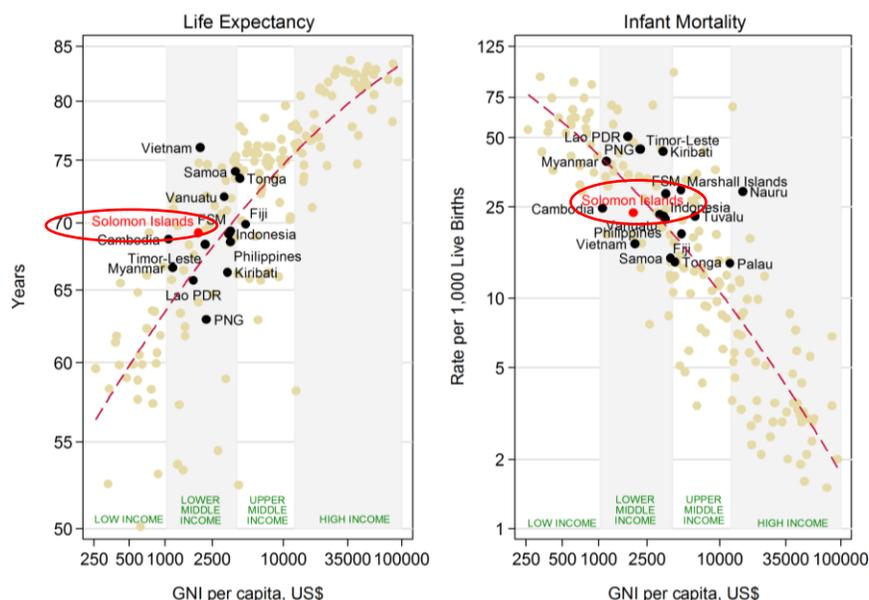
Source: World Bank 2017.

23. In global comparisons, life expectancy and IMR are somewhat better than might be expected for the country’s income level (Figure 3-3) but compare unfavorably to the EAP region and PICs’ averages (Table 3-1). Furthermore, the speed of decline in IMR and under-five mortality rates has slowed down in the last decade. With an under-5 mortality rate of 28 per 1,000 live births, Solomon Islands is,

¹⁶ Life expectancy data is interpolated data from five-year period data, and there was a census in 1986. The apparent drop in life expectancy between 1980 and 1990 in Figure 3-2 is most probably due to a readjustment of the projections rather than an actual drop in life expectancy.

however, well positioned to achieve the SDG 2030 target of 25. Despite a decline of more than one-half in the maternal mortality ratio—which was down to 114 in 2015—Solomon Islands also did not attain the maternal health MDG and remains far from the SDG 2030 target of 70.

Figure 3-3: Life Expectancy and Infant Mortality Relative to Income (2015)



Source: World Bank 2017.

Note: Both x and y axes in log scale.

Table 3-1: Selected Health Indicators by Location (1990-2015)

Health Indicator	1990	2015	MDG Target
Life Expectancy at Birth (Total, Years)			
Solomon Islands	57	68	n.a.
<i>Pacific island small states</i>	65	70	n.a.
<i>EAP</i>	67	74	n.a.
<i>Lower middle income</i>	65	67	n.a.
Maternal Mortality Rate (Modeled Estimate, per 100,000 live births)			
Solomon Islands	364	114	80
<i>Pacific island small states</i>	186	84	n.a.
<i>EAP</i>	252	82	n.a.
<i>Lower middle income</i>	227	202	n.a.
Infant Mortality Rate (per 1,000 live births)			
Solomon Islands	32	24	10
<i>Pacific island small states</i>	36	23	n.a.
<i>EAP</i>	42	20	n.a.
<i>Lower middle income</i>	44	33	n.a.
Under-five Mortality Rate (per 1,000 live births)			
Solomon Islands	40	28	13
<i>Pacific island small states</i>	45	28	n.a.
<i>EAP</i>	56	25	n.a.
<i>Lower middle income</i>	60	43	n.a.

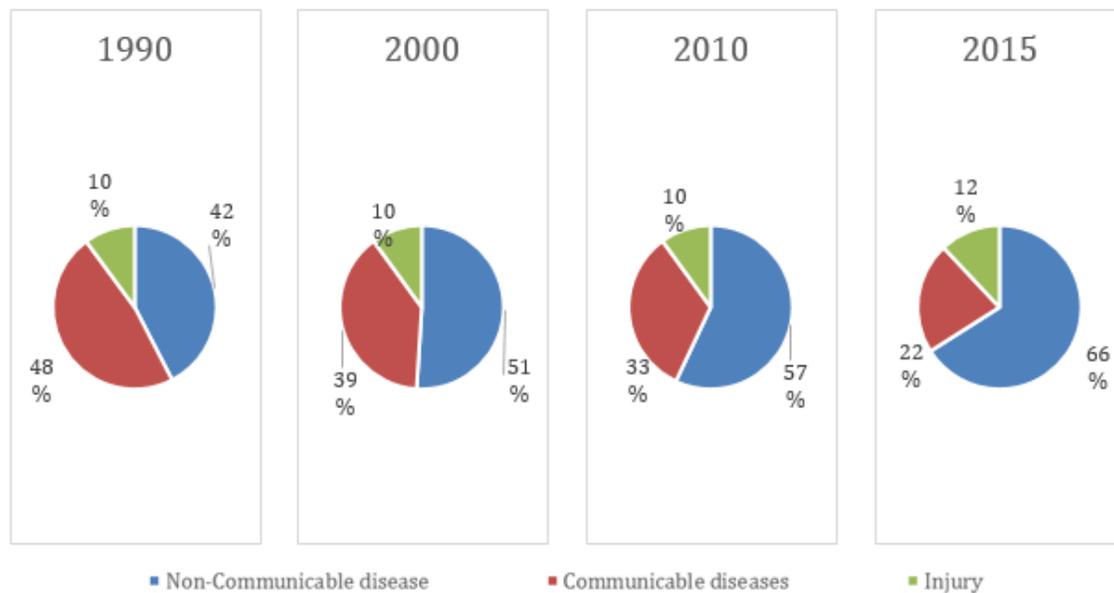
Source: World Bank 2017.

24. As with several other countries in the region, Solomon Islands is undergoing an epidemiological transition. NCDs now account for 66 percent of the burden of disease, up from 42 percent of morbidity

and mortality in 1990 (Figure 3-4). This trend is expected to continue in coming years. In 2015, cardiovascular diseases were responsible for the largest share of the overall disease burden, causing 21 percent of all Disability Adjusted Life Years (DALYs)¹⁷ lost due to morbidity and premature mortality, followed by diabetes, urogenital, blood, and endocrine diseases (12 percent), and diarrhea, lower respiratory and other infectious diseases (8 percent) (Table 3-2). The top risk factors for death in 2015 were largely lifestyle related and closely linked to NCDs, with dietary risks, high body mass index and high fasting plasma glucose prominent risk factors (Table 3-3). Tobacco smoking remains a high-risk factor, with smoking rates of 41.4 percent for men and 10.6 percent for women over the age of 15 (NSO 2015).

25. **Both under- and overnutrition remain a concern, with 36 percent of children under five years of age stunted when compared to the World Health Organization (WHO) growth standard (NSO and World Bank Group 2015).**¹⁸ Across provinces, the highest stunting rate was in Makira, at 46 percent of children, a reflection of the fact that it has the highest poverty of any province. The stunting rate is slightly higher in urban areas, in poorer households (stunting rates of 33 percent for the richest quintile versus 43 percent for the poorest quintile). Stunting is a well-established risk marker and proxy population indicator for a host of physical and environmental insults—namely chronic malnutrition—which impair child health and well-being. Undernutrition in the first 1,000 days is associated with poor cognitive and educational outcomes in childhood and adolescence, as well as lower wage earnings and decreased likelihood of exiting poverty in adulthood.

Figure 3-4: Disease Burden by Cause in Solomon Islands (1990-2015)



Source: Institute of Health Metrics and Evaluation (IHME 2016).

¹⁷ Disability Adjusted Life Years (DALYs) refer to aggregated healthy years of time lost at the population level because of disease-related morbidity and premature mortality.

¹⁸ The DHS 2015 noted a stunting rate of 32 percent.

Table 3-2: Top Ten Causes of Disease Burden in Solomon Islands (1990-2015)

Rank 2015	Top Ten Diseases/Conditions	DALYs: Lost Share			
		1990	2000	2010	2015
1	Cardiovascular diseases	15%	17%	20%	21%
2	Diabetes, urogenital, blood, and endocrine diseases	6%	9%	11%	12%
3	Diarrhea, lower respiratory, and other common infectious diseases	18%	12%	10%	8%
4	Other NCDs	5%	6%	7%	7%
5	Neonatal disorders	10%	9%	7%	6%
6	Neoplasms	4%	5%	5%	6%
7	Chronic respiratory diseases	6%	6%	6%	6%
8	Musculoskeletal disorders	3%	4%	4%	4%
9	Mental and substance use disorders	3%	4%	4%	4%
10	Nutritional deficiencies	3%	3%	3%	3%

Source: IHME 2016.

Table 3-3: Top Ten Mortality Risk Factors in Solomon Islands (1990-2015)

Rank 2015	Top Ten Risk Factors	DALYs: Lost Share			
		1990	2000	2010	2015
1	Dietary risks	10%	12%	14%	15%
2	High body mass index	8%	10%	13%	14%
3	High fasting plasma glucose	7%	9%	11%	12%
4	High systolic blood pressure	7%	9%	11%	12%
5	Tobacco smoke	9%	9%	10%	10%
6	Air pollution	8%	8%	7%	7%
7	High total cholesterol	4%	4%	5%	5%
8	Child and maternal malnutrition	13%	8%	6%	5%
9	Low glomerular filtration rate	2%	3%	4%	4%
10	Low physical activity	2%	2%	3%	3%

Source: IHME 2016.

26. In terms of the top ten causes of premature mortality, the country's trends are similar to the regional average for most of the indicators. NCD-related deaths account for over 60 percent of all premature deaths in Solomon Islands. TB, HIV and AIDS (but mostly TB in the case of the Solomon Islands) and lower respiratory infections together account for 9 percent of premature deaths, and TB is slightly above the average of selected countries in the region. Malaria does not feature in the top reasons for disability or death in the country (Table 3-4), however, despite significant improvements, malaria (and neglected tropical diseases) remain a significant cause of under-five deaths.

Table 3-4: Top Ten Causes of Premature Death in the Solomon Islands and Comparator Countries (2015)

Rank 2015 (Solomon Islands)	Top Ten Causes of Premature Mortality in Solomon Islands	Percentage of Total Years Life Lost							
		Solomon Islands	Fiji	Kiribati	PNG	Samoa	Tonga	Vanuatu	Average
1	Cardiovascular diseases	34%	31%	29%	25%	32%	23%	34%	30%
2	Diabetes, urogenital, blood, and endocrine diseases	16%	25%	15%	10%	21%	14%	13%	16%
3	Cancer	9%	7%	7%	7%	11%	17%	9%	12%
4	Diarrhea, lower respiratory, and other common infectious diseases	8%	9%	11%	15%	7%	9%	9%	8%
5	Chronic respiratory diseases	7%	5%	6%	14%	5%	5%	6%	6%
6	Neonatal disorders	3%	5%	7%	4%	2%	5%	5%	4%
7	Cirrhosis and other chronic liver diseases	2%	1%	3%	2%	2%	2%	2%	2%
8	Digestive diseases	2%	1%	2%	2%	2%	4%	2%	2%
9	HIV, AIDS and TB	2%	1%	5%	2%	2%	1%	2%	1%
10	Other NCDs	2%	3%	1%	2%	2%	3%	2%	2%

Source: IHME 2016.

3.2 Universal Health Coverage

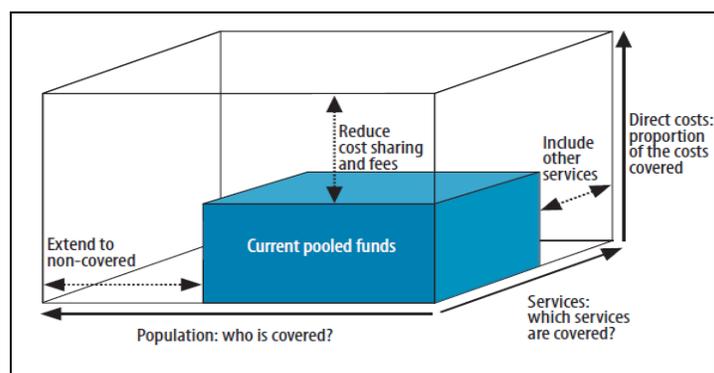
27. **UHC is about “... ensuring that all people and communities can use the *promotive, preventive, curative, rehabilitative, and palliative health services they need, of sufficient quality to be effective, while also ensuring the use of these services does not expose the user to financial hardship.*”¹⁹** All health financing approaches should focus on the three dimensions of the UHC cube (Figure 3-5):

- 1. Who is covered:** While all Solomon Islanders have access to the available health services, there are significant limitations to access due to geographical barriers and poor referral.
- 2. What services are covered:** The Solomon Islands has a loosely defined number of interventions offered to the population locally, and an international referral system for some services not offered in the country.
- 3. What is the cost of services covered:** Public services are largely offered free of charge, and there are limited out-of-pocket (OOP) payments. This cube does not, however, consider quality of health care, forgone care due to distance and/or high OOP payments, or the indirect cost of illness.

To assess actual health system coverage and progress towards UHC, the WHO-WB monitoring framework suggests using a mix of preventive/ promotive /treatment indicators, as well as financial protection metrics to assess health systems.

¹⁹ WHO definition.

Figure 3-5: The Three Dimensions of the UHC Cube



Source: World Health Organization, world health report 2010.

28. **Using the framework for data that was available, Solomon Islands' performance is good on financial protection but shows mixed results on preventive/promotive interventions.** This is true also when comparing with other countries in the region, or with other countries with similar levels of income or when compared to the framework targets (Figure 3-6). In theory, Solomon Islands offers basic UHC to its entire population with all Solomon Islanders having theoretical almost free access to the same health services. There are ongoing negligible rates of catastrophic health spending (WHO 2015)²⁰ and high levels of prepaid/pooling—97 percent of services are financed through general government revenue.

29. **While performance is mixed on preventive/ promotive interventions, it is very low on treatment indicators (Table 3-5).** On average, Solomon Islands fares worse than others in the region for preventive/promotive indicators, but slightly better for treatment indicators (all are struggling with treatment indicators). UHC for Solomon Islands means a stronger focus on basic services for underserved populations, with a focus on completing the communicable disease agenda and early detection and treatment of NCDs.

Table 3-5: Available UHC Tracer Indicators (2005-15) (%)²¹

	Solomon Islands	Fiji	Kiribati	Vanuatu	PNG	Tonga	Samoa	Pacific Cohort
Family Planning	35	44	22	49	32	34	27	35
Antenatal Care	91	98	88	76	66	99	93	87
Skilled Birth Attendance	86	100	80	89	53	98	83	84
DPT3	98	99	87	64	62	82	66	80
Non-Tobacco	73	74	48	84	64	70	70	69
Water	81	96	67	95	40	100	99	83
Sanitation	30	91	40	58	19	91	91	60
TB	66	39	65	66	50	59	55	57

Source: World Bank 2017.

Notes: (1) Attainment less than 80 percent highlighted in red; (2) WDI data was not available for the following framework indicators: Antiretroviral treatment, OOP<25 percent consumption, neither pushed nor further pushed into poverty; (3) For diabetes treatment coverage, raised fasting blood glucose (≥ 7.0 mmol/L or on medication) is used; (4) DPT3 (Diphtheria, Pertussis, Tetanus) coverage is higher than coverage reported by the country and included in Section Six of this report. For the

²⁰ This is also based on preliminary analysis from the WB health team based on 2012/13 Household Income and Expenditure Survey data.

²¹ Latest data available was used – years range from 2005 to 2015.

purpose of comparison, we used the same global database source for this table; (5) Exact definitions of how indicators are measured, and original sources for the indicators, are available on the WDI database.

30. **Solomon Islands has mixed results on UHC tracer indicators when compared to total health expenditure (THE) per capita (Figure 3-7).** Indeed, in 2014, Solomon Islands had the second lowest THE per capita amongst comparator countries in the region (after PNG), but had better outcomes on a number of UHC tracer indicators²² compared to regional averages or other LMIC. On the other hand, it performed average in terms of meeting family planning needs, and much poorer than the region on use of improved sanitation facilities.

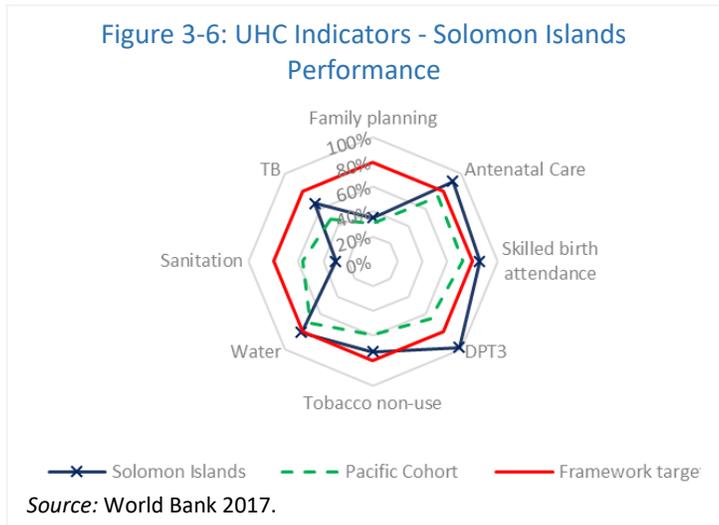
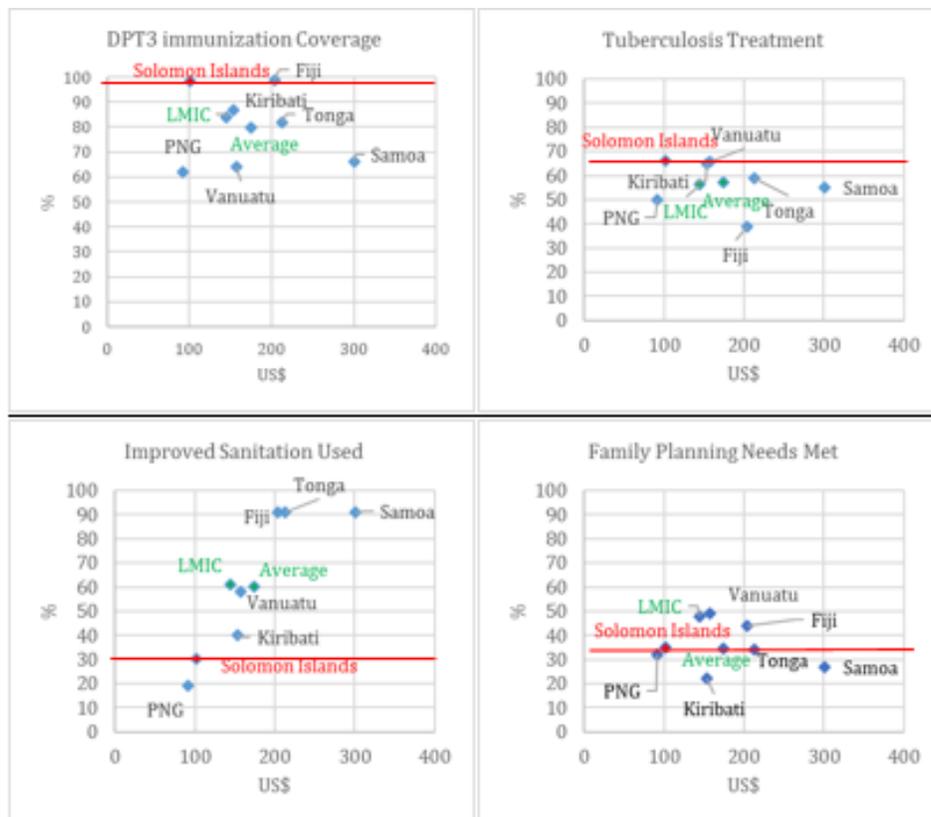


Figure 3-7: UHC Tracer Indicators by THE per capita (2014)



Source: World Bank 2017.

²² As previously mentioned, reported rates of DPT3 coverage in country are lower than in the international database used for this table. More details are available in Section Six.

3.3 Vulnerable Groups and Equity in Health Coverage

31. **The location and health needs of vulnerable groups are also critical dimensions of UHC.** The NHSP 2015-2020 clearly states that MHMS wants to improve service coverage by, in part, giving priority to the most underserved areas and populations and to improve service quality by improving equity and ensuring health is enjoyed by all. The MHMS Core Indicator Set, the Household Income Expenditure Survey (HIES) 2012/13 and the Demographic Health Survey (DHS) 2015 show that inequity in health outcomes persist in Solomon Islands (more detailed analysis will be included in the forthcoming Health Equity Analysis, 2018).

32. **Insights from the recent HIES and DHS show that ill health continues to be more concentrated among the poor.** While the poorest quintile registered a higher IMR and under-five mortality rate compared to the richest quintile, the highest rates were found in the second and fourth income quintiles (Table 3-6). Children from the poorest 40 percent of households are more likely to suffer from stunting and to be underweight, and the three provinces with the highest combined levels of stunting, underweight and stunting—Makira, Choiseul and Central—also have the lowest income levels. Nutritional indicators show small improvements between HIES 2012/13 and DHS 2015, except for stunted and underweight children in the poorest quintile. The rate of stunting among the poorest children increased slightly from 35.5 percent to 36.2 percent between 2012/13 and 2015 and, for underweight, from 19.4 percent to 21.2 percent in that same period.

Table 3-6: Inequality in Nutrition (Children Under Five Years of Age) and Health Outcomes

Aspect	Stunting (%)		Wasting (%)		Underweight (%)		IMR (per 1,000 live births)	Under-5 Mortality Rate (per 1,000 live births)
	HIES 2012/13	DHS 2015	HIES 2012/13	DHS 2015	HIES 2012/13	DHS 2015		
Residence								
Urban	33.9	27.3	15.2	6.3	17.1	12.0	19	23
Rural	36.0	32.4	15.8	8.3	19.0	16.2	19	26
Sex								
Male	37.7	33.5	15.8	7.9	20.6	15.7	21	31
Female	33.4	29.6	15.6	8.0	16.5	15.4	17	21
Quintile								
Poorest	35.5	36.2	14.2	10.0	19.4	21.2	16	23
Second	40.8	32.1	16.4	6.5	21.5	13.0	27	38
Middle	35.4	33.2	13.8	7.8	16.9	16.2	12	18
Fourth	32.5	29.1	18.9	7.5	18.2	12.7	25	31
Richest	33.2	24.6	15.5	7.5	17.1	12.9	14	18

Source : NSO 2015 ; NSO et al. 2017.

Note: Results on indicators vary according to source, hence the difference in data between table 3-1 (World Bank 2017) and this table.

33. **Furthermore, overall risk factors for NCDs, such as smoking, poor nutrition, alcohol and physical inactivity are high and increasing.** Poor populations are facing higher risks for several chronic diseases and the biggest consumers of tobacco products, primarily the male population, were found among the poorest (66 percent of men in the poorest quintile smoked, compared to 52 percent in the richest). Women smoked less than men (20 percent), and there was little difference between wealth quintile. Increasing incidences of diabetes and adult obesity, particularly in urban areas, are affecting women more than men. In 2015, 47 percent of nonpregnant women aged 15-49 were overweight and obese, compared

to 36 percent of men). The richest women have much higher obesity rates than the poorest (respectively 59 percent and 33 percent).

Table 3-7: Inequality in Health and Risk Factors of Adults Aged 15-49, 2015 (%)

	Smoking among women	Smoking among men	Obesity among non-pregnant women	Anemia among women
Total	20.0	54.7	47.4	40.7
Residence				
Urban	24.9	53.3	60.5	41.5
Rural	18.5	58.9	43.6	40.5
Quintile				
Poorest	19.1	65.9	32.9	45.3
Second	18.4	62.1	41.8	41.1
Middle	18.1	56.6	47.5	37.5
Fourth	22.1	53.7	52.3	41.1
Richest	21.6	51.6	59.1	39.4

Source: NSO et al. 2017.

Note: Women aged 15-49 were considered overweight if they have body mass index (BMI) of at least 25. Women aged 15-49 were considered to have anemia if they have an amount of hemoglobin of less than 12.0 g/dl. Smoking in the 24 hours preceding the survey includes use of cigarettes, pipe and other tobacco products.

34. **These health outcomes may be a product of several inequities that exist in health care access and utilization.** Overall, women aged 15-49 reported having significantly more problems accessing health care in rural versus urban areas, but also much more so in the in the poorest quintile (Table 3-7). Unavailability of drugs (80 percent), absence of health care provider (73 percent), and transportation (49.4 percent) were the biggest problems encountered when accessing health care, especially by the poorer population. There was a higher unmet need for family planning in the poorest population. Expectant mothers among the poor also received fewer ANC services, and there were less institutional births and births assisted by skilled providers among poor mothers. Children from poor households also have lower full immunization coverage and were less likely to visit health care providers in cases where children showed symptoms of Acute Respiratory Infections (ARI), diarrhea, and fever.

Table 3-8: Women Aged 15-49 Reporting Problems Accessing Health Care When Sick (2015) (%)

Category	Type of Problem							
	Getting Permission to go for Treatment	Getting Money for Treatment	Distance to Health Facility	Taking Transport	Not Wanting to go Alone	No Female Provider	No Provider	No Drugs
Total	18.4	45.9	48.9	49.4	39.4	44.3	72.8	80.3
Residence								
Urban	11.7	22.5	17.7	18.8	22.5	32.3	64.3	69.3
Rural	20.4	52.8	58.0	58.4	44.4	47.8	75.3	83.6
Quintile								
Poorest	26.6	65.0	70.5	71.2	50.9	55.4	76.9	84.3
Second	22.4	56.9	62.7	64.2	49.4	48.1	73.7	84.3
Middle	17.9	46.4	53.4	54.0	42.2	45.7	74.3	82.8
Fourth	16.2	40.8	46.6	47.1	35.5	42.1	73.2	79.7
Richest	11.2	25.9	18.8	18.2	23.4	33.0	67.2	72.4

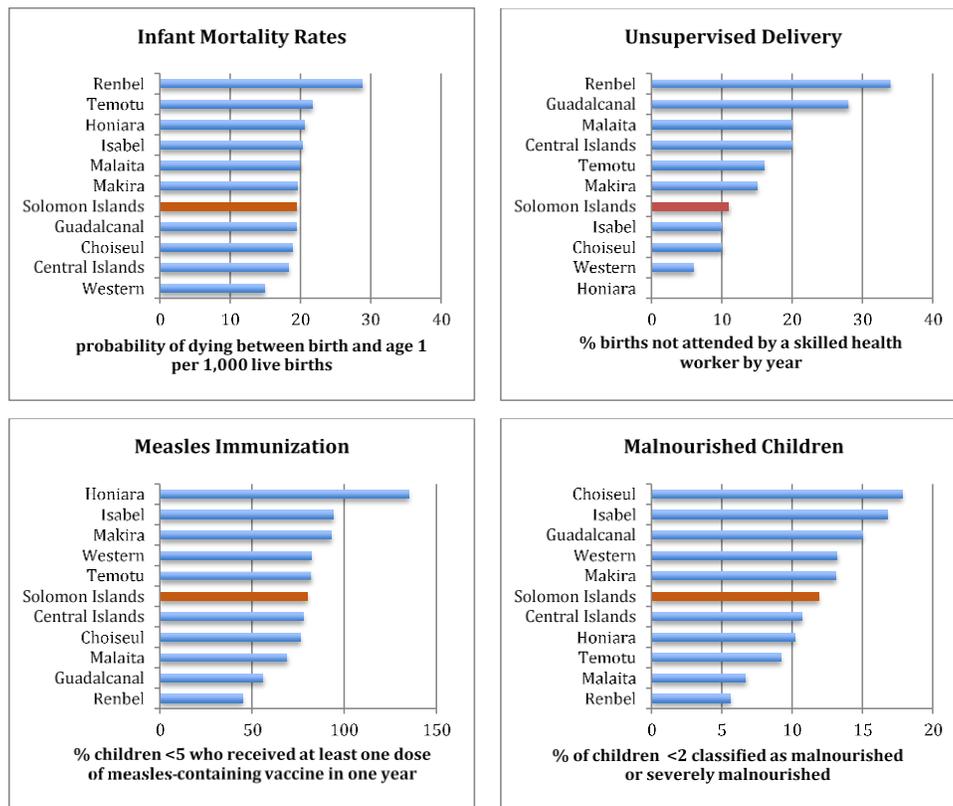
Source: NSO et al. 2017.

35. **There are also large disparities in all health indicators between provinces.** Unsupervised delivery (as a percentage of total deliveries) range from 0 percent in HCC to 34 percent in Renbel, with a national

average of 11 percent (Figure 3-8). The incidence of malnourished or severely malnourished children (as a percentage of children under two years of age), ranges from 5.6 percent in Renbel to 17.8 percent in Choiseul, with a national average of 11.9 percent. Renbel also has the worst results for IMR, and measles immunization. These provincial differences are also noticeable in the malaria and TB indicators (see Section Seven). Renbel often stands out because of the small population size which would greatly affect some of the indicators (especially IMR and unsupervised delivery as most of the births take place in Honiara).

36. **Children from all provinces come to Honiara for immunization, especially from Guadalcanal and parts of Malaita and Central Provinces.** The information system does not, however, capture their place of origin. Immunization coverage is, therefore, more than 100 percent in Honiara every year and some of the other provinces have lower immunization coverages as their children are immunized in Honiara. Lastly, while malnutrition varies considerably across provinces, Choiseul and Isabel have the lowest rates of communities with access to improved sanitation²³, which would lead to higher rates of diarrhoea and malnutrition.

Figure 3-8: Distribution of Key Health Indicators Across Provinces in Solomon Islands (2013-15)



Source: Solomon Islands HIS 2017.

Note: The 2016 Solomon Islands Core Indicator Set notes that while the case definitions for malnourished and severely malnourished are included in the monthly reporting guidelines (≤ 80% weight for age and ≤ 60% weight for age respectively), it is not certain how strictly the definitions are adhered to.

37. **Inequities also exist in terms of distribution of resources (budget, infrastructure and staff) between provinces (Figure 3-9) which affect service delivery and health care access.** On average, the

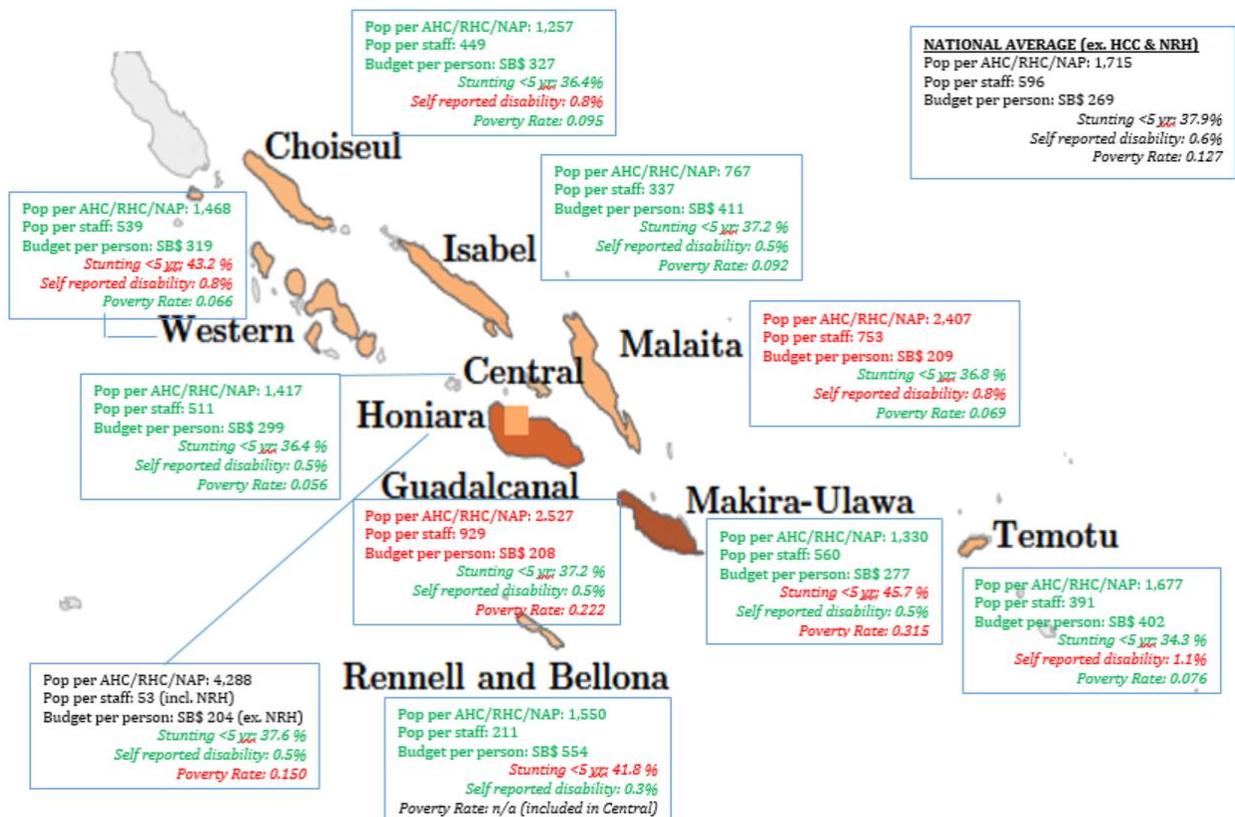
²³ Source: MHMS Health Information System data.

poorest 40 percent spend 1 hour 22 minutes to reach a facility, compared to the most well-off who travel an average of 20 minutes (Lorgelly et al. 2015). The implications for health equity are significant. Longer travel times to access health care—particularly on foot or by sea—often mean the patient and their family incur much higher travel-related costs in addition to the physical challenge on the patient and their helpers of walking long distances or travelling by sea in poor weather. The combination of cost and arduous travel, particularly when feeling unwell, can act as a disincentive to seeking treatment.

38. **Resources need to be better distributed to reflect uneven health outcomes, vulnerability and poverty.** Adjusted for population, Guadalcanal, Makira and HCC contribute the most to national poverty. Guadalcanal and Malaita, however, had lower resources per capita than the national average. Any intervention aiming to reach the largest number of poor people would have to focus on these provinces.

39. **The Health Information System (HIS) needs to play a critical role in providing information that will assist to identify vulnerable groups and then in monitoring their progress towards better health access and improved health outcomes.** The District Health Information System (DHIS) can provide a wide variety of relevant health information such as location, age, sex, medical condition and facility attendances which will help in identifying and monitoring health services to vulnerable groups.

Figure 3-9: Equity, Poverty and Disability in Solomon Islands



Source: NSO 2015, Solomon Islands FMIS, MHMS Establishment and Health Information System.

Note: Green (red) means doing better (worse) than national average.

Section Four: Health Care Organization and Delivery

Summary:

- Health services in Solomon Islands are largely public funded, managed and delivered by the MHMS, through a network of over 300 facilities, 18 national disease programs, and the National Medical Stores (NMS). As recognized in the NHSP 2016-20, a significant proportion of infrastructure is in dire need of refurbishment and per capita facility numbers highlight an unequal distribution of facilities across provinces.
- Relatively large distances make service delivery a key challenge in most Pacific countries, including Solomon Islands. Additional key constraints to service delivery include poor maintenance of health facilities, lack of access due to geographic factors, and poor referral systems.
- Relationships between national public health divisions and provincial health divisions responsible for health service delivery are not always clear and can create bottlenecks in service delivery, but are expected to improve as part of the RDP implementation.
- A large increase in staff establishment²⁴ numbers in recent years is bringing Solomon Islands much closer to the previous WHO suggested threshold of 2.3 per 1000 population (but still far from the most recently revised threshold of 4.45 to meet SDGs/UHC). Low capacity to manage human resources, however, translate into poor, supply-driven, unequal distribution of staff across provinces, diseases, and skill mix. Minimal accountability and discipline are recognized as a significant bottleneck to quality health service delivery.

40. **The MHMS is the central actor in the health system, and functions as funder, regulator and provider of nearly all services.** The private sector plays a very minimal role within the health sector, with limited private practice in HCC and in some hospitals. There is limited involvement from Faith-based Organizations (FBOs) in the administration (and very limited staffing or funding) of four provincial hospitals. MHMS is currently looking at formalizing managerial and strategic control over their operations and it is unclear whether they will continue to operate independently of the provincial divisions. Nongovernment Organizations (NGOs) do not provide substantive clinical services in the country and have had relatively limited engagement and integration with MHMS. They do, however, provide some very limited public health services to some provincial areas. The primary NGOs include Save the Children, Oxfam and World Vision. There is no social health insurance, and negligible private insurance.

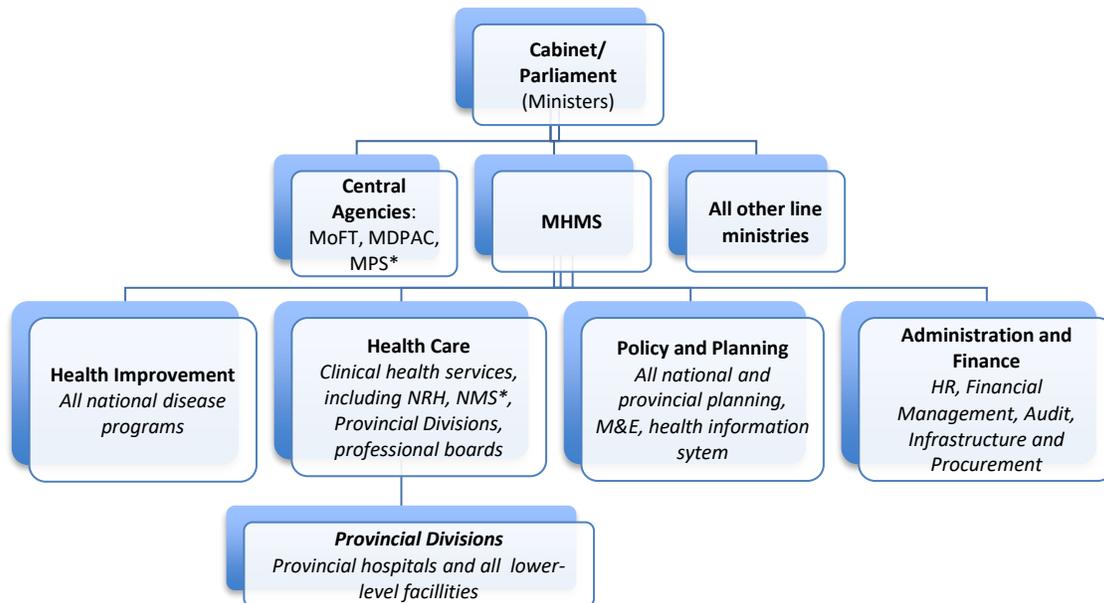
41. **MHMS is currently organized into four main administrative branches: Health Improvement, Health Care, Policy & Planning, and Administration and Finance (Figure 4-1).** Provincial divisions, under the umbrella of the Health Care Branch of MHMS, manage all health facilities²⁵ except the National Referral Hospital (NRH), which is also under the Health Care Branch, but has its own board and CEO. Spread under the four administrative branches, the MHMS is further structured into a total of 34 divisions, ten of which are the provincial divisions (including HCC), four are corporate services units (headquarters and administration; policy and planning; internal audit; nursing administration), 18 are national programs

²⁴ Establishment staff are public service staff employed by the MHMS through the Ministry of Public Service (MPS). In addition, there are hundreds of Direct Wage Employees (DWE), who are not part of the public service 'establishment' and are subcontracted and paid for directly by MHMS through provincial grants without involvement of MPS.

²⁵ Because MHMS is the main provider of health services in Solomon Islands, small private providers have not been included, and Church hospitals are considered part of provincial hospitals.

(either public health or health-service related, (such as the National Vector-borne Disease Control (NVBDC) Program – public health; or the National Dental Program – health service). The NRH and NMS are also identified divisions. This structure is being revised as part of the RDP implementation.

Figure 4-1: Organization of the Solomon Islands MHMS



Source: Author's compilation.

42. **Certain essential administrative and management functions (including Administration and Finance and Policy and Planning are mostly centralized in headquarters).** Administration and Finance includes Human Resources (HR) and HIS management and surveillance, procurement and infrastructure and, to a certain extent, financial functions. Provincial divisions have some level of control on small value procurement and finance as they spend their provincial funds, and more recently on small medical equipment purchases through the NMS. They have little input to HR and large procurement and infrastructure, however, as these issues are managed centrally and communication between provincial divisions and central corporate units is lacking. The HIS is managed centrally by the HIS Unit, but with regular input from provincial divisions as they are responsible for data collection.

43. **MHMS's primary tool for monitoring and evaluation (M&E) of health indicators is the DHIS2.** Data accuracy, reporting levels and timeliness of reporting have continued to improve over the past five years. MHMS has introduced age and sex disaggregated civil registration and vital statistics reporting in the NRH and plans to roll it out to provincial hospitals in 2017. MHMS is also currently developing an M&E framework for its NHSP 2016-2020 which will build on the DHIS data and other international indicators. The use of this important data and information in informing management decision making would benefit, however, from more consistency and a structured process. The primary M&E report currently being disseminated by MHMS is the Core Indicator Set, a collection of 35 health system, clinical and process indicators that is released annually as a key part of the Joint Annual Performance Review to all stakeholders. A process for death registration is now in place and MHMS can now medically certify cause of death in the NRH, by age and sex. This is to be rolled out to other facilities in 2017. MHMS has focused on integrating previously parallel reporting systems maintained by externally funded national programs

into the Core Indicator Set/DHIS2 and, while there are ongoing quality challenges, this is increasingly successful with no major program reporting exclusively outside of the DHIS2.

44. **There are close (imperfect but improving) links between the 34 divisions, depending on their role.** While public health programs deliver some health services, they are mostly (and progressively) playing more of a stewardship role in terms of planning, policy, guidelines, and technical support. Provincial divisions are increasingly responsible for all service implementation through the network of public health facilities. Several issues arise from these relationships which are not always clearly defined—including funding, governance and accountability. While money for a specific disease is usually allocated in the budget to the responsible national disease program, health service implementation for that disease is usually done through the provincial divisions, and the money has not always trickled down from the national disease division to the provincial divisions (for example, immunization funding is allocated to the Reproductive Maternal and Child Health (RMCH) national program, whereas immunization per se is done by the provincial divisions).

45. **Staff responsible for the implementation of the National Disease Divisions' work plans are located in the health facilities, under the management of the provincial divisions.** This can create murky reporting and accountability lines that are not beneficial to either the provincial divisions or the national program. Reforms are under way, however, within MHMS (RDP) to help identify and address these issues, including clarifying roles and responsibilities and giving greater management responsibility to the provincial divisions, particularly in relation to planning, budgeting, financial and HR management, while keeping some essential services centralized to maintain efficiency (such as centralized drugs and medical equipment procurement). Similarly, there are close links between the NMS—which oversees the procurement, management and distribution of most drugs, medical supplies and equipment—and the national programs, the NRH and the provincial divisions, who are better aware of their specific needs but do not necessarily have the capacity to do their own procurement.

4.1 Physical Resources

46. **The MHMS has five levels of health facilities: the NRH, provincial hospitals,²⁶ Area Health Centers (AHC), Rural Health Clinics (RHC) and Nurse Aid Posts (NAP).** As previously mentioned, the MHMS operates most facilities and funds a smaller number of facilities that are comanaged by the MHMS and churches or NGOs. There are an estimated 344 facilities in the country (Lorgelly et al. 2015)²⁷ including the NRH, 11 provincial hospitals, 35 AHC, 107 RHC and 190 NAPs spread across eight provinces and the HCC (Renbel, the smallest province with an approximate population of 3,041, has three lower-level facilities but no hospital). The total national number of people per lower-level facility is 1,715, however this number varies from 767 in Isabel to 4,288 in HCC, and infrastructure distribution is not adjusted for poverty or stunting rates. If the HCC is excluded because of the presence of the NRH, which people use as a primary health care center, the next highest is Guadalcanal, with 2,527 people per lower-level facility (NSO 2015; Lorgelly et al. 2015) (Figure 3-9). It is important to note that there are differences in classifications between provinces, with no standard staffing or size for facility levels. This is currently being developed through the RDP.

²⁶ Church hospitals in the provinces are included in 'provincial hospitals' for the sake of this note as they are mostly funded by MHMS, with the church mostly providing staff, equipment and ad hoc financial contributions. As noted earlier, they are mostly funded through MHMS with public funds.

²⁷ The Solomon Islands HIS records 367 public facilities but the breakdown of these facilities was not available at the time of writing this report.

47. The majority of health facilities were built over 30 years ago and have been poorly maintained.

In 2013, it was estimated that 44 percent and 59 percent of AHC had adequate power and water respectively, while the corresponding figures for NAPs were 16 percent and 38 percent respectively (Lorgelly et al. 2015). Services available to health facilities are very uneven across provinces. Key additional constraints include lack of access due to geographical factors, poor referral system, and lack of housing for staff. In addition, and often for the reasons just listed, temporary (but sometimes quite lengthy) closure of health facilities sometimes contributes to the access problem: 14 percent of health facilities were reported as closed during the first three-quarters of 2016. The NHSP 2016-2020 clearly recognized the importance of addressing the situation of infrastructure, both at the NRH and in lower-level facilities, however, ongoing inadequate staffing of the procurement and infrastructure units is likely to result in limited improvements of quantity or quality of infrastructure in coming years.

48. Results are mixed on availability of medical equipment in the provinces, and at different facility levels.

To help facilities be better equipped, the NMS developed a National Medical Supplies list in 2014 to help inform the type and amount of equipment that should be available at all facility levels. As of 2016, funding has also been made directly available to each province to help address individual shortages. History has shown very poor asset management and very poor levels of maintenance for all types of capital equipment—from fridges, radiography equipment, cars, or smaller value equipment such as stethoscopes or scales. Ad hoc reports show facilities reporting being underequipped, while others have valuable medical equipment sitting unused outdoors or in facility corridors. Maintenance of medical equipment is limited, with inadequate staffing and funding for the biomedical department (responsible for medical equipment maintenance) to cover the whole country.

4.2 Human Resources

49. As of the end of 2016, there were 2,229 staff establishment positions on the MHMS payroll, a 32 percent increase from the 1,687 positions in 2012 (WHO 2015) (Table 4-1). MHMS represents 30 percent of the total SIG public service establishment positions. Some 90 percent (2,023) of positions were filled in 2016, with most unfilled positions located in the provincial divisions and the NRH. A total of 1,527 of the positions (69 percent) are for clinical, with the remaining balance working in corporate or support services, para-medical and national public health programs.

Table 4-1: Medical Positions on the Establishment (2012, 2016)

Medical Category	2012	Share (%)	2016	Share (%)	Increase (%)
Nursing	966	83%	1,189	78%	23
Medical Practitioner	87	7%	170	11%	95
Pharmaceutical Officer	61	5%	88	6%	44
Dental Officer	57	5%	80	5%	40
Total Medical Positions	1,171	100%	1,527	100%	30
Total All Establishment Positions	1,687	n.a.	2,229	n.a.	32
Medical positions (number, % of Establishment)	1,171	69%	1,527	69%	27

Source: MHMS Establishment (Dec 2016) and WHO 2015.

50. The average number of outpatient visits with a qualified health worker was 1.7 per person per year in 2015 (MHMS 2016),²⁸ higher than Papua New Guinea (1.24 for 2014) but lower than Fiji (2.2 for

²⁸ Outpatient data from the NRH is not included due to unavailability.

2014) (MHMS Fiji 2014; World Bank 2017). There are 2.2 health workers (medical practitioners and nursing staff only) for every 1,000 people—higher than it was in 2012 at 1.90 health workers. This increase was largely driven by the return of medical students from Cuba, Fiji and Taiwan (there are currently more students than practitioners, but they are included in the doctor count as they will be absorbed in the system once fully trained)—with 55 having returned already since 2015—and more than 100 are expected to return in upcoming years. For nurses preservice training, MHMS paid for the Diploma of Nursing fees at the Solomon Islands National University and the two church-run nursing schools until 2016. The National Training Unit of the Ministry of Education and Human Resource Development has since taken over the role of paying for fees.

51. Health workers are not distributed equitably across the country. Across all MHMS establishment positions (clinical and nonclinical), 47 percent are in provincial divisions, 34 percent are in the NRH and the balance (19 percent) are in headquarters and Honiara-based national programs. Some 84 percent of medical practitioners and 53 percent of nursing staff are based in Honiara (primarily at the NRH), together with 51 percent of pharmaceutical staff (these are not all pharmacists and include logistics, procurement and managers of drugs and medical equipment—most of whom are based at the NMS in Honiara) and just under one-half of dental officers. In comparison, Malaita and Western Provinces are home to 28 percent and 15 percent of the population, respectively, but only have access to 4 percent of medical practitioners each, and to 12 percent and 8 percent respectively of the nursing staff.

52. The high concentration of clinical staff in HCC may even be understated as evidence shows that many staff posted in provincial divisions actually work in the NRH or Honiara clinics. Together with the recruitment of DWEs in provincial divisions to fill gaps, this highlights the challenges MHMS faces around posting and distribution of staff. Other challenges include lack of adequate infrastructure in provincial divisions, lack of housing for staff, supply-driven recruitment, and lack of accountability and discipline. The HR Division has frequently tried in the past with limited success to update the establishment list with the MPS.

53. In addition to establishment staff, another estimated 775 DWEs are hired by the provincial divisions. DWEs represented 26 percent of all MHMS hired staff in 2015-16. Limited information is known about the DWEs hired by provincial divisions as these are not systematically recorded centrally, but ad hoc information indicates that they are mostly nursing staff who, it can be assumed, have been hired by the provincial divisions due to the poor health workers' distribution mentioned above. As a percentage of all MHMS staff, DWEs range from 18 percent to 54 percent of staff in different provincial divisions (George Pego 2016). In 2013, 69 percent of staff in NAPs, 49 percent of staff in RHCs, 31 percent in AHCs, and 13 percent and 21 percent in provincial and church hospitals respectively were estimated to be DWEs (WHO 2015).

54. Key MHMS units for service delivery and Public Financial Management (PFM), such as the Finance, HR, Procurement and Infrastructure Units, have traditionally been poorly staffed. Several reasons can account for this understaffing, but these include difficulties with filling vacancies for these very technical positions, and in recent years, positions filled by suspended staff following a major fraud allegation in September 2013.²⁹ This chronic understaffing has led to weakening of capacity and ability to build strong system and institutional foundations, and is greatly affecting service delivery, including achieving quality expenditure and health outcomes. Deconcentrating some procurement and

²⁹ Suspended staff were dismissed in late 2015 and while some positions have been filled, other crucial ones—such as the Financial Controller, but also the Infrastructure and Procurement Managers—remained unfilled at the time of writing this report.

infrastructure/maintenance functions to the provincial divisions could be analyzed to address some of these bottlenecks.

55. **Absenteeism and weak performance management are a significant challenge for MHMS and are adversely affecting service delivery.** While some efforts have been made to address issues around employees holding alternative employment during working hours, limited progress has been made in disciplinary responses to instances of staff misconduct and poor attendance. A reinforced effort to strengthen government codes of conduct and administrative processes to improve performance management and adherence to the rules is important. A good starting point would be for MHMS to effectively implement and enforce the newly introduced 2016 Absentee Management Policy & Performance Management Policy.

56. **The ongoing development of the RDP and the current transition from donor to country funding provides a timely opportunity for MHMS to review and strengthen its governance, HR planning and performance-management systems.** The presence of HR plans being developed with the provincial divisions will help MHMS build the appropriate HR to enable it to meet its NHSP 2016-2020 objectives and address some of the issues raised earlier.

Section Five: Health Financing

Summary:

- In 2014, THE (US\$60 million or SB\$442 million) and THE per capita (US\$102 or SB\$753) in Solomon Islands were comparable to other countries with similar levels of income.
- Significant increases in nominal health expenditure in the decade to 2017 have not translated into real increases in total or per capita health expenditure. Between 2007 and 2014, THE per capita decreased by 8 percent. Despite that, real THE per capita in Solomon Islands has consistently stayed higher than other countries in the region.
- Expenditures on health in Solomon Islands are largely public (from domestic and external financing), with a high reliance on external financing and very low OOP payments. While expected to remain significant, external financing from some traditional DPs to the health sector has started decreasing, and is anticipated to continue this trend in coming years.
- SIG shows a strong commitment to health. Indeed, public expenditure on health as a share of total government expenditure is stabilizing around 12.5 percent, similar to other countries in the region. According to national data, over three-quarters of public expenditure on health since 2007 was domestically funded. Since 2007, SIG's nominal domestic contribution to MHMS has almost tripled, and the ministry is consistently allocated and spends the second largest share of total SIG recurrent funding, after the Ministry of Education and Human Resource Development.
- Payroll and staff benefits represent the larger share of MHMS total recurrent expenditure (over 60 percent of MHMS domestic recurrent expenditure). This is followed by goods and services, the share of which is slowly declining to the benefit of grants (mostly to provincial divisions), in line with MHMS policy to shift resources to provincial divisions (this shift is mostly reflected in DP recurrent expenditure).
- Since 2011, provincial divisions and the NRH have seen an increase in total recurrent expenditure, while NMS has stayed relatively flat, and corporate services and national programs' expenditure have decreased. Domestic resources are mostly and increasingly spent on provincial divisions, the NRH and Corporate Services (which include house rent and utilities), whereas DPs' recurrent expenditure is largely spent on national programs, increasingly in provincial divisions, and decreasing in NMS.

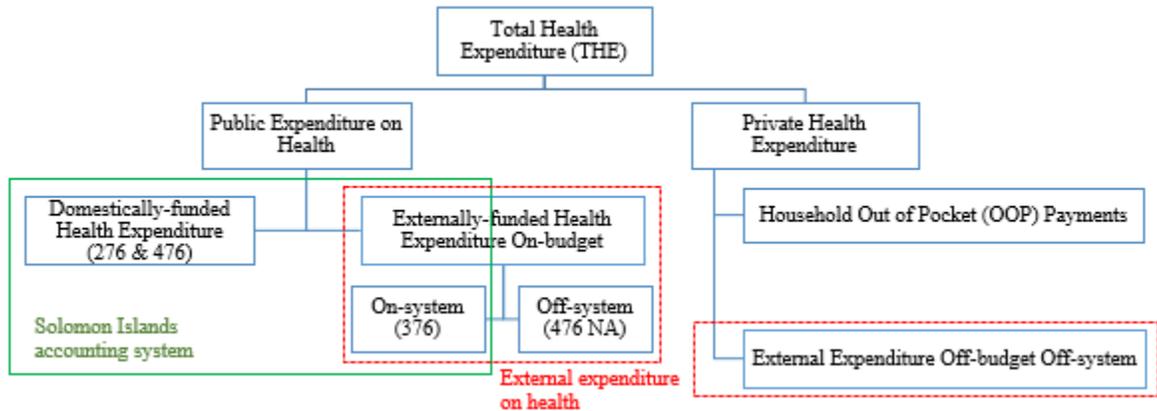
5.1 Overview

57. **The MHMS budget follows the general SIG budget format: it is divided into the recurrent (which includes both establishment payroll and other recurrent charges) and the development budget.³⁰** The

³⁰ The recurrent budget includes all payments other than for capital assets, including on goods and services, (wages and salaries, employer contributions) and transfers (grants to the provinces). For MHMS, this includes both the SIG recurrent budget (276) and DP recurrent budgets (376). Some capital assets and infrastructure are also included in the DP recurrent budget. The development budget includes: (i) the appropriated SIG development budget for acquisition of fixed capital assets, stock, land or intangible assets (476); and (ii) the non-appropriated DPs' funded budget for projects implemented directly by the DPs (these include, but are not restricted to, fixed capital assets, stock, land or intangible assets) (476NA).

recurrent budget is fully appropriated,³¹ and includes both a domestic recurrent budget–SIG recurrent budget (ledger 276)–and a DP recurrent budget (ledger 376) that is managed through the SIG FMIS system. Similarly, the development budget includes both an appropriated development budget (476A)–which usually includes development infrastructure or capital expenditure by SIG–and a non-appropriated development budget (476NA)³², whose role is to record all DP contributions that are implemented outside the SIG PFM system.³³ There are many issues resulting from SIG, MHMS and DPs’ processes and systems around this non-appropriated development budget, with systematic under-recording of planned contributions, and no record of actual expenditures at the end of the year. More detailed information on PFM systems and processes is included in Appendix One.

Figure 5-1: Health Financing in the Solomon Islands



Source: Author’s compilation.

58. **The MHMS has been working with DPs towards getting more of them on-plan, on-budget and if possible on-system, with relatively good success.**³⁴ Being on-plan means that all activities implemented by MHMS must appear in the division’s annual operational plan. It also means that DPs are expected to align themselves to the NHSP 2016-2020. Being on-budget means that any contributions to the health sector in Solomon Islands, in any shape or form, should be reflected in the MHMS budget, either in the DP recurrent budget (376) or the non-appropriated development budget (476NA).

59. **Being on-plan and on-budget are crucial to give MHMS full information on their sector, to support the MHMS and MHMS staff with their prioritized strategic plans, and to avoid the all-too-**

³¹ Appropriation is an authorization from the Parliament to the Executive arm of government to spend up to a limit, for a purpose and within a period (the authority to spend lapses at the end of that period, regardless of whether the funds have been spent or not). The non-appropriated budget identifies funds that are spent outside the Consolidated Fund on behalf of the government (that is, the cash does not come under the direct control of the government). The non-appropriated budget is recorded for sectorial information purposes under the development budget in the budget books.

³² The A and NA are not official coding- the budget books only use 476.

³³ The Official Development Assistance (ODA) non-appropriated development budget reflects planned donor spending on projects and is very weakly tracked through the SIG process, with responsibility for tracking and recording falling between line ministries, MDPAC and MoFT, and is marked by very poor communication between these three agencies. The ODA non-appropriated development budget is grossly underestimated in the SIG official budget books.

³⁴ Being **on-plan** means that all activities implemented by or involving MHMS resources are included in MHMS' annual operational plans. Being **on-budget** means that any contributions to the health sector, in any shape or form (including TA), should be reflected in the MHMS budget, either in the DP budget (ideally as part of the original budget) or the non-appropriated development budget. Being **on-system** means using SIG’s financial management processes and systems, by channeling funds through the appropriate accounts managed by MoFT and using SIG procurement rules.

frequent mistake of pulling MHMS staff away from their core program of work towards DP-driven activities. While coordination has some way to go, the MHMS and DPs have made considerable efforts towards being on-plan and on-budget since 2015. However, this has not systematically translated into the systems and process improvements that were expected. While budget information has become more transparent, cash disbursements from DPs to MHMS in some cases remains a lengthy and administratively heavy process. Lastly, being on-system means using SIG PFM and procurement systems (in the case of Solomon Islands, being on system would mean that budget and expenditure are included in the FMIS financial reports). Working towards being on system in MHMS includes reducing the number of separate bank accounts, which increases work, but also reduces the risk of duplication and fraud. It also includes using the SIG planning and budget cycle by appropriating funds in the original budget to avoid the need for advance warrants throughout the year, as these are administratively heavy and time-consuming. DPs committing funds on system have increased from one in 2014 to nine in 2017.

60. The MHMS and certain DPs have introduced performance-based financing for a proportion of their support. Since 2013, 20 percent of DFAT Health Sector Support Program (HSSP) budget support has been linked to a series of mutually agreed performance indicators—a mix of health, policy and management outcomes—between the MHMS and DFAT. One-half of the performance-linked aid is targeted at the national level, with the other half targeted at provinces. Indicators are negotiated annually during the Joint Annual Performance Review, at which time an Independent Performance Assessment is conducted by DFAT. Performance has fluctuated in the last four years: 78 percent in 2013, 82 percent in 2014, 63 percent in 2015 and 73 percent in 2016. GF, through its new CoD grant model for malaria, TB and HIV, also provides part of its support on a performance basis (see Section Seven).

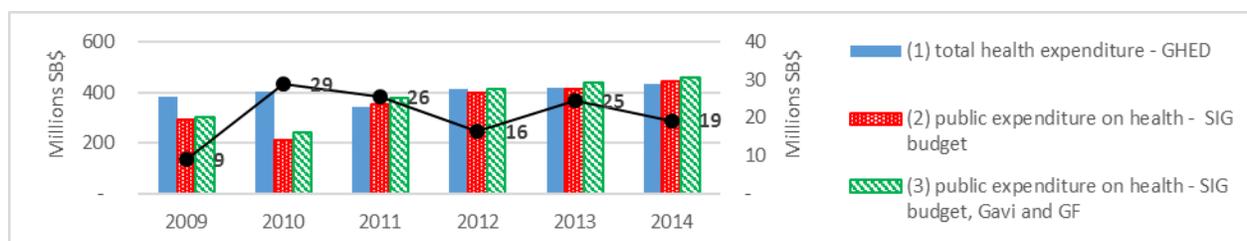
61. The MHMS planning and budget cycle is fully tied to the national one, and budget submissions have been steadily improving towards more credible, transparent, and evidence-based budgets since 2013. The MHMS budget is increasingly linked to the NHSP 2016-2020, the individual topical National Plans (for example, strategic plans for malaria or for integrated Reproductive Maternal Neonatal Child and Adolescent Health), the Procurement Plan and the Medium-Term Expenditure Pressures (a tool used to record expenditure commitments and pressures—such as transition from donor financing—to inform annual planning and budgeting) and, when rolled out, by the RDP.

62. THE includes both public expenditure on health and private health expenditure. Public expenditure on health includes the domestic contribution of SIG raised through general consolidated revenue collection (domestic health expenditure includes SIG recurrent 276 and SIG-appropriated development 476A) and on-budget external financing—both on and off system (DP recurrent 376 and non-appropriated development 476NA). Private Health Expenditure, on the other hand, includes OOP payments and all other external expenditure (off-budget and off-system). This analysis focuses on expenditure rather than budget allocation; however, budget execution rates have been included to highlight implementation challenges faced by the MHMS.

63. Difficulties with tracking financial data leads to discrepancies between international databases and country data (Figure 5-2). The difference between THE as reported in the WHO Global Health Expenditure Database (GHED), public expenditure on health as reported in the SIG budget books, and public expenditure on health when we add estimated Gavi and GF expenditure to the information included in the SIG budget books can be significant but is reducing as information becomes more transparent. Adding Gavi and GF estimated expenditure to the information included in SIG budget books adds between SB\$9 million and SB\$29 million (approximately US\$1.2million and US\$3.8 million) of annual

expenditure (Figure 5-2, difference between (3) and (2), right axis). Furthermore, since 2011, public expenditure on health estimates are higher than THE as reported in the international database.

Figure 5-2: Total and Public Expenditure on Health Differences (2009-14)



Source: Gavi (2009, 2010, 2012, 2013, 2014), GF budget and expenditure data, SIG FMIS, WHO Global Health Expenditure Database (GHED) 2017, and WB staff calculations.

64. For the sake of comparison between countries, we will use THE as reported in the WHO Global Health Expenditure Database (GHED, and the resulting public expenditure on health), and we will specify which estimates of public expenditure on health are being used for Solomon Islands/MHMS-specific analysis. Data from the international database has a two-year lag and the latest date available at the time of this report was 2014.

5.2 Total Health Expenditure (THE)

THE is the sum of both public (domestic and external financing) and private health expenditure (including OOP)

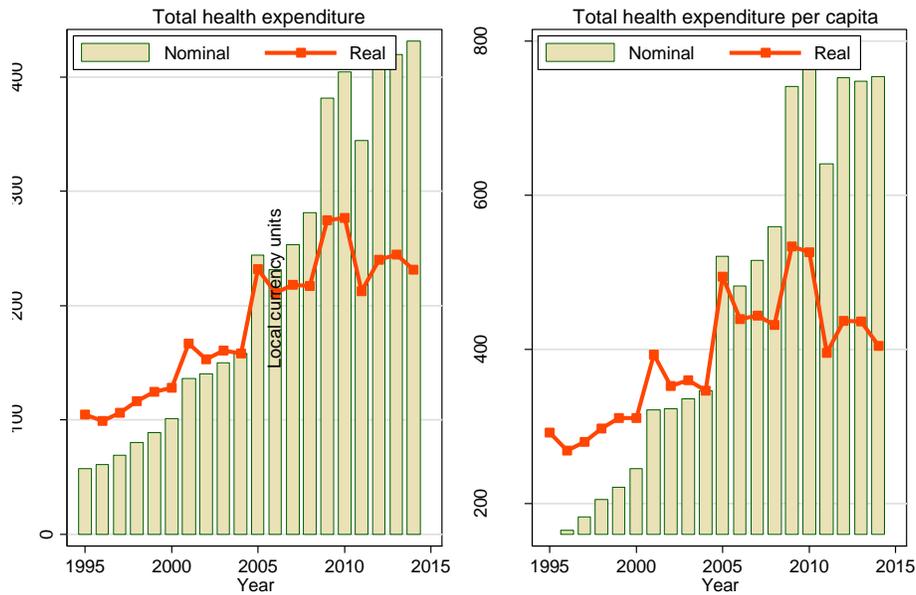
65. Over the two decades to 2017, THE has increased substantially, both in nominal, real and per capita terms, however, more recently, real per capita THE has decreased (Figure 5-3). In 2014, THE was US\$60 million (SB\$442 million) and THE per capita was US\$102 (SB\$753)—comparable to other countries with similar levels of income. In nominal terms, THE has nearly doubled between 2007 and 2014 and by more than seven times the 1995 amount. In real terms, however, (that is, adjusted for inflation), THE has only increased by 7 percent since 2007. Even more notable is the fact that, due to population growth, real THE per capita has actually decreased by 8 percent between 2007 and 2014.

Nominal: Nominal amounts are unadjusted, and do not reflect the impact of inflation or population growth over time.

Real: Real amounts are adjusted to reflect the impact of inflation (or deflation) over time.

Per capita/Per person: Per capita/ per person amounts divide the expenditure by the total population in the country.

Figure 5-3: Total Health Expenditure, Total and per Capita, in Nominal and Real Terms (1995-2014)



66. While nominal THE per capita in 2014 in Solomon Islands was the second lowest amongst PICs (after PNG) (Table 5-1),³⁵ real THE per capita in Solomon Islands in recent years has been consistently higher than other countries in the region and other countries with similar levels of income (Figure 5-4). In other country groupings—such as the Pacific Islands, the Small States, the East Asia region and LMICs—there is an overall upward movement in real THE per capita over the period 1995 to 2014, typically ending with a period of plateauing spending levels from the late 2000s. In Solomon Islands, in contrast, there is greater volatility—with real spending falling over the period with peaks in 2004 and in 2009-10 and a period of settling from 2010. THE and public expenditure on health as a share of GDP are respectively slightly lower and much higher than might be expected compared to other countries with similar levels of income. THE for 2014 was 5 percent of GDP, similar to other countries in the region such as Vanuatu, Fiji and PNG,³⁶ and in line with other LMIC.

³⁵ A note of caution is warranted when using THE per capita. Minimum levels of health expenditure regardless of size of population combined with small denominator (that is, a small population) in PICs can distort THE per capita in favor of the smallest countries.

³⁶ It should be noted that THE as a percentage of GDP is an inherently difficult indicator to interpret in small economies given the volatility of GDP and other factors in the economy. There are ongoing debates on the relevance of using GDP in small PICs.

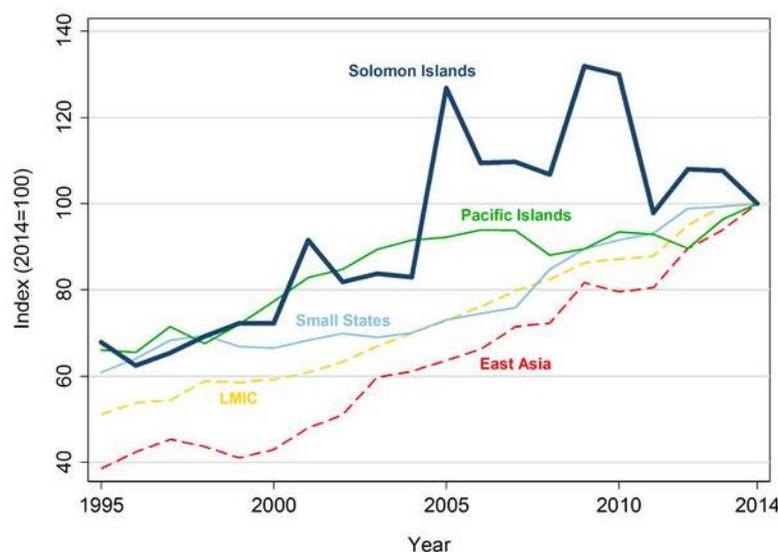
Table 5-1: Selected Health Expenditure Indicators in the Pacific (2014) and GNI per capita (2016)

Country	Nominal THE per capita (US\$)	THE as % of GDP	As % of THE				Public Expenditure on Health (as % of Government Expenditure)	GNI per capita (US\$)
			OOP	Public Expenditure on Health	Private Expenditure on Health	DP		
Samoa	301	7.2	5.9	90.6	9.4	23.8	15.08	4,120
Tonga	213	5.2	11.9	82.4	17.6	19.3	13.50	4,060
Fiji	204	4.5	23.0	65.8	34.2	0.0	9.25	4,780
Vanuatu	158	5.0	5.8	89.8	10.2	48.3	17.94	3,170
Kiribati	154	10.2	0.0	81.2	18.8	13.8	5.81	2,270
Solomon Islands	102	5.1	4.6	91.9	8.1	56.6	12.54	1,880
PNG	92	4.3	10.5	81.3	18.7	21.1	9.54	2,680

Source: World Bank 2017.

Note: Vanuatu GNI per capita is for 2014- latest date available.

Figure 5-4: Real Total Health Expenditure per Capita, per Country or Region (1995-2014)

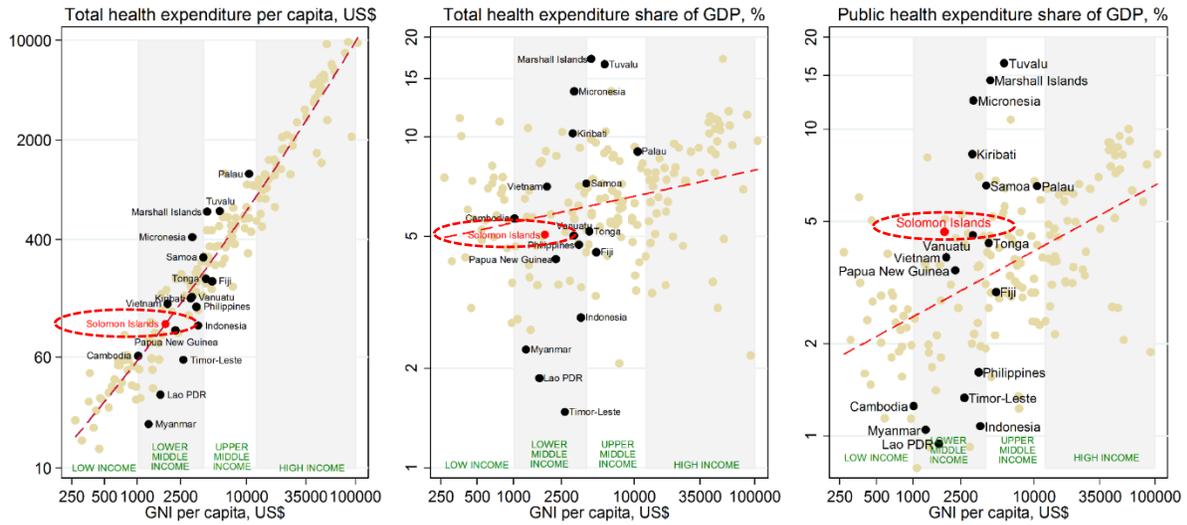


Source: WHO GHED 2017.

Note: Values are indexed at 2014 constant price.

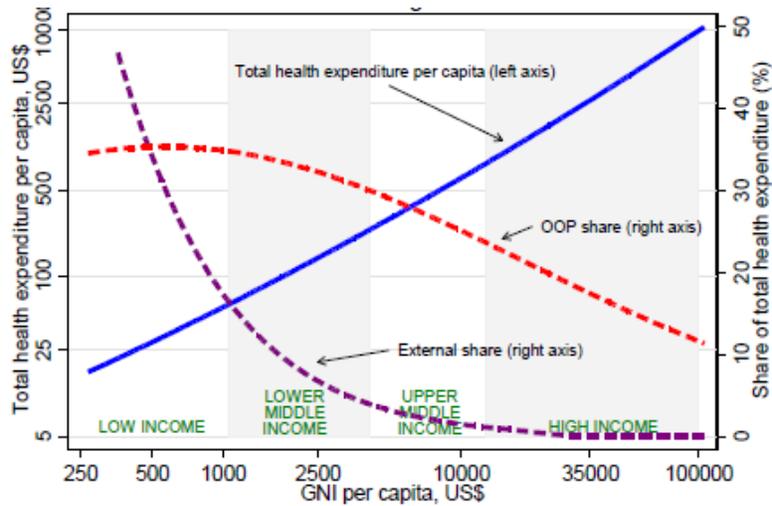
67. **Expenditure on health in Solomon Islands is mostly public, predominantly domestically funded but with an overall high reliance on external financing and very low OOP payments.** According to international data, THE in 2014 was composed of 92 percent of public expenditure on health—just over one-half of which was external funding (57 percent of THE)—and 5 percent of OOP payments. Public expenditure on health as a share of THE is high compared to other countries of similar income levels, and compared to other PICs (Figure 5-5). Solomon Islands also has the second lowest OOP payments levels in the region. This composition of health financing is quite unique to Solomon Islands and PICS in general compared to other countries with similar levels of income, as they behave differently to the more traditional global health financing transitions (Figure 5-6), most particularly through ongoing low OOP payments and high external share of funding. Low OOP is a feature that Solomon Islands should actively seek to maintain. International evidence shows that OOP contribute to increasing health inequality as they link access to ability to pay and can deter or delay utilization.

Figure 5-5: Selected Health Expenditure Indicators versus Income (2014)



Source: World Bank 2017; WHO GHED 2017.
 Note: Both axes in log scale.

Figure 5-6: Health Financing Transition, Global Trends



Source: World Bank 2017; WHO GHED 2017.
 Note: Both x and y axes in log scale.

Box 5-1: Summary of Findings from Health Facility Costing Study (2015)

The study was designed to estimate the recurrent costs (staffing, medical supplies, transport, utilities and maintenance) incurred in 2013 by health facilities, taking into account funds from the MHMS, as well as from churches, private organizations and patients.

- An estimated SB\$231 million in recurrent costs was spent at all health facilities in the country in 2013. (This only includes costs incurred by facilities and excludes other costs, such as the cost of running headquarters, or national programs.) Of this, 44 percent was spent at the NRH and 56 percent spent at health facilities in the provinces and Honiara.
- Considering the recurrent costs at hospitals, AHCs, RHCs and NAPs, total recurrent costs in each province varied from SB\$128 per capita in Guadalcanal to SB\$350 in Western, and SB\$229 in Honiara. If the NRH is included, however, total recurrent spending per capita varied between SB\$300 in Temotu to SB\$515 in Central Province, and SB\$927 in HCC (inclusive of the SB\$229 per capita spent in Honiara and SB\$698 spent at the NRH on Honiara residents).
- On average, staffing was the largest recurrent cost type at all facility levels, ranging between 51 percent and 69 percent of recurrent costs. Medical supplies were the second highest cost for health facilities (excluding the NRH)—ranging between 16 percent and 32 percent of recurrent costs. Electricity was the second highest cost at the NRH (11 percent).
- Child welfare visits were the first or second most common reason for presentation at outpatients in health facilities (excluding the NRH), accounting for 10 percent to 11 percent of all outpatient visits. The cost of a visit varied from SB\$44 at a NAP to SB\$64 at a hospital.
- Deliveries were the most common cause of admission at health facilities (excluding the NRH), ranging from 14 percent to 42 percent of admissions. The cost of deliveries varied from SB\$1,277 at a NAP to SB\$ 2,949 at a hospital (compared to SB\$2,250 at the NRH).
- Some 45 percent of hospitals and 70 percent of AHCs, RHCs and NAPs collect contributions for outpatient consultations and an estimated 37 percent of patients contributed to see a health worker at a facility managed or comanaged by the government.

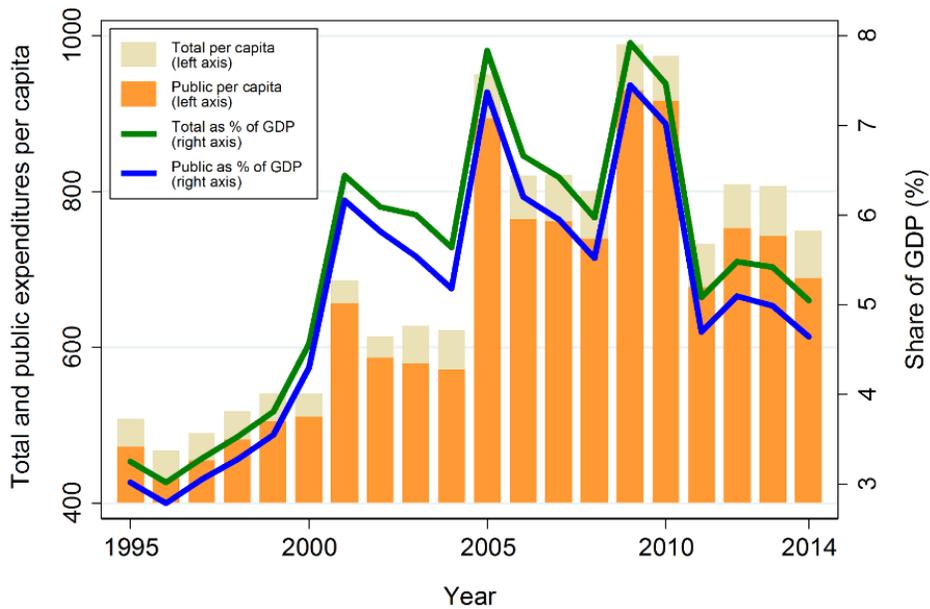
5.3 Public Expenditure on Health³⁷

Public Expenditure on Health is the sum of domestic (government-sourced) health expenditure and external (DP) on-budget expenditure (SIG recurrent budget 276, DP recurrent budget 376, Appropriated and Non-Appropriated Development Budget 476 and 476NA)

68. **Global data sources show that public expenditure on health forms the large majority of THE and has exhibited some level of volatility in the two decades to 2014—largely driven by fluctuations in, and changes in financial management arrangements of, external funding.** Over this period, real annual public expenditure on health per capita has grown despite a negative real annual per capital GDP growth, a testament to SIG’s commitment to the health sector (Figure 5-7). More recently between 2006 and 2014, this trend has reversed and positive GDP growth has been accompanied by negative growth in public expenditure on health growth (Figure 5-8). Like THE, real public expenditure on health per capita in SI has constantly been higher in the past than might be expected given the country’s income level (compared to other LMICs) and the EAP region, and mostly higher than other PICS.

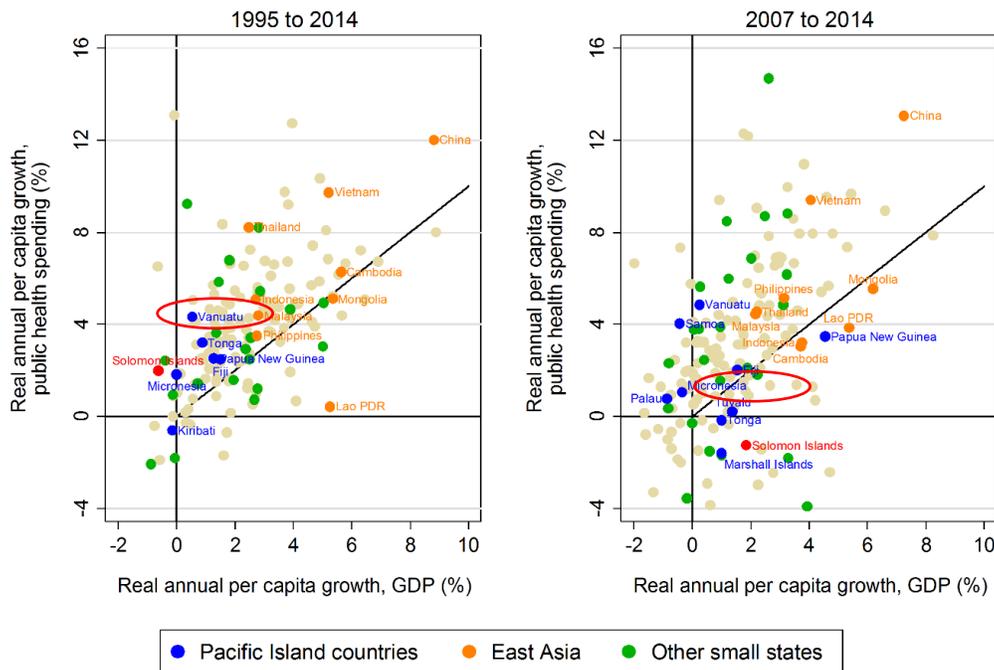
³⁷ As detailed earlier, public expenditure on health includes both the domestic and the DP external financing.

Figure 5-7: Real Total Health Expenditure and Public Expenditure on Health (1995-2014)



Source: World Bank 2017.
 Note: Values in 2014 constant Solomon Islands Dollar (SB\$).

Figure 5-8: Economic Growth versus Growth in Public Expenditure on Health (1995-2014) & (2007-14)

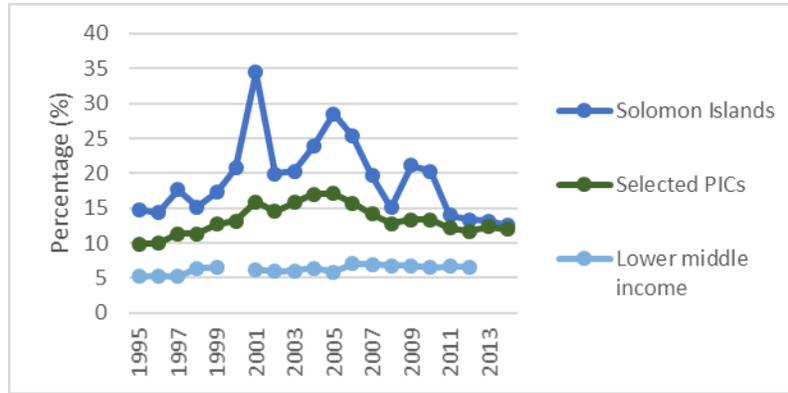


Source: World Bank 2017; WHO GHED 2017.

69. In the two decades to 2015, public expenditure on health represented an average of just under one-fifth of total government expenditure per year. This is much higher than could be expected based on the Solomon Islands income level, and then other selected countries in the region (Figure 5-9). It has, however, been rather volatile and public expenditure on health as a share of SIG expenditure is converging

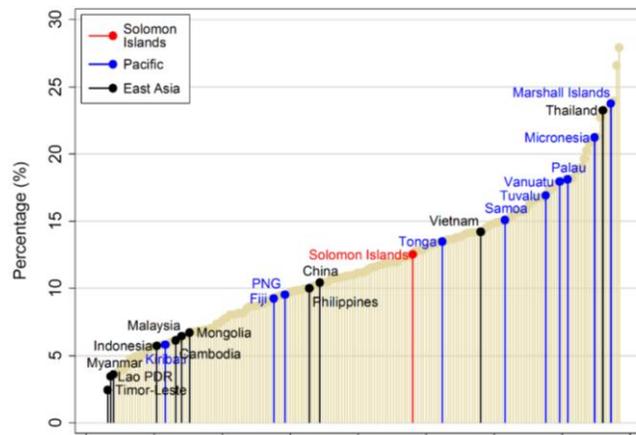
since 2011 towards 12.5 percent, similar to other selected PICs in the region (Figure 5-10). In 2015, public expenditure on health as a share of National Expenditure was 12.5%.

Figure 5-9: Public Expenditure on Health as % Total Government Expenditure (1995-2014)



Source: World Bank 2017.

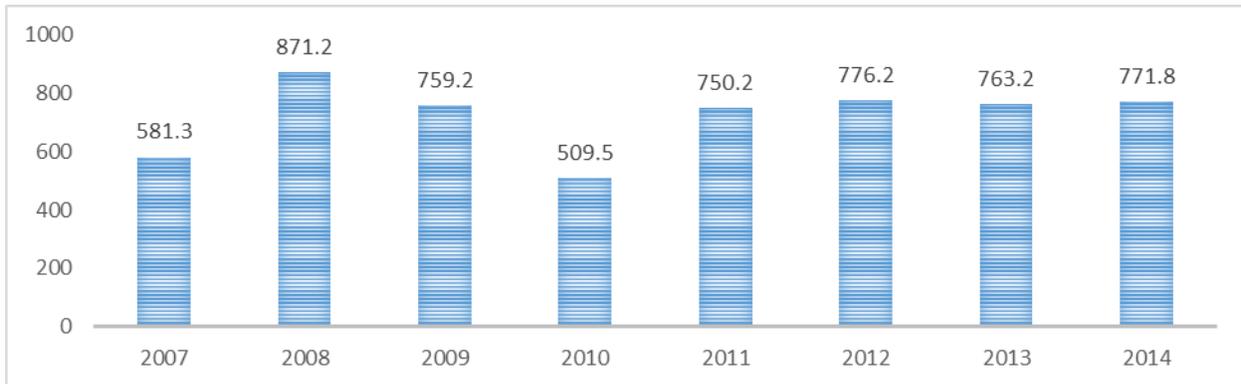
Figure 5-10: Public Expenditure on Health Share of National Expenditure (2015)



Source: WHO GHED 2017.

70. **SIG budget data in more recent years tells a different story, with an increase of the MHMS share of total SIG expenditure since 2007.** In 2014, the MHMS share of SIG expenditure was 14 percent according to SIG data, compared to 12.5 percent based on international data (WHO GHED). According to SIG budget data, real per capita government health expenditure has increased since 2007, and has been relatively constant for the last four years (2011 to 2014) for which data are available (Figure 5-11). The two datasets reconcile with the introduction of the AX FMIS in 2012, therefore, from here on in this HFSA, we will use MoFT budget data for public expenditure on health for detailed analysis.

Figure 5-11: Real Solomon Islands Public Expenditure on Health per Capita (SB\$ 2007-14)

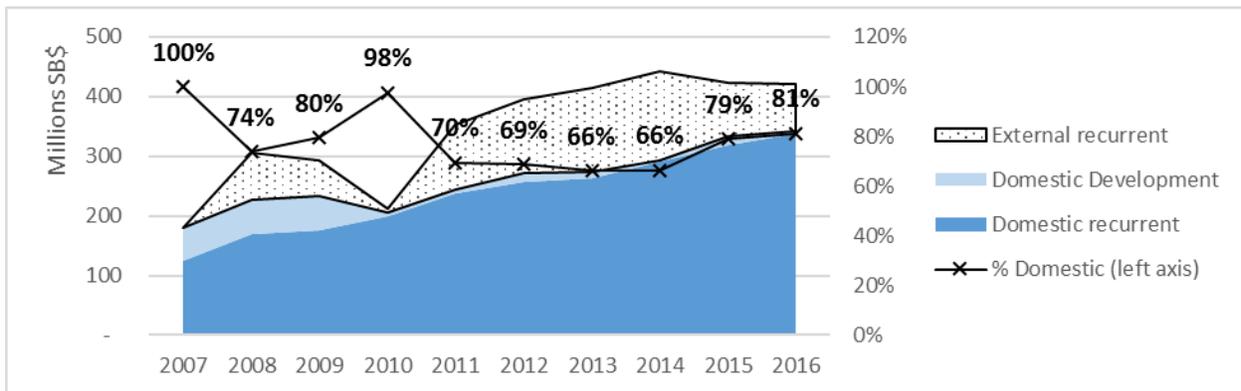


Source: SIG FMIS; World Bank 2017.

Note: In constant 2014 prices. Expenditure data was available to 2016, however, the GDP deflator was only available to 2014.

71. According to national data, public expenditure on health is largely domestically funded, with over 78 percent on average of total MHMS expenditure since 2007 sourced from SIG domestic sources. The 2007 and 2010 exceptions (Figure 5-12) can be respectively explained by the introduction of DFAT’s HSSP in 2008, and poor recording of external funding data while SIG was working on putting external funding on the FMIS (in 2012).

Figure 5-12: Source of Public Expenditure on Health (2007-16)



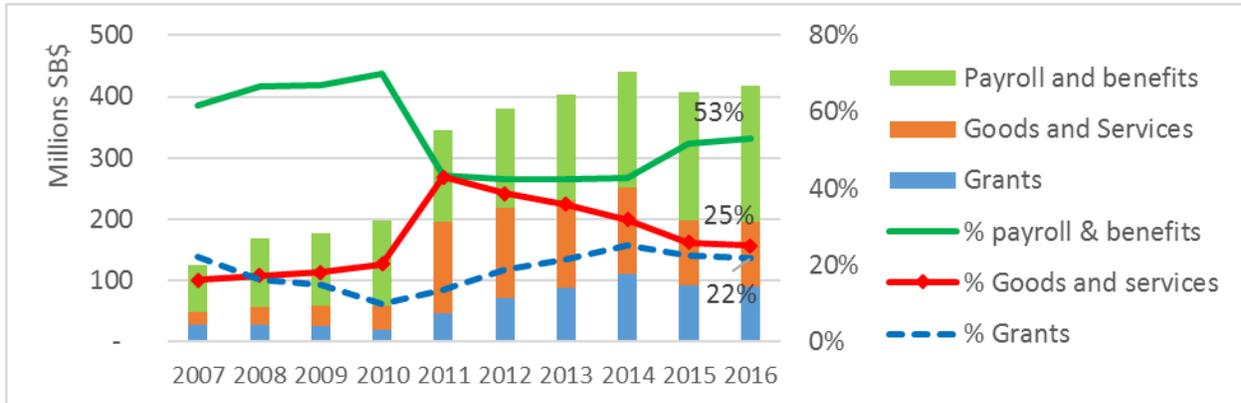
Source: SIG FMIS.

72. Public expenditure on health is largely spent on recurrent expenditure, with notable difficulties executing the development budget. As previously mentioned, data used from here is based on MoFT budget information and, therefore, only includes on-system external expenditure. Other DPs would contribute to health through their own system and not be reflected in the central SIG FMIS.

73. MHMS recurrent expenditure more than tripled in nominal terms between 2007 and 2016, while, as previously mentioned, real per capita trends are more modest (Figure 5-13). While DFAT’s HSSP budget support was introduced in 2008, it only started being tracked according to the chart of accounts in 2011. DFAT funds cannot be spent on payroll or staff benefit—the introduction of these funds, therefore, reduced the overall share, if not the SB\$ amounts, spent on payroll and staff benefit in 2011. The large majority of the recurrent health expenditure is on payroll and staff benefit—recent increases in 2015 and 2016 have brought the share of payroll and staff benefit to more than 50 percent. The MHMS strategy of sending funds to the provincial divisions is clearly visible with the increased share of recurrent

expenditure on grants, commensurate with a reduced share spent on goods and services (although both dropped slightly in 2015 and 2016 in response to the increase in payroll and staff benefit).

Figure 5-13: MHMS Recurrent Health Expenditure by Economic Classification (2007-16)



Source: SIG FMIS.

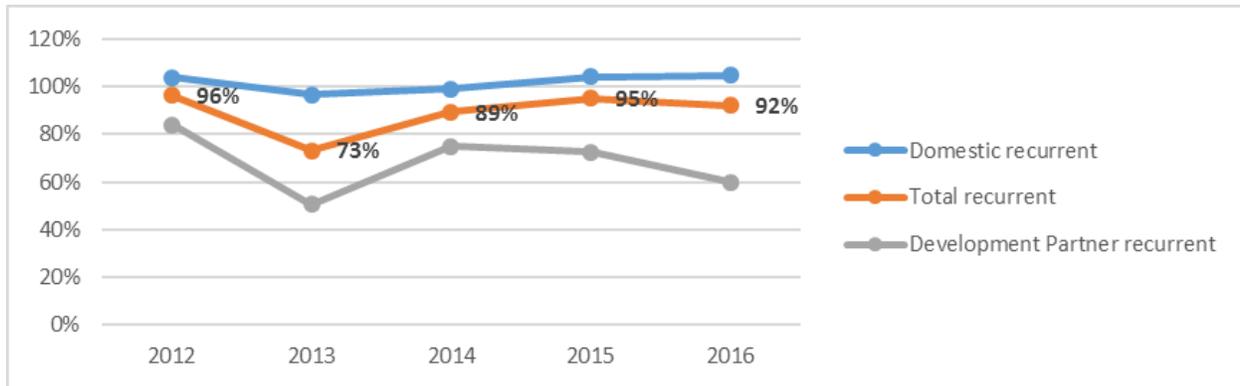
Note: Australia’s budget support between 2008 and 2010 was not recorded by economic classification and is, therefore, excluded for 2008 to 2010.

74. Apart from 2013 which saw particularly low budget execution rates, total revised recurrent budget execution rates since 2012 (first year of complete financial information reporting) varied between 89 percent and 95 percent (Figure 5-14).³⁸ Domestic recurrent budget execution remains around 100 percent while DP recurrent budget execution rates have been falling.³⁹ Domestic development budget execution rates, however, remain low (under 30 percent on average since 2012, and as low as 6 percent in 2014) in large part due to lack of adequate staffing in the procurement and infrastructure units.

³⁸ The original budget is the recurrent and development budget as appropriated by Parliament—usually at the end of each calendar year (November/December)—and non-appropriated development funds from external donors are provided by some as a form of budget support. The revised budget is the adjusted original budget, considering any additions or reductions to the original budget (such as SIG supplementary budget, donor funds advance warrants, and virements). The revised budget is listed in the Budget Estimates books published each year by MoFT.

³⁹ Particularly low execution rates in 2013 are due to the SB\$62 million from DFAT that was available to build the Solomon Islands Malaria Training and Research Institute (SIMTRI). The construction never happened, however, and the money was redirected to other projects. In addition, due to the fraud in 2013, DFAT funds were frozen for a period, affecting budget execution. Decreasing DP budget execution rates from 2014 are partly due to the inclusion of off-system DP contributions in the DP recurrent budget, and the overfunding of some divisions compared to implementation capacity by some DPs.

Figure 5-14: MHMS Recurrent Budget Execution Rates (2012-16)



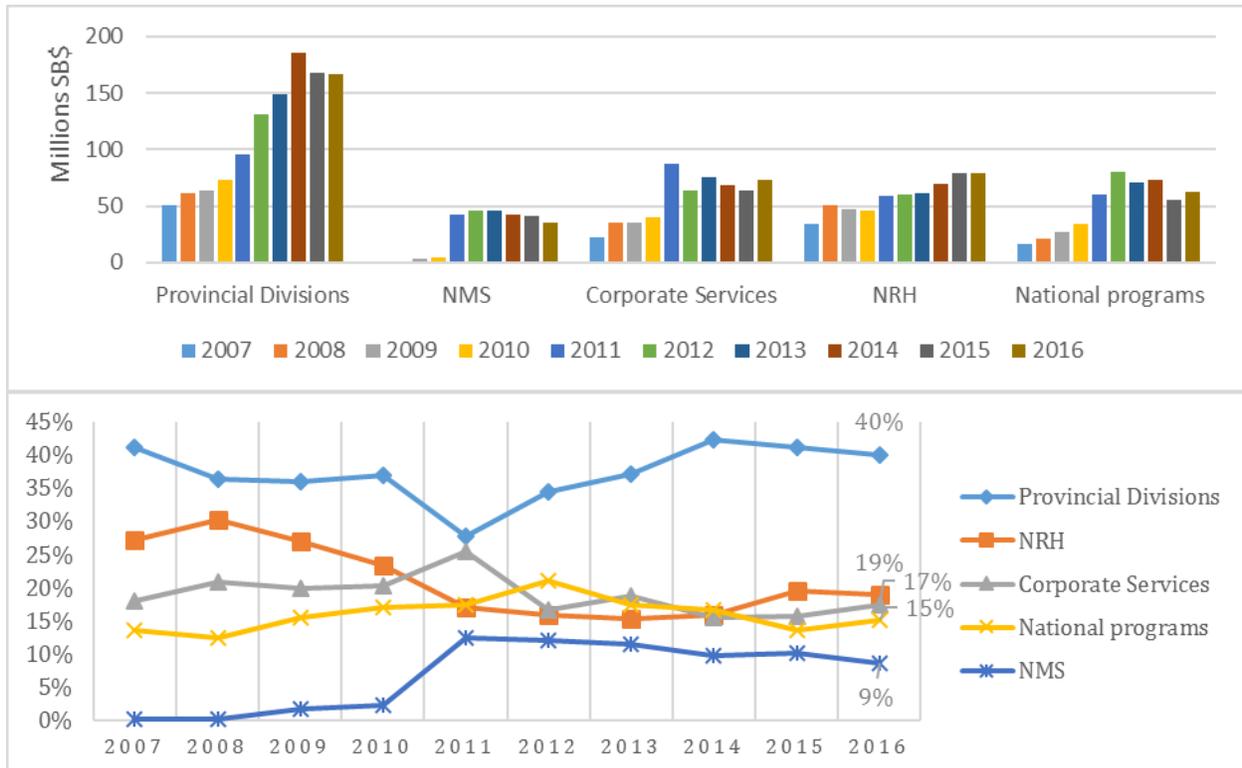
Source: SIG FMIS.

75. Since 2011, provincial divisions and the NRH have seen an increase in total recurrent expenditure, while expenditure by the NMS has stayed relatively flat,⁴⁰ and corporate services and national programs have had very volatile but, overall, slightly decreasing expenditure (Figure 5-15). This is in line with the NHSP aim to increase funds going to provincial divisions, and seeing national programs take more of an advisory role to provinces. Furthermore, in line with this strategic direction, certain divisions such as RMCH and NVBDC have started transferring grants to the provincial divisions for service implementation.

76. The MHMS has recognized the need to increase capacity in, and support to, the provincial divisions to assist with service delivery and program implementation linked to this increased funding. MHMS has also recognized the need to monitor effectively these increasing allocations to provincial divisions and the NRH to improve quality and efficiency of spending. The slight decrease (both as SB\$ and as percentage share) of expenditure in the NMS coupled with growing population and increasing complexity of chronic diseases could become problematic, as one could expect growing demand. Ongoing efforts to continue improving efficient management of pharmaceuticals, including around quantification, wastage and stock-outs will be increasingly important as resources become progressively more constrained.

⁴⁰ Low NMS expenditure in 2016 primarily relates to a change in timing of major drug and dressings payments (payment rolled over to 2017).

Figure 5-15: MHMS Recurrent Expenditure by Spending Division (Total and % Share) (2007-16)



Source: SIG FMIS.

Note: Australia’s budget support between 2008 and 2010 was not recorded by economic classification and is, therefore, excluded for 2008 to 2010.

5.4 Domestic Expenditure on Health⁴¹

Domestic Expenditure on Health consists of expenditure funded by resources raised through general consolidated revenue collection (SIG recurrent budget 276 and SIG development budget 476A)

77. **Between 2007 and 2016, the MHMS consistently spent the second largest share of total SIG recurrent expenditure after the education sector.** The MHMS spent an average of 10 percent of total domestic SIG expenditure per year—or 13 percent of total recurrent expenditure—in that period. MHMS also receives a development budget from SIG (4 percent average in that same period), but there are significant issues around the expenditure of the development budget, with execution rates as low as 6 percent in 2014.⁴² The domestic recurrent budget is consistently fully expended, and was overspent in 2012 and 2015.

78. **SIG nominal domestic contribution to the recurrent health budget almost tripled between 2007 (SB\$114.3 million or US\$14.9 million) and 2016 (SB\$334.6 million or US\$43.8 million).** In 2016, MHMS received 13 percent of SIG’s total domestic budget, second after the Ministry of Education and Human Resource Development (35 percent), and just before Police and National Security (11 percent). All other

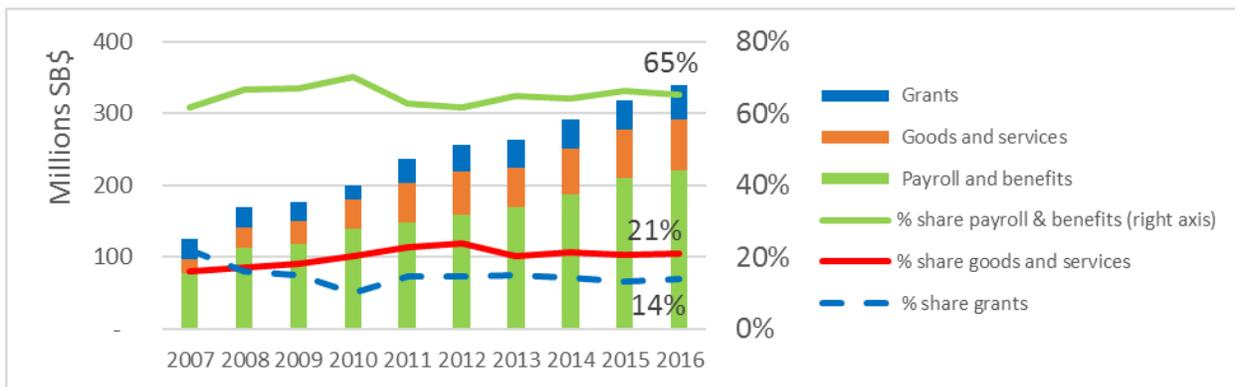
⁴¹ This section is based on SIG budget and expenditure data.

⁴² In addition to difficult procurement rules, the Procurement and Infrastructure unit has been mostly unstaffed since staff were suspended (and later fired) on fraud allegations in late 2013.

ministries received 4 percent or less of the domestic budget.

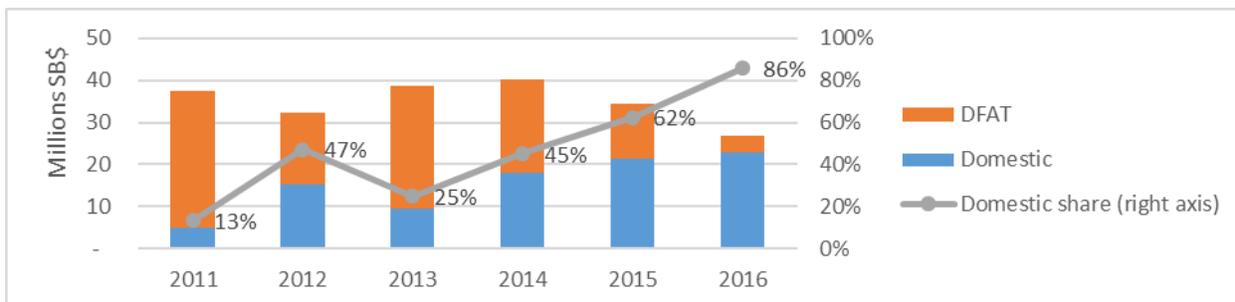
79. Since 2007, and more so in recent years, the respective shares of the health budget allocated to payroll and staff benefits, goods and services, and grants have stayed relatively constant, respectively around two-thirds, one-quarter, and 13 percent of MHMS domestic recurrent expenditures (Figure 5-16). Payroll and staff benefits include remuneration, house rent and annual leave and cover all MHMS establishment staff, but exclude provincial DWEs. In 2014, provincial divisions spent 30 percent on average of their grants on DWE payroll and staff benefits, so around 40 percent of grants could further be applied to payroll and benefits. The increase in payroll and staff benefits has been the main driver of the overall domestic recurrent budget tripling since 2007—indeed, payroll and benefits have almost tripled themselves. Similarly, domestic expenditure on goods and services has almost quadrupled, recently driven by an increased domestic share of spending on drugs and dressings (from 13 percent in 2011 to 86 percent in 2016), in line with MHMS’ commitment to fund that particular line item domestically to protect it from variation in DP funding (Figure 5-17).

Figure 5-16: MHMS Recurrent Domestic Expenditure (276) by Economic Classification SB\$ (2007-16)



Source: SIG FMIS.

Figure 5-17: Drugs and Dressing Expenditure and Domestic Share SB\$ (2011-16)



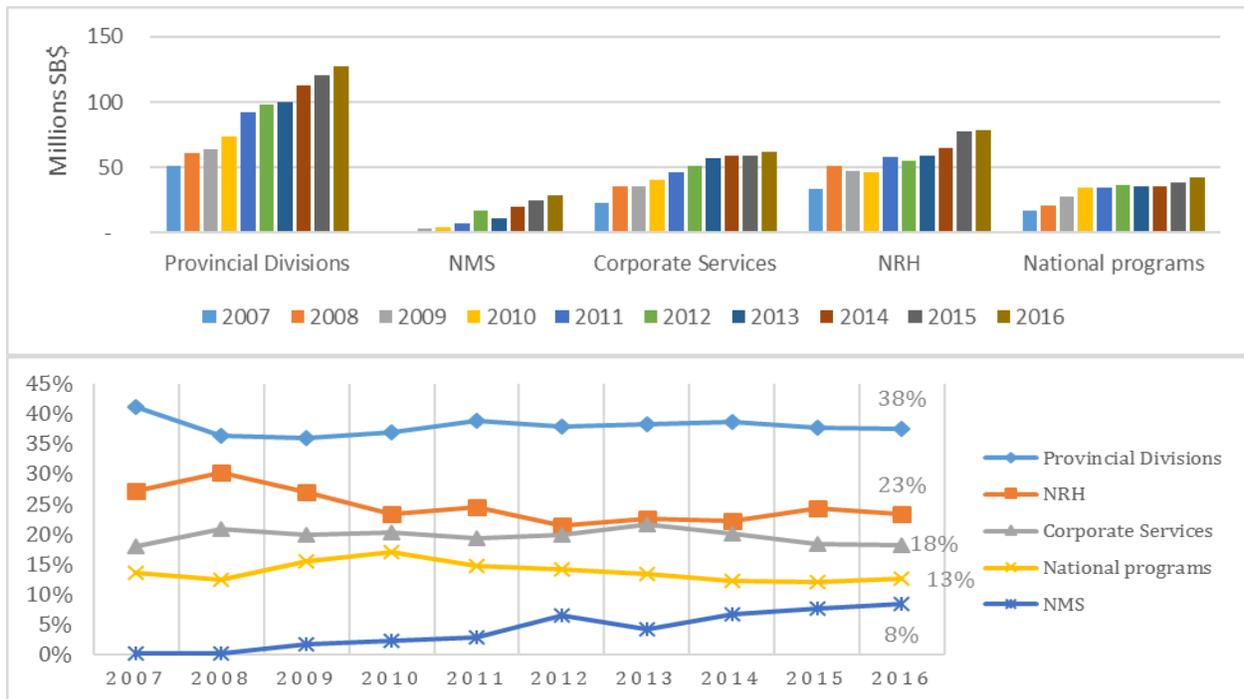
Source: SIG FMIS.

Note: The 2016 underspend primarily relates to a change in the timing of major drug and dressings payments (payment rolled over to 2017).

80. Domestic expenditures are mostly spent on provincial divisions (almost 40 percent), the NRH (around one-quarter) and Corporate Services (at just under 20 percent, including house rent and utilities) (Figure 5-18). All MHMS spending divisions have seen significant increases in domestic expenditure—apart from national programs which have stagnated since 2010. The share of expenditure per spending division has, however, stayed relatively constant over the years, with recent increases in the

NRH and NMS (due to the increase in the domestic share of drugs and dressing budget line). As previously mentioned, many national programs are externally funded, traditionally largely off-system. Earmarking and restrictions on eligible expenditure of DP funding have created a substitution effect with domestic funding often used to finance divisions or expenditure types that DPs will not fund (such as salaries and staff benefits, utilities or, more recently, the NRH).

Figure 5-18: MHMS Recurrent Domestic Expenditure (276) by Spending Division (Total and % Share) (2007-16)



Source: SIG FMIS.

5.5 External Financing for Health

External Financing for Health comprises funds or in-kind services that are provided by entities not part of the country in question. Due to data constraints, this section mostly focuses on DP contributions that are on-system.

81. **The health sector has traditionally received a significant share of funding from external DPs.** According to global data, 57 percent of THE was externally financed in 2014 (Figure 5-19), significantly more than other LMICs (15 percent), and other countries in the region (32 percent). The external share of THE has been quite volatile. Disbursements from DFAT were the largest and, according to international data, accounted for 78 percent of all external funding for health between 2002 and 2014. Gavi and the GF respectively accounted for about 1 percent and 2 percent of all external financing in that same period. International databases often track an incomplete mixture of commitments, disbursements and expenditures which often yield estimates that are very different to in-country data. Figure 5-20 is included for information purposes as SIG budget and expenditure data is also incomplete, albeit improving. This highlights the importance of DPs working with MHMS and SIG to reflect all contributions to the budget, whether on-system or not.

Figure 5-19: External Share of THE (2014)

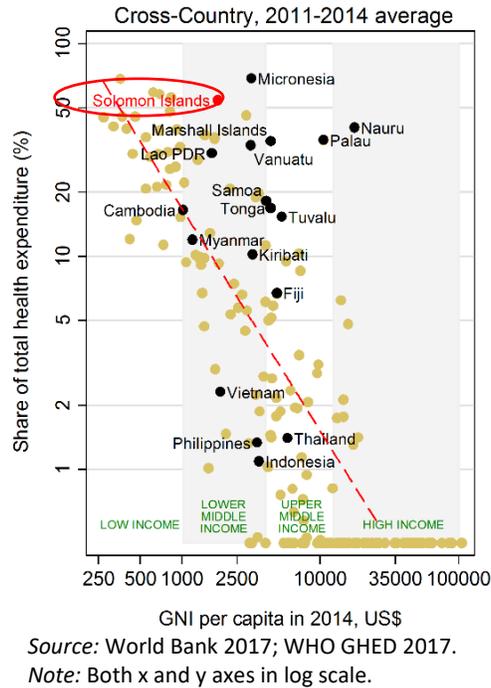
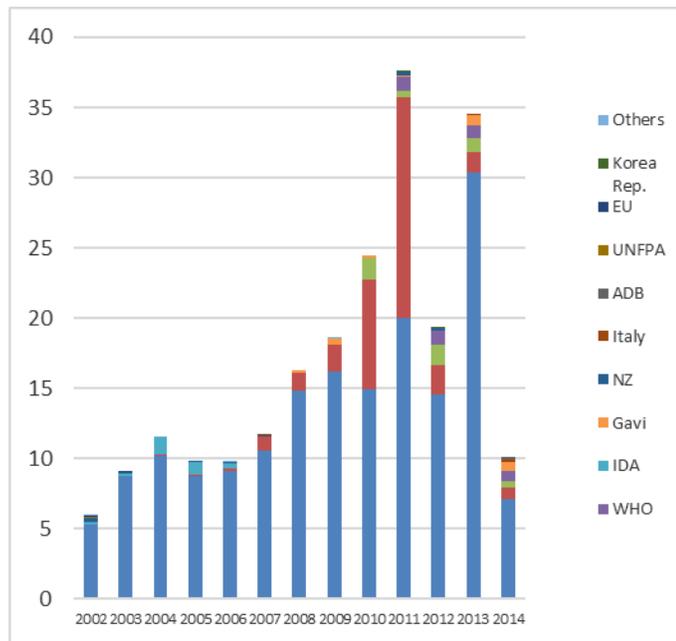


Figure 5-20: External Financing for Health by DP (Millions of Current US\$) (2002-14)



Source: OECD 2017.

Note: (i) Includes external financing for the categories of health and of population and reproductive health; (ii) EU: European Union; ADB: Asian Development Bank; IDA: International Development Association.

82. **Only on-budget external financing is tracked by MHMS, and only on-system support uses the SIG financial management and procurement systems.** On-system external financing is reflected in the appropriated DP recurrent budget (376) and is managed by MHMS, whereas off-system DP contributions should be reflected in the non-appropriated development budget (476NA) and have mixed management arrangements. As previously mentioned, there are some difficulties in collecting and reflecting the on-budget but off-system financial information, both in MHMS and in the SIG budget books and, while improvements are noticeable in recent years, budget/expenditure information is incomplete for the non-appropriated development budget, creating high volatility in the recorded MHMS budget. The information reported in this report is specific to the time the report was written. The on-plan, on-budget and on-system landscape changes every year as DPs change their funding modalities. This highlights some of the challenges faced by MHMS in managing DP financing.

83. **The non-appropriated development budget has not traditionally been broken down into the SIG budget format/chart of accounts, making it difficult to analyze.** This is improving, with national divisions including off-system support into their Annual Operational Plans and Budget (AOP&Bs) in the SIG budget format. According to the SIG Budget Books, 68 percent of DP contributions were on-system in 2013, but 93 percent in 2014 and 2016—as the non-appropriated development budget was poorly recorded in those years (Figure 5-21). As mentioned earlier in the text analysis (Figure 5-2), poor recording of DP information leads to large differences between international and domestic databases but, more importantly, also stresses the fact that MHMS and SIG are managing health service delivery with incomplete information on all resources available to the health sector. The rest of this section on external financing is based on on-system DP recurrent budget contributions only.

Figure 5-21: DP Contributions to the Health Sector as Per the SIG Budget Books (2013-17)



Source: SIG FMIS.

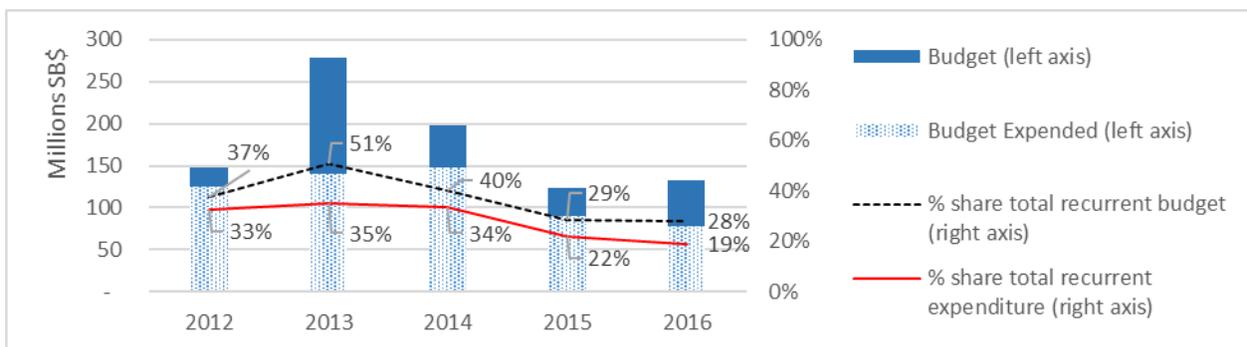
84. **MHMS manages many different DPs and, while the donor landscape may seem small compared to other countries in East Asia Pacific, this multitude of arrangements can be difficult to manage for the small MHMS team.** There are many ways DPs contribute to health in Solomon Islands, all with different funding modalities, systems and processes. Some (more recently like the European Union) contribute general budget support to MoFT with a health-focused performance component that encourages SIG to allocate some of that funding to MHMS—this can be reflected in any of the appropriated budget ledgers (276, 376 or 476A). Others contribute budget support directly to MHMS with a large amount of flexibility

(like DFAT) or for specific programs (like GF or UN agencies)—these are reflected in the DP recurrent budget (376).

85. **Most DPs also provide on-budget but off-system targeted support.** This earmarked off-system support can be paid for/procured by the DP but implemented by MHMS (for example Gavi support for new vaccines, GF direct procurement, and some activities or procurement from the UN agencies)—these should be reflected in the non-appropriated development budget (476NA). Support can also be procured and implemented directly by the DP with different levels of collaboration with MHMS (JICA - Japan International Cooperation Agency, World Vision)—these should also be reflected in 476NA. Some DPs provide funds for earmarked programs for activity implementation through separate bank accounts managed and implemented by MHMS outside the SIG financial management system (Gavi, Fred Hollows and, until recently, the United Nations Population Fund – UNFPA, now on-system), but subject to SIG Financial Instructions and Procurement Rules—these should also be reflected in 476NA. Technical assistance (TA) provided by many DPs should be on-budget but off-system. MHMS and DPs have been working towards making all information on available resources available to MHMS for more efficient allocation and use of resources: all resources must be on-plan, on-budget and, when possible, on-system.

86. **DP contributions to the MHMS recurrent budget are volatile and have decreased since 2013 (Figure 5-22).** DP contribution to the DP recurrent budget started being recorded in the FMIS by specific line item only in 2012; since the largest budget year in 2013, the DP recurrent budget (376) has decreased by 63 percent—and from 51 percent of total MHMS recurrent budget in 2013 to 28 percent in 2016. The primary reason for the decrease is the reduced support from DFAT as the primary health bilateral donor which was cut by 36 percent in the 2015 budget, and a further 30 percent in 2016.⁴³ The slight increase in the 2016 budget highlights the increasing number of DPs using the SIG system (from one in 2014 to seven in 2016). Expenditure has followed the reduction in budget (Figure 5-22) but not as drastically. DP recurrent expenditure went from 35 percent of total recurrent expenditure in 2013 to 19 percent in 2016.

Figure 5-22: MHMS On-System Recurrent DP Budget and Expenditure (376) (2012-16)



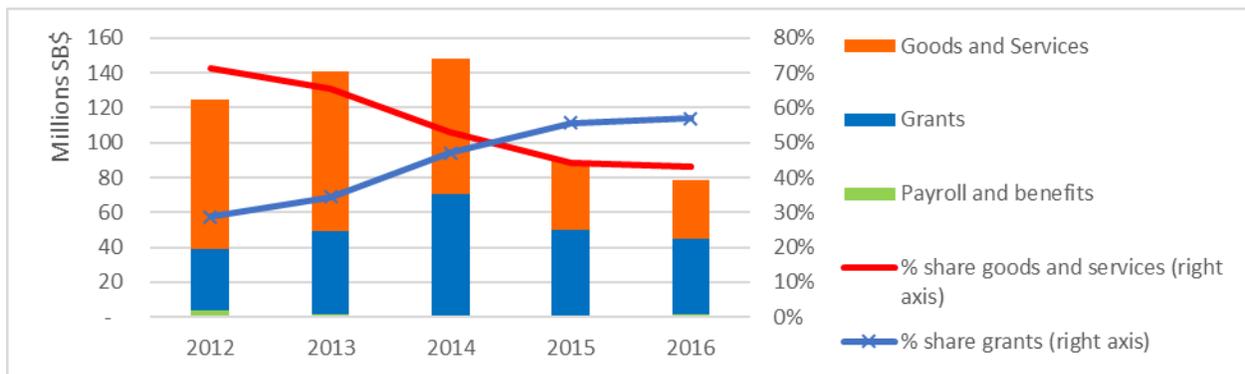
Source: SIG FMIS.

87. **On-system DP recurrent expenditure is mostly, and increasingly, spent on grants to provincial divisions, with a commensurate decrease in expenditure on goods and services.** Total DP recurrent

⁴³ These changes in the yearly DFAT contributions are mostly due to the SB\$63 million one-off contribution to the 376 budget, but also to: (i) changes in financial management of DFAT budget support. This now functions on a reimbursement basis (rather than automatic disbursement which resulted in large volumes of unspent funds sitting in the bank account); and (ii) the increased share of technical—rather than financial—assistance, which is now about one-quarter of the total amount made available to MHMS yearly (usually around AU\$20 million), thereby reducing the amount available as budget support. Furthermore, the weak Australian dollar has affected the budget support to MHMS.

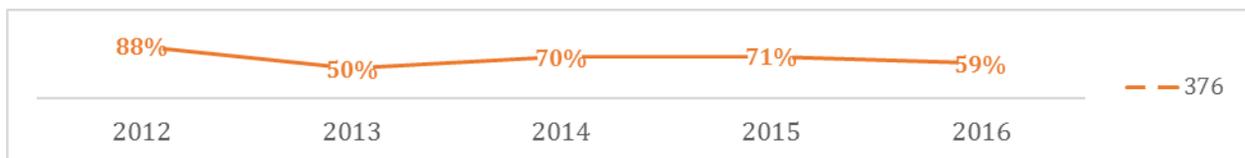
expenditure declined sharply in 2015 and 2016, more-so for goods and services than for grants (Figure 5-23). Combined with the clear shift in expenditure share between goods and services and grants over the years, this reflects the prioritization of provincial divisions and their role in front line service delivery. Very little DP recurrent expenditure is on payroll and staff benefits, as DP funding cannot be used to pay for establishment staff and is only used to recruit local contracted staff for temporary support to MHMS. DP recurrent budget execution rates are inconsistent and rather low (Figure 5-24). These low execution rates are usually specific to a certain DP or activity and are explained in yearly financial reports—examples include overfunding of specific divisions with low absorptive capacity and poor performance against performance agreements.

Figure 5-23: On-System Recurrent DP Expenditure (376) by Economic Classification (2012-16)



Source: SIG FMIS.

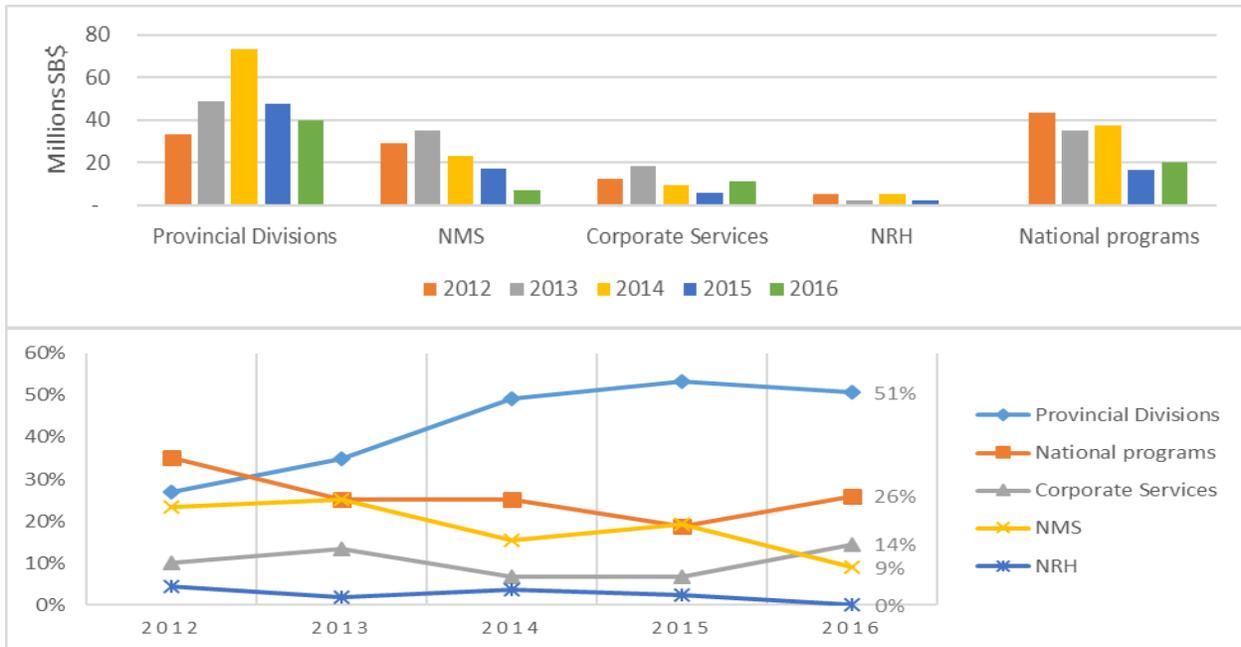
Figure 5-24: On-System Recurrent DP Budget (376) Execution Rate (2012-16)



Source: SIG FMIS.

88. Between 2012 and 2016, the DP recurrent budget was mostly spent in provincial divisions, followed by national programs and, decreasingly by NMS, reflecting the commitment of MHMS to fund drugs and dressing domestically (Figure 5-25). In 2016, more than one-half of the DP recurrent budget was spent in the provincial divisions, one-quarter in the national programs and 14 percent in Corporate Services. Of the share going to national programs, the best funded divisions were NVBDC and the Environmental Health national program, but it must be noted that most of the support to the RMCH national program (for example, UNFPA and Gavi) and, until very recently, NVBDC and TB, were off-system and, therefore, not included in these trends. The reduction in DFAT budget support is clearly visible in the significant reductions of expenditure in the provincial divisions and national programs, while the decreased expenditure in the NMS is a reflection of MHMS’ commitment to increased domestic funding of the drugs and dressing budget line.

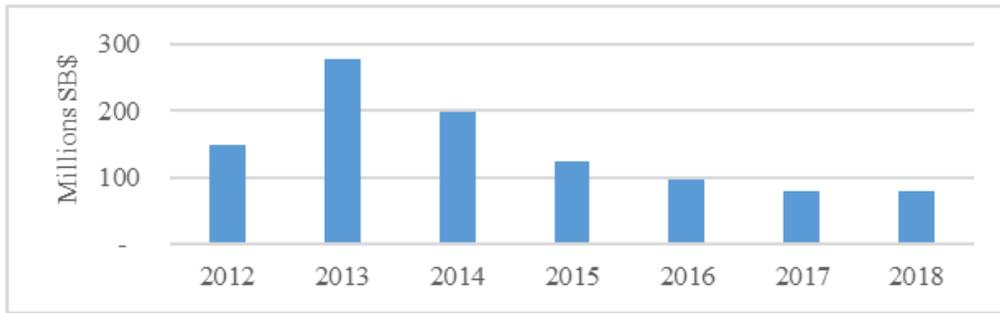
Figure 5-25: On-System Recurrent DP Expenditure (376) by Division (2012-16)



Source: SIG FMIS.

89. **External financing is expected to remain significant in the future but contributions from DPs are anticipated to decrease in upcoming years.** DFAT has been supporting the health sector since 2007 and has just started its third iteration of support to MHMS through the HSSP3 2016-2020. DFAT support to MHMS includes off-system expenditure such as TA and project-specific activities, on-system budget support and, since 2013, a component of performance-linked aid (20 percent of available budget support). DFAT provides flexible funding to MHMS that supports essential primary health care service delivery, with a target of 40 percent of funds allocated to provincial divisions, certain public health programs and the NMS. HSSP3 is targeted at Health System Strengthening (HSS) and primary health care. DFAT total support to the health sector provided under HSSP3 2016-2020 (AU\$66 million – SB\$435 million) is lower than the previous HSSP2 2012-2016 iteration (AU\$80 million – SB\$534 million). Regionally, DFAT also funds multilaterals and other DPs working in health in the country.

Figure 5-26: DFAT Contribution to the DP Recurrent Budget (376) (2012-18)

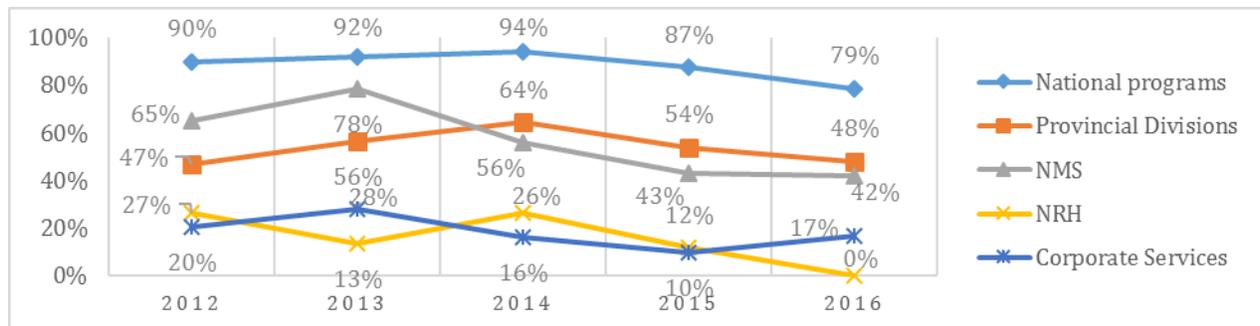


Source: SIG FMIS.

Note: (i) 2013 budget is particularly high due to the inclusion in the budget of the SB\$62 million from DFAT that was available to build the Solomon Islands Malaria Training Institute. That project never materialized and money was redirected to other projects in subsequent years. (ii) These figures include only the DFAT contribution to the DP recurrent budget. The total support from DFAT would be larger (albeit decreasing as noted) and also include all off-system assistance.

90. **Other changes with major DPs include transition from Gavi support to immunization, and a new funding model of support from GF for malaria, TB and HIV.** Based on the country’s economic status, Gavi’s accelerated transition starts in 2017 and MHMS will be fully independent from Gavi by the end of 2022⁴⁴. A separate section on immunization follows in Section Six, followed by Section Seven that highlights changes in the malaria, TB and HIV national programs. Less information is known about future commitment from other donors. In a context where DPs, in 2016, have been funding the large majority of nonpayroll recurrent expenditure in national programs, about one-half of provincial divisions, and significant contributions to the NMS (Figure 5-27), transitions and reduced financing is a significant challenge that MHMS and SIG should continue to tackle seriously and quickly to avoid affecting health outcomes. Given the economic forecast, it is unlikely that Solomon Islands would be able to completely replace external financing at a similar level.

Figure 5-27: Share of On-System DP Recurrent Non-Payroll Expenditure out of Total Recurrent Non-Payroll Expenditure (by Spending Division) (2012-16)



Source: SIG FMIS.

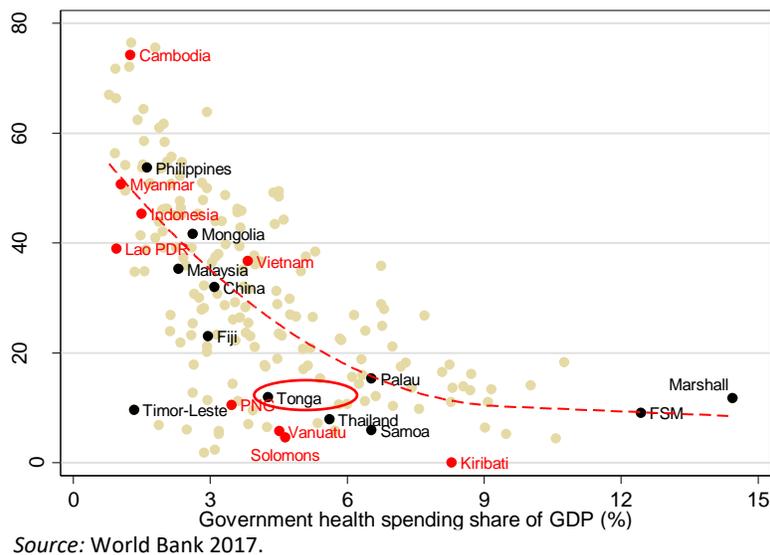
⁴⁴ Support was extended in 2018 to the end of 2022 instead of the initial end of 2021.

5.6 OOP Spending for Health

OOP Payment expenditures are any direct contribution by households, including donations and in-kind payments, to health practitioners and suppliers of pharmaceuticals, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups.

91. **OOP in Solomon Islands as a share of THE is very low compared to global standards and other countries in the region (Figure 5-28).** PICs, and particularly Solomon Islands, have much lower OOP than could be expected compared to other countries with similar levels of income, which confirms the good results on financial protection from the UHC tracer indicators mentioned earlier. Between 1995 and 2014, OOP represented an average of 4.5 percent of THE. In 2014, OOP represented 4.61 percent of THE—the second lowest in the region after Kiribati. In that year, the OOP share of THE in LMICs and PICs was 56 percent and 13 percent respectively (World Bank 2017).

Figure 5-28: Out of Pocked Payments versus Government Health Spending as Share of GDP (2014)



92. **A certain level of fees for various services is collected at all public health facility levels.** The Solomon Islands Health Services Act (1979) permits the collection of fees for public services at hospitals, but not at lower-level facilities. Results from the 2013 HFCS found, however, that all facilities collect contributions for outpatient services (55 percent of provincial hospitals and 70 percent of lower-level facilities), inpatient services (36 percent of provincial hospitals and 32 percent of lower-level facilities), and deliveries (27 percent of provincial hospitals and 32 percent of lower-level health facilities) (Lorgelly et al. 2015). All provincial hospitals and over 50 percent of lower-level facilities collect contributions for record books and special forms. While the NRH reported not collecting fees, anecdotal evidence indicates that they do, similarly to all other public facilities. On average, 35 percent of patients reported they were asked to make a financial contribution, whereas 37 percent reported that they did contribute. The average contribution was SB\$3.35 to see a health worker or to receive medicine, and 86 percent of patients reported that payments to the health facility did not dissuade them from visiting the health facility (while 8 percent reported it had in the past).

93. **While OOP are extremely low compared to global standards and to the region and have not shown significant catastrophic impact in the country, there are significant indirect costs which may be an obstacle to seeking and accessing health care (for example, travel-related costs).** In 2012-13, 0.2 percent of total household expenditure was spent on health (the same in rural and urban areas)—or 0.4 percent if we remove food and nonalcoholic beverages (NSO 2015). More was spent on health when a woman was head of household (0.4 percent of total household expenditure instead of 0.2 percent)—particularly in rural areas. Yearly spending on health varies between provinces, however, as a percentage of total household expenditure the difference is smaller (0.3 percent versus 0.2 percent in those same provinces). Health is the lowest expenditure category for households and, as an interesting comparison, households spend, on average, 8.8 percent of total household expenditure on alcohol, tobacco and narcotics.

Section Six: External Financing for Health: Immunization

Summary:

- The expanded program on immunization (EPI) presents a mixed picture. Improvements have been made on immunization coverage in the decade to 2017 and Solomon Islands is doing better than some other countries in the region. However, different immunization rates are reported in different data source, making it unclear whether Solomon Islands will have reach its own immunization targets (table 6-4). Immunization coverage rates have dropped recently and there was a large measles outbreak in 2014.
- In 2014 and 2015, the MHMS's share of total EPI expenditure was around 15 percent excluding personnel costs, which are predominantly covered by the MHMS.
- The introduction of new vaccines in coming years will address some of the disease burden (Rotavirus) but also add pressure to an already stretched EPI. Solomon Islands will fully graduate from Gavi by end of 2022, at which point the EPI will have to be fully funded by the MHMS who will need to approximately triple their budget for vaccine procurement. In the meantime, Solomon Islands will still receive a range of tapered Gavi support.
- Gavi support to the EPI—including the HSS grant—is currently on-plan, on-budget (Gavi sends an annual decision letter informing the MHMS of the total Gavi contributions for the year) but is off-system and managed through a separate bank account - TA is being provided by Gavi to support the shift to using SIG systems as part of the five-year transition.

94. **This section will apply the HFSA analysis model to the EPI program—a national program particularly relevant in Solomon Islands as it starts Gavi accelerated transition in 2017 and full transition by end of 2022.** This section will start with an overview, followed by covering program performance, service delivery model, financial management and financing of the program. We will examine key functions needed to ensure the financial and institutional sustainability of the full integration of the EPI program into MHMS, while protecting immunization rates.

95. **Like other countries in the Pacific, the small population spread across hundreds of mountainous tropical islands presents a unique challenge for overall service delivery, and immunization in particular.** The EPI program is managed by the National Immunization Unit (NIU) which sits under the umbrella of the MHMS's RMCH national program, however, immunization is implemented by the provincial divisions, and vaccine and cold-chain management is the responsibility of the NMS. This split in roles and responsibilities creates several issues that will be highlighted in this section.

96. **Solomon Islands population 0-1 year of age—the primary target for immunization—was 16,775 in 2012-13 (NSO 2015), up from 15,730 in 2009 (NSO 2009).** This age group declined slightly, however, from 3 percent to 2.7 percent of the total population between those years. The crude birth rate (per 1,000 population) has decreased from 37 in 1996 to 35 in 2006 and to 30 in 2014—similarly, the total fertility rate per woman has decreased from 5.1 to 4.5 and to 4 in those same years. While the number of children 0-1 year of age has been increasing, the birth trends are slowing down and this has implications for the EPI program and resources requirements.

97. **Solomon Islands' current immunization schedule covers most WHO recommended vaccines (Table 6-1).** Penta⁴⁵ was introduced in 2008 with Gavi support, the Pneumococcal Vaccine (PCV), the Human Papillomavirus Vaccine (HPV) demonstration and Inactivated Polio Vaccine (IPV) were introduced in 2015 and further changes are planned in the schedule in the next few years. With the introduction of IPV, Solomon Islands will scale down Oral Polio Vaccine (OPV) and remove it by 2018, replacing it with 3/4 doses of IPV in line with global polio endgame strategy. In 2016, Solomon Islands applied, and received approval, for the introduction of a second dose of measles vaccines in 2018 and will also use 2017 as the last year for Gavi applications for new vaccines to apply for the Rotavirus vaccine, and for HPV rollout. If approved, these vaccines will be introduced in upcoming years, most probably in 2018-19.

Table 6-1: Solomon Islands Vaccine and Dosage Schedule (2016)

WHO Recommended Routine Vaccine										
Traditional Vaccines							New Vaccines			
BCG	DPT	Hib	HepB	Polio	Measles	Rubella	TT	HPV	Rotavirus	PCV
Birth	6, 10, 14 weeks	6, 10, 14 weeks	Birth	OPV: 6, 10, 14 weeks & 6 years IPV: 14 weeks	1 year (2 nd dose introduced in 2017)	1 year	6 years	Demo: 9-12 years (roll-out 2018)	Intro 2018	6, 10, 14 weeks

Source: MHMS's NIU.

Notes: The Solomon Islands has recently introduced IPV and is currently giving both OPV and IPV. BCG: Bacillus Calmette-Guérin vaccine for TB; TT: Tetanus Toxoid.

6.1 Program Performance

98. **The immunization schedule is mostly aligned with the burden of disease, with the notable exception of diarrheal disease (Table 6-2).** Rotavirus is problematic—there were outbreaks both in 2014 and 2015—and Solomon Islands will be introducing the Rota vaccine in 2018. Some levels of vaccine-preventable diseases have been controlled to very low levels so that vaccination ensures no reintroduction (for example, polio, typhoid, diphtheria). While measles is not endemic, it is still a problem in Solomon Islands as highlighted by the 2014 outbreak. Other recent outbreaks include dengue (2013, 2016-17) and zika virus (2015). There are still some HepB cases because of the population group that was not vaccinated before the introduction of the vaccine. Pertussis could still be a problem.

⁴⁵ Penta covers DPT, Hepatitis B and Hib.

Table 6-2: Burden of Disease for Vaccine-preventable Diseases (1990-2015)

Rank 2015	Vaccine-preventable Diseases in Under 5s	DALYs Share in Under 5s (%)			
		1990	2000	2010	2015
1	Diarrheal Diseases	7.08	5.29	4.31	3.92
2	Pertussis	2.21	1.92	1.44	1.31
3	Measles	8.31	0.42	3.04	1.29
4	Pneumococcal Meningitis	0.80	0.73	0.89	0.77
5	Typhoid Fever	0.35	0.42	0.38	0.46
6	Meningococcal Meningitis	0.35	0.33	0.35	0.39
7	Haemophilus Influenzae Type B Meningitis	0.84	0.77	0.24	0.24
8	TB	0.33	0.25	0.20	0.19
9	Encephalitis	0.08	0.12	0.14	0.18
10	Acute Hepatitis A	0.03	0.04	0.04	0.03
	<i>DALYs lost per 100,000 population</i>	<i>87,944</i>	<i>66,311</i>	<i>49,724</i>	<i>39,087</i>

Source: IHME 2016.

99. For most vaccines, immunization coverage has improved in the two decades to 2016 (Table 6-3) but results are inconsistent against target achievements (Table 6-4) and, as earlier highlighted by a number of outbreaks, issues remain. In addition, immunization rates dropped in 2013-14, however, they seem to have gone back up in 2015. According to the official country estimates, Solomon Islands did slightly better on immunization coverage than the average for other countries in the region, except for BCG (Table 6-5). In the region, PNG has very low immunization rates (as does Vanuatu depending on data source), which is a health issue that could affect Solomon Islands as some outer islands are very close to these countries, and there is significant population movement between islands. The new NHSP 2016-2020 targets for the EPI program are of at least 90 percent for all vaccines.

Table 6-3: Immunization Coverage, Official Country Estimates (1990-2016)

Vaccines	1990	2011	2012	2013	2014	2015	2016	2014 Target
BCG (% of children one year of age)	87	89	83	82	81	79	80	90
DTP3 (% of children 12-23 months)	77	88	90	83	77	87	94	84
HepB3 (% of children one year of age)	n/a	88	90	83	77	87	94	84
Hib3 (% of children 12-23 months)	n/a	88	90	83	77	87	94	84
Measles1 (% of children 12-23 months)	70	73	85	76	76	75	82	82
Polio3 (% of children one year of age)	75	93	86	85	78	85	89	88

Source: WHO 2017a.

Table 6-4: Immunization Coverage Rates and Ministry of Health and Medical Services Targets (2014)

Vaccines (2014)	WHO/UNICEF Estimates	Official Country Estimates	2014 Target
BCG (% of children one year of age)	99	81	90
DPT (% of children 12-23 months)	88	77	84
Measles (% of children 12-23 months)	93	76	82
Polio (% of children one year of age)	94	78	88

Source: WHO 2017a. 2016 Global Survey and the MHMS's NIU.

Table 6-5: Immunization Coverage in the Pacific, Official Country Estimates (2016)

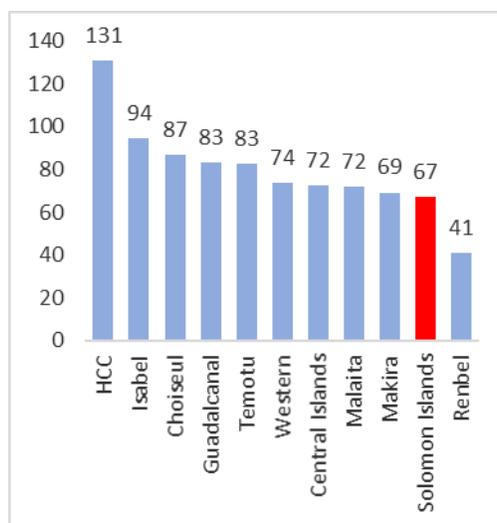
Country	BCG	DTP3	HepB3	Hib3	Measles1	Polio3
Solomon Islands	80	94	94	94	82	89
Fiji	99	93	93	93	95	93
Kiribati	79	81	81	81	80	82
PNG	72	61	61	61	51	62
Samoa	82	90	90	90	77	90
Tonga	91	96	96	96	98	96
Vanuatu	94	81	81	81	84	81
<i>Average</i>	<i>85</i>	<i>85</i>	<i>85</i>	<i>85</i>	<i>81</i>	<i>85</i>

Source: WHO 2017a.

100. **Data quality is an issue, as highlighted by the difference between the WHO/UNICEF estimates and the official country estimates.** WHO/UNICEF estimates are significantly higher than those collected by MHMS through its HIS. In addition, the NIU has reported that, despite tremendous progress in terms of data quality, there are still issues with completeness of data in the MHMS HIS and the NIU has to complete that information with the provincial divisions. Lack of good census data leads to erroneous interpretation linked to difficulties in clearly identifying the target population. Collection of immunization data is not currently sex-disaggregated, however, MHMS has reported in its 2015 Gavi report that it plans on doing so (no year specified).

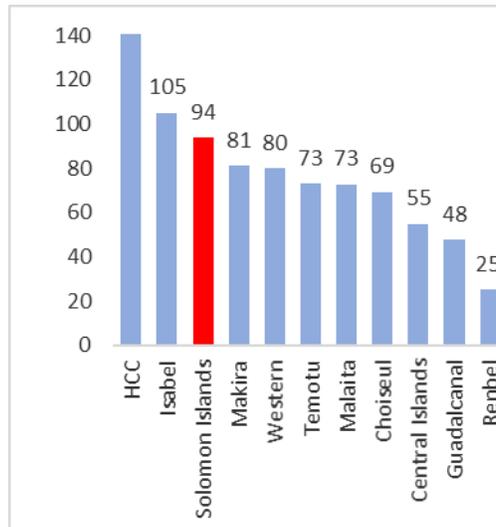
101. **There are large disparities in measles and BCG immunization rates across provinces—with HCC and Isabel having the highest rates, and Renbel the lowest (Figures 6-1, 6-2).** Immunization rates in HCC are higher than 100 percent because people from the outer provinces (or Guadalcanal—where HCC is located) often come to HCC for immunization. The measles immunization rates are also quite volatile year after year, and the only province that seems to have a clear constant improvement trend is Isabel (Figure 6-3).

Figure 6-1: Measles Immunization Rates by Province (2016) (%)



Source: Solomon Islands HIS.

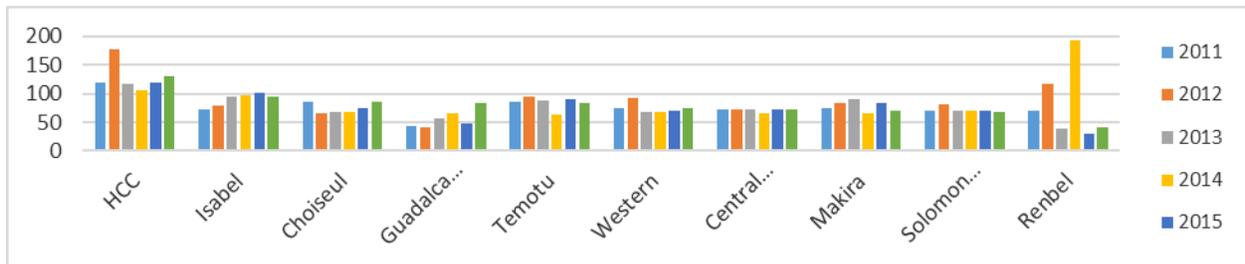
Figure 6-2: BCG Immunization Rates by Province (2016) (%)



Source: Solomon Islands HIS.

Note: Honiara immunization rate was 290 percent

Figure 6-3: Measles Immunization Coverage by Province (2011-16)



Source: Solomon Islands HIS.

102. **The last Effective Vaccine Management (EVM) Assessment was carried out by UNICEF and WHO in August 2012, with rather poor results for nine indicators (all under 70 percent - WHO recommends a minimum of 80 percent) (Table 6-6).** The next EVM is due in 2017. Past assessments of performance have highlighted, however, that recommendations to strengthen EVM have largely not been implemented by MHMS. These include strengthening and integrating outreach and supportive supervision, strengthening stock management through rationalized procurement and effective distribution of cold-chain and temperature-monitoring equipment, and effectively mapping local catchment areas and target populations for better microplanning and effective outreach (Gavi 2015).

Table 6-6: Effective Vaccine Management Assessment Scores (2011-12)

#	Indicator	Consolidated Scores				
		National	9 PVS	18 AHCs	16 RHCs	Average
1	Vaccine Arrival Process	71%	NA	NA	NA	71%
2	Vaccine Storage Temperature	39%	66%	57%	54%	57%
3	Storage Capacity	83%	67%	77%	67%	71%
4	Building, CC Equip. & Transport	77%	69%	68%	75%	71%
5	Maintenance & Repair	56%	57%	61%	42%	53%
6	Stock Management	34%	43%	34%	26%	33%
7	Distribution	36%	56%	42%	73%	56%
8	Vaccine Management Practices	50%	46%	23%	45%	36%
9	MIS & Supportive Functions	56%	25%	17%	NA	21%

Source: UNICEF and WHO 2012.

Note: Figures in red = critical. Provincial Vaccines Stores (PVS)

6.2 Service Delivery Model

103. **Immunization services are delivered free of charge through the MHMS public system, mostly in lower-level facilities and at labor wards in the NRH and provincial hospitals at birth.** Some private practitioners in Honiara also provide immunization services, but this is estimated at less than 1 percent by the NIU. Immunization services are mostly offered on fixed immunization days in lower-level facilities, but there is also ad hoc outreach for special immunization activities, mostly for catch-ups when provincial divisions notice they have missed large groups of children. Outreach services are limited because of insufficient planning and funding in the provinces and because of difficult terrain. While recognizing that current staffing is an issue, the NIU has identified the need to increase the number of outreach visits to address some populations' difficult access to facilities. Routine immunization for OPV and TT is also provided in Grade 6 (school entry) once a year. There is no indication of sex discrepancy in accessing and utilizing immunization services; MHMS has made efforts to post both male and female nurses in provinces where cultural norms forbid male nurses to attend births (Gavi 2014a).

104. **The EPI program is managed by the NIU, which sits within the RMCH Division.** Immunization services are delivered by the provincial divisions, while the NIU provides TA, guidelines, strategic planning, training, M&E, special immunization activities, and any supplementary immunization activities. The NIU collaborates with the NMS for the procurement, management, and distribution of vaccines and syringes, and for the management and distribution of the cold chain (such as fridges, cold boxes, vaccine carriers, and spare parts). The split in, and lack of clarity around, roles and responsibilities, particularly between the NIU and provincial divisions, has meant that there are several gaps and weaknesses in delivery of immunization services.

105. **The NIU is staffed by one national EPI Coordinator who reports to the Director of the RMCH Division.** Provincial EPI activities are meant to be coordinated by the Child Health Coordinator in each province who reports to the provincial health directors, and there is one national Cold-chain Manager, who reports to the Director of NMS. The EPI Coordinator is much stretched and the capacity of the Child Health Coordinators in the provinces is limited as they are still on hospital shift roster and, therefore, face conflicting priorities. The Cold-chain Manager is responsible for maintenance of the cold chain in all provinces—an impossible task for one individual.

106. **Problems are exacerbated by imprecise reporting lines, unclear roles and responsibilities, and lack of communication, supervision and accountability between the EPI Coordinator, the Child Health Coordinators and the Cold-chain Manager.** In addition to the establishment staff, the NIU has a DWE financial officer who deals with the Gavi bank account and the program's finances and, more recently, the UN joint program is supporting the unit with two temporary staff in areas of surveillance and supervision. The financial officer used to be funded out of the DFAT contribution to the MHMS DP recurrent budget, but is now funded through the Gavi HSS grant.

107. **Many DPs have been supporting MHMS with the EPI program in different manners, mainly through Gavi and its implementing partners, UNICEF and WHO.** Gavi offers financing for procurement of vaccines, vaccine pilots, vaccine introduction grants (VIG), and HSS grants, and more recently, a transition grant, a Cold Chain Equipment Optimization Platform Grant and a financial management TA. Gavi support was limited to Penta until 2012 when Solomon Islands received an HSS grant. All other support started in 2015. Gavi does mostly relies on its implementing partners—WHO and UNICEF—to provide in-country assistance.

108. **WHO and UNICEF work together to assist the NIU—from policy and strategy development to daily operations of the program.** More specifically, WHO has been involved in supporting MHMS with surveillance, policy, strategy and guideline development, post-vaccines introduction evaluation and capacity building of EPI staff at all levels with ad hoc TA as needed. UNICEF has a full-time TA providing continuous program support with the introduction of new vaccines, vaccine forecasting and procurement, microplanning and supportive supervision capacity building for health workers, and testing of new strategic pilots. UNICEF has also supported MHMS by procuring and distributing vaccines and cold-chain equipment, including for the relief of the 2014 measles outbreak. Other DPs include DFAT, that contributes to MHMS via its HSSP, and World Vision that does community-based activities including immunization, but this is not coordinated with the MHMS.

109. **An EPI working group which includes MHMS, UNICEF and WHO plays the role of the National Immunization Technical Advisory Group and there is also an interagency Coordination Committee for Family Health which covers immunization and includes MHMS, UNICEF, WHO and clinicians.** Immunization is a clear component of the NHSP 2016-2020, and MHMS has set a target of 90 percent immunization coverage for all children under two years of age by 2020. The NIU has a cold-chain and immunization policy, and a multiyear national plan, both of were being reviewed in 2016. The Solomon Islands has recently introduced WHO guidelines for adverse effect for immunization and infection control guidelines, however, there is no national adverse effect for immunization and infection expert review committee in place.

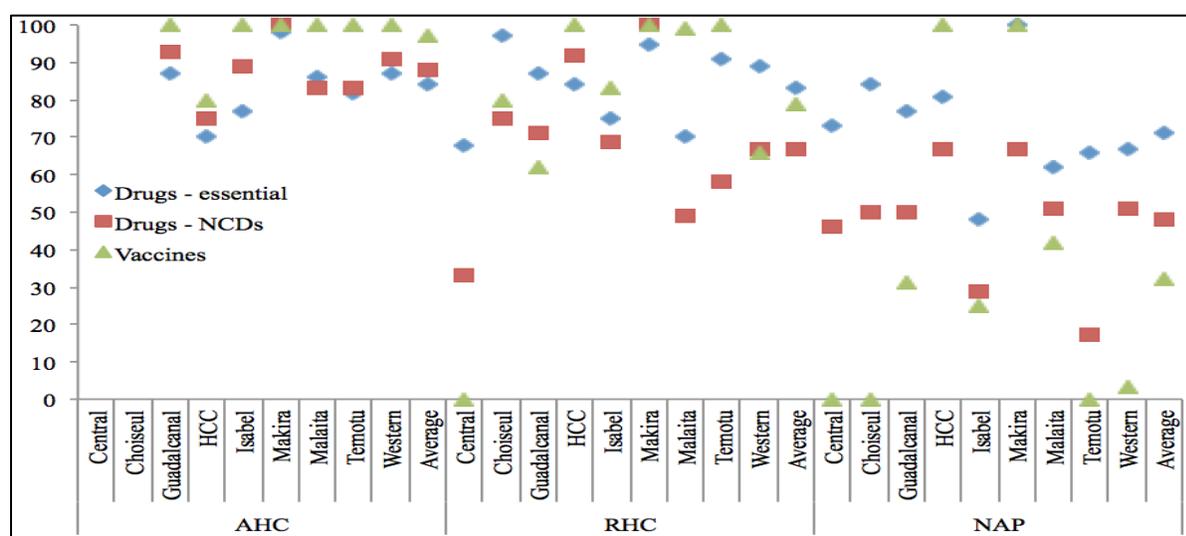
110. **All vaccines are currently procured either through the UNICEF Vaccine Independent Initiative (VII)—and either funded by SIG (traditional vaccines) or by Gavi and SIG (co-financing arrangements for new vaccines) (Table 6-7).** A quick comparison of prices offered through the UNICEF VII with prices quoted by other suppliers used by NMS and who supply other countries in the region show that the UNICEF VII does offer cost savings using its multinational pooled procurement system for vaccine purchase. There is one annual tender, and about six months between order and receipt (standard for the Pacific). The MHMS has not defaulted on any UNICEF VII payments since 2002 (during the civil conflict).

Table 6-7: Vaccine Procurement by Source (2016)

Vaccines	Funding Sources	Procurement
BCG, HepB, OPV, Measles Rubella (MR), TT	SIG	UNICEF/VII
PCV, IPV, Penta, HPV, Rota (yet to start)	Gavi/SIG	UNICEF/VII

111. **Supply of vaccines is based on target population (some issues defining that as earlier mentioned), and supply is deemed adequate by the NIU at the national level but challenging in lower-level facilities.** Quantification and projections are improving but not yet fully accurate, partly due to old population data—orders are mostly based on historical usage with limited population adjustment. Vaccines are stocked at NMS and at Second-Level Medical Stores (SLMS) and, while there were no stock-outs of vaccines reported at the national level in 2015, SLMS are often late in asking for restock, which leads to supply problems in the provinces and to lower-level facilities. 2013 data shows that availability of vaccines in facilities was generally good in AHCs, but declined in lower-level facilities that are usually much further from the SLMS (Figure 6-4). The main problems identified by the NIU are to get the vaccines to the provinces and, in rural areas, to maintain fridges and for people to access the clinics where the fridges are.

Figure 6-4: Average Availability of Pharmaceuticals for Area Health Centers (AHC), Rural Health Clinics (RHCs), and Nurse Aids Post (NAPs) by Province (%) (2013)



Source: Lorgelly et al. 2015.

Note: Renbelle was excluded from this study as it has only three lower level facilities and no hospital.

112. **Cold-chain management and logistics have improved but the area has been identified as needing much more development.** The main challenges include monitoring and charting of cold-chain equipment temperatures, cold-chain capacity gaps at provincial divisions and facility levels, difficult distribution in view of scattered islands and difficult geography, and low levels of maintenance and repairs. This last point is particularly difficult as: (i) communication between the staff who use the cold chain in the provinces is very poor, with low maintenance-need notification rates; and (ii) there is only one staff member responsible for maintenance in the whole country, making it very difficult to cover all 10 provinces (including HCC).

113. **In early 2015, the NIU identified a gap of over 100 pieces of cold chain throughout the country.** The HSS grant was, therefore, used to procure 16 solar chills and 10 ice-lined refrigerators in 2015, however, overheads equate to the procurement costs of this cold-chain equipment and limited funds were set aside for the installation, maintenance, and training of staff—leading to delays in the distribution and installation of this cold-chain equipment. A vaccine cold-chain policy was initiated in 2006 and updated in 2016 with 500 copies produced by UNICEF to better reflect the introduction of new vaccines—which can put a lot of pressure on the existing cold chain—and the increasing amount of new cold-chain equipment incorporated in the WHO performance, quality and safety database.

114. **Data for the EPI program is now included in the MHMS HIS, however, as previously mentioned, there are data-quality issues.** This includes timeliness, completeness and accuracy of reporting—and the NIU is working with the HIS Unit to continue progress on data quality and completeness and to introduce a data-quality audit.

6.3 Financial Management

115. **Funds for the EPI program are channeled and managed by the NIU, the NMS and provincial divisions.** As part of the MHMS annual planning and budgeting process, funds are distributed under the RMCH Division budget to: (i) the NIU for program implementation; (ii) NMS for vaccine and cold-chain purchase, management and distribution; and (iii) provincial divisions, who are responsible for most immunization activities, service delivery and getting vaccines from the SLMS to the health facilities. As previously mentioned, the main financial contributors to the EPI program include SIG, Gavi, UNICEF and, to a lesser extent, other DPs such as DFAT and WHO.

116. **All EPI program activities are ‘on-plan’ and are included in the AOP&B of the NIU, as a clear separate section in the RMCH Division AOP&B.** EPI program activities are also sometimes reflected in the provincial divisions’ AOP&B but, because of the lack of clear guidelines or division of roles for who should plan (and budget) for EPI activities between the NIU and provincial divisions and lack of communication and coordination of planning between the NIU and provincial divisions, funds are often left unused. The MHMS is working on improving links and delineation of roles and responsibilities between MHMS divisions and provincial divisions, which will help address this misalignment. Furthermore, much progress has been made on the integration of NIU plans into the RMCH Division plans, and 2015 marked the first year of integrated planning at the provincial level, although zonal and facility-level integration of ‘Reach Every Child’ activities (for example, microplanning and outreach) has yet to be achieved.

117. **Both MHMS and DP contributions are included in the AOP&B—contributions are ‘on-budget’ and are to be reflected in the national budget books, either in the SIG recurrent budget (276), the DP recurrent budget (376), or the non-appropriated development budget (476NA).** As previously mentioned in the core PFM section of the HFSA, there are difficulties in reflecting 476NA contributions in the official budget books. Furthermore, because Gavi is not part of the SWAp Partnership Arrangement and does not have an in-country presence, MHMS Planning and Finance Units rely on the RMCH Division to share Gavi financial commitments to include in the budget submission.

118. **Neither the NIU—as an entity, nor vaccine/syringes—as an economic classification, have their own budget account code.** The RMCH Division and the NMS, therefore, need to allocate the appropriate amount of funds to immunization procurement and activities in their AOP&B, but this will not be allocated separately in the MHMS appropriated budget. The NIU has raised this as a challenging issue, not only

because separate budget codes would improve management and protection of the EPI program budget, but also because it would be easier to clearly identify and track the EPI budget and expenditure. Outside payroll and traditional vaccines, however, most program implementation expenditures are currently funded through the Gavi funds which are managed through a separate bank account exclusively for the NIU and off-system and can, therefore, be allocated to EPI with certainty.

119. **In the past, many challenges arose from DPs being ‘off system’—that is, funds are not channeled through the SIG financial system.** SIG (mostly payroll) and any DFAT contributions are channeled through the appropriated budget and are, therefore, on-system. More recently, WHO/UNICEF contributions have started being channeled through the DP recurrent budget to the NIU, except for TA or direct procurement.

120. **Gavi contributions are either managed directly by Gavi (procurement of new vaccines) or channeled to the MHMS through two separate bank accounts (a US\$ account into which Gavi funds are deposited, and a SB\$ operating account used for disbursement), both accounts being off-system.** This Gavi operating account follows SIG PFM rules and is managed by the NIU outside the MHMS Finance Unit, and functions outside of the arrangements made for DPs by MoFT through the DP recurrent budget account (376). Once Solomon Islands fully graduates from Gavi, however, the MHMS will need to have sufficient capacity and systems in place to manage the flow of all EPI funds through its normal and formal channels—HSS grants should flow through MHMS systems and fulfil their intent—system strengthening. This has been discussed frequently with Gavi, who is looking at options to address this during the accelerated transition phase.

121. **This separate operational bank account, used to expend Gavi cash support, HSS and VIG grants, has created issues in the past with staff not knowing how to operate the bank accounts and funds being left unused.** The 2012 HSS grant was left untouched for two years until WHO TA helped the NIU learn how to use the bank account. This issue was somewhat resolved and funds from the Gavi bank account are now being well spent, although financial capacity in the unit remained low for many years. A separate bank account is still challenging for the MHMS, however, as parallel donor-specific arrangements such as this one undermine the capacity and strength of the local financial management system, add a layer of administrative burden to the finance staff, and can make it more difficult for management to have full oversight of funds available.

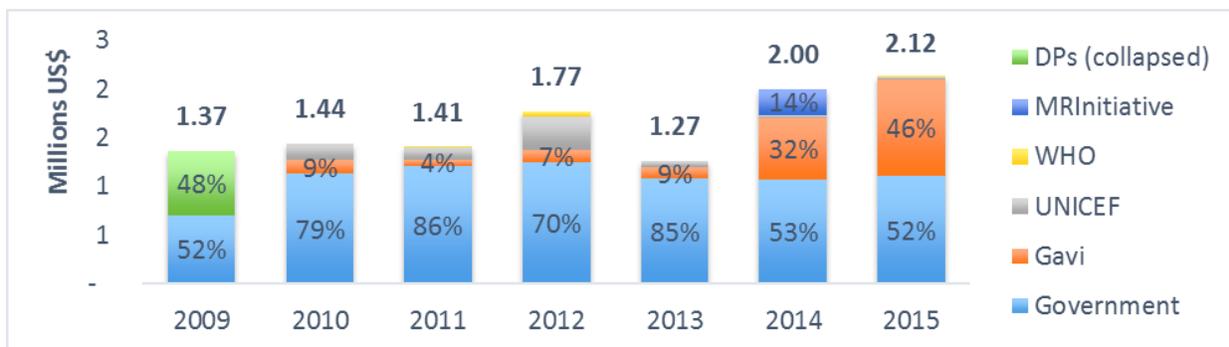
122. **Separate financial management systems also create opportunities for misallocation of resources through potential ‘double-dipping’, waste, and misuse of funds.** MoFT, MDPAC and MHMS have sent clear messages that all DPs should work towards using the MoFT-managed DP bank account rather than parallel systems. The NIU has, however, mentioned that having the separate bank account means funds for service implementation can be accessed faster due to slow SIG systems that make accessing funds very slow, highlighting that ongoing efforts to improve MHMS’ own systems and processes are necessary.

123. **The 2015 Joint Appraisal Report (Gavi 2015) made recommendations to Gavi, although there have been no changes at the time of this report.** Recommendations include: (i) Gavi cash/grant transfers to the MHMS should be appropriated through the DP earmarked budget support and appear in the original budget of MHMS (376); (ii) Gavi direct procurement contributions should appear in the non-appropriated development budget (476NA); and (iii) Gavi funds should flow through the MoFT-managed DP bank account. A Gavi TA is now in place to help manage the transition to Gavi operating funds being on-system.

6.4 Financing

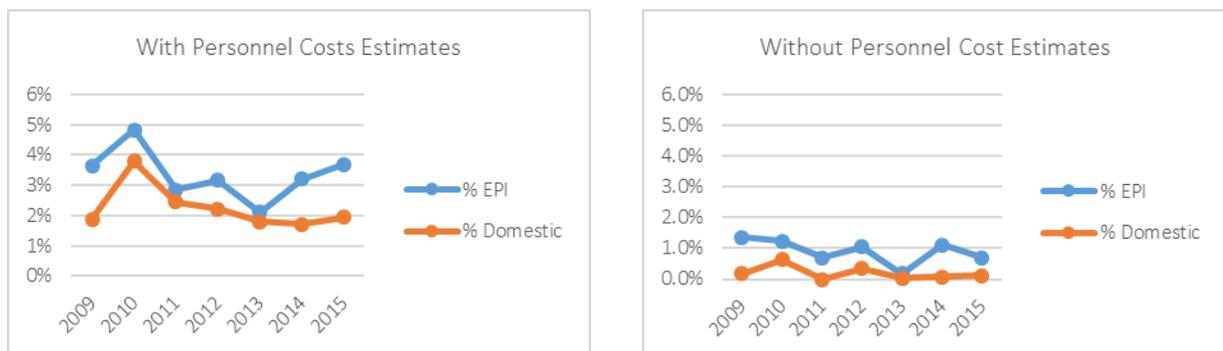
124. **Total expenditure on EPI from all sources has increased from US\$1.37 million (SB\$11 million) in 2009 to US\$2.12 million (SB\$16.2 million) in 2015 (Figure 6-5).** Total expenditure on EPI has represented 3.4 percent of public expenditure on health (calculated by adding all on-system expenditure, GF and Gavi estimated expenditure) on average between 2009 and 2015. More recent increases in 2014 and 2015 are respectively due to the Gavi HSS grant expenditure and the MR Initiative as a response to the measles outbreak, and the introduction of new vaccines, but also because of decreasing overall public expenditure. The domestic contribution of EPI as a share of total public expenditure on health is lower, averaging 2.3 percent between 2009 and 2015 (Figure 6-6). Removing personnel cost estimates, total EPI expenditure and domestic EPI expenditure as a share of total public expenditure on health respectively fell to 0.9 percent and 0.2 percent on average in that period.

Figure 6-5: Expanded Program on Immunization Financing by Source (2009-15)



Source: Gavi 2009, 2010, 2012, 2013, 2014 and WB staff calculations.

Figure 6-6: Spending on Expanded Program on Immunization as a Share of Total Public Expenditure on Health (2009-15)



Source: Gavi 2009, 2010, 2012, 2013, 2014; SIG FMIS; World Bank 2017; and WB staff calculations.

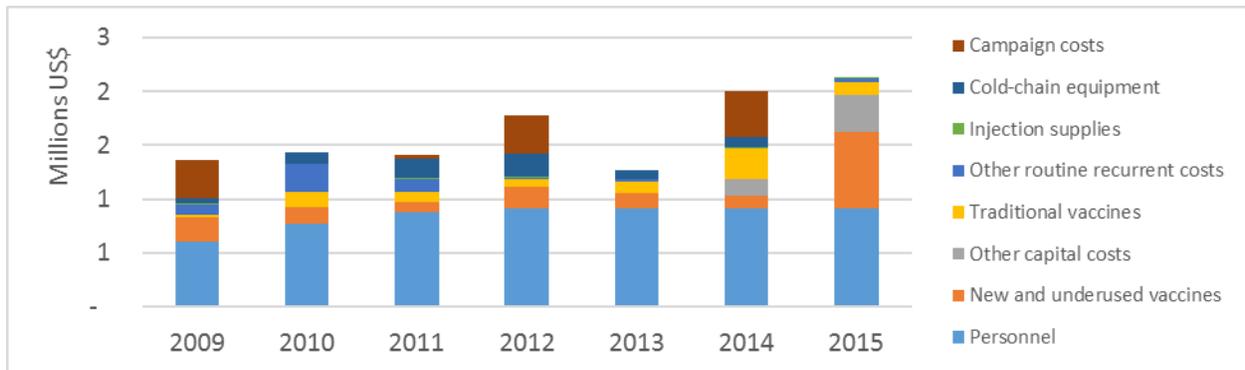
Note: Public expenditure on health was calculated by adding all on-system expenditure, GF and Gavi estimated expenditures.

125. **The main funding sources for the EPI program are SIG—including DFAT budget support—Gavi, (UNICEF and WHO financing in recent years comes from Gavi).** EPI expenditures are covered by the public system and there are not meant to be any OOP payments associated with immunization, except for very limited private providers in Honiara charging for vaccines and evidence of small, rare contributions in provincial hospitals and lower-level facilities (Lorgelly et al. 2015). The government share of expenditure on EPI has been relatively constant since 2010 in terms of dollar amounts, however, as a share of total EPI

program expenditure, it has varied from 52 percent (2009 and 2015) to 86 percent (2011) (Figure 6-6). This is mostly due to the volatility in DP funding to the EPI program. Gavi's share of expenditure on the EPI program jumped from 9 percent in 2010 to 32 percent in 2014 as the NIU started spending the HSS grant, and to 46 percent in 2015 with the introduction of several new vaccines and pilots. In terms of dollar amounts, Gavi's contribution has increased sevenfold, from US\$134,410 (SB\$1 million) in 2010 to US\$986,935 (SB\$7.53 million) in 2015.⁴⁶

126. According to the Gavi report annual estimates, the largest share of expenditure for the EPI program is, by a large margin, personnel (Figure 6-7)—ranging from around 45 percent to over 70 percent over 2009-2015. With the exception of a few staff dedicated to EPI only, most of the personnel costs are, however, for staff with multiple health service delivery roles including, but not restricted to, immunization (such as nurses)—staff and budget/expenditure that would be reflected under other national or provincial divisions. Furthermore, an important point to make is that there has been no proper calculation of personnel costs attributable to the EPI program since 2012 and, for the purpose of Gavi reports or this HFSA, the personnel costs have been kept constant (or removed completely in some of the Gavi reports). Excluding payroll, the larger expenditure share of the EPI program varies greatly every year but tends to be on campaign costs (special immunization activities) when they happen every few years and, more recently, on new and underused vaccines.

Figure 6-7: Expanded Program on Immunization Expenditure (2009-15)

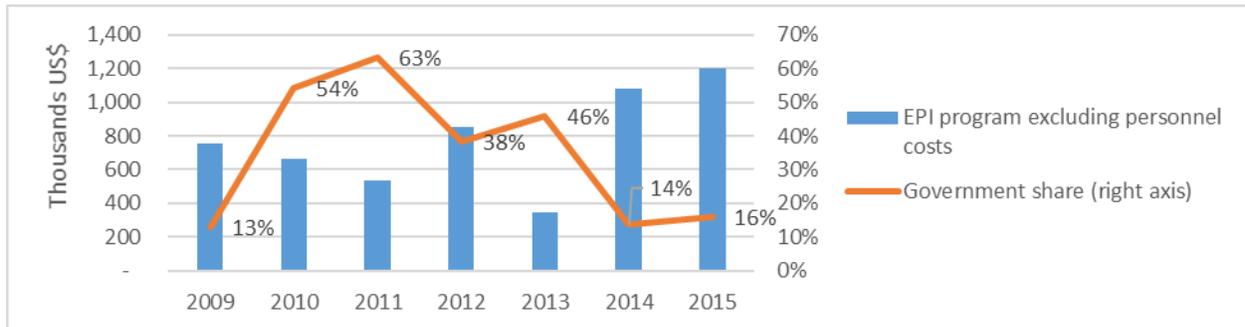


Source: Gavi 2009, 2010, 2012, 2013, 2014 and WB staff calculations.

127. Excluding personnel cost estimates, the government expenditure out of EPI program expenditure was as low as 13 percent in 2009 or, more recently, 14 percent in 2014. Payroll is exclusively paid for by the government, except for the contracted financial officer, who is now paid for through the Gavi HSS grant. Between those years, in the absence of an HSS grant or VIG, the share of government expenditure varied between 38 percent and 63 percent (Figure 6-8). In addition to personnel costs, government expenditure mostly covers traditional vaccines—procured through the UNICEF VII but paid for by government—and some campaign costs and other routine recurrent costs. Gavi funds new and underused vaccines and, more recently, capital costs (procured by WHO or UNICEF but funded through the HSS grant) and, in 2014, it funded traditional vaccines and campaign costs as a response to the measles outbreak.

⁴⁶ These numbers are slightly different to the disbursement numbers in the Executive Summary and on Gavi's Solomon Islands Country Fact Sheet as disbursements from Gavi to Solomon Islands are not always fully expended in country in the same year.

Figure 6-8: Government Share of Expanded Program on Immunization (EPI) Expenditure Excluding Personnel Costs (2009-15)

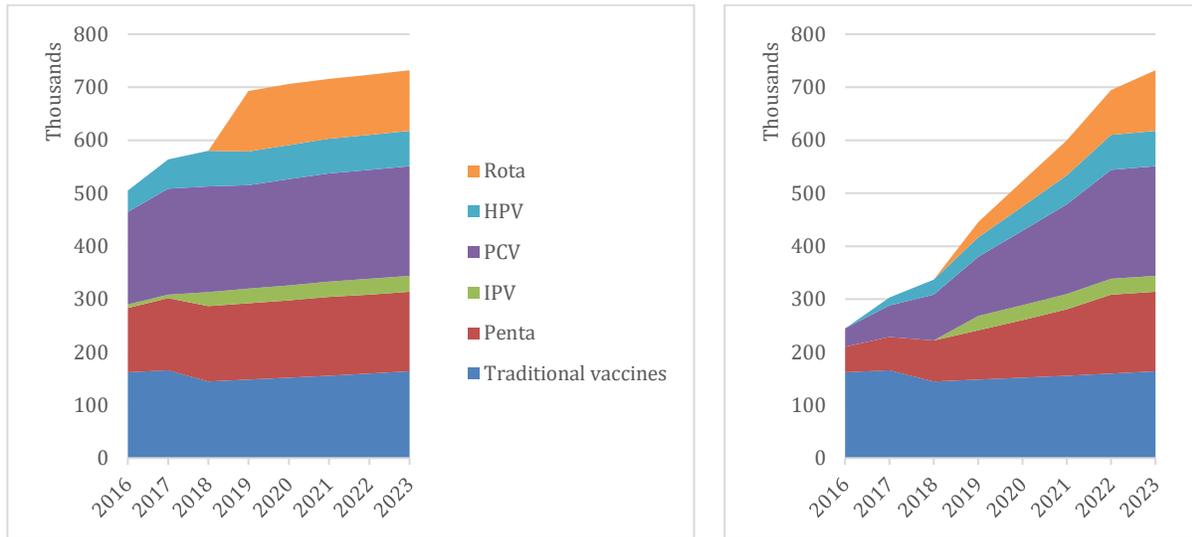


Source: Gavi 2009, 2010, 2012, 2013, 2014 and WB staff calculations.

128. **The EPI program financing landscape will change significantly in the next five years with: (i) Gavi accelerated transition; (ii) increased co-financing obligations; and (iii) the introduction of Rotavirus vaccine, measles second doses and the HPV roll-out.** Based on these changes and commitments (but excluding second-dose measles due to the unavailability of cost projections at the time of this HFSA), the total cost of vaccines procurement will increase from US\$504,780 (SB\$3.9 million) in 2016 to US\$731,964 (SB\$5.6 million) in 2023 (this includes the cost of syringes and freight only for the traditional vaccines) (Figure 6-9).

129. **The projected expenditure share of new vaccines jumps from under 70 percent in 2016 to over 80 percent in 2023, with the introduction of Rotavirus vaccine and HPV rollout.** More importantly, the share of SIG contribution increases from 48 percent of total vaccine cost in 2016 to 100 percent in 2023, almost tripling SIG spending on vaccines, from US\$244,655 (SB\$1.9 million) in 2016 to US\$731,964 (SB\$5.6 million) by 2023 (Figure 6-10). While these projections have been included in the MHMS Medium Term Planning Expenditure Pressure, additional funding has not yet been confirmed.

Figure 6-9: Projected Total Cost of Vaccine Procurement (Left) and SIG Contribution to Vaccine Procurement (right) (US\$) (2017-23)



Source: World Bank 2016.

Note: The data is based on Gavi decision letters and Gavi accelerated transition documents, VII invoices, and WB staff calculations.

130. **All three new vaccine introductions will be accompanied, as per Gavi’s usual commitment, with US\$100,000 (SB\$766,000) in one-off Vaccines Introduction Grants.** In addition, MHMS has renewed its HSS grant and transition grant (amounts to be confirmed), and has been approved for a Cold Chain Equipment Optimization Platform Grant (US\$ 2 million). As with Gavi co-financing for new vaccines, however, these grants are temporary and will not be available past finalized transition. The introduction of these new vaccines will require not only additional funds for vaccine procurement, but also for the EPI recurrent operating costs in general, and for cold-chain purchase and management. Furthermore, the introduction of new vaccines, and the management of the grants, will put additional pressure on an NIU that is already stretched, and will require improvements in vaccine distribution and cold-chain management, both areas which have been identified as challenging and needing significant improvements. Using MHMS PFM systems and processes for Gavi funds during the accelerated transition process would help prepare the NIU and MHMS for transition of program management, while MHMS and SIG will have to look at options for additional/new funding.

Section Seven: Malaria, Tuberculosis and HIV Programs

Summary:

- Despite significant improvements in malaria and TB control in the decade to 2017, malaria remains a particular concern for more vulnerable populations, such as children under five years of age and pregnant woman, while TB and chronic respiratory infections continue to represent a significant share of the disease burden. HIV remains low but is likely to be underestimated.
- Solomon Islands has been the recipient of GF support to these three national programs since 2003. While the three national programs have always been an integral part of the MHMS, until 2015 they were managed vertically and centrally with very limited integration to the broader MHMS. In 2015, Solomon Islands became a single country principal recipient for both the malaria and TB (then TB/HIV) grants, and moved to a new hybrid CoD (performance-based) funding model. That year, the three national programs integrated more fully within MHMS and started deconcentrating services delivery to the provinces. Staffing, HIS and financial management are now fully integrated within MHMS and government systems.
- Expenditure on malaria, TB and HIV is largely funded by DPs, and support to the three programs has started decreasing, and is expected continue to do so in coming years. The 2018-20 approved grant continuation for malaria control is just over one-third of what was available between 2009-11, whereas the continuation for joint tuberculosis/HIV is less than one-half the TB grant for 2012-14.
- National programs will need to continue to look for ways to protect the achievements made over recent years, with fewer malaria and TB/HIV specific resources (funds and staff). This provides a valuable opportunity to review the MHMS' model of support to, and delivery of, malaria and TB services, such as through more integrated service delivery approaches under the RDP Policy.

131. **This section provides a more detailed analysis of the malaria, TB and HIV programs of Solomon Islands.** These programs have received significant external support since the 1980s, including from DFAT (previously AusAID), GF, and many other bilateral, multilateral and NGO donors over the years. This analysis will largely focus on the decade to 2017 to help shed light on recent significant changes in management and financing arrangements. An overview of program performance, service-delivery model, financial sources and management of the programs is provided below. The aim is to provide a snapshot of trends for these programs but not to replicate information available elsewhere (for example, through the annual reports or GF documentation).

132. **The malaria, TB and HIV programs are managed by the NVBDC, TB/Leprosy, and HIV/Sexually Transmitted Infections (STI) national programs of the MHMS respectively.** As with the EPI analyzed earlier, however, these programs are also implemented by, or with the support of, other MHMS divisions such as the NMS or the provincial divisions. This split in roles and responsibilities creates both challenges and opportunities for achieving better results in these key areas of service delivery.

7.1 Program Performance

Malaria

133. **Significant improvements have been made in malaria control since the end of the civil unrest in 2003.** Since then, substantial investments in malaria intervention have resulted in improved malaria control, with Solomon Islands achieving its MDG target of halting and reversing the incidence of malaria by 2015. These positive outcomes are attributable to extensive distribution of long-lasting insecticidal nets (LLINs), indoor residual spraying and access to artemisinin-based combination therapies and rapid quality diagnosis.

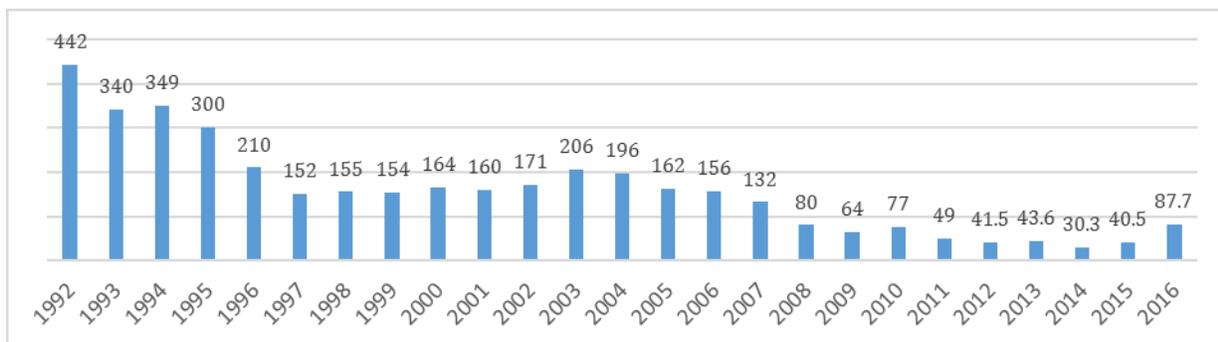
134. **The burden of malaria, as measured by the annual parasite incidence (API) fell by more than 80 percent between 2003 and 2014—from 206 per 1,000 persons that year to 30 per 1,000 persons in 2014, the lowest incidence since 2003.** The malaria mortality rate fluctuates but remains low, with a total of 18 malaria deaths reported in 2016, or 2.97 per 100,000 (an increase from 2.03 in 2015). Efforts to improve death certification, with the introduction of a new death registration system in late 2015 may have increased the malaria deaths reported for 2016.

135. **Despite the impressive downward trend between 2003 and 2014, the API almost tripled in 2016, from its low of 30 per 1,000 persons in 2014 to nearly 90 in 2016 (MHMS 2017) (Figure 7-1).** The API increased by 34 percent between 2014 and 2015,⁴⁷ and then doubled between 2015 and 2016 to reach 87.7 per 1,000 persons in 2016 (Cardno 2017a), which placed it back at the 2008 level. The following factors have been identified by the NVBDC Program as having contributed to the increase in the 2016 API:

- improved coverage, and data reporting compliance as a result of the new Malaria Case Management Register (MCMR);
- improved access to diagnostic coverage (78 percent in 2016 versus 64 percent in 2015 of functioning health facilities able to provide diagnostic services);
- improved Rapid Diagnostic Test (RDT) sensitivity (to detect P.Vivax) as a result of the switch to a new RDT; and
- reduced efficacy of vector control interventions due to the substandard batch of LLINs mass distributed in 2013.

Considering these factors, and acknowledging the inadequate API baseline from prior years, the national program may have to revise its overall goals (which were to reduce API to less than 25 per 1,000 persons by 2020) to more appropriate targets. These factors were taken into consideration by GF when deciding on performance disbursements to MHMS for 2016 performance.

Figure 7-1: Annual Parasite Incidence per 1,000 persons (1992-2016)

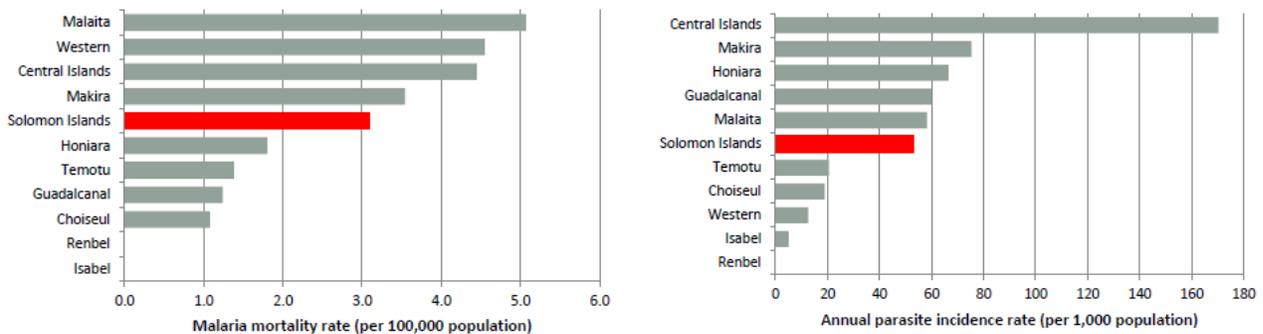


⁴⁷ Many factors may affect the interpretation of this indicator, including changes to the information system. The malaria health information system is currently being integrated to DHIS2—with some challenges.

Source: MHMS 2017; Cardno 2017a.

136. **Malaria remains a significant public health concern, particularly for those more vulnerable populations such as children under five years of age and pregnant women.** As previously mentioned, malaria (and neglected tropical diseases) remains a substantial cause of death for children under five years of age. In 2016 children under-five represented only 15 percent of the population but accounted for 26 percent of malaria cases. Malaria seems to affect men and women almost equally (unfortunately the latest data is from the 2009 census), with women representing 48 percent of all confirmed malaria cases nationally, except for Makira province where 53 percent of confirmed cases were female (MHMS 2017). There are large variations in both the incidence and mortality rates between provinces (Figure 7-2), with five⁴⁸ of the ten provinces accounting for 93 percent of confirmed cases in 2016 (MHMS 2017). In addition to being a significant health concern, malaria also continues to impose a high economic and societal burden on the country by affecting school attendance, productivity in the workplace and, therefore, outputs from the economic sector.

Figure 7-2: Selected Malaria Indicators by Province (2014-16) (Average)



Source: Solomon Islands HIS.

137. **Significant challenges remain for the country to reach its vision of being malaria-free by 2030.**⁴⁹ While the country has achieved a significant decrease in API, other countries like PNG have achieved larger scale improvements between 2010 and 2015 (noting that PNG’s API was significantly higher than Solomon Islands to start with) with less funding per person (Figure 7-3).⁵⁰ In 2014, 99 percent of the population continued to have high transmission risk (WHO 2015a).

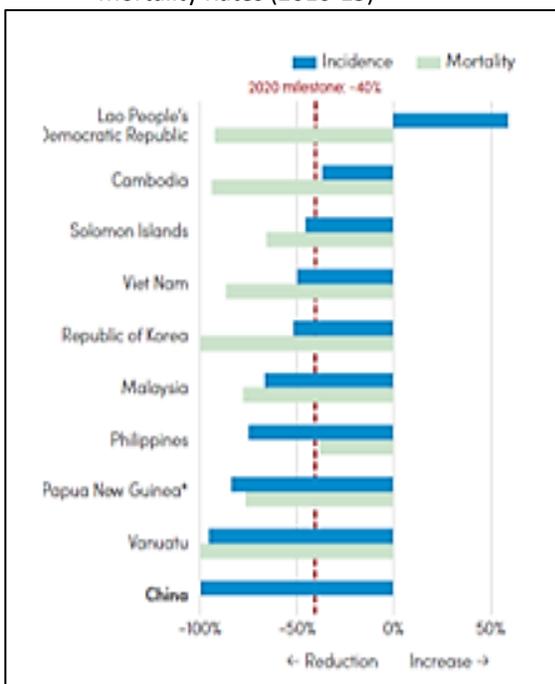
⁴⁸ The five provinces are Malaita, Guadalcanal, Honiara, Makira and Central (in descending order of burden).

⁴⁹ The Solomon Islands is part of the Asia Pacific Malaria Elimination Network which reconfirmed its commitment to achieving an Asia-Pacific free of malaria by 2030 at the 9th East Asian Summit in 2014.

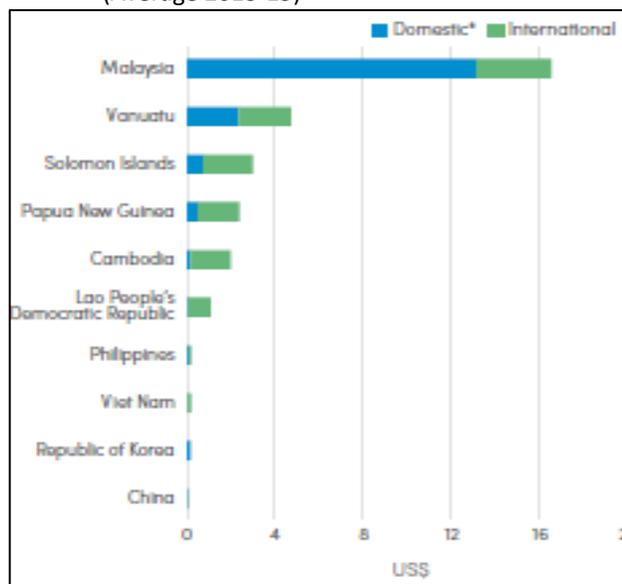
⁵⁰ We note that the time comparison is different for incidence (2010-15) and funding (2013-15).

Figure 7-3: Selected Malaria-related Indicators for the Western Pacific Region

a. Change in Reported Malaria Incidence and Mortality Rates (2010-15)



b. Estimated Malaria Funding per Person at Risk (Average 2013-15)



Source: WHO 2016.

138. In 2015, 86.5 percent of households reported owning a mosquito net, but only 57 percent reported having slept under a net the night prior to being asked the question (Table 7-1). Both net ownership and net usage were much higher in rural than in urban areas, and more women (60 percent) reported sleeping under a net than men (54 percent). In terms of vulnerable groups, both children under five years of age and pregnant women had higher rates of reporting sleeping under a net (NSO et al. 2017). The program will continue to do mass LLIN distribution but, effective from 2017, the program will move towards a cycle where one-third of the population will receive new LLINs in any one year. LLINs will be replaced over a three-year cycle, thus moving from a single mass campaign to one implemented over a three-year period. Changing practical behavior needs to continue, noting that current knowledge on malaria prevention is relatively high (84 percent) (MHMS 2017). Lastly, recent detection of a potentially insecticide-resistant vector could present a new challenge for achieving malaria elimination.

Table 7-1: Category of People Who Owned and Slept Under a Net (2015) (%)

Residence	Slept Under a Net the Night Prior to the Survey			Own a Net
	All	Children <5	Pregnant Women	All
Urban	43	57	42	61
Rural	61	73	67	89
Total	57	70	64	87

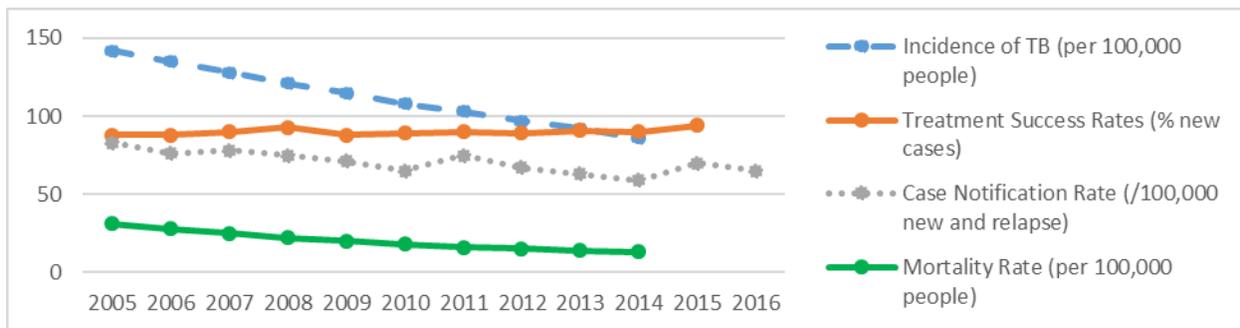
Source: NSO et al. 2017.

Tuberculosis

139. **Significant improvements in TB prevention, care and control have been achieved in the decade to 2016: the country achieved its MDG goal and Stop TB Partnership targets for 2015.** It also reached the WHO Western Pacific Region goal to reduce by one-half the morbidity and mortality rates from all forms of TB by 2015 compared to 2000 levels. The incidence of TB has been steadily decreasing in the two decades to 2016, while treatment success rates (TSRs) have stayed largely unchanged at around the set target of 90 percent (Figure 7-4).

140. **Notification rates have doubled between 1996 and 2014, reflecting both the high disease burden, but also an improved capacity to detect TB cases.** In 2015 men represented 53 percent of all notified cases (213 out of 402) (MHMS 2016a). The TSR was 93.5 percent in 2016 (for the cohort of patients registered in 2015), higher in women (96 percent) than men (92 percent), and in children under 15 years of age (95 percent) than persons over 15 years of age (93 percent) (MHMS 2016a). While the TSR looks slightly better for children, this should not overlook the fact that, in most instances, TB in children is not bacteriologically confirmed and that there is no possibility to bacteriologically confirm the cure.

Figure 7-4: Selected Tuberculosis (TB) Indicators (2005-16)

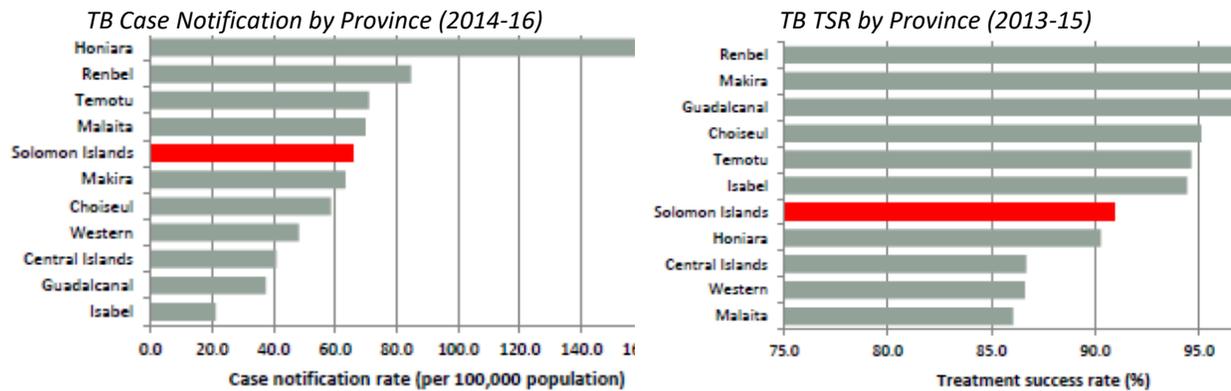


Source: MHMS 2016a; Solomon Islands HIS.

141. **TB and chronic respiratory infections continue to represent a significant share of the disease burden.** Case notification rates have decreased slightly since 2005 and efforts to strengthen case findings in 2011 (start of GF R8) and 2015 (start of new funding model) coincided with a peak followed by a downward trend. As the TB surveillance system in the Solomon Islands is not yet certified to have the capacity to directly measure the TB burden—meaning that notifications reflect only what the TB program can detect—the only information about the TB burden can be provided by WHO estimates on the incidence of mortality.

142. **While there is a decreasing trend in pediatric TB cases (children under 15), the incidence has increased from 18 percent of all TB cases in 2014 to 22.5 percent in 2016 (MHMS 2016a)—indicating a high transmission rate.** WHO estimates the burden of multidrug resistant (MDR) TB to be 4.5 percent among new cases, and 10 percent among retreatment, and Solomon Islands' proximity to PNG (which has a high burden of MDR TB) and population movement could represent a heightened risk for the country in the future (MHMS 2017). Both the TB case notification and TSR vary significantly between provinces (Figure 7-5), with three provinces (HCC, Renbel and Temotu) being responsible for two-thirds of reported cases. Knowledge of TB is high (92 percent of the population in 2015) but higher in urban (98 percent) than in rural areas (90.5 percent). Stigma is still associated with the disease, with 17.5 percent of people stating they would keep a family member's TB a secret (more so in rural than urban areas) (NSO et al. 2017), which would potentially lead to late care-seeking behavior.

Figure 7-5: Selected TB Indicators by Province (Average for 2014-16)



Source: Solomon Islands HIS.

143. **Reported HIV/TB coinfection is limited in Solomon Islands.** TB patients were not tested for HIV prior to 2010. Only two cases of TB/HIV co-infection have been reported so far, one from Malaita who was hospitalized in the NRH in 2013 who subsequently died, and one from Temotu in 2015. The proportion of TB patients receiving HIV testing decreased from 20 percent to 14 percent between 2015 and 2016, and no coinfecting patient was diagnosed during 2016 (MHMS 2017). There are very few links between the national TB and HIV programs, however, TB treatment and management guidelines were updated in 2012 to include HIV/TB co-management.

HIV

144. **Very little information is available on HIV and AIDS in Solomon Islands, and whatever information is available is very patchy, but available data estimates that there is low HIV incidence and prevalence.** The first case of HIV was reported in 1994. By the end of 2016, a cumulative 30 HIV cases had been diagnosed—16 females and 14 males, the youngest patient being 13 years old. Of those 30 cases, 12 are still alive and 10 are on Anti-Retroviral (ARV) treatment (MHMS 2016b). The prevalence increased from 0.04 percent in 2010 to 0.07 percent in 2015, and Solomon Islands, along with most Pacific Island countries—with the exception of PNG—have been classified by WHO as having low prevalence epidemic.

145. **In spite of low prevalence estimates, however, there are concerns related to HIV risks.** As with most countries in the region, the Solomon Islands surveillance system is deemed unable to accurately estimate HIV prevalence. Based on high rates of STIs (in 2014, 13.5 percent of ANC women tested positive for syphilis), inadequate knowledge of HIV transmission, low uptake of HIV testing and counseling services, high stigma linked to HIV and the presence of known risk behavior in the population, this number is thought to be significantly higher. Geographic proximity to PNG, which has much higher HIV rates, may be a potential source of new infections for the country.

146. **In 2015, only 3,263 HIV tests were conducted across the country and, out of a total of 18,406 first ANC visits, only 2,835 were tested for HIV (MHMS 2016b).** Late diagnosis of HIV delays successful enrolment in ARV therapy and may lead to avoidable death—increasing the uptake of HIV testing is, therefore, a major priority for the country. Low rates of contraceptive use overall (344 contraceptive contacts per 1,000 people in 2016) are complemented by reports of low condom use—with only one-fifth of women and men between the ages of 15 and 49 reporting having used a condom during their last intercourse in 2015 (NSO et al. 2017).

7.2 Service Delivery Model

147. **Malaria, TB and HIV services are delivered free of charge by the MHMS-run public system.** The malaria, TB and HIV programs are respectively managed by the NVBDC, TB/Leprosy, and HIV/STI national programs of the MHMS. As previously mentioned, however, these programs are also implemented by, or with the support of, other divisions such as the NMS or the provincial divisions (who have responsibility for the delivery of primary and secondary health care).

148. **While the three national programs have always been an integral part of the MHMS, until 2015 they were managed vertically and centrally with very limited integration to the broader MHMS.** The national programs were responsible for all aspects of program implementation, from policy making, routine implementation of activities, financial management, and M&E. This was particularly true and significant for NVBDC, which informally was described as ‘the Ministry of Malaria’ due to the extent of vertical implementation but also the magnitude of financial investment.

149. **The service delivery model of these three national programs, particularly for the NVBDC and malaria services delivery, changed in 2015, due to the terms of program management rather than services to the population.** In 2015, MHMS became the single country principal recipient for all GF grants. Under the new arrangement, all three national programs are fully integrated in/with MHMS, with central national programs playing a more strategic and coordination role, increasingly working with provincial divisions and the NMS for service delivery. In line with the MHMS RDP direction of deconcentrated service delivery aimed at increasing responsibility at provincial division level and improving service delivery, the NVBDC national program reorganized to reflect an intensive deconcentrating strategy.

150. **The national programs are now responsible for coordination, advocacy, technical guidance and M&E, and for coordinating the implementation of the Solomon Islands Malaria Control and Elimination Strategic Plan 2015-2020.** Other supportive roles such as supply-chain management, information feedback from health facilities and financial management are supported by responsible units within MHMS, whereas provincial divisions—with increased delegation of resources to the provinces—are now responsible for service delivery.

151. **As with the NVBDC, the TB/Leprosy national program is integrated into the general health system, with very limited privately provided treatment.** The National TB/Leprosy national program is responsible for the implementation of the National Strategic Plan for TB (2013-2017) and for corporate and technical services, while provincial TB coordinators in provincial divisions are responsible for implementation and monitoring of TB service delivery. Identification of patients is done in provincial health facilities and, following the national TB standard treatment and management guidelines, patients are hospitalized for the first two months of intensive treatment, whereas the continuation phase is taken outside the hospital for four to six months based on the type of TB.

152. **Lastly, the HIV&STI national program is responsible for managing and implementing the national response to HIV, through the National Strategic plan for HIV and STIs (2014-2020).** A Solomon Islands National AIDS Council was established in 2005 but has had very limited engagement and commitment. The role of this council overlaps with the Solomon Islands National Country Coordination Mechanism, further weakening its role. Up until 2013, the HIV national program was delivered by MHMS in collaboration with a wide group of international, national and community-based organizations. By 2013,

however, due to large reductions in HIV funding, only one NGO and one FBO were directly implementing HIV-related activities and some of the HIV and STI-specific activities were integrated into other health-related programs.

153. **In the context of the changing financing environment, relationships between MHMS, DPs and civil society need to be established and/or strengthened.** HIV testing relies almost exclusively on *client-initiated* voluntary testing and counseling at HIV Testing Centers. This passive way of HIV testing is likely to result in significant underreporting, as uptake of HIV-testing services has been very low due to limited availability of services—for example, due to frequent stock-outs of rapid test kits and limited access to health services for the majority of rural people—as well as due to strong stigma (or lack of confidentiality of testing) surrounding HIV and AIDS, which makes people reluctant to go for an HIV test. The low number of HIV cases found to date, therefore, reflects the very limited testing that has been done so far.

154. **Medical staff responsible for the diagnosis and treatment of all three diseases have always been MHMS establishment staff.** Until 2015, these were supplemented by a number of program-specific support staff funded through the GF Grant. The NVBDC national program had, until 2015, program-specific community microscopists, case management nursing officers, a surveillance team, a data entry clerk and its own Malaria Information System (MIS)/M&E team, and a number of finance and administration staff. The TB program also had program-funded administration staff. All staff, establishment and program funded, reported to the NVBDC national program Director.

155. **The program no longer has GF-funded program staff in addition to establishment staff, and all program staff in the provinces now report to the provincial division's director rather than to the director of the respective national programs.** Some of the previously GF program-specific staff have been allocated to MHMS corporate services divisions to strengthen the divisions and the capacity related to overall program integration and are slowly being integrated into the MHMS establishment, while other program-specific staff have been terminated. Others, such as some of the program-funded microscopists have since been picked up as DWEs by the provincial divisions.

156. **In 2016, the NVBDC, TB/Leprosy and HIV/STI national divisions had 27, four and eight staff respectively.** In addition, 95 of the provincial division establishment positions were for NVBDC-specific positions, four for TB/Leprosy and four for HIV/STI programs (there were 1,018 provincial division establishment positions, of which an estimated 189 were specifically for provincial public health programs).⁵¹ A total of 122 staff were, therefore, dedicated to NVBDC (5.5 percent of the total MHMS establishment staff, or 39.5 percent of all 309 public health program staff). The eight TB/Leprosy and 12 HIV/STI staff represented 0.36 percent of the total establishment (2.6 percent of public health programs), and 0.54 percent of the total establishment (3.9 percent public health programs) respectively (Table 7-2).

157. **The establishment staff numbers for the three national programs were the same in 2013, before the transition to the new funding arrangements.** In addition to establishment and program staff, the national programs have received, and continue to receive, significant TA over the years from WHO, UNICEF, DFAT and others. All three programs have had full-time TA providing continuous program support with all aspects of service delivery, but also with relatively technical and arduous grant application and reporting requirements.

⁵¹ Based on the establishment categories in the provincial divisions, this includes program-specific staff for environmental health, health promotion, social welfare, NVBDC, TB and HIV.

Table 7-2: National Programs Staff Positions (2016)

Program	Total Staff	As % of Establishment (Total of 2,229 Staff)	As % of Estimated Public Health Program Staff (Total of 309 Staff)
NVBDC	122	5.47	39.5
TB/Leprosy	8	0.36	2.6
HIV/STI	12	0.54	3.9

Source: MHMS Establishment.

158. **Information management for malaria and TB is now integrated with the broader MHMS HIS.** Until 2015, the MIS was fragmented and managed vertically by the NVBDC national program, outside of the main MHMS national HIS (DHIS2) while, in parallel, some aggregated malaria data was also included in the DHIS2 for broader MHMS reporting. As of 2015, the MIS was imbedded into the national DHIS2 platform. A new MCMR was introduced to interface with the DHIS2. Integration of HIS was a clear goal of the new grant arrangements, with one of the performance indicators for 2015 being the proportion of expected monthly reports through the MCMR into DHIS2 received exceeding 70 percent.

159. **There have been substantial improvements in data coverage and completeness in 2016 because of the MCMR rollout and, for the first time, the program can now tell whether confirmed cases are being treated according to national guidelines.** The transition is, however, ongoing and challenging, and while the program did not initially meet its CoD targets for 2015, further work in 2016 improved the situation and targets were met (and, therefore, funds were disbursed to MHMS). The HIS and NVBDC teams are working together both at the national and provincial levels to further develop malaria modules to be included into the DHIS2. Similarly, the previously separate TB HIS system was gradually fully integrated within the MHMS DHIS2 as of 2015. Challenges remain, however, including the lack of clear guidelines articulating the process for recording and reporting TB data.

160. **Commodities management responsibilities are shared between the national programs, the NMS, and provinces.** Malaria commodities (diagnostic and treatment commodities) supply-chain management are the responsibility of the NMS, while the national NVBDC is responsible for quantification and monitoring clinical practice, quality assurance and quality control. Procurement is done directly by the GF. While the malaria diagnostic and treatment service is relatively well established, there remain ongoing challenges with stock-outs and significant issues at all levels of supply-chain management have been identified (quantification, distribution mechanisms, logistics management information system, stock control, quality assurance and control, and M&E). Malaria microscopy services remain but many have been replaced by the malaria RDT.

161. **Supply chain management of malaria drugs and commodities also remains a challenge.** While the malaria diagnostic and treatment service is relatively well established in the country, there remains ongoing challenges with stock-outs and significant issues at all levels of the supply chain management have been identified. The NMS and the NVBDC national programs continue to work together to monitor, anticipate and respond to low stock situations. Problems in quantification differences between the NMS and the NVBDC and the transition to new brands and formulation of treatment and tests resulted in stock-outs and, in some cases, in large emergency procurement of treatment in 2016 (SB\$1.1 million or– US\$

146,771) and 2017 (SB\$1.9 million or US\$254,763),⁵² a very inefficient and expensive exercise. All anti-TB medicines are included in the national essential medicine list, and are paid for by MHMS and procured through the Global Drug Facility and other prequalified suppliers. No stock-outs of anti-TB treatments were observed in 2016, but stock-outs of laboratory supplies remain a problem, and pediatric TB drugs which often had stock-outs in previous years were on stock but due to expire in September 2017.

7.3 Financial Management

162. **Other National Divisions—such as the provincial divisions, the NMS, and corporate services—also contribute funds to the implementation of these programs, but this analysis focuses on funds channeled through the NVBDC, TB/Leprosy and HIV/STI national programs.** In addition to domestic resources channeled through the domestic recurrent budget, many DPs have supported the three programs over the years, all under different funding arrangements. The main DPs have been DFAT, GF, JICA, WHO and UNICEF. Others, including the World Bank or smaller NGOs, have also provided support in the past (or are currently providing support) but are not as significant or not financially involved in the sector anymore (Table 7-3). Since the introduction of the AX FMIS in 2012, all DFAT support has been in the form of TA or channeled through the DP recurrent budget and is, therefore, on-plan, on-budget and on-system. JICA is off-plan, off-budget and off system and MHMS has limited oversight or engagement with the JICA programs. WHO and UNICEF have been providing significant support, mostly through the provision of TA and limited operations funding—until recently this support was off-budget and off-system but in line with MHMS’s efforts to get all DPs on-plan, on-budget and on-system, WHO and UNICEF support to the three national programs is increasingly reflected on-budget and, when possible, channeled through the MHMS systems.

Table 7-3: DP Support to Malaria, Tuberculosis (TB) and HIV National Programs (2009-16)

Development Partner	2009	2010	2011	2012	2013	2014	2015	2016	
DFAT	Pacific Malaria Initiative (2007-11)								
DFAT	HSSP (Including Malaria, TB & HIV) (2008-ongoing)								
GF	Malaria, TB & HIV Grants (2003-ongoing)								
JICA	Projects for Strengthening of Malaria Control (2007-14)								
WHO & UNICEF	Technical and Operations Assistance (Malaria, TB & HIV) (ongoing)								
Various NGOs	TA and Operations Assistance (Malaria, TB & HIV) (ongoing)								

163. **The GF has been supporting the three national programs since 2003 through a number of multi- and single-country grants.** Between 2003 and 2014, Solomon Islands was mostly supported through multi-country grants, but became the recipient of its own single-country grants in 2010 for TB, and in 2015 for malaria and TB/HIV (Box 7-1). Between 2003 and 2014 the principal recipient for the GF grants to support Solomon Islands was the Secretariat for the Pacific Community (SPC, now Pacific Secretariat). The grant agreements were made between the GF and SPC and, in turn, SPC entered into agreements with

⁵² William Horoto (Director NMS, Ministry of Health and Medical Services, Solomon Islands) in an email to the author, August 28, 2017." See Appendix Two for exchange rates used.

the MHMS as a subrecipient to the grant to carry out program activities. Contributions from GF, through SPC, were on-plan (through the respective national programs strategic plans) but were off-budget and off-system. Budgets were included in the grant agreements and managed by SPC and the respective national programs, but they did not inform the MHMS annual planning and budget cycle, nor were they systematically included in the SIG budget books (they only appear once in the 2007 budget). The GF and SPC managed and paid for commodity procurement, TA and some of the operational activities directly, whereas a portion of the operating budget was transferred to MHMS for activity implementation. These transfers went into bank accounts managed by the NVBDC and TB/Leprosy national programs, but were not channeled through the SIG FMIS system.

Box 7-1: Global Fund Grants to Solomon Islands

Malaria:

- 2003-2008: Pacific Islands Regional Multi-Country Consolidated Malaria Project (*Solomon Islands & Vanuatu*);
- 2006-2011: Multi Country Response to Malaria in the Pacific (*Solomon Islands & Vanuatu*);
- 2007-2014: Multi Country Consolidated Program to Fight Malaria, then Consolidated Global Fund Support to Harmonized Collaboration for Intensified Malaria Control in the Pacific (*Solomon Islands & Vanuatu*);
- 2015-2017: To Build a Strong Foundation for a Progressive Move Towards Malaria Elimination in Solomon Islands (*Solomon Islands only*); and
- 2018-2020: Program continuation approved (*Solomon Islands only*).

TB:

- 2003-2008: Pacific Islands Regional Multi-Country Coordinated Tuberculosis Project (*Solomon Islands & Cook Islands, Federated States of Micronesia (FSM), Kiribati, Niue, Palau, Samoa, Tonga, Tuvalu, Vanuatu*);
- 2010-2015: Sustaining the Tuberculosis DOTS Strategy in Solomon Islands (*Solomon Islands only*); and
- 2015-2017: Reducing the burden of TB and TB/HIV coinfection in Solomon Islands (*Solomon Islands only*).

HIV:

- 2003-2008: Pacific Islands Regional Multi-Country Coordinated HIV/AIDS Project (*Solomon Islands & Cook Islands, FSM, Fiji, Kiribati, Niue, Palau, Samoa, Tonga, Tuvalu, Vanuatu*); and
- 2008-2013: Expanding Universal Access to HIV Treatment and Targeting Extreme STI Prevalence – A Major Cause of HIV Vulnerability in the Pacific Islands (*Solomon Islands & Cook Islands, FSM, Kiribati, Nauru, Niue, Palau, Republic of the Marshall Islands, Samoa, Tonga, Tuvalu, Vanuatu*).

TB/HIV:

- 2018-2020: TB Program continuation approved and now includes TB/HIV (*Solomon Islands only*).

164. **2015 was a pivotal year for the MHMS, with a new grants arrangement negotiated with the GF.** MHMS is now the principal recipient for the GF grants for malaria and TB (which became TB/HIV in late 2016). The first iteration of these grants was for 2015-17, and program continuation has been agreed for 2018-20. The new funding model for these grants includes the following principal changes:

- MHMS became the principal recipient for the now single-country grants for malaria and TB/HIV;
- a new CoD hybrid funding model was introduced to the grants (see below for more details on this arrangement);
- cofinancing requirements were introduced, which are a commitment from MHMS to gradually increase its domestic contribution to the programs; and
- the budget of the grants was largely reduced.

165. **Under the new arrangements, a portion of the grant is managed directly by the GF on behalf of MHMS for commodity procurement and TA (independent of the performance target), while the other portion of the grant—the CoD component—is made available to MHMS based on performance.** Under

this new arrangement, MHMS prefinances program activities (no GF grant disbursement was made to MHMS in 2015, the first year of the grant), and every year, based on the previous year's program performance on indicators agreed between MHMS and GF, a percentage of the allocated amount for CoD is disbursed to MHMS. This can be a partial disbursement, and any funds not disbursed due to poor performance can be used to fund future grants. All indicators are subject to an independent annual quality review (step 2 in Table 7-4) which can affect the disbursement.⁵³ Table 7-4 summarizes the indicators, targets, and achievements for 2015 and 2016, with respective disbursements in 2016 and 2017.

Table 7-4: Cash on Delivery Disbursement Indicator, Target and Achievement

Malaria			
Year	Indicator	Target	Achievement
2015	Proportion of expected facility monthly reports through the MCMR form into DHIS2 that are actually received.	>70%: 100% CoD funds disbursed <70%: % CoD funds disbursed will be in proportion to achievement against the 70% target.	39% (original assessment) 61% (revised assessment)
2016	API	Step 1: CoD funds disbursed based on a sliding scale according to achievement—from 0% for an API of 64 to 100% for an API of 55. Step 2: Disbursement adjusted to reflect data quality.	API: 87.7/1,000 (0% achievement) Disbursement: 100% (see note)
2017		Step 1: CoD funds disbursed based on a sliding scale according to achievement—from 0% for an API of 64 to 100% for an API of 47 (targets may have to be revised due to underestimation of the baseline). Step 2: Disbursement adjusted to reflect data quality.	n.a.
Tuberculosis			
Year	Indicator	Target	Achievement
2015	TB TSR and number of notified cases (NC), all forms, new and relapse.	Step 1: TSR > 90%: CoD funds disbursed on a sliding scale according to number of NC: 100% if 358 to 75% if 345. TSR<90% or number of NC below previous year's: no disbursement. Step 2: Disbursement adjusted to reflect data quality.	TSR: 91% NC: 416 Disbursement: 93%
2016		Same as above (100% if 371 or 75% if 358)—can be adjusted according to 2015 performance.	TSR: 93.5% NC: 402 Disbursement: 100%
2017		Same as above (100% if 385 or 75% if 371)—can be adjusted according to 2016 performance.	n.a.

Note: Despite achieving an API deemed catastrophic in 2016, as per the discussion in paragraph 166, the GF did not consider this result a failure of the program as there had been significant improvements in terms of surveillance and diagnostic coverage. As such, the GF decided to exceptionally disburse the full CoD available to MHMS and will

⁵³ Overall good data quality (less than 10 percent error in reported results and 80 percent or more average report availability): no adjustment made. Minor data quality issues (up to 30 percent error and over 70 percent availability): 70 percent CoD funds disbursed and remaining 30 percent will be tied to implementation of HSS actions addressing data quality and M&E systems issues. Major data quality issues (over 30 percent error and less than 70 percent availability): no CoD funds disbursed.

review with the NVBDC national program the use of a single indicator to measure program performance, as this may be influenced by factors outside the control of the program.

166. **CoD disbursements are now fully on-plan, on-budget and on-system; this is allowing more transparency and accountability for use of resources.** Indeed, GF disbursements are estimated based on planned performance and included in the AOP&Bs and the DP recurrent budget for the respective national programs, and are channeled through the SIG FMIS once they are received. National programs have been including 100 percent of CoD planned disbursement in the budget but, as happened in 2016 (for 2015 performance), if the national program does not reach its performance target, the GF disbursement is lesser than the appropriation to the DP recurrent budget, and the national program will have less money available than planned for service implementation.

167. **Challenges also remain around the timing of CoD performance funding transfers to MHMS.** Indeed, as funds are not transferred to MHMS until the independent annual quality review is completed, funds have been transferred to MHMS late in the year, potentially affecting activity implementation. The SIG annual planning and budgeting cycle follows the calendar year, and transfers of funds for year X performance happen midyear X+1, potentially creating cash shortfalls for the start of year X+1. As with previous arrangements, GF continues to directly procure malaria and TB pharmaceuticals, test kits and commodities through their own system which, in this case, is appropriate. Difficulties remain in reflecting those contributions in the MHMS non-appropriated budget, in part because there is mixed progress between divisions in reflecting these activities in the AOP&B, but also because of the internal SIG issues between MHMS, MoFT and MDPAC in properly tracking the non-appropriated budget and expenditure. The recent development of budget and reporting templates for DP contributions to, and quarterly reporting of, the 476 non-appropriated budget will help continue the improvement in tracking all contributions to these national programs.

168. **The CoD hybrid approach is providing good lessons to inform innovative ways that DPs and MHMS can use to implement public health programs.** There may be several risks associated with this approach, with the most prominent one being not receiving any retroactive payment due to not achieving targets. The experience with this first grant iteration demonstrated, however, that the flexibility and commitment of MHMS and GF made risks manageable, and that the benefits (such as using government systems and better integration with MHMS) seem to outweigh the risks.

7.4 Financing

169. **This section analyses available budget and financial expenditure information for malaria, TB and HIV.** Tracking past and current budgets and expenditure information for malaria, TB and HIV is a difficult task because of the complexity and multiple layers of some of the financing arrangement, the number of players involved in these programs, but also because of the lack of easy access to financial information across stakeholders. Due to the difficulty in accessing clear data, these are estimates and should be taken as indicative figures for broad trend analysis rather than exact estimates. This analysis is restricted to the 2009-16 period due to these difficulties and the general quality of data. Data counted in in the estimates used for this analysis include:

- SIG recurrent budget and expenditure;⁵⁴
- DP recurrent budget and expenditure;⁵⁵ and
- GF budget and expenditure estimates.⁵⁶

170. **Data excluded from the estimates include all off-system contributions outside of the GF grants.** This includes relatively recent projects such as DFAT’s Pacific Malaria Initiative (2007-2011), JICA’s Malaria Control Strengthening Project Phase I and II (2007-2014), or off-system contributions from WHO, UNICEF or NGOs. Some of the GF TA funding tracked through this report would, however, have been transferred to WHO for TA support to MHMS and would, therefore, be indirectly included. These exclusions are, therefore, underestimating the total budget and expenditure of the three national programs, but particularly the investments made in malaria control over the years.

Malaria (NVBDC National Program)

171. **The estimated total expenditure on malaria has varied between a low of SB\$11.2 million in 2009 (US\$1.1 million), to a high of SB\$29.9 million in 2013 (US\$2.7 million), with significant variation in between (Figure 7-6).**⁵⁷ Volatility in spending on malaria can be explained in part by the cyclical nature of the prevention activities (procurement and distribution of bed nets used to be on a three-year cycle).

172. **Total expenditure on malaria averaged 5.7 percent of estimated public expenditure on health (calculated by adding all on-system expenditure, and GF and Gavi estimated off-system expenditure)—ranging from a high of 11 percent of public expenditure on health in 2010 to a low of 3.1 percent in 2015 (Figure 7-6).** Malaria expenditure as a share of on-system expenditure on health (domestic and external) was much lower—averaging 1.8 percent between 2009 and 2016—but showing a gradual constant increase from 1 percent to 3 percent in that period. This increase reflects the co-financing requirements of the new grant, but also the GF contribution to program implementation, which is now on-system, channeled through the DP recurrent budget.

173. **This significant investment in malaria in the country is reflected in Figure 7-7 which shows the funding per person for malaria control and elimination for several countries in East Asia Pacific.** The level of spending per person in Solomon Islands is decreasing, but similar to Vanuatu, and is one of the highest per person in the region after Malaysia. Malaria services and expenditure are provided through the MHMS public system and there is not meant to be any OOP payments incurred by users in the prevention, diagnosis and treatment of malaria, except for limited private providers in Honiara that may charge for diagnostics and treatment.

⁵⁴ We have considered budget and expenditure data from the NVBDC, TB/Leprosy and HIV/STI National Programs to be proxies for domestic budget and expenditure data on malaria, TB and HIV.

⁵⁵ Contributions from any DP who channeled funds through the SIG FMIS. As previously mentioned, AX FMIS was introduced in 2012; as such, on-system DP information prior to 2012 is incomplete. Up to 2015, the DP recurrent budget and expenditure would include mostly DFAT and some WHO and UNICEF contributions. GF CoD disbursements are included from 2016. As with the SIG recurrent budget and expenditure data, we are using NVBDC, TB/Leprosy and HIV National Programs as proxies for malaria, TB and HIV budget and expenditure.

⁵⁶ A number of assumptions had to be made to allocate budget and expenditure data across recipient countries for multicountry grants. Furthermore, expenditure is reported at GF and SPC level and might, therefore, be a mix of actual expenditure by GF and SPC, and of disbursements to MHMS or to technical agencies for program implementation or TA. These disbursements would be recorded as expenditure by GF and SPC, but not necessarily actually spent that same year by MHMS or the technical agency.

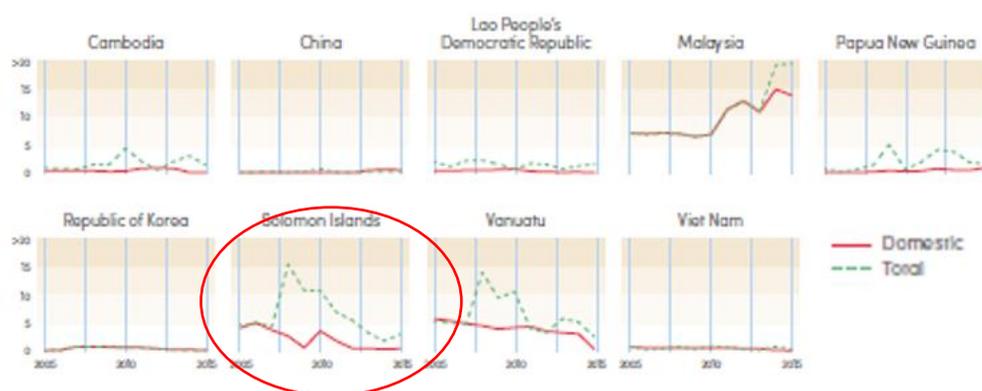
⁵⁷ The exchange rate was adjusted every year based on the World Development Indicator database (World Bank 2017) figures between Solomon Islands Dollar (SB\$) and United States Dollar (US\$).

Figure 7-6: Expenditure on Malaria, Total (left) and as a Share of Public and On-System Expenditure on Health (right) (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database⁵⁸ and WB staff calculations. (See Appendix Two for more details).

Figure 7-7: Funding per Capita for Malaria Control and Elimination



Source: WHO 2016.

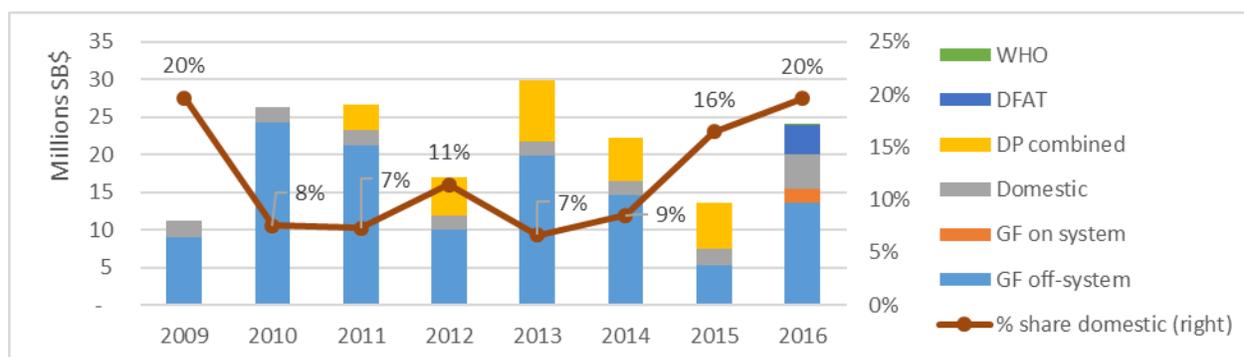
174. **On average, between 2009 and 2016, SB\$9 out of SB\$10 spent on malaria came from DP financing, and SB\$7 of those SB\$ 9 came from the GF.** The gradual increase of domestic expenditure from 9 percent, to 20 percent between 2014 and 2016 (from just under SB\$2 million – US\$256,430, to SB\$4.6 million – US\$604,299) reflects the MHMS cofinancing requirements included in the new grant arrangements. The high of 20 percent for domestic share in 2009 is due to lower GF expenditure (rather than high domestic), which could be due to the three-year bed net procurement cycle mentioned earlier.

175. **Total expenditure on malaria dropped in 2015 because of: (i) limited procurement of commodities that year; (ii) the new CoD model which meant that no operational funding was available from GF that first year of the grant; and (iii) the loss of significant program-specific staffing positions funded through the previous grant.** In 2016, the MHMS Finance Unit started tracking DP expenditure by individual DP, allowing the on-system ‘DP combined’ expenditure category to be further detailed by DP—hence the breakdown between GF on-system (CoD component), DFAT and WHO in 2016. As previously mentioned, significant off-system DP contributions other than GF were not included in our calculations due to difficulties accessing detailed financial information.⁵⁹

⁵⁸ Gonzalos Penacoba Fernandez (Sustainability and Transition Specialist, GF), in an email to the author, July 2017

⁵⁹ The OECD-CRS database estimates JICA’s contribution to malaria control in Solomon Islands to be US\$5.8 million between 2007 and 2015, and Australia’s contribution as US\$15.1 million between 2007 and 2014. It is unclear whether this contribution from

Figure 7-8: Expenditure on Malaria by Financing Source (2009-16)



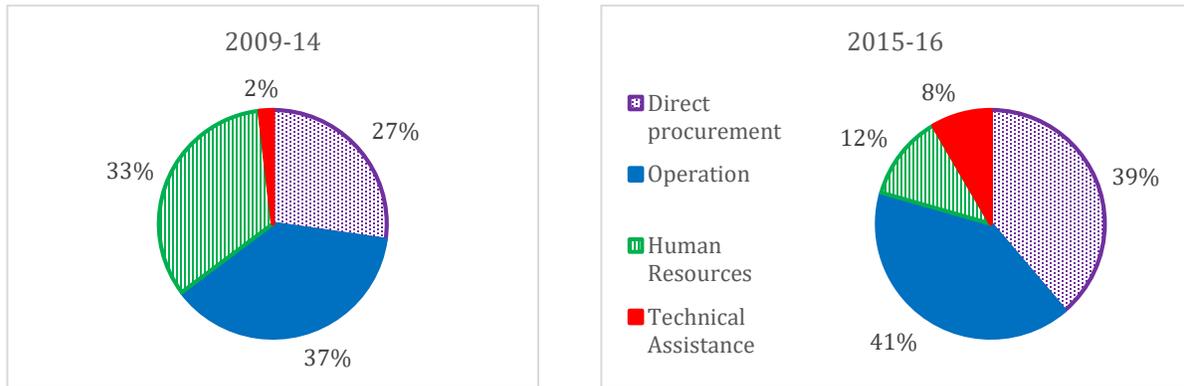
Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

176. **The composition of expenditure on malaria has significantly changed since 2009-14, most notably with a significant drop in HR expenditure (Figure 7-9).** Since 2015, with the introduction of the new GF grant arrangements, 41 percent of total malaria expenditure has been spent on operations (an increase from 37 percent between 2009-14), 39 percent on direct procurement (an increase from 27 percent between 2009-14), and only 12 percent on HR (a significant decrease from 33 percent between 2009-14), the largest difference in terms of expenditure category. This drop is due to the national program becoming more integrated with MHMS and provincial divisions for service delivery rather than having separate vertical program-specific staff as explained in paragraph 155.

177. **Since 2015, all HR costs are paid for through the domestic budget (compared to just under one-third on average between 2009 and 2014).** The domestic share of operational expenditure increased significantly from 2 percent between 2009 and 2014 to 30 percent in 2016. Since 2015, the NVBDC national program has started transferring funds to the provincial divisions through grants transfers. While these appear in the budget of the NVBDC national program, grants are transferred to provincial division bank accounts throughout the year, similar to the provincial grants, for service delivery and program implementation.

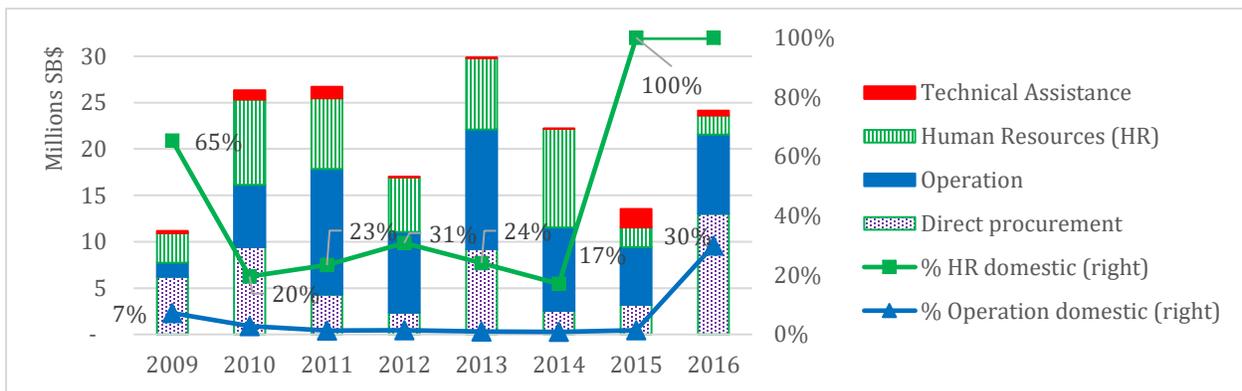
Australia was included in the DP recurrent budget as part of the HSSP—for this reason it was not included in our calculations to avoid double counting.

Figure 7-9: Expenditure by Spending Category, as a Share of Total Expenditure on Malaria (2009-16)



Source: Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).
 Note: Rounded up numbers may not add up to 100 percent.

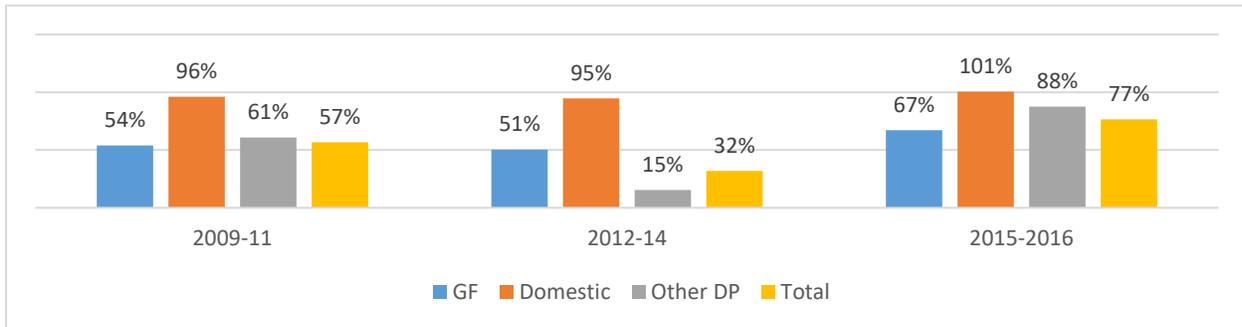
Figure 7-10: Expenditure on Malaria by Spending Category (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

178. The NVBDC national program has shown limited absorptive capacity in the past, with program spending less than one-half of total funds available to them between 2009 and 2016 (45 percent of a total budget of SB\$379 million) (Figure 7-11). This could be due to capacity of the national program, but also to general bottlenecks in the system both in MHMS or MoFT, and/or in other divisions (particularly moving forward capacity in the provincial health divisions). Some of the funds were tied to infrastructure projects outside the direct control of the national programs, but even removing the SB\$62 million from DFAT to build SIMTRI, the total execution rate for the period is 59 percent. High domestic execution rates are due to domestic funding being allocated largely to payroll and staff benefit expenditure, which are always fully spent. Despite decreasing budgets between 2009-11 and 2015-17, execution rates remained low in 2015-2016, at 77 percent.

Figure 7-11: Malaria (National Vector Borne Disease Control Program) Budget Execution Rates (2009-16)

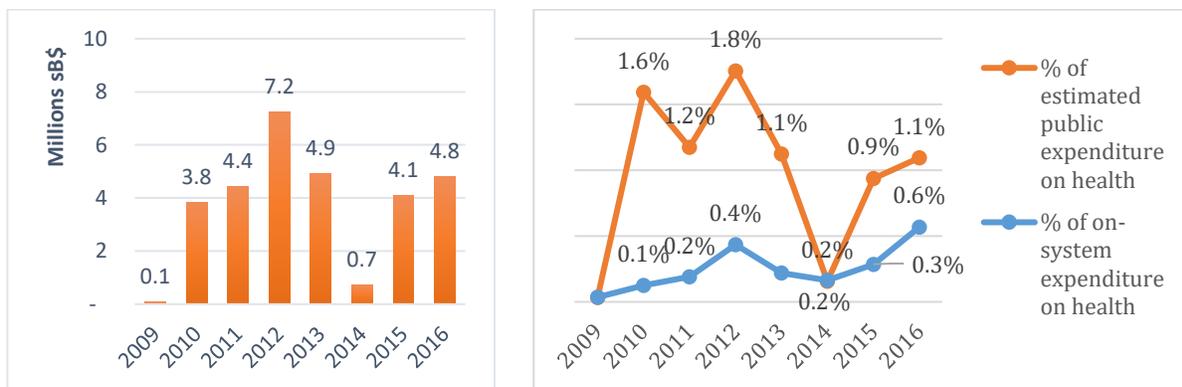


Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).
 Note: The particularly low execution rate in 2012-14 for other DPs is largely due to the unspent DFAT funding available for SIMTRI.

TB (TB/Leprosy National Program)

179. **Estimated total expenditure on TB has varied from a low of SB\$104,000 (US\$12,865) in 2009 to a high of SB\$7.2 million in 2012 (US\$984,436), with large variations between 2009 and 2016 (Figure 7-12).** Total expenditure on TB averaged 1 percent of total estimated public expenditure on health between 2009 and 2016, or 0.3 percent of on-system expenditure on health in that same period. The smaller proportion of on-system expenditure can be explained by the fact that TB expenditure was mostly off-system. The slight increase to 0.6 percent of on-system expenditure on health in 2016 reflects the fact that GF on-system funds are now included in the MHMS DP recurrent budget and are, therefore, on-system. As with malaria, TB diagnostic and treatment services are offered free of charge in MHMS-run public facilities, with limited service offered by private providers (such as the private company private clinics).

Figure 7-12: Expenditure on Tuberculosis, Total (left) and as a Share of Public Expenditure on Health and On-System Expenditure on Health (Right) (2009-16)

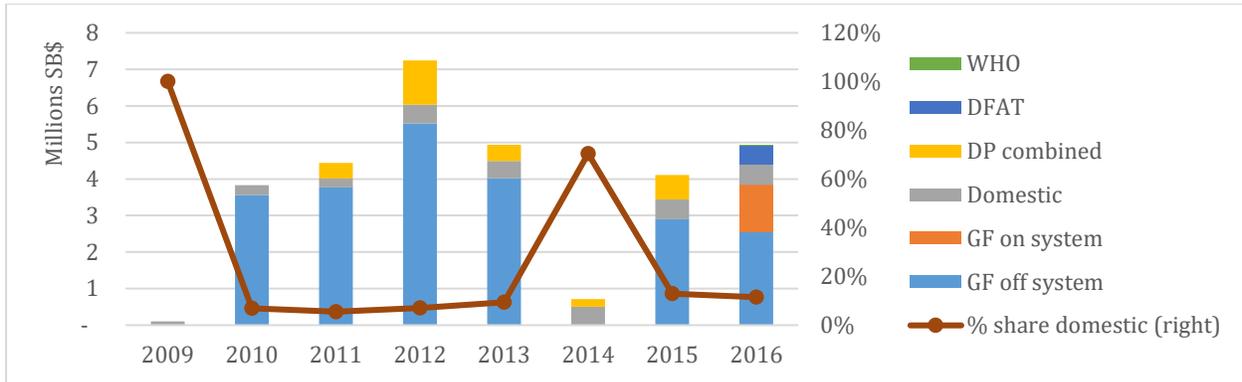


Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

180. **On average, between 2009 and 2016, SB\$9 out of every SB\$10 spent on TB was from DP financing, and almost SB\$8 of those SB\$9 came from the GF (Figure 7-13).** While it seems that there was no GF expenditure on TB in 2014, this was mostly due to budget/expenditure tracking rather than a true lack of expenditure. Indeed, as previously mentioned, it might be the case that there were unspent funds from previous year disbursements from SPC to MHMS, which MHMS would have used in 2014. Because

GF financial reports record SPC expenditure (rather than MHMS expenditure), this would translate into large expenditure (that is, disbursements) in previous years, and no expenditure in 2014. The domestic contribution to TB expenditure remains low, with a high of 13 percent of total TB expenditure in 2015, and is mostly spent on HR.

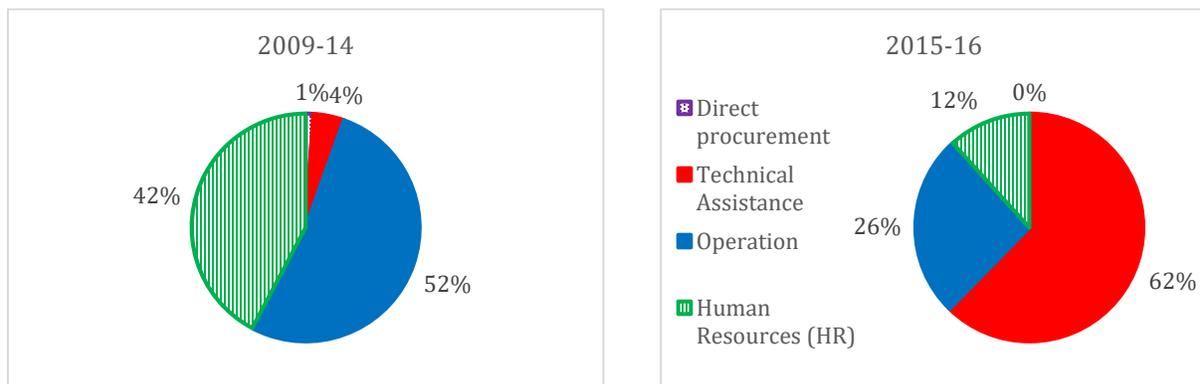
Figure 7-13: Expenditure on Tuberculosis by Financing Source (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

181. **The composition of expenditure changed significantly in 2015, with large drops in HR and operational expenditure, but significant increases in TA (Figure 7-14).** Operations and HR dropped from respectively representing 52 percent and 42 percent of total expenditure between 2009 and 2014, to 26 percent and 12 percent in 2015-16. As with the NVBDC national program, under the new grant arrangements, the TB/Leprosy national program is more integrated and does not have GF-funded vertical TB staff anymore. This change in staffing translates into the domestic share of HR expenditure increasing from a low of 18 percent in 2013 to 100 percent in 2014 and the following years (Figure 7-15). Except for 2014 (as previously mentioned lack of expenditure that year is most likely due to data tracking), the domestic share of operational expenditure is consistently low, around 2 percent, and the bulk of domestic expenditure on TB is on HR.

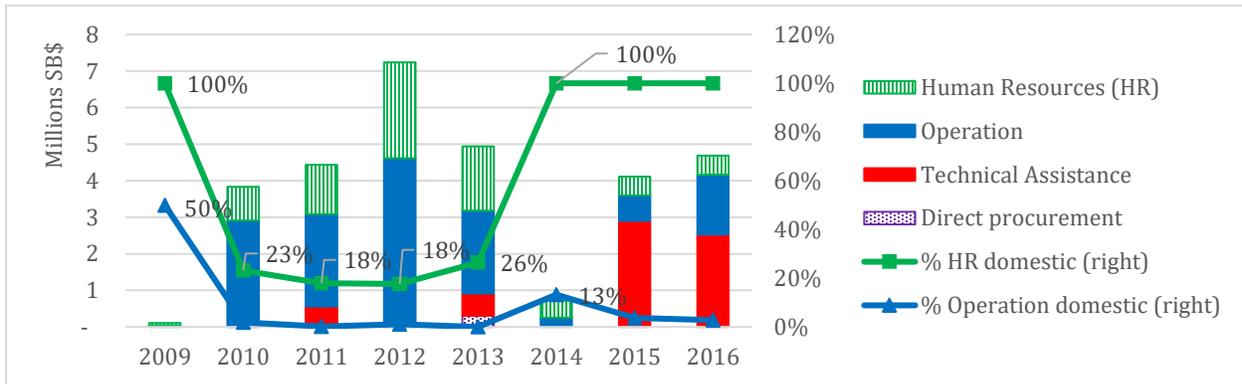
Figure 7-14: Expenditure by Spending Category as a Share of Total Expenditure on TB (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

Note: Total may not add up to 100 percent due to rounded up numbers.

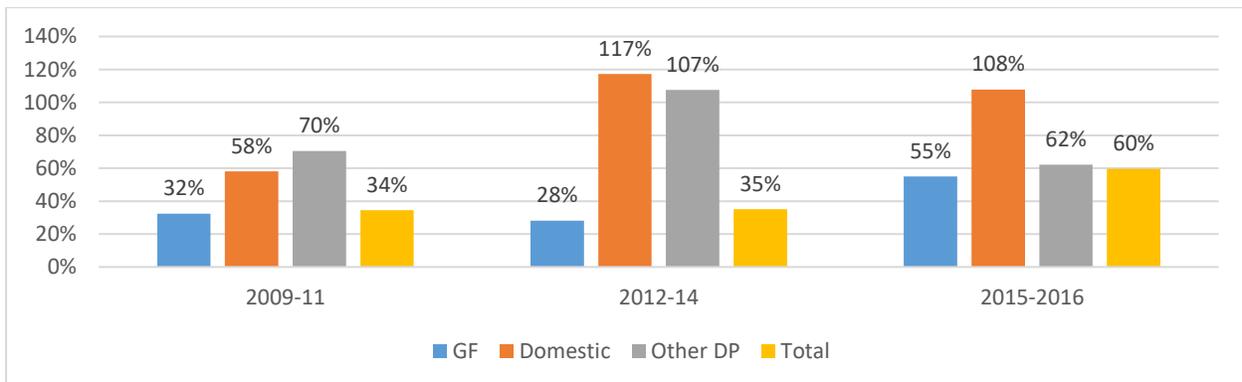
Figure 7-15: Total Expenditure on Tuberculosis by Spending Category (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

182. The TB/Leprosy national program has shown limited absorptive capacity in the past, with the program spending 40 percent of all funds available over 2009 and 2016 (expenditure of SB\$30.3 million out of a total budget of SB\$76.4 million). Execution rates for GF grants are particularly low, with less than one-third of the available budget spent between 2009 and 2014. High domestic execution rates are due to domestic funding being allocated largely to payroll and staff benefit expenditure, which are always fully spent. Despite decreasing budgets between 2009-11 and 2015-17, execution rates remained low in 2015-16, at 60 percent.

Figure 7-16: Tuberculosis (TB/Leprosy National Program) Budget Execution Rates (2009-16)



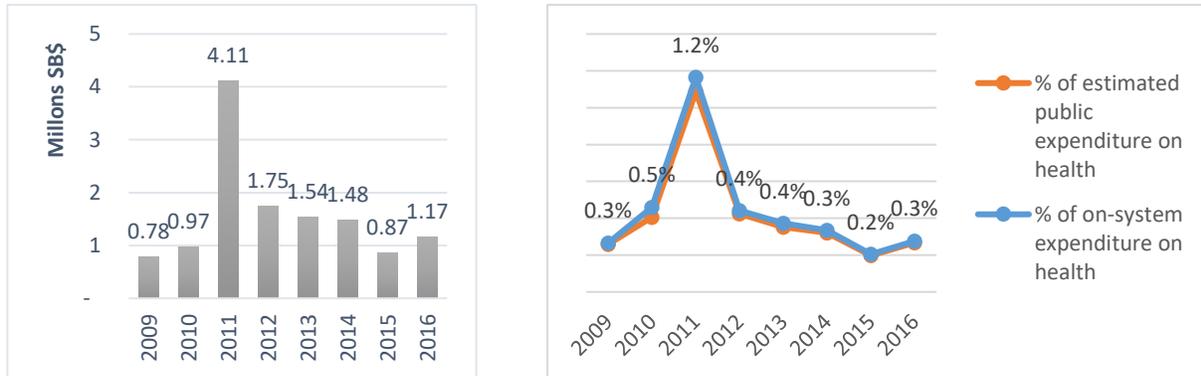
Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

HIV (HIV/STI National Program)

183. With the exception of 2011, estimated total expenditure on HIV has been slightly less volatile than the other two national programs, averaging SB\$1.2 million per year (excluding 2011). Expenditure on HIV represented (excluding 2011), an average of 0.3 percent of both estimated public expenditure on health and of on-system expenditure on health (Figure 7-17). Estimated expenditure on HIV was fully on-system between 2009 and 2016, and fully financed by SIG and ‘other DP’; indeed, no GF expenditures were recorded during those years (Figure 7-18). This may be due to assumptions made to allocated multi-country grants to individual countries. Because records show no money was transferred to Solomon Islands for HIV program implementation, our calculations would also then estimate that none of the TA or direct procurement was spent on Solomon Islands (it is not possible to precisely allocate TA or direct procurement by country as expenditure is shown at the level of the agency that received the funding to

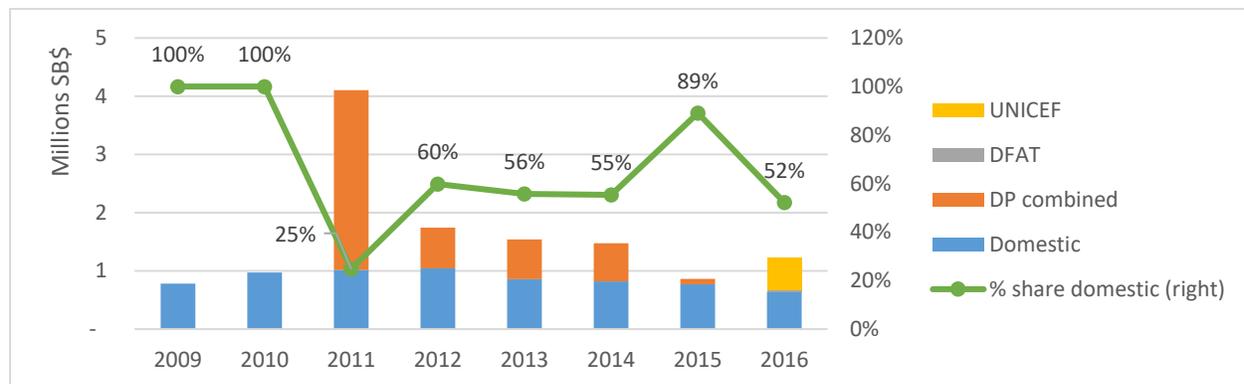
supply TA). Except for 2011, domestic expenditure on HIV constitutes more than one-half of all expenditure on HIV.

Figure 7-17: Expenditure on HIV, Total (left) and as a Share of Public Expenditure on Health and On-System Expenditure on Health (right) (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

Figure 7-18: Expenditure on HIV by Financing Source (2009-16)

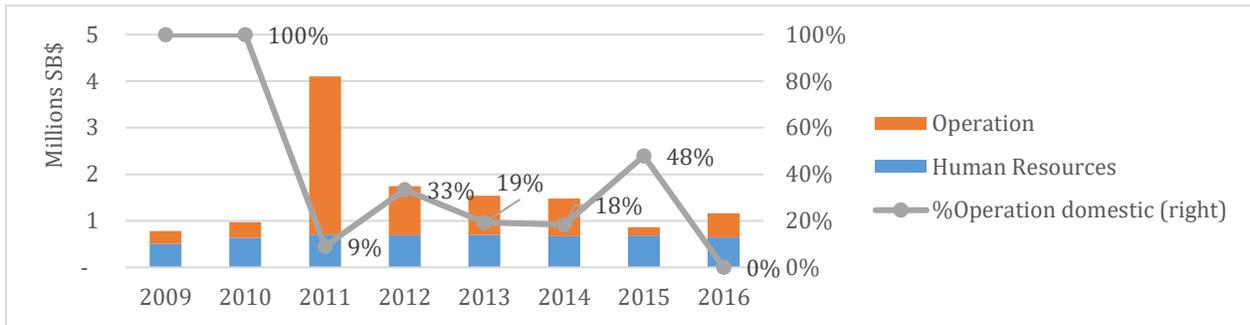


Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

184. **HR expenditures have remained constant, while expenditure on operations has fluctuated since 2009 (Figure 7-19).** While HR expenditures have been fully funded domestically, since 2011 less than 50 percent of operational expenditures were from domestic resources. In 2016, operations were fully funded by UNICEF. As with the other two national programs, the HIV/STI national program has had low absorptive capacity since 2009 (Figure 7-20). More notably, none of the GF budget allocation to Solomon Islands was spent between 2009 and 2014 (as earlier noted, there might have been some expenditure on TA and direct procurement, but not on operations).⁶⁰ Domestic budget execution remains high because HR, 100 percent funded through domestic resources, is always almost fully spent. Other DP recurrent budget execution remained below 50 percent, however, between 2012 and 2016.

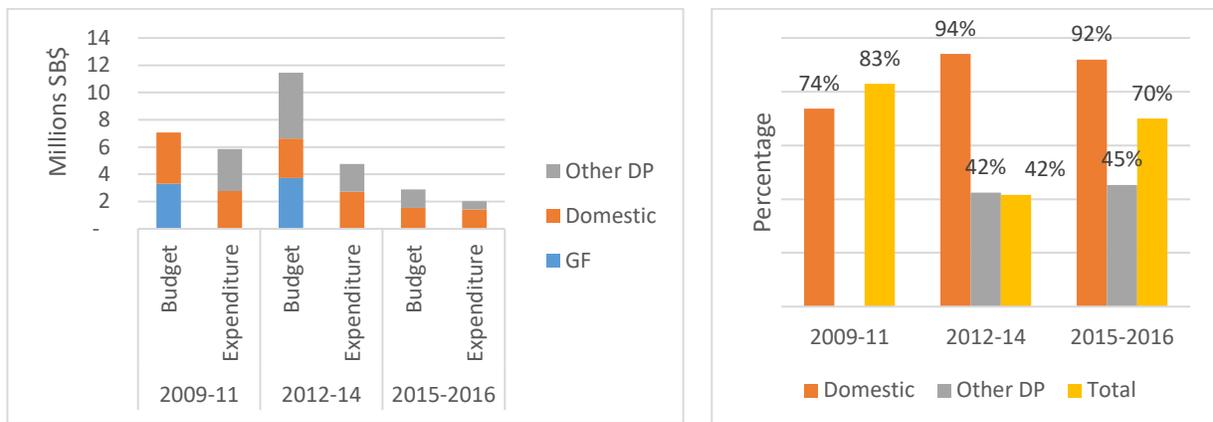
⁶⁰ GF also indicated this could be due to issues with data reporting quality.

Figure 7-19: Total Expenditure on HIV by Spending Category (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

Figure 7-20: HIV (HIV/STI National Program) Budget Execution (2009-16)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).

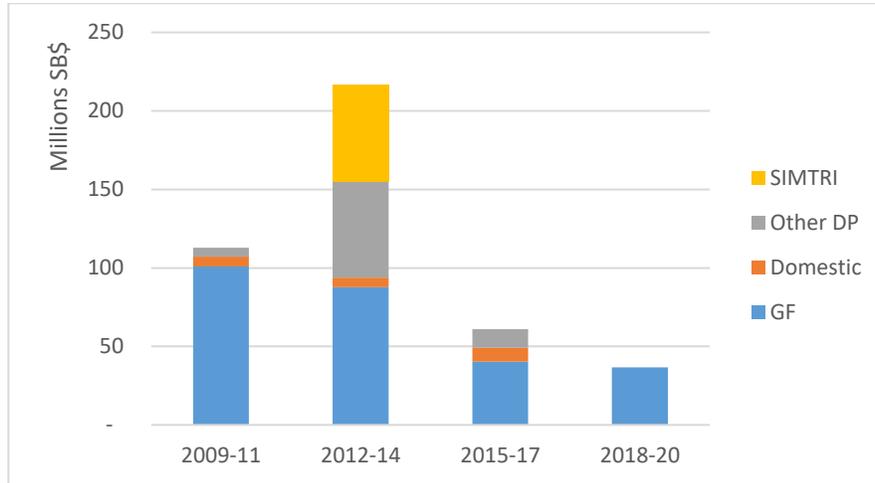
7.5 Future Financing Landscape for All Three Programs

185. **External financial support to the malaria, TB and HIV programs is expected to remain significant but will decrease further in coming years (Figure 7-21; Figure 7-22).** Most notably, GF grant budgets have been gradually decreasing. The 2018-20 GF-approved grant continuation for the malaria program is just over one-third of the GF grant budget that was available for malaria control to Solomon Islands between 2009-11 (Figure 7-21). The amount for the now combined GF TB/HIV grant continuation for 2018-20 was less than one-half the amount available to for TB only between 2012-14.

186. **As previously mentioned, one of the largest impacts on budgets available to the national programs is for program-specific staff—which has not been available since 2015—but also on much smaller operations budgets available through the GF grant.** While Solomon Islands is likely to remain eligible for GF funding due to its disease burden, it is unclear how long GF will be providing financial support. Eligibility does not guarantee funding. While MHMS has been increasing its domestic allocation to the national programs (more notable for the NVBDC national program), the different pressures highlighted in the Health Financing section of the HFSA, including modest economic growth and overall reductions in DFAT budget support, mean it is unlikely that MHMS will be able to replace the past level of GF investments in malaria, TB and HIV in years to come. Given low execution rates in the past and the re-organization of the national programs, this presents a good opportunity to review the model of support

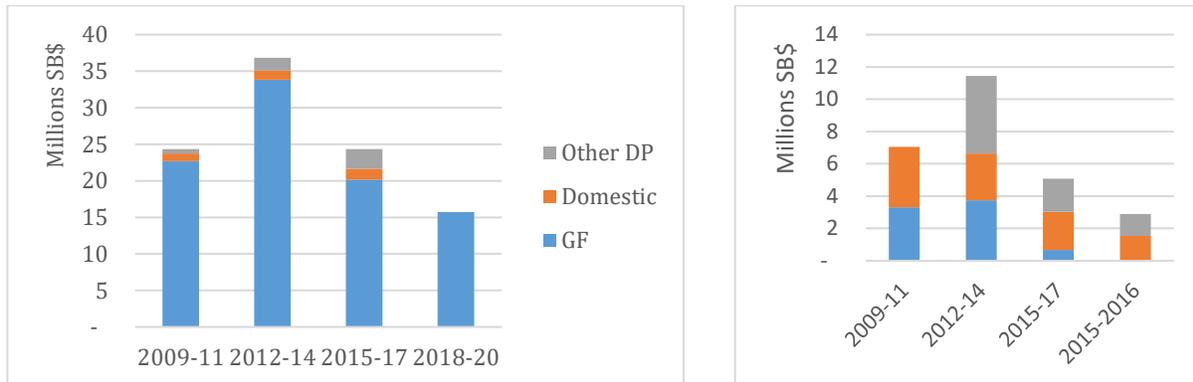
to, and delivery of, these national programs. MHMS and the national programs will need to protect achievements with fewer resources (funds and staff). d

Figure 7-21: Past and Projected Budgets for Malaria (2009-20)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).
 Note: The SIMTRI budget was provided by DFAT, but was reported separately in this graph because of the one-off nature of the investment.

Figure 7-22: Tuberculosis (left) and HIV (right) Past and Projected Budgets (2009-20)



Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations. (See Appendix Two for more details).
 Note: The 2018-2020 budget for TB in the left graph is for TB/HIV together—at the time of this analysis, the allocation by disease was not yet available.

Section Eight: Policy Recommendations

Summary of policy recommendations:

- MHMS, with DPs when relevant, to clarify/finalize and then implement required governance and accountability arrangements
- MHMS to continue conducting efficiency analysis on identified priority areas, implement change, then monitor progress on a quarterly basis.

Figure 8-1: National Health Strategic Plan 2016-2020: Governing Policies, Universal Health Coverage and Role Delineation Policy



'We face a challenging financial environment. Aid flows are fluctuating and hard to predict; whilst in some areas we have not fully spent the available resources. The government's commitment to financing the health sector has been steadily growing. Our challenge is to use it effectively and efficiently in the service of the people.'

'The MHMS is re-organizing itself to become more streamlined, more effective and to make each dollar go further.'

'This plan identifies the approach we will take to improve the health of the people. This involves identifying priority interventions and making sure they reach the whole population especially those most vulnerable and isolated.'

Source: Solomon Islands NHSP 2016-2020.

187. **The health financing landscape in Solomon Islands is similar to the rest of the Pacific Islands, but very different to other countries with similar levels of income, in that it has low levels of OOP, and relatively high levels of external financing.** Low OOP is a feature that Solomon Islands should work hard to maintain in its quest towards UHC and more efficient and equitable health service delivery. Indeed, the Solomon Islands public health system funded through SIG general revenues, including external financing, pools risk for the entire population and spreads the financial burden of financing health across all Solomon Islanders, independent of age, disability, and health need. This is a progressive way of financing health.

188. **Low levels of OOP mean that access to health care is not connected with ability to pay (notwithstanding other costs such as travel which are not included in OOP and can hinder access).** OOPs are regressive, often deter or delay utilization, and expose individuals and families to catastrophic health and financial shocks. Low rates of OOP are key to UHC; Solomon Islands can be proud of having achieved health outcomes with high levels of financing protection for its citizens and should continue protecting its most vulnerable population by keeping low OOP.

189. **There are practical actions for making health financing and service delivery in Solomon Islands more efficient, equitable, affordable and accountable.** The above extracts from the NHSP 2016-2020 indicate that the MHMS has already recognized and prioritized the urgent need for improved access to, and quality of, health care. It has also committed to reform towards more efficient allocation and management of resources. The ministry acknowledges that this will have to be done within existing resources. For the country to make real progress towards UHC, the focus on reach and quality of health promotion, prevention and treatment indicators must continue to improve.

190. **Improved spending will evolve from a better understanding of how all resources—money, staff, and infrastructure—are being allocated and used across the health sector, and how these resources can best contribute to achieving priority health outcomes.** This involves developing plans, budgets and in-year reporting that create a better line-of-sight between resource allocation and the frontline service delivery activities that are essential in providing quality primary health care—which MHMS has made good progress on. More importantly, this includes monitoring and reviewing progress and outcomes, and increasing sector accountability. Existing reporting requirements in the Health SWAp Partnership Arrangement will be key to monitoring implementation of the NHSP 2016-2020 and of any efforts made by MHMS or DPs to improve efficiency, equity, quality, and accountability.

191. **Achieving better health outcomes involves strong partnerships and active coordination by the MHMS within and across sectors, with central agencies, DPs, NGOs and civil society organizations.** Improving social determinants such as nutrition and water and sanitation are vital in achieving and sustaining improved health outcomes, but are contingent on the concerted effort of other government agencies and partners. Similarly, addressing health financing constraints and public finance issues requires the support and active oversight from central agencies such as MoFT, MDPAC and MPS. In the context of tightening fiscal space⁶¹ for health and sometimes limited capacity to implement some public health interventions, MHMS could benefit from building partnerships with NGOs and civil society organisations that might be better placed, or able to support MHMS, to deliver certain services.

192. **Two priority actions have been identified below as issues within MHMS' control that can be implemented immediately to achieve substantial ongoing improvements now and into the future.** Implementing these two priority actions would lead to ongoing improvements in the medium to long term; unless weak governance and accountability is addressed, implementation of the RDP, or any other reform the MHMS wants to implement, will remain challenging or unsustainable. Priority actions focus on the implementation of existing policies/reform which have been identified as a priority by MHMS, rather than creating new ones. The more general recommendations from the lessons learned implementing PFM reforms in PICs (Haque 2016) have also driven the prioritization of these policy recommendations: (i) consolidate progress towards better-prioritized reforms plans; (ii) further strengthen donor coordination

⁶¹ Fiscal space is defined as capacity in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy.

and alignment to ensure implementation approaches reflect Pacific realities; (iii) deepen country-specific knowledge; and (iv) adopt coordination mechanisms to support good practices.

193. **While an analysis of the political economy—not only of the health sector (both MHMS and DPs) but also of the country—was not conducted as part of the HFSA, it will play a significant role in how successfully recommendations and other policies can be implemented.** Putting systems and processes in place within MHMS, but also within central government and the Health SWAp, are a way of helping to ensure that arrangements are dependent on institutions rather than individuals.

Priority One: Governance and Accountability

Policy Recommendation 1: MHMS, with DP when relevant, to clarify/finalize and then implement required governance and accountability arrangements.

This includes, but is not limited to, progressing:

- Executive stewardship through MHMS senior management meetings;
 - Corporate stewardship through core MHMS committee meetings (Planning and Finance, Housing, Audit Committee, and Training);
 - Mutual accountability through the implementation of the Health SWAp 2016-2020 Partnership Arrangement, including quarterly monitoring of AOP&Bs—with close attention to financial and health output data analysis within and across provinces; and
 - The RDP, including clear roles, responsibilities and reporting lines at all levels of the health sector.
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194. **Practical actions to improving efficiency, quality and equity of service delivery are numerous but will have limited traction or impact unless serious improvements on governance, including accountability, are achieved.** Health system governance has many definitions—WHO includes leadership in governance and states that ‘leadership and governance involves ensuring that a strategic policy framework exists and is combined with effective oversight, coalition-building, regulation, attention to system design, and accountability’ (WHO 2014, p.10). Governance and accountability provisions already exist in documents endorsed by SIG, MHMS and DPs such as the PFM Act and roadmap, the Partnership Arrangement for the Health SWAp and the Performance Linked Aid agreed indicators. The MHMS has committed to reviewing and clarifying these governance arrangements and related issues, but evidence on implementation of these arrangements is limited. While improvements in access and reporting of data are commendable, more needs to be done reviewing implementation and performance throughout the year—from MHMS, DPs and central agencies.

195. **Planning, budgeting and spending processes are made more complex and inefficient by weak governance and accountability at all levels of MHMS, but also between MHMS and DPs.** While notable improvements have been, or are being, made by MHMS—such as the refined AOP&B which increasingly links resources, activities and performance targets—poor communication, unclear reporting lines, and lack of accountability at all levels of MHMS affect service delivery negatively. This situation is not unique to Solomon Islands. Global evidence shows that improving governance is notoriously difficult to achieve—across national, subnational and institutional levels. More explicit understanding and frank discussion on the barriers to achieving progress on this core stewardship function within MHMS would help to identify the likely scope for any improvements. Whether it is realistic to expect improved performance is, ultimately a decision for the government to make.

196. **Clarifying roles and responsibilities of national programs, health facilities and MHMS staff, and appropriately resourcing them will help MHMS deliver quality core services, but also help accountability.** Finalizing and rolling out the MHMS RDP, which aims to clearly identify who should offer which service at what facility level, is a step in the right direction. While some divisions or facilities receive little resourcing from the MHMS, others have not always been able to spend large budgets allocated by the MHMS or DPs, often because of low absorptive capacity (quantity or skill of staff not fit for the size of the implementation plan). Having a better understanding of what is expected of each level of service delivery and what their resourcing needs (and gaps) are will help address this and reduce wastage.

197. **Implementing governance and accountabilities set out in the SWAP 2016-2020 Partnership Arrangement is a key step to improving development effectiveness.** Compared with other countries in the region, the MHMS has taken a clear active role in anticipating and addressing transitions from various funding sources and should continue working with all DPs jointly for improved alignment and integration of programs. This includes coordinating and aligning DP financial, technical and in-kind support to MHMS's priorities, systems and processes, an indispensable step to progress MHMS' efficiency agenda.

198. **Of particular relevance for DPs are the following two actions:**

- **Getting on-plan, on-budget, and on-system:** The MHMS must have data on all resources available to the health sector to make improved decisions to progress efficiency, quality and equity of resources allocation. Poor coordination, communication and timing around the planning and budget process and PFM requirements adversely affect MHMS administrative and health service delivery. Both MHMS and DPs have clearly recognized the need to improve in this area and have taken significant steps in the right direction by being more on-plan, on-budget, and increasingly on-system. As highlighted by issues raised in this HFSA, however, access to DP budget and expenditure data is still challenging and DPs' efforts to improve transparency with regards to accessing financial information should continue.
- **Improving coordination and alignment:** The process of transitioning from parallel, largely DP-funded disease programs to the MHMS system has highlighted the financial and systemic impact of poor coordination and integration of overarching health system functions. Integrating separate HR, HIS, procurement and governance systems is challenging, and it is apparent that most of the issues that national programs face are systemic, affecting all of MHMS (or even in certain cases all of SIG), not specific to the program or the transition. Using MHMS' own system is the best way to strengthen them.

199. **Lastly, improved and more structured working relationships between central agencies (MoFT, MDPAC, MPS) and MHMS, would also help drive governance and accountability improvements.** The active involvement of central agencies is important to drive, support and sustain changes, and to further improve resource management and functionality in the health sector. The implementation and enforcement of formal instructions and structures set up to help manage allocation and use of resources, and to help manage accountability, are often weak and ad hoc, and there is often limited oversight and follow up on the establishment of these requirements by responsible authorities.

Priority Two: Efficiency

Policy Recommendation 2: MHMS to continue conducting efficiency analysis on identified priority areas, implement change, then monitor progress on a quarterly basis.

This includes, but is not limited to, focusing on:

- **Large expenditure areas.** Examples include: (i) human resources: review and more efficient distribution, numbers and skill mix of staff—as per the RDP; more efficient management of certain areas of payroll and benefits such as house rent and annual leave; and review options around management of DWEs; (ii) provincial divisions; (iii) the NRH; (iv) pharmaceuticals; and (v) utilities.
- **Large return for investment areas.** Examples include targeting limited resources to high return health interventions such as prevention and primary health care and better targeting the most at-risk or vulnerable populations.

200. **Efficiency gains will likely remain the most important sources of additional fiscal space for health in the near to medium term.** Based on the modest economic growth forecast, the significant share of the national budget already allocated to health and the overall decreasing (but still high) trend in external financing, the opportunities for MHMS to count on additional funding in the near future are limited. WHO has estimated that 20-40 percent of all health sector resources are wasted (WHO 2010). HR, hospitals, and pharmaceutical supplies are identified as major sources of inefficiencies worldwide (Table 8-1). MHMS has started to explore some of these issues. Being able to demonstrate internal efficiency gains can also help increase SIG and DP's confidence in allocating future increases in budget when available to MHMS. Of course, in a country with the disperse geography and relatively small population such as the Solomon Islands, MHMS will need to continue managing tradeoffs between efficiency and equity.

201. **Focusing on improving efficiency in large expenditure categories (both in terms of recipient and economic classification) will help ensure finite resources are used to purchase the best quality and value of goods and services.** The MHMS has clearly recognized the need to protect funds allocated to crucial expenditure categories such as pharmaceuticals and medical supplies, and provincial divisions. The MHMS and responsible divisions should continue to (and increasingly) ensure that these funds are used efficiently for quality expenditure, but also that the capacity is in place to properly manage these resources.

202. **The efficient use of funds includes (but is not limited to) reviewing opportunities to improve planning and budgeting for improved expenditure outcomes in:**

- **The health workforce remuneration and staff benefit** – *numbers, skill mix and staff distribution, annual leave fare schedules, housing benefits, and management of DWEs. This could then be linked to improved performance management;*
- **Provincial divisions** – *ongoing improvements in AOP&Bs and integrated financial and health quarterly reporting, helping identify standard prices for frequent expenditure categories;*
- **The purchase and management of medicines and vaccines** – *improving quantification and projection, diagnostic work on availability of key pharmaceuticals and medical supplies at facility level; and*
- **The NRH** – *ongoing effort for internal efficiency savings, better coordination on outreach.*

Furthermore, given that MHMS has one of the largest national budgets and a complex program of work to implement across the country, it cannot be expected to improve the quality of expenditure effectively

without key positions being filled with capable staff, including in the health workforce but also in the Procurement, Infrastructure, HR and Finance Units.

Table 8-1: Ten Major Sources of Inefficiency in Health Systems Worldwide

Number	Cause
1	Underuse of generics and higher-than-necessary prices for medicines
2	Use of substandard and counterfeit medicines
3	Inappropriate and ineffective use of medicines
4	Overuse or oversupply of equipment, investigations and procedures
5	Inappropriate or costly staff mix, unmotivated health workers
6	Inappropriate hospital admissions and length of stay
7	Inappropriate hospital size (low use of infrastructure)
8	Medical errors and suboptimal quality of care
9	Waste, corruption and fraud
10	Inefficient mix of health interventions (for example, between prevention and treatment, high value and low value)

Source: WHO 2010.

203. **Targeting the most at-risk populations (based on location, poverty, disease, age and gender) will not only improve equity but also overall health outcomes.** At present, despite improvement in recent years through the annual planning and budget process, there is limited focus on targeting high-risk populations or the disease burden. Resource allocation, including HR, has been very much supply-driven, influenced by historical allocations, pressures from National Programs, staff themselves, but also by DP program funding.

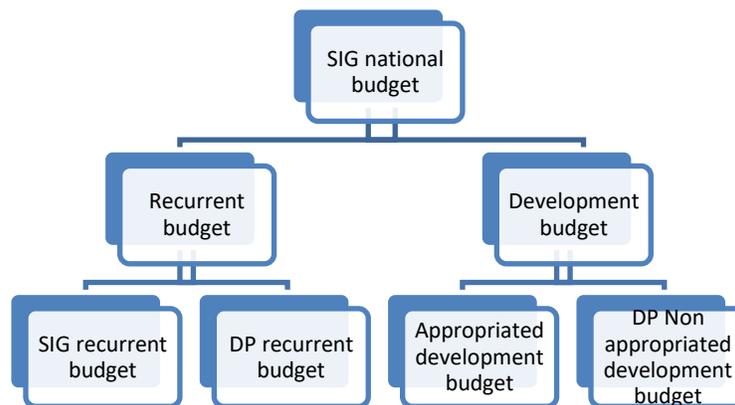
204. **Allocating resources to public health or disease interventions, locations or populations that need it the most can help yield the best improvement in health outcomes and will improve equity (Figure 3-9).** This includes ongoing efforts to balance allocations between primary and higher-level care, preventive/promotive versus curative, rural versus urban investments, all ongoing tradeoffs between efficiency and equity. The release of the Health Equity Analysis early in 2018 will update reflections on current equity in health care utilizations, health outcomes, and nutrition outcomes. Coupled with the now quarterly HIS reports produced by the MHMS and presented at SWAp meetings, this information will allow the ministry to review and refine its resource allocation process (finance, but also HR, infrastructure and equipment), and monitor progress towards increased allocation to high-risk populations.

205. **Compiling, analyzing, linking and using all data available to MHMS is essential—not only to inform improved resource allocation, but also to track progress.** This is not limited to health outcomes, financial, and overall resource data, but data that sits outside of MHMS such as data from larger surveys (census, HIES, poverty analysis, and macroeconomic forecasts). Ongoing efforts to further disaggregate data by age, sex, and other vulnerability factors will help improve policy and resource allocation decisions. The NHSP 2016-2020 clearly states it wants to prioritize the most vulnerable and isolated, particularly people with disability and women exposed to violence and abuse. To reach these populations, the MHMS must have access to (and use) quality, precise information. Compiling and using information is essential to monitor progress on any policy action and to evaluate success and challenges for policy adjustment. Lastly, improving quality of, and access to, information at the national level will also help update and standardize international databases.

Appendix One: PFM in SIG and MHMS

The SIG budget is divided into the recurrent (which includes both establishment payroll and other recurrent charges) and the development budget and, in certain ministries, this is further divided, depending on whether they receive DP support (Figure 1A-1). MoFT and MDPAC respectively prepare and oversee the recurrent and the development budgets, however, MoFT is responsible for processing all budget execution transactions and fully controls the cash-handling function of the budget execution. The MPS oversees the establishment, but MoFT manages payroll. The recurrent budget is fully appropriated,⁶² and can include both a domestic recurrent budget–SIG recurrent budget–and a DP recurrent budget that is managed through the SIG PFM system. Similarly, the development budget can include both an appropriated development budget–which usually includes development infrastructure or capital expenditure by SIG–and a non-appropriated development budget, whose role is to record all DP contributions that are implemented outside the SIG PFM system.⁶³

Figure 1A-1: Structure of Solomon Islands Government National Budget



Line ministries receive SIG recurrent and appropriated development budget ceiling allocations from the national Parliament, which is responsible for allocating shares of the national budget to each of the 30 ministries, informed by the National Development Strategy. In reality, ceilings are mostly based on previous years' expenditure levels. Budget proposals, including requests for additional funding, are defended by ministers and permanent secretaries in front of the Public Accounts Committee, following which original budgets are reviewed and approved by Cabinet for submission to Parliament for appropriation. Ministries mostly have decision-making power on what they want to spend on within their allocated ceilings, although MoFT and MDPAC reserve the right to reject submissions made by line ministries for the development and recurrent budgets respectively, and MPS must approve any changes in the establishment.

⁶² Appropriation is an authorization from the Parliament to the Executive arm of government to spend up to a limit, for a purpose and within a period. The authority to spend lapses at the end of that period, regardless of whether the funds have been spent or not). The non-appropriated budget identifies funds that are spent outside the Consolidated Fund on behalf of the government (that is, the cash does not come under the direct control of the government). The non-appropriated budget is recorded for sectoral information purposes under the development budget in the budget books.

⁶³ The ODA non-appropriated development budget reflects planned donor spending on projects and is very weakly tracked through the SIG process, with responsibility for tracking and recording falling between line ministries, MDPAC and MoFT, and very poor communication between these three agencies. ODA non-appropriated development budget is grossly underestimated in the SIG official budget books.

Adjustments can be made throughout the year to original budgets. These adjustments, reflected in the revised budget, need to be approved by MoFT, endorsed by Cabinet and submitted to Parliament for approval, as they represent a change in the original appropriation. The four transactions that are allowed are: (i) virements, which are changes between account codes within the approved ceilings; (ii) supplementary budgets, which are either an addition to or subtraction from the original budget; (iii) contingency warrants that authorize expenditures in exceptional and unforeseen circumstances which, if delayed, would be detrimental to the public interest. They are subject to subsequent appropriation; and (iv) advance warrants which, in this context, are additional transfers of funds by a DP to the DP recurrent budget throughout the year.

The entire national appropriated budget is expended through a unique consolidated bank account controlled centrally by MoFT, which means that, except for small imprest accounts, line ministries do not manage cash, nor are they responsible for cash flow. The notable exception is for any transfers to the provinces from line ministries, which are managed and expended through provincial divisions' bank accounts—in 2015 this represented almost SB\$90 million (US\$11.7 million) for the MHMS (or 20 percent of total MHMS expenditure that year). DP recurrent budgets are also expended through this consolidated account, which automatically reimburses itself from the separate DP bank account when a transaction is processed. Ministries are allowed to procure in foreign currencies—which facilitates international procurement such as for vaccines, drugs or medical equipment.

All appropriated funds must be expended per the PFM Act and subsidiary legislation: SIG Financial Instructions, Procurement Rules, and General Orders. The FMIS is centrally managed by MoFT, and all payment requests from line ministries are reviewed and approved not only by the finance staff of the line ministry, but also by MoFT, where all payments are officially recorded and processed. SIG Financial Instructions and Procurement Rules are not always fit for purpose and can make procurement difficult for large value, multi-year procurement, or for procurement in the provinces. Even when there are provisions to address some of these issues in the 2013 PFM Act, they are not always well understood or used, and significant bottlenecks and challenges remain in all aspects of budget preparation and execution, despite significant improvements in recent years.

The MHMS planning and budget cycle is fully tied to the national one, and budget submissions have been steadily improving towards more credible, transparent, and evidence-based budgets since 2013. The MHMS budget is increasingly linked to the NHSP 2016-2020, the individual topical National Plans (for example, strategic plans for malaria or for integrated Reproductive Maternal Neonatal Child and Adolescent Health), the Procurement Plan and the Medium-Term Expenditure Pressures (a tool used to record expenditure commitments and pressures—such as transitioning from donor financing—to inform annual planning and budgeting).

Following the national structure, the MHMS has both a recurrent and a development budget. It receives a SIG recurrent budget (Ledger 276), a DP recurrent budget (Ledger 376), an appropriated SIG development budget for infrastructure funded by SIG (Ledger 476A), and a non-appropriated development budget (Ledger 476NA),⁶⁴ where DP contributions delivered outside of SIG PFM systems are to be recorded. As with the national budget, there are many issues resulting from SIG, MHMS and DPs' processes and systems around this non-appropriated development budget, with systematic under-recording of planned contributions, and no record of actual expenditures at the end of the year.

⁶⁴ The A and NA are not official coding- the budget books only use 476.

The MHMS manages many different types of DP contributions, and while the donor landscape may seem small compared to other countries in East Asia Pacific, this multitude of arrangements can be difficult to manage for the small MHMS team. There are many ways DPs contribute to health in Solomon Islands, all with different funding modalities, systems and processes. Some (more recently like the European Union) contribute general budget support to MoFT with a health-focused performance component, which encourages SIG to allocate some of that funding to MHMS—this can be reflected in any of the appropriated budget ledgers (276, 376 or 476A). Others contribute budget support directly to MHMS with a large amount of flexibility (like DFAT) or for specific programs (like GF or UN agencies)—these would be reflected in the DP recurrent budget (376). Some provide earmarked support either: (i) paid /procured by the DP but implemented by MHMS (UNICEF, WHO, Gavi support for new vaccines, GF direct procurement). These should be reflected in the non-appropriated development budget (476NA); or (ii) procured and implemented directly by the DP with different levels of collaboration with MHMS (JICA, World Vision)—these should also be reflected in 476NA. Lastly, some provide funds for earmarked programs through separate bank accounts managed and implemented by MHMS outside the SIG financial management system (Gavi, Fred Hollows, and, until recently, UNFPA), but are subject to SIG Financial Instructions and Procurement Rules—these should also be reflected in 476NA.

The MHMS has been working with DPs towards getting more of them on-plan, on-budget and, if possible, on-system. Being on-plan means that all activities implemented by MHMS must appear in the division’s annual operational plan. It also means that DPs are expected to align themselves with the NHSP 2016-2020. Being on-budget means that any contributions to the health sector, in any shape or form, should be reflected in the MHMS budget, either in the DP recurrent budget (376) or the non-appropriated development budget (476NA).

Being on-plan and on-budget are crucial to give MHMS full information on their sector, to support MHMS and MHMS staff with their prioritized strategic plans, and to avoid the all too frequent mistake of pulling MHMS staff away from their core program of work towards DP-driven activities. While coordination is not perfect yet, the MHMS and DPs have made tremendous efforts towards being on-plan and on-budget since 2015. Lastly, being on-system means using SIG PFM and procurement systems; this includes reducing the number of separate bank accounts—which increases workload and the risk of duplication and fraud—and using the SIG planning and budget cycle to avoid advance warrants throughout the year, as these are administratively heavy, lengthy and a slow process. Progress on this has been less rapid.

There have been significant improvements in development effectiveness in MHMS, including efforts by MHMS and DPs to get on-plan, on-budget and, when possible, on-system. A partnership coordination unit was formed in MHMS to help coordinate MHMS and DPs. The new Partnership Arrangements (2016-2020) under the SWAP for health have been signed by 16 DPs, double the number of the previous Partnership Arrangements (2012-2016), highlighting the commitment of MHMS and DPs to improve coordination and management in the sector. Furthermore, MDPAC is rolling out the new SIG Aid Management and Development Coordination Policy and accompanying Partnership Framework for Effective Development Cooperation. **Despite these achievements, ongoing challenges include:**

- (i) **remaining difficulties around coordination and management of DPs** who all have different priorities and funding modalities, and the impact on an already stretched MHMS;
- (ii) **ongoing misalignment around planning/budgeting cycles between MHMS and DPs** which are challenging for MHMS to manage during planning and budget preparation;
- (iii) **ongoing complications and delays with accessing funds despite DPs being on-system,** translating into low and/or late activity implementation and high transaction burden for small

- MHMS teams;
- (iv) **lack of clear guidelines, forms, standard operating procedures for getting DPs on-plan, on-budget and on-system**, and for respective reporting requirements between MDPAC, MHMS and DPs; and
 - (v) **overall difficult communication between MDPAC, MoFT, MHMS.**

Once MHMS receives its ceilings from MoFT and planned contributions from DPs, funds are allocated to each of the 34 MHMS divisions—10 of which are the provincial divisions (including HCC)—in consultation with DPs who contribute to the budget. Once the budget is approved, the directors of the divisions are responsible for their annual plan implementation and requesting payments, however, the Permanent Secretary of MHMS is ultimately the accountable officer for all payments made by the ministry. As previously mentioned, cash is fully managed by MoFT, except for transfers to the provincial divisions, who manage separate bank accounts with oversight from MHMS, and for imprest accounts held by various divisions. Transfers to provincial divisions' bank accounts are not automatic, and have been very problematic in the past, with significant delays on cash transfer. The speed and reliability of cash transfers has greatly improved since 2014, and concerns are now being raised on large unspent cash balances in some of the provinces. Provincial divisions and MHMS have been working together towards providing quarterly financial reports to MHMS management. Provincial divisions and MoFT use different FMIS, however, and these are currently not linked.

Financial Instructions, Procurement Rules and General Orders are the same for all budgets (276, 376 and 476A). All staff of MHMS are responsible for following the rules and spending MHMS funds in an accountable and efficient way to get the best value for money to implement the NHSP. In supporting the Permanent Secretary who is the accountable officer, however, the Financial Controller of MHMS, with the support of the Finance Unit, is the gatekeeper of the MHMS budgets. The MHMS has only had acting Financial Controllers for more than three years, since the substantive occupant was suspended, then fired, when a major fraud was uncovered in the ministry in late 2013. In addition, DFAT-funded Finance Advisors in charge of reviewing and approving all payments from the DP recurrent budgets were recruited in late 2013 (in MHMS, MoFT and other ministries that receive DFAT funding) to ensure SIG rules are properly applied to DP recurrent budget payments, and to help build overall capacity in finance units.

MHMS management has noted that the amount of scrutiny and compliance to SIG rules is not always applied as strictly to SIG payments as to DP payments at a national level. At a provincial level, however, all payments (SIG and DP) are reviewed by DFAT-funded international or local advisors. While applying SIG rules strictly has been perceived as creating delays in processing of payments, this has improved over time and MHMS management has recognized that it would like to work towards the same high standard of scrutiny and that SIG rules need to be applied in a consistent and accountable way across all ledgers both at the national and provincial levels.

MHMS also issues standing and special imprest accounts. The former are held by certain divisions for quick access to cash for payments under SB\$5,000 (US\$653), whereas the second is an advance accorded to establishment staff for activity implementation such as outreach, supervision, training, and overseas travel where procurement in advance can be difficult. Both of these imprest accounts have been known to create problems in the past, mostly around poor retirement of funds, but these have been well addressed by MoFT and MHMS. The management of special imprest has improved significantly since 2014, translating into sharp decreases in the number of unretired imprests—meaning funds are not held up for further service delivery.

Appendix Two: Malaria, TB and HIV Budget and Expenditure in Solomon Islands Dollar (SB\$)

Table 2A-1: Malaria (NVBDC National Program) Budget and Expenditure Estimates (SB\$), (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	32,344,023	38,784,204	29,736,939	34,754,867	29,826,726	23,202,328	18,558,955	12,169,260	9,634,568
Direct Procurement/TA	15,849,491	10,772,761	7,754,035	16,396,716	9,104,152	5,699,036	n/a	7,611,130	5,211,461
<i>Direct Procurement</i>	14,921,390	8,396,559	6,141,675	14,966,510	7,682,133	4,332,320	n/a	n/a	n/a
<i>TA</i>	928,101	2,376,202	1,612,360	1,430,206	1,422,019	1,366,716	n/a	n/a	n/a
Operations	16,494,532	28,011,443	21,982,904	18,358,151	20,722,574	17,503,292	n/a	4,558,130	4,423,107
<i>HR</i>	5,812,974	10,197,011	8,603,047	9,699,507	11,104,414	9,418,619	n/a	n/a	n/a
<i>Other Operation</i>	10,681,558	17,814,432	13,379,857	8,658,644	9,618,159	8,084,673	n/a	4,558,130	4,423,107
Domestic	2,221,133	1,999,942	2,162,028	2,090,768	2,063,317	1,972,757	2,120,890	4,688,136	2,027,935
<i>HR</i>	1,877,063	1,638,668	1,800,754	1,905,252	1,933,660	1,887,398	1,998,313	1,972,207	n/a
<i>Other Operation</i>	344,070	361,274	361,274	185,516	129,657	85,359	122,577	2,715,929	n/a
Other DPs	n/a	n/a	5,700,000	23,865,024	85,792,899	13,218,535	8,068,117	3,530,000	135,000
<i>HR</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Other Operation</i>	n/a	n/a	5,700,000	23,865,024	85,792,899	13,218,535	8,068,117	3,530,000	135,000
Total Budget	34,565,156	40,784,146	37,598,967	60,710,659	117,682,942	38,393,620	28,747,962	20,387,396	11,797,503
Expenditure									
Global Fund	8,966,763	24,334,497	21,278,328	9,948,245	19,797,172	14,611,128	5,205,365	15,458,497	<i>n/a</i>
Direct Procurement/TA	6,459,920	10,403,282	5,538,980	2,369,768	9,270,206	2,574,211	5,205,365	13,504,727	<i>n/a</i>
<i>Direct Procurement</i>	6,210,025	9,415,489	4,312,000	2,341,687	9,192,021	2,542,066	3,209,311	12,995,885	<i>n/a</i>
<i>TA</i>	249,895	987,793	1,226,980	28,081	78,185	32,145	1,996,054	508,842	<i>n/a</i>
Operations	2,506,844	13,931,215	15,739,348	7,578,477	10,526,966	12,036,917	<i>n/a</i>	1,953,770	<i>n/a</i>
<i>HR</i>	1,108,998	7,408,158	5,322,826	3,579,724	5,843,628	8,818,471	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	1,397,846	6,523,057	10,416,522	3,998,753	4,683,338	3,218,446	<i>n/a</i>	1,953,770	<i>n/a</i>
Domestic	2,195,203	1,986,254	1,949,633	1,940,299	1,980,426	1,891,268	2,230,963	4,612,162	<i>n/a</i>
<i>HR</i>	2,087,007	1,800,754	1,779,281	1,819,578	1,853,378	1,815,103	2,142,917	2,046,111	<i>n/a</i>
<i>Other Operation</i>	108,196	185,500	170,352	120,721	127,048	76,165	88,046	2,566,051	<i>n/a</i>
Other DPs	n/a	n/a	3,475,796	5,093,864	8,099,291	5,708,315	6,107,591	4,044,327	<i>n/a</i>
<i>HR</i>	n/a	n/a	508,770	499,607	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	n/a	n/a	2,967,026	4,594,257	8,099,291	5,708,315	6,107,591	4,044,327	<i>n/a</i>
Total Expenditure	11,161,966	26,320,751	26,703,756	16,982,408	29,876,889	22,210,711	13,543,919	24,114,986	<i>n/a</i>

Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations.

Table 2A-2: TB (TB/Leprosy National Program) Budget and Expenditure Estimates (SB\$) (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	<i>n/a</i>	13,931,367	8,743,985	8,189,960	13,772,899	11,885,745	4,712,564	7,134,055	7,941,293
Direct Procurement/TA	<i>n/a</i>	2,375,439	1,536,940	1,239,677	4,344,895	<i>n/a</i>	2,005,020	3,346,598	4,943,902
<i>Direct Procurement</i>	<i>n/a</i>	1,435,562	1,181,278	192,988	2,391,414	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
TA	<i>n/a</i>	939,877	355,662	1,046,689	1,953,481	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Operations	<i>n/a</i>	11,555,928	7,207,045	6,950,283	9,428,004	<i>n/a</i>	2,707,544	3,787,457	2,997,391
HR	<i>n/a</i>	1,891,327	1,634,878	324,732	1,206,280	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Other Operation	<i>n/a</i>	9,664,601	5,572,167	6,625,551	8,221,724	<i>n/a</i>	2,707,544	3,787,457	2,997,391
Domestic	355,391	372,933	331,318	303,010	447,000	515,793	498,644	521,759	465,615
HR	242,445	254,339	212,724	238,809	447,000	476,682	453,644	451,759	<i>n/a</i>
Other Operation	112,946	118,594	118,594	64,201	0	39,111	45,000	70,000	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	600,000	86,204	1,025,664	625,664	1,463,457	477,600	775,000
HR	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Other Operation	<i>n/a</i>	<i>n/a</i>	600,000	86,204	1,025,664	625,664	1,463,457	477,600	775,000
Total Budget	355,391	14,304,300	9,675,303	8,579,174	15,245,563	13,027,202	6,674,665	8,133,414	9,181,908
Expenditure									
Global Fund	<i>n/a</i>	3,564,583	3,770,305	5,520,583	4,025,677	<i>n/a</i>	2,901,788	3,826,569	<i>n/a</i>
Direct Procurement/TA	<i>n/a</i>	139	556,582	113,918	918,881	<i>n/a</i>	2,901,788	2,531,975	<i>n/a</i>
<i>Direct Procurement</i>	<i>n/a</i>	139	8,497	3,843	311,684	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
TA	<i>n/a</i>	<i>n/a</i>	548,085	110,075	607,197	<i>n/a</i>	2,901,788	2,531,975	<i>n/a</i>
Operations	<i>n/a</i>	3,564,444	3,213,723	5,406,665	3,106,796	<i>n/a</i>	<i>n/a</i>	1,294,594	<i>n/a</i>
HR	<i>n/a</i>	705,754	1,105,637	962,864	1,290,622	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Other Operation	<i>n/a</i>	2,858,690	2,108,086	4,443,801	1,816,174	<i>n/a</i>	<i>n/a</i>	1,294,594	<i>n/a</i>
Domestic	103,624	266,154	245,702	515,140	464,213	505,179	533,169	566,812	<i>n/a</i>
HR	64,442	212,577	241,967	463,051	464,213	467,034	506,691	521,144	<i>n/a</i>
Other Operation	39,182	53,577	3,735	52,089	<i>n/a</i>	38,145	26,478	45,668	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	422,561	1,205,004	449,089	212,977	674,594	533,160	<i>n/a</i>
HR	<i>n/a</i>	<i>n/a</i>	3,210	1,198,839	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Other Operation	<i>n/a</i>	<i>n/a</i>	419,351	6,165	449,089	212,977	674,594	290,637	<i>n/a</i>
Total Expenditure	103,624	3,830,737	4,438,568	7,240,727	4,938,979	718,156	4,109,551	4,926,541	<i>n/a</i>

Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations.

Table 2A-3: HIV (HIV/STI National Program) Budget and Expenditure Estimates (SB\$) (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	n/a	1,831,703	1,474,083	1,298,791	1,384,755	1,057,206	n/a	n/a	668,000
Direct Procurement/TA	n/a	718,494	412,241	389,827	524,867	399,022	n/a	n/a	n/a
<i>Direct Procurement</i>	n/a	403,759	347,813	335,369	371,975	231,990	n/a	n/a	n/a
<i>TA</i>	n/a	314,735	64,428	54,458	152,892	167,031	n/a	n/a	n/a
Operations	n/a	1,113,209	1,061,842	908,964	859,888	658,185	n/a	n/a	668,000
<i>HR</i>	n/a	588,277	640,287	588,602	511,642	282,307	n/a	n/a	n/a
<i>Other Operation</i>	n/a	524,932	421,555	320,362	348,246	375,877	n/a	n/a	668,000
Domestic	1,229,328	1,255,779	1,268,423	1,093,678	841,205	957,837	811,514	722,916	837,732
<i>HR</i>	627,697	624,065	636,709	698,885	667,610	802,776	668,831	674,916	n/a
<i>Other Operation</i>	601,631	631,714	631,714	394,793	173,595	155,061	142,683	48,000	n/a
Other DPs	n/a	n/a	n/a	1,064,167	2,067,823	1,688,282	68,008	1,293,436	677,600
<i>HR</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Other Operation</i>	n/a	n/a	n/a	1,064,167	2,067,823	1,688,282	68,008	1,293,436	677,600
Total Budget	1,229,328	3,087,482	2,742,506	3,456,636	4,293,783	3,703,325	879,522	2,016,352	2,183,332
Expenditure									
Global Fund	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Domestic	780,006	970,559	1,016,009	1,044,350	859,520	817,677	769,208	641,180	n/a
<i>HR</i>	508,180	636,709	706,706	692,243	696,722	669,097	681,988	641,180	n/a
<i>Other Operation</i>	271,826	333,850	309,303	352,107	162,798	148,580	87,219	n/a	n/a
Other DPs	n/a	n/a	3,088,740	701,136	682,743	659,350	94,834	522,268	n/a
<i>HR</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Other Operation</i>	n/a	n/a	3,088,740	701,136	682,743	659,350	94,834	522,268	n/a
Total Expenditure	780,006	970,559	4,104,749	1,745,486	1,542,263	1,477,027	866,057	1,163,448	n/a

Source: SIG FMIS; MHMS 2017a; GF financial database and WB staff calculations.

Appendix Three: Malaria, TB and HIV Budget and Expenditure in US\$

Table 3A-1: Exchange Rates, Solomon Island Dollar (SB\$) to United States Dollar (US\$)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
Exchange rate (SB\$ to US\$)	8.06	8.06	7.64	7.36	7.30	7.38	7.63	7.63	7.63

Source: World Bank 2017.

Table 3A-2: Malaria (NVBDC National Program) Budget and Expenditure Estimates (US\$) (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	4,015,377	4,809,250	3,891,629	4,725,208	4,084,658	3,145,932	2,431,650	1,594,453	1,262,350
Direct Procurement/TA	1,967,649	1,335,825	1,014,759	2,229,267	1,246,779	772,715	n/a	997,233	682,821
<i>Direct Procurement</i>	1,852,429	1,041,175	803,752	2,034,819	1,052,039	587,406	n/a	n/a	n/a
<i>TA</i>	115,220	294,650	211,007	194,448	194,740	185,309	n/a	n/a	n/a
Operations	2,047,728	3,473,426	2,876,870	2,495,941	2,837,879	2,373,217	n/a	597,220	579,529
<i>HR</i>	721,657	1,264,432	1,125,868	1,318,727	1,520,708	1,277,041	n/a	n/a	n/a
<i>Other Operation</i>	1,326,071	2,208,994	1,751,002	1,177,214	1,317,171	1,096,176	n/a	597,220	579,529
Domestic	275,745	247,993	282,941	284,257	282,563	267,480	277,885	614,253	265,706
<i>HR</i>	233,030	203,195	235,662	259,035	264,807	255,906	261,825	258,404	n/a
<i>Other Operation</i>	42,715	44,798	47,279	25,222	17,756	11,574	16,060	355,849	n/a
Other DPs	<i>n/a</i>	<i>n/a</i>	745,950	3,244,645	11,749,016	1,792,260	1,057,109	462,511	17,688
<i>HR</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	745,950	3,244,645	11,749,016	1,792,260	1,057,109	462,511	17,688
Total Budget	4,291,122	5,057,243	4,920,520	8,254,110	16,116,237	5,205,672	3,766,644	2,671,217	1,545,744
Expenditure									
Global Fund	1,113,186	3,017,484	2,784,662	1,352,545	2,711,149	1,981,077	682,023	2,025,419	<i>n/a</i>
Direct Procurement/TA	801,972	1,290,010	724,878	322,189	1,269,520	349,029	682,023	1,769,430	<i>n/a</i>
<i>Direct Procurement</i>	770,949	1,167,523	564,305	318,371	1,258,813	344,671	420,494	1,702,760	<i>n/a</i>
<i>TA</i>	31,023	122,487	160,573	3,818	10,707	4,358	261,529	66,670	<i>n/a</i>
Operations	311,214	1,727,474	2,059,784	1,030,356	1,441,629	1,632,048	<i>n/a</i>	255,989	<i>n/a</i>
<i>HR</i>	137,677	918,613	696,590	486,693	800,263	1,195,669	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	173,537	808,861	1,363,194	543,663	641,366	436,379	<i>n/a</i>	255,989	<i>n/a</i>
Domestic	272,525	246,296	255,146	263,800	271,212	256,431	292,307	604,300	<i>n/a</i>
<i>HR</i>	259,093	223,294	232,852	247,387	253,813	246,104	280,771	268,088	<i>n/a</i>
<i>Other Operation</i>	13,432	23,002	22,294	16,413	17,399	10,327	11,536	336,212	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	454,872	692,553	1,109,167	773,973	800,235	529,900	<i>n/a</i>
<i>HR</i>	<i>n/a</i>	<i>n/a</i>	66,582	67,926	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	388,290	624,627	1,109,167	773,973	800,235	529,900	<i>n/a</i>
Total Expenditure	1,385,711	3,263,780	3,494,680	2,308,898	4,091,528	3,011,481	1,774,565	3,159,619	<i>n/a</i>

Source: See Table 2A-1

Table 3A-3: TB (TB/Leprosy National Program) Budget and Expenditure Estimates (US\$) (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	<i>n/a</i>	1,727,493	1,144,312	1,113,492	1,886,147	1,611,551	617,455	934,725	1,040,492
Direct Procurement/TA	<i>n/a</i>	294,555	201,137	168,544	595,017	<i>n/a</i>	262,704	438,481	647,765
<i>Direct Procurement</i>	<i>n/a</i>	178,010	154,592	26,238	327,495	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
TA	<i>n/a</i>	116,545	46,545	142,306	267,522	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Operations	<i>n/a</i>	1,432,938	943,175	944,948	1,291,130	<i>n/a</i>	354,751	496,244	392,727
HR	<i>n/a</i>	234,525	213,954	44,150	165,196	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	1,198,413	729,221	900,798	1,125,934	<i>n/a</i>	354,751	496,244	392,727
Domestic	44,121	46,244	43,359	41,197	61,215	69,935	65,334	68,363	61,006
HR	30,099	31,538	27,839	32,468	61,215	64,632	59,438	59,191	<i>n/a</i>
<i>Other Operation</i>	14,022	14,706	15,520	8,729	-	5,303	5,896	9,172	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	78,521	11,720	140,461	84,832	191,747	62,577	101,543
HR	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	78,521	11,720	140,461	84,832	191,747	62,577	101,543
Total Budget	44,121	1,773,737	1,266,192	1,166,409	2,087,823	1,766,318	874,537	1,065,665	1,203,041
Expenditure									
Global Fund	<i>n/a</i>	442,009	493,414	750,568	551,301	<i>n/a</i>	380,201	501,369	<i>n/a</i>
Direct Procurement/TA	<i>n/a</i>	17	72,839	15,488	125,837	<i>n/a</i>	380,201	331,747	<i>n/a</i>
<i>Direct Procurement</i>	<i>n/a</i>	17	1,112	522	42,684	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
TA	<i>n/a</i>	-	71,727	14,966	83,153	<i>n/a</i>	380,201	331,747	<i>n/a</i>
Operations	<i>n/a</i>	441,992	420,575	735,080	425,464	<i>n/a</i>	<i>n/a</i>	169,622	<i>n/a</i>
HR	<i>n/a</i>	87,514	144,693	130,909	176,746	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	354,478	275,882	604,171	248,718	<i>n/a</i>	<i>n/a</i>	169,622	<i>n/a</i>
Domestic	12,864	33,004	32,155	70,038	63,572	68,496	69,857	74,266	<i>n/a</i>
HR	8,000	26,360	31,666	62,956	63,572	63,324	66,388	68,282	<i>n/a</i>
<i>Other Operation</i>	4,864	6,644	489	7,082	-	5,172	3,469	5,984	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	55,300	163,830	61,501	28,877	88,387	69,856	<i>n/a</i>
HR	<i>n/a</i>	<i>n/a</i>	420	162,992	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	54,880	838	61,501	28,877	88,387	38,080	<i>n/a</i>
Total Expenditure	12,864	475,013	580,869	984,436	676,374	97,373	538,445	645,491	<i>n/a</i>

Source: See Table 2A-2

Table 3A-4: HIV (HIV/STI National Program) Budget and Expenditure Estimates (US\$) (2009-17)

Spending Area	2009	2010	2011	2012	2013	2014	2015	2016	2017
Budget									
Global Fund	<i>n/a</i>	227,131	192,911	176,581	189,637	143,343	<i>n/a</i>	<i>n/a</i>	87,523
Direct Procurement/TA	<i>n/a</i>	89,093	53,950	53,000	71,879	54,102	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Direct Procurement</i>	<i>n/a</i>	50,066	45,518	45,596	50,941	31,455	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>TA</i>	<i>n/a</i>	39,027	8,432	7,404	20,938	22,647	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Operations	<i>n/a</i>	138,038	138,961	123,581	117,758	89,241	<i>n/a</i>	<i>n/a</i>	87,523
<i>HR</i>	<i>n/a</i>	72,946	83,793	80,025	70,067	38,277	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	65,092	55,168	43,556	47,691	50,964	<i>n/a</i>	<i>n/a</i>	87,523
Domestic	152,616	155,717	165,996	148,694	115,200	129,870	106,327	94,719	109,762
<i>HR</i>	77,926	77,384	83,325	95,019	91,427	108,846	87,632	88,430	<i>n/a</i>
<i>Other Operation</i>	74,690	78,333	82,671	53,675	23,773	21,024	18,695	6,289	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	144,682	283,181	228,909	8,911	169,470	88,781
<i>HR</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	144,682	283,181	228,909	8,911	169,470	88,781
Total Budget	152,616	382,848	358,907	469,957	588,018	502,122	115,238	264,189	286,066
Expenditure									
Global Fund	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Domestic	96,835	120,349	132,963	141,988	117,709	110,866	100,784	84,009	<i>n/a</i>
<i>HR</i>	63,088	78,952	92,485	94,116	95,414	90,721	89,356	84,009	<i>n/a</i>
<i>Other Operation</i>	33,746	41,397	40,478	47,872	22,295	20,145	11,428	<i>n/a</i>	<i>n/a</i>
Other DPs	<i>n/a</i>	<i>n/a</i>	404,219	95,325	93,499	89,399	12,425	68,429	<i>n/a</i>
<i>HR</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Other Operation</i>	<i>n/a</i>	<i>n/a</i>	404,219	95,325	93,499	89,399	12,425	68,429	<i>n/a</i>
Total Expenditure	96,835	120,349	537,182	237,313	211,208	200,265	113,209	152,438	<i>n/a</i>

Source: See Table 2A-3.

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Image by

Dr Lazarus De Neko – Provincial Health Director Choiseul Province, Solomon Islands Ministry of Health and Medical Services

Featuring

Mrs Pamela Zioto – Assistant Field Officer for Malaria, Choiseul Province, Solomon Islands Ministry of Health and Medical Services

Mr Augustine Soe – Data Entry Officer, Choiseul Province, Solomon Islands Ministry of Health and Medical Services

Mr Mathew Risoka – Rural Water Sanitation and Hygiene officer, Choiseul Province, Solomon Islands Ministry of Health and Medical Services