



Health Financing System Assessment Papua New Guinea

Health Financing System Assessment

Papua New Guinea

© 2017 International Bank for Reconstruction and Development / The World Bank

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

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent.

This publication has been largely funded by the Australian Government through the Department of Foreign Affairs and Trade. The views expressed in this publication are the author's alone and are not necessarily the views of the Australian Government.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permissions

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to:

World Bank Publications
The World Bank Group
1818 H Street NW
Washington, DC 20433
USA
Fax: 202-522-2625

Contents

Acknowledgments	vii
Executive Summary	ix
Abbreviations and Acronyms	xiii
Section One: Introduction	1
Section Two: Background	3
2.1 Economic Context	3
2.2 Demographic Health Context	5
2.3 The Disease Burden	8
2.4 Health System Structure	9
2.5 Human Resources for Health	12
2.6 Health Care Access and Utilization Context	12
2.7 Health Financing	14
Section Three: Health Expenditure Trend Analysis	19
Section Four: PNG Reliance on Donor Financing	27
4.1 Key PNG Donors: GFATM and Gavi	28
4.2 Gavi: Immunization in PNG	30
4.3 GFATM: HIV and AIDS Response, TB, and Malaria Treatment	31
Section Five: Financial and Institutional Sustainability	35
5.1 Financial Sustainability	35
5.2 Institutional Sustainability	36
Section Six: Summary and Policy Recommendations	39
Appendix One: Data Challenges in PNG	45
Budget and Expenditure Data	45
Health System Outputs and Outcomes	47
Bibliography	49
Boxes	
Box 1-1: What is a Health Financing System Analysis?	2
Box 2-1: Data Challenges in PNG	6
Box 3-1: Service Improvement Programme Funding	23
Box 5-1: Examples of Partnerships to Deliver Health Services	40

Figures

Figure 2-1: PNG's GDP per Capita and Lower-Middle-Income Status Threshold (1993–2017).....	4
Figure 2-2: Annual GDP Growth (%) (1993–2017).....	4
Figure 2-3: General Government Revenue and Expenditure (1983–2022).....	5
Figure 2-4: Fertility Rate and Population Growth (1967–2015).....	6
Figure 2-5: Population Health Outcomes (1967–2015).....	7
Figure 2-6: International Life Expectancy Comparison (1960–2014).....	7
Figure 2-7: Country Comparison of Population Health Outcomes (2014).....	8
Figure 2-8: Disease Burden Attributable to Communicable Diseases, NCDs, and Injuries (1990–2015).....	9
Figure 2-9: Governance Structure of the Health System.....	11
Figure 2-10: Selected Health Access Indicators (2005–15).....	14
Figure 2-11: Selected Service Delivery Indicators (2006–15).....	14
Figure 2-12: THE as a Proportion of GDP (1995–2014).....	15
Figure 2-13: THE and Public Health Expenditure (PHE) as % of GDP in East Asia Countries.....	15
Figure 2-14: Health Expenditure per capita (1995–2015) (current US\$ and constant LCU).....	16
Figure 2-15: Trends in the Structure of THE (1996–2014).....	16
Figure 2-16: Health Financing Mix (2014).....	16
Figure 2-17: External Resources on Health as % of THE (1995–2014).....	17
Figure 3-1: Government Health Sector Operational Budgets, Warrants, and Expenditure (2010–17) (millions of Kina).....	20
Figure 3-2: Health Sector Fund Flows.....	21
Figure 3-3: Health Sector Fund Flows at the Subnational Level : Comparison Between Traditional and PHA Models.....	22
Figure 3-4: Share of Health Sector Budget by Agency (2011–17) (revised budget figures, domestic financing only).....	22
Figure 3-5: Payroll Overruns in NDoH and HMS (2012–16): Personnel Emoluments Revised Budget and Actual Expenditure, Domestic Financing Only (millions of Kina).....	23
Figure 3-6: Total Government Health Sector Expenditure by Fund Source (2011–17) (millions of Kina).....	24
Figure 3-7: Cash Release for HFGs by February (Province and Region) (2008–12).....	25
Figure 3-8: Health Sector 2015 Budget, Warrants, and Expenditure, Domestic Financing (millions of Kina).....	25
Figure 3-9: Health Sector 2016 Budget, Warrants, and Expenditure, Domestic Financing (millions of Kina).....	26
Figure 3-10: Comparison of Revised Appropriations by Agency and Economic Item Categories, Domestic Financing (2015–17) (millions of Kina).....	26
Figure 4-1: Official Development Assistance (ODA) for Health by Channel (US\$ millions).....	28
Figure 4-2: ODA for Health by Donor (US\$ millions).....	28
Figure 4-3: Gavi's Transition Policy and Country Preparedness.....	29
Figure 4-4: Gavi Disbursements by Year and Program (US\$).....	30
Figure 4-5: Gavi Cofinancing Requirements (US\$ millions).....	30
Figure 4-6: GFATM Disbursements by Disease (US\$ millions).....	31
Figure 4-7: GoPNG Agreed Spending for GFATM Funds (US\$ millions).....	32
Figure 4-8: Number of LLINs Distributed (millions).....	33
Figure 5-1: GoPNG Health Sector Projections (millions of Kina).....	36
Figure 1A-1: Budget Data Variance (2014 and 2015) (millions of Kina).....	46

Tables

Table 2-1:	Top Ten Causes of Morbidity and Premature Mortality (various years)	9
Table 2-2:	Health Workers per 1,000 Population (2009 and 2016)	12
Table 2-3:	Comparison of Access to Health Services and Infrastructure	13

Acknowledgments

The World Bank, with assistance from the Papua New Guinea National Department of Health (NDoH), undertook this study. This effort was one of the subtasks under the Papua New Guinea Programmatic Health Advisory Services and Analytics.

This report was produced and written by a task team consisting of Xiaohui Hou (Senior Economist and Task Team Leader), Laurin Janes (Health Economist), Sophie Brown (Consultant), Katie Barker (Consultant), and Pranita Sharma (Health Economist). Kerry Main Pagau, Quenelda Clegg, Amanda Sookun, and Tasha Sinai provided technical and administrative support. Maude Ruest Archambault (Health Economist) coordinated the peer review process. The team would like to thank Ajay Tandon (Lead Health Economist), Aneesa Arur (Senior Economist), Jewelwayne Salcedo Cain (Consultant), Nicolas Rosemberg (Economist), and Sarah Alkenbrack (Senior Health Economist) for providing the analyses and useful comments for various drafts. The team would also like to thank colleagues from the Australian Department of Foreign Affairs and Trade (DFaT) for providing thorough comments and peer reviewers Netsanet Walelign Workie (Senior Health

Economist), Neesha Harnam (Health Specialist), and Chandana Kularatne (Senior Economist).

Toomas Palu (Practice Manager of East Asia and Pacific Region, Health, Nutrition, and Population Global Practice) and Christoph Kurowski (Global Solution Lead in Health Financing, Health, Nutrition, and Population Global Practice) provided technical comments and overall supervision on this report. The team would like to thank Michel Kerf (Country Director for Papua New Guinea and Pacific Islands, East Asia and Pacific Region) and Steffi Stallmeister (Former Country Manager for Papua New Guinea), and Patricia Veevers-Carter (Country Manager for Papua New Guinea) for their overall guidance and support. The report was edited by Melody Molinoff and Chris Stewart.

The authors would also like to sincerely thank the Secretary and staff of the NDoH for providing information for this study, as well as staff members from the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) and Gavi, The Vaccine Alliance.

Financial support for this work was received from DFaT and Gavi.

Executive Summary

OBJECTIVE

This Health Financing System Assessment (HFSA) evaluates the financial and institutional sustainability of health financing in Papua New Guinea (PNG), at a time when PNG is preparing to graduate from development partner (DP) support in key areas. The assessment provides an overview of PNG's economic situation, including DP assistance, and examines the strength of the system to absorb responsibility for four key program areas (human immunodeficiency virus (HIV) and AIDS response; tuberculosis; malaria; and immunization) that have been largely supported by DPs. Examination of the governance and financial structure of the health system provides insight into areas for improved efficiency and capacity building to meet upcoming cofinancing agreements and improve health outcomes in PNG.

KEY FINDINGS

The HFSA reviewed PNG's health system to determine the institutional and financial sustainability of health resourcing and financing and established the following key findings:

Economic and Demographic Context

Economic growth from 2002 to 2014 was impressive, averaging approximately 5.7 percent per year. Growth rates have subsequently slowed due to subdued global commodity prices, a major domestic drought, and weak nonresource sector growth. Strong economic growth in earlier years led to an increase in health expenditure, however, infant and maternal mortality rates (MMR) remain high for a country of PNG's development status and within the region. The recent decline in economic growth threatens to impact the health sector at a critical time when DP support is expected to decline.

Health Care Access and Utilization

There is a significant disparity in access to health care throughout PNG, especially between rural and urban

areas. The rural terrain impedes access to health services and presents a challenge in attracting and retaining health personnel. Many access and utilization indicators have stagnated or declined in the last few years. A regional comparison highlighted poor maternal health care access; outpatient visits per person also declined from 2010 to 2014. Quality of care, staff presence, and out-of-pocket (OOP) payments—even though they are rarely catastrophic—also impede access to health services.

Human Resources in the Health System

PNG is facing a health worker shortage that could worsen in the medium to long term. The service-delivery worker ratio of 15.4 per 10,000 population (2016) is low. The existing health workforce is rapidly aging, compounding the health worker shortage issue. The workforce is inequitably distributed between rural and urban areas, with a substantial predisposition toward urban areas. Another compounding factor is PNG's lack of significant progress in medicine and health-training capacity, which has resulted in a shortage of qualified staff to replenish the aging workforce.

The Composition and Level of Health Sector Expenditures

Total Health Expenditure (THE) as a percentage of GDP relies predominantly on government spending, with low OOP spending. THE per capita in real terms has been declining since 2004, in part because the absolute increase has been offset by population growth. THE per capita is low by regional standards and is expected to further decline due to decreasing government expenditure and a growing population. This challenge underscores the need to prioritize financing within the health sector and improve efficiencies to make the most of the allocated funding.

External Financing on Health

On average, 20 percent of total annual health spending in PNG is from DPs and funding levels, sources, and

recipients are volatile. Australia is the largest bilateral donor, while GFATM and Gavi have become increasingly important partners in health service delivery. In recent years, implementation of donor-funded programs has increasingly shifted towards nongovernmental organizations (NGOs) and civil society. As the PNG Government moves toward fulfilling their cofinancing commitments connected to donor support transition, it is imperative that it demonstrates the ability to strategically plan for a successful transition to continue critical health programs.

The Financial Sustainability of GFATM and Gavi-supported Programs

The increasing reliance on GFATM and the current transition from Gavi support raise issues of financial sustainability. PNG is currently preparing to meet the cofinancing agreements connected to Gavi transition. The government has yet to cost and appropriate the funding necessary to meet the steadily increasing share of health spending that Gavi has supplied, or to integrate the donor-funded activities into the budget. Given the persistently high disease burden, it is unlikely that GFATM support will transition soon. In preparation for the eventual transition and to ensure program sustainability, however, the government should begin to integrate the donor-funded activities in the budget.

The Institutional Sustainability of GFATM and Gavi-supported Programs

Gavi and GFATM programs currently rely on separate systems and human resources, which presents challenges for future support and integration. Silo programs represent inefficiency in health staffing, that is already in high demand, and do not lead to the best outcomes as evidenced by PNG's low immunization rates.

POLICY RECOMMENDATIONS

- **Prepare for medium- to longer-term donor transition.** PNG is not ready to graduate from GFATM and other donor support in the medium term. To improve preparedness for graduation, the government should unbundle the support it is currently receiving and determine the key components to integrate and sustain in the national budget. The government should also use this period to improve the financial and institutional capacities in preparation for future transition and graduation.
- **Manage Gavi transition and clarify types and levels of interventions from the major disease programs to be integrated.** Integrating the major disease programs as part of the overall health system strengthening (HSS) effort will require further linkages between the National

Health Plan (NHP) to the four disease program plans. First and foremost, PNG needs to determine which components of each key disease program to integrate and provide cost and resource requirements (such as with Gavi support and the immunization program). These program activities need to be linked to Provincial Health Authority (PHA) implementation and integrated into provincial service plans down to the health facility level. This will establish a clear demarcation of roles and responsibilities to effectively coordinate and implement the national strategies already in place for the four priority disease programs.

- **Increase health system efficiency to increase the fiscal space.** It is particularly important for the government to increase the efficiency of current spending. Higher spending on health can contribute to better outcomes, but so can improvements in health spending efficiency. There appear to be significant inefficiencies in health spending, although the extent of these inefficiencies is not entirely clear. The systematic documentation of the budget, expenditure, personnel, and health utilization information will help track expenditures and expenditure outcomes. Improved efficiency will ensure that resources are available in a timely manner and will reduce cost pressures. Improving the efficiency of spending will create a stronger health system, and better prepare it for the Gavi transition and decreased vertical support from GFATM.
- **Strengthen fiscal analysis and public financial management (PFM).** Poor financial management systems within the National Department of Health (NDoH) have prevented donors from increasing on-system support through the Health Sector Improvement Program (HSIP) trust account. Improving this capacity would serve as a precondition and allow donors to increasingly rely on government systems. Short-term estimates of funding needs and cofinancing requirements must be included in the Medium-term Expenditure Framework (MTEF), to better understand future resource requirements and communicate them effectively to central agencies. PFM needs to be continually strengthened overall to improve the cost-effectiveness of service delivery and free up resources from poorly performing areas.
- **Improve the timely release of warrants.** Warrant releases need to be timely to improve health system performance. While untimely disbursement is a Department of Treasury (DoT) issue, the NDoH needs to improve its own budget execution and disbursement of operational funds for hospitals and Christian Health Services (CHS). Although the issuing of warrants is unpredictable and ad hoc, NDoH has the potential to create further bottlenecks if funds to hospitals and CHS are not disbursed immediately upon receipt from DoT.

- **Protect government financing to the frontlines to ensure the successful implementation of the Free Healthcare Policy.** The government has committed to eliminating user fees that are a barrier to health care access, especially for the poorest segments of the population. To date, the related funds are not disbursed in a timely manner, which results in delays at the provincial level and forces facilities to charge fees. Warrants for health function grants (HFG) and the Free Healthcare Policy funding must be released reliably to eliminate user fees. A majority of this funding must be utilized reliably to finance facility operations (in-kind or cash) rather than nonhealth activities at the provincial and district level.
- **Strengthen reporting and information sharing.** Increased engagement and membership at the Ministerial Economic Committee, as well as the Provincial and Local Level Service Monitoring Authority (PLLSMA) could help the NDoH, as the lead agency for the health sector, to improve communication and report on the key disease areas and the health strategy implementation challenges as DP support declines (particularly with Gavi). The challenges of the health sector, in terms of integration and transition, need to be more clearly articulated. Furthermore, policy options and strategies should be established in close consultation and partnership with the DoT and the Department of National Planning and Monitoring, as well as with other sectors like transportation and education.
- **Improve data accessibility, comprehensiveness, and quality.** Improve data sources for domestic funding (national and provincial), external funding, disease burdens, health access, health workforce, and health infrastructure so they can be effective planning and monitoring tools. The National Health Information System (NHIS) requires improvements and there is an urgent need to assess the country's disparate data collection systems across different service-delivery levels and programs.

Abbreviations and Acronyms

ADB	Asian Development Bank	GFATM	Global Fund to Fight Aids, Tuberculosis and Malaria
ANC	Antenatal Care	GNI	Gross National Income
APEC	Asia Pacific Economic Cooperation	GoPNG	Government of Papua New Guinea
BMU	Basic Management Unit	HFG	Health Function Grant
CCM	Country Coordinating Mechanism	HFSA	Health Financing System Assessment
CHS	Christian Health Services	HIV	Human immunodeficiency virus
CHW	Community Health Worker	HMS	Hospital Management Services
CPIA	Country Policy and Institutional Assessment	HR	Human resources
CRS	Creditor Reporting System	HSIP	Health Sector Improvement Program
CSO	Civil Society Organization	HSS	Health System Strengthening
DALY	Disability-adjusted Life Year	IBBS	Integrated bio-behavioral study
DFaT	Australian Department of Foreign Affairs and Trade	IFMS	Integrated Financial Management System
DIRD	Department of Implementation and Rural Development	IHME	Institute for Health Metrics and Evaluation
DoT	Department of Treasury	IMF	International Monetary Fund
DP	Development Partner	IMR	Institute of Medical Research
DPLLGA	Department for Provincial and Local-Level Government Affairs	IPV	Inactivated Polio Vaccine
DPT3	Diphtheria, pertussis, tetanus	LLG	Local-level Government
DSIP	District Services Improvement Programme	LLIN	Long-lasting insecticidal nets
EAP	East Asia Pacific	MDG	Millennium Development Goal
Gavi	The Vaccine Alliance	MDR	Multidrug resistant
GDP	Gross Domestic Product	MMR	Maternal Mortality Rate
		MR	Measles-rubella
		MSM	Men who have sex with men

MTEF	Medium-term Expenditure Framework	PHC	Primary Health Care
NAC	National AIDS Council	PHE	Public Health Expenditure
NCD	National Capital District	PLLSMA	Provincial and Local Level Service Monitoring Authority
NCD	Noncommunicable Disease	PNG	Papua New Guinea
NDoH	National Department of Health	PR	Principal Recipient
NEFC	National Economic and Fiscal Commission	PSI	Population Services International
NFM	New Funding Model	PSIP	Provincial Services Improvement Programme
NGO	Nongovernmental organization	RAM	Rotarians Against Malaria
NHIS	National Health Information System	STI	Sexually Transmitted Infection
NHP	National Health Plan	TB	Tuberculosis
NHSS	National Health Service Standards	THE	Total Health Expenditure
ODA	Official Development Assistance	UHC	Universal health coverage
OECD	Organisation for Economic Co-operation and Development	UNICEF	United Nations Children's Fund
OOP	Out-of-pocket	WEO	World Economic Outlook
OSF	Oil Search Foundation	WHO	World Health Organization
PFM	Public Financial Management	WVI	World Vision International
PHA	Provincial Health Authority	XDR	Extensively drug resistant

SECTION ONE

Introduction

The health sector of Papua New Guinea (PNG) has seen significant positive developments in recent years.

These include investments in critical infrastructure (especially medical stores, training facilities, and hospitals), the establishment of key policies, the steady rollout of the Provincial Health Authority (PHA) model, and a reduction in the incidence of malaria.

Key indicators of health access and quality have, however, barely improved or have even declined (for example, maternal and child health) from 2006 to 2015 (National Department of Health—NDoH 2016).

In addition, the availability of resources for health financing will be limited in the medium term as the government grapples with constraints such as domestic revenue mobilization, achieving a balanced budget, and restoration of macroeconomic stability. Overall, the pace of long-term progress in key health indicators is slowing down and, given the reduced expenditure projections, the health sector is in a critical phase.

In 2016, PNG entered the accelerated transition phase from Gavi support.¹

During this time, the government will be expected to increase its share of cofinancing for vaccines, while Gavi gradually decreases their contribution. By 2021, the Government of PNG (GoPNG) will graduate from Gavi support, while maintaining access to Gavi prices. The government also needs to continue to meet its cofinancing obligations with GFATM and prepare for the eventual transition from the program. The government is simultaneously moving towards universal health coverage (UHC),² along with many other developing countries, and has recently established *Fee Free Primary Health Care and*

*Subsidized Secondary Care.*³ These policies focus primarily on financial protection for the most vulnerable population groups. The confluence of these events, together with other demographic and the epidemiological transition,⁴ is placing, and will continue to place, enormous strain on the health sector of PNG.

Given this backdrop, the Health Financing System Assessment (HFSA), which evaluates the financing system and institutional sustainability, comes at an opportune time.

The report begins by providing a comprehensive background, including an overview of PNG's economic situation, health demographics, health financing, human resources for health and the health system. It then analyses two areas critical to sustainable health financing: (i) *PNG expenditure*, with a focus on levels and sources of health expenditure, as well as resource allocation; and (ii) *PNG reliance on donor resources*, in particular, the GFATM and Gavi.

1. While GoPNG's vaccine cofinancing is expected to increase, there are discussions around extending Gavi's support beyond 2021 in the form of HSS. The idea is to ensure the effective delivery of immunization services. This has been discussed, but not fully agreed yet.

2. The goal is to ensure that all people obtain the health services they need without suffering financial hardship.

3. The free health policy came into effect on February 24, 2014; however, there are concerns about implementation of the policy in terms of its efficacy, implementation schedule, and lack of indicators to determine both the extent of financial protection through the policy and the coverage of health care services. Despite the name of the new policy, primary health care services have officially been free in PNG since 1975. Nevertheless, due to a lack of reliable financing, health facilities do, in practice, charge user fees as these are often the only source of operational revenue.

4. For example, aging and the higher burden of noncommunicable diseases (NCDs).

BOX 1-1: What Is a Health Financing System Analysis?

The HFSA asks a set of key questions about the nature of a health system, the prioritization of health expenditure within the government budget, the sources of financing and how they change over time, the magnitude of resources available and how they compare to other countries, trends in economic growth and their impact on health financing, and opportunities for increased efficiency in spending.

The World Bank conducts HFSA's to systematically assess a country's health financing system to identify critical constraints and opportunities to accelerate and sustain progress towards universal health coverage (UHC). It represents a systematic and comprehensive approach, with a common core and flexible and modular overall design. The assessment focuses on institutions and tries to highlight linkages to service delivery issues. The HFSA focuses on efficiency, equity, and the overall macrofiscal context.

This document represents the core HFSA, but additional in-depth modules can be considered to further explore topics of interest including:

- Transition from development assistance;
- Fiscal space;
- PFM;
- Purchasing/payment systems;
- Hospital financing; and
- Human resources.

This HFSA is part of a series of reports across the East Asia and Pacific (EAP) Region, including Indonesia, the Solomon Islands, Kiribati, and Vanuatu. Given the different characteristics of health financing in these countries, various focus areas receive more attention, while maintaining a degree of consistency around core topics.

SECTION TWO

Background

Key messages:

- Despite impressive recent economic growth, PNG is now facing a challenging economic forecast that will make safeguarding the health sector difficult.
- PNG failed to reach the Millennium Development Goals (MDGs) for under-five mortality and maternal health, and is far from reaching Sustainable Development Goals (SDGs).
- The government-funded health system is supplemented by the government-subsidized CHS. Governance is fragmented and ambiguity around roles and responsibilities persists.
- An insufficient and aging health workforce coupled with challenging terrain present further challenges to access and provision of health services.
- Overall, PNG has experienced a decline in the utilization of outpatient services between 2010 and 2014. There are significant disparities in access to, and utilization of, health services. Furthermore, rural outreach has continued to decrease.
- Health spending, as a share of general government spending, decreased from over 9 percent in 2010 to 6.8 percent in 2014. External resources for health play an important role in total health financing.

2.1 ECONOMIC CONTEXT

PNG is a lower-middle-income country with a GDP per capita of US\$2,688 (2016). Previously classified as a lower-middle-income country in the 1990s, PNG was reclassified as low income in 2001.⁵ In 2008, PNG returned to lower-middle-income status (Figure 2–1). Growth in GDP per capita did not result in a decline in poverty rates

5. This was due to a sharp depreciation of the exchange rate, starting in 1994. The exchange rate has also caused GDP per capita to decline since 2012 (see Figure 2–1).

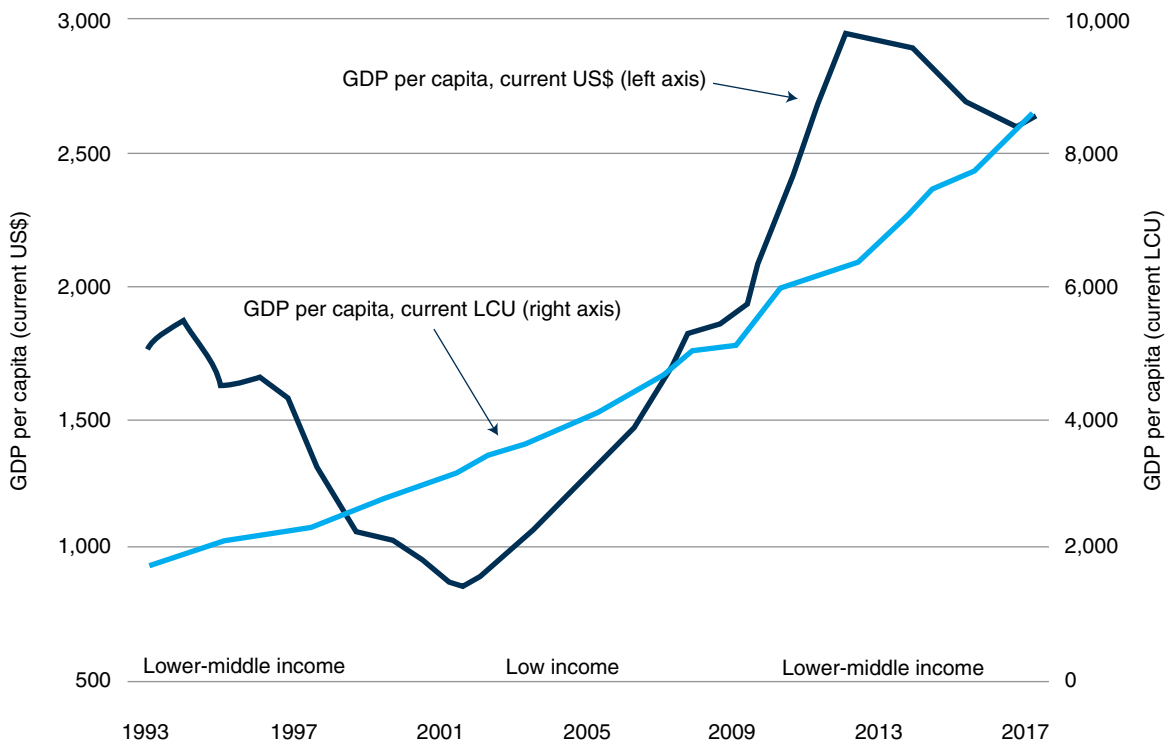
between 1996 and 2010. Estimates from a 2009–10 household survey indicated that the PNG national poverty rate was still approximately 39.9 percent (PNG National Statistical Office 2013).

Economic growth in recent years has been impressive, albeit volatile, reflecting the impact of fluctuating international commodity prices (Figure 2–2). PNG experienced high growth from 2010 to 2014. The recent decline in commodity prices and drought in 2015 and early 2016 has, however, weakened the external and fiscal positions and lowered economic growth. Lower real GDP growth rates in 2016 also reflect the base effects of the country's first liquefied natural gas project (PNG LNG), which commenced in 2014 and reached full capacity in 2015. GoPNG undertook two consecutive supplementary budgets in 2015 and 2016 to reduce expenditure due to the revenue shortfalls (International Monetary Fund—IMF 2017). Adopting a prudent 2017 budget, the authorities responded to the recent commodity price shock through fiscal consolidation and tax measures.

The short-term economic outlook is not positive. A key factor dampening nonresource growth is the required fiscal consolidation recently initiated by the government. The fiscal deficit has been increasing—a budget scenario that is expected to persist from 2018 to 2021 (Figure 2–3). Over the medium term, additional resource projects may lead to increased government revenue. PNG is in a situation of severe capacity constraint because of economic fragility. The Country Policy and Institutional Assessment (CPIA) rating in the Harmonized List of Fragile Situation for PNG is 3.13 in FY 2017. A country is in a “fragile situation” when its harmonized average CPIA rating is 3.2 or less.

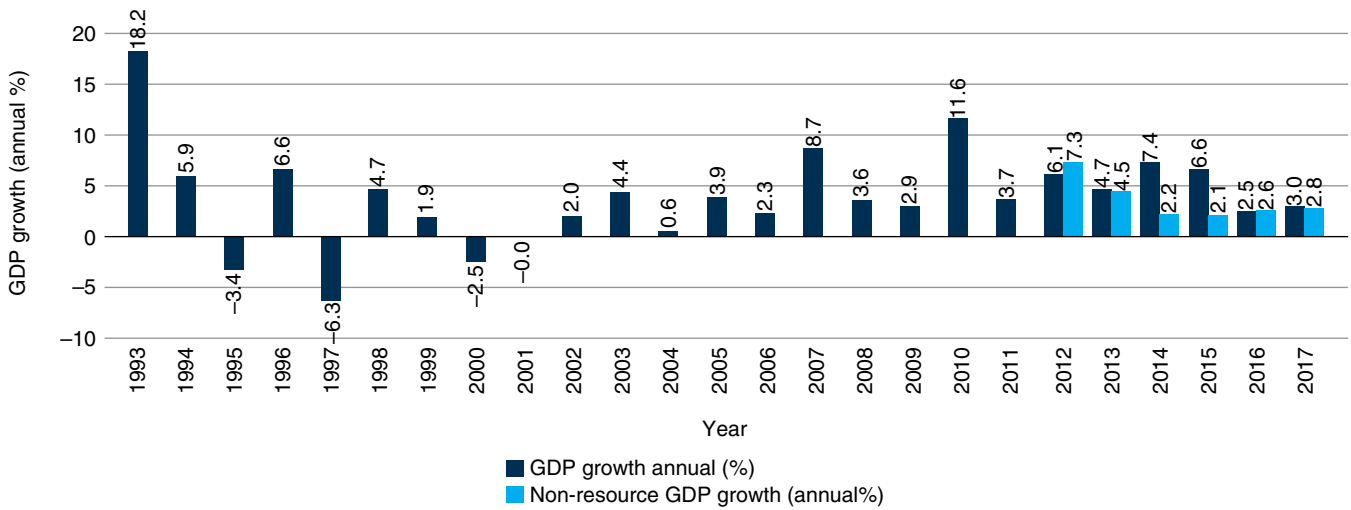
PNG is one of the most resource-dependent economies in EAP, with resources (including natural gas, oil, gold, nickel, and copper) accounting for 19 percent of GDP in 2015, compared with a regional average of 4.9 percent (IMF 2016). This indicator is also high in comparison with other lower-middle-income countries where the average is 7.5 percent. The IMF is supporting the government's

FIGURE 2-1: PNG's GDP per Capita and Lower-Middle-Income Status Threshold (1993–2017)



Source: World Development Indicators; IMF World Economic Outlook.
 Note: LCU refers to local currency unit; 2017 data projected.

FIGURE 2-2: Annual GDP Growth (%) (1993–2017)

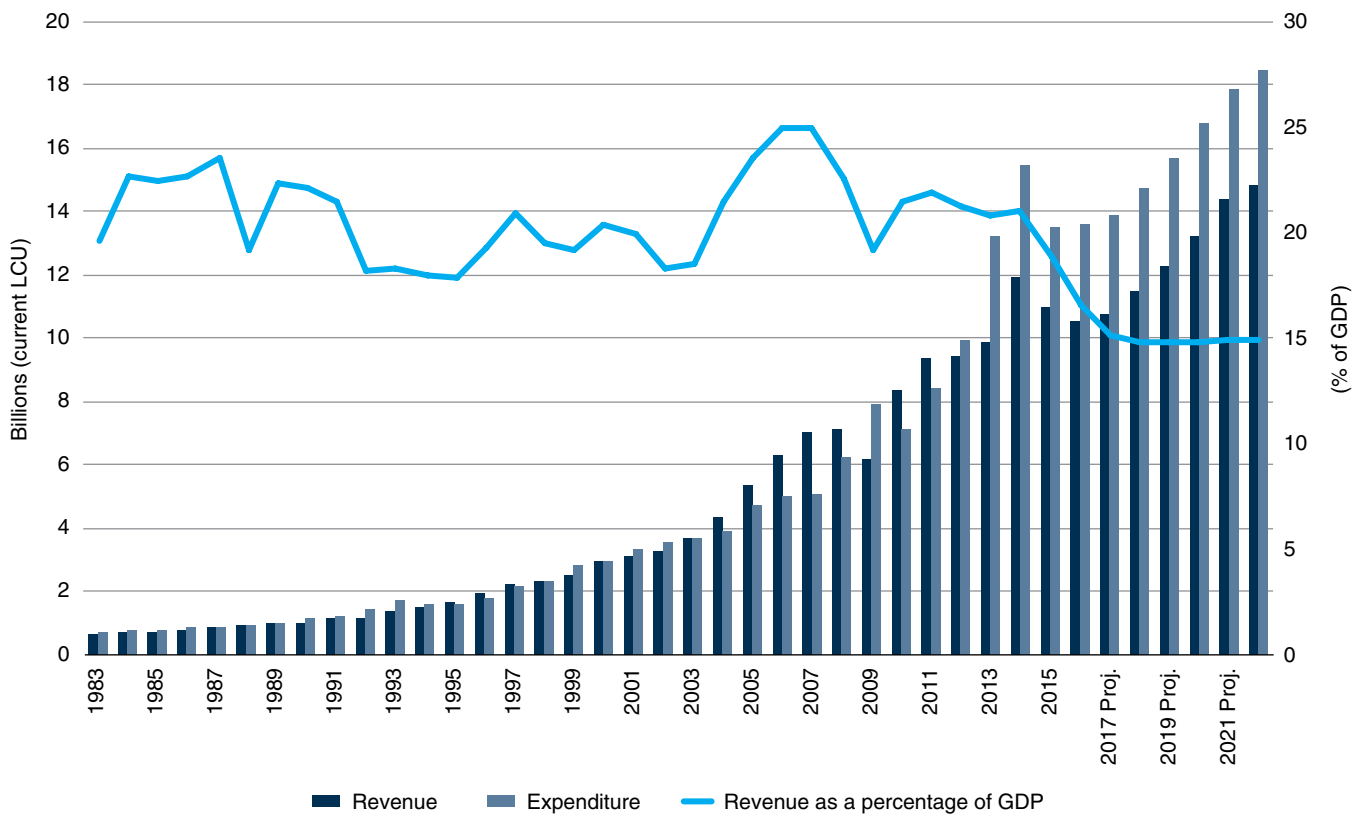


Source: IMF 2016a.
 Note: 2017 data projected.

efforts to establish and operate a Sovereign Wealth Fund. This was legislated in 2015 but had no inflow of funds up until the end of 2016 (DoT 2016).

The government’s fiscal status directly limits the availability of resources to the health sector, a situation that

is likely to persist, at least in the short term. Government revenues and grants, as a percentage of GDP, have fallen slowly since 2012 and were projected to decline further in 2016 and 2017. In 2015, government revenues fell substantially due to falling commodity prices that reduced the country’s fiscal space and increased government debt.

FIGURE 2-3: General Government Revenue and Expenditure (1983–2022)

Source: IMF 2016a.

Note: The PNG Government committed to gradually eliminating the deficit just after 2021, so expenditure will likely be lower than the IMF projection.

In 2016, the outcome for tax revenues and dividends was lower than budgeted (even though commodity prices had been factored in), indicating significant constraints in the government's ability to raise domestic revenues (DoT 2017). Continuous shortfalls of revenue in recent years reflect an inability to translate growth in the resource sector into increased government revenue as well as issues with domestic tax collection.

Investing in health and education will be challenging in the short term. The IMF (2015) has stressed "the need to maintain prudent macroeconomic policies to ensure debt sustainability." The IMF noted the importance of safeguarding social sectors within the context of "needed strong fiscal consolidation." With an economic backdrop of "tight fiscal policies," and competing needs such as the 2017 general election and preparations for the Asia Pacific Economic Cooperation (APEC) conference 2018 (a K 3 billion commitment), prioritizing investment in the health

and education sectors will be challenging in the medium term.

2.2 DEMOGRAPHIC HEALTH CONTEXT

PNG had a total population of 7.6 million in 2015 (World Bank 2016). The total fertility rate is relatively high at 3.8 (2014), as is population growth at 2.1 percent (2015) (Figure 2-4). UN population projections suggest that PNG's population will increase by one-quarter to over 10 million by 2030 (United Nations 2015). The age distribution of the population is an important factor impacting the utilization of health services; younger and older subgroups generally have much higher utilization rates. PNG's population is relatively young: about 38 percent of the population is below 15 years of age, and only 3 percent is above 65 years of age. The median age is only 21.

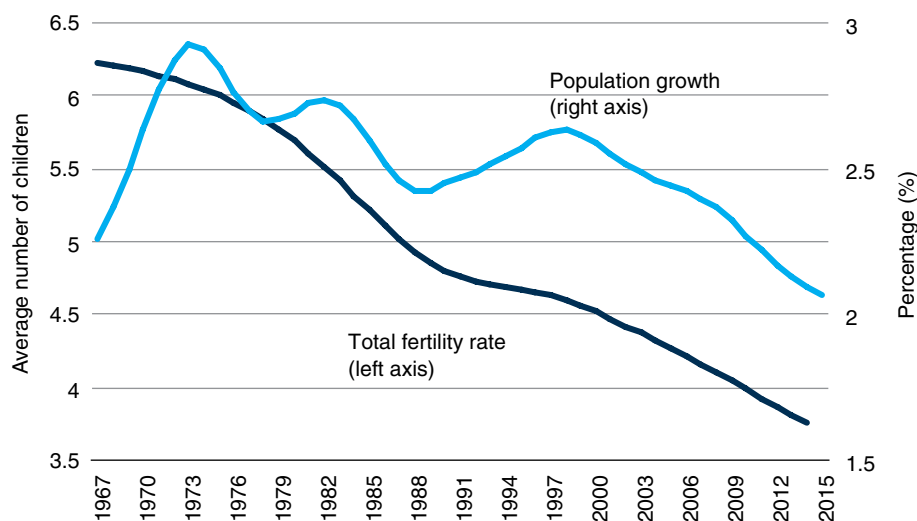
BOX 2-1: Data Challenges in PNG

During the compilation of this report, many inconsistencies and challenges in economic, fiscal, and health-related data were apparent. The magnitude of these challenges makes answering fundamental questions surprisingly difficult. The answers can significantly change the narrative around particular issues and therefore affect the ability to adequately plan and implement policy and make effective policy recommendations. This in itself represents a constraint to effective health service delivery in the country. The challenges include:

- **Data fragmentation.** Data relevant to the health sector is held by many agencies, without open access. Budget data is maintained in different central agencies and provincial governments, and health system data on infrastructure, staff, and outcomes is held in various units within NDoH and by implementing partners.
- **Quality of data.** Health sector budget data captured in the Integrated Financial Management System (IFMS) and in budget reports varies significantly from report to report and actual expenditure data is recorded with significant (up to 50 percent) and inexplicable deviations from budgets. Data on health outputs and outcomes is derived from provincial government reports, which are not verified.
- **Data sharing.** Access to data often requires formal requests between department heads, and these are sometimes not endorsed. No agencies provide online data repositories in an accessible format, even for data that is in the public domain (for example, detailed budget outcome figures after completion of the budget year).
- **Inconsistency between national and international data.** Information available in both national and international repositories is often difficult to reconcile or differs significantly (for example, health workforce ratios, health access statistics, budget figures, and GDP).

More detail of key data challenges is provided in Appendix One so that readers and future researchers can understand how this affects analysis and successful planning and service delivery in the sector.

FIGURE 2-4: Fertility Rate and Population Growth (1967–2015)

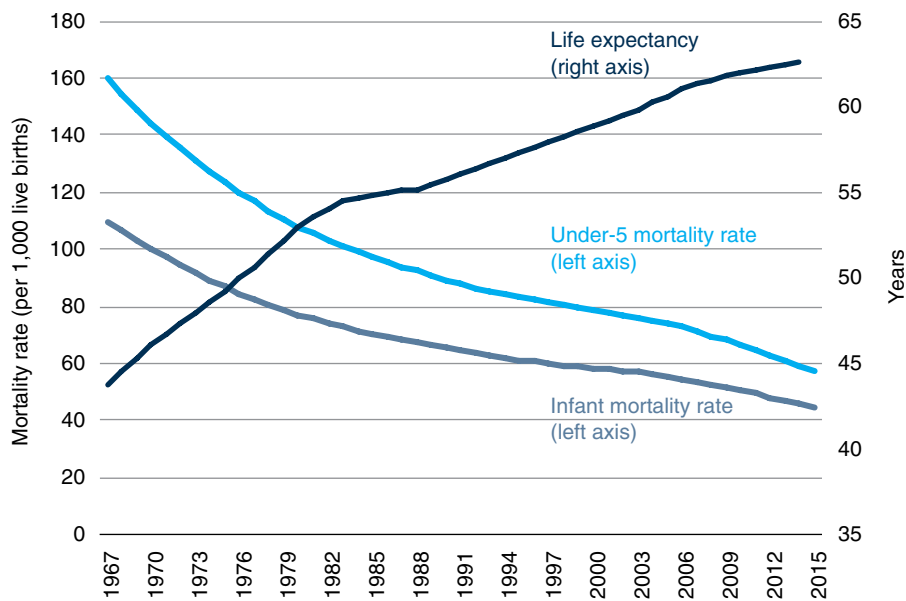


Source: World Bank 2016.

Access to health services in PNG is particularly challenging as most of the population (86 percent) live in rural villages which are often difficult to access. The challenging terrain of PNG limits the population's access to health services and health providers' ability to reach remote populations for even basic programs such as immunization. Less than 39 percent of roads are in good

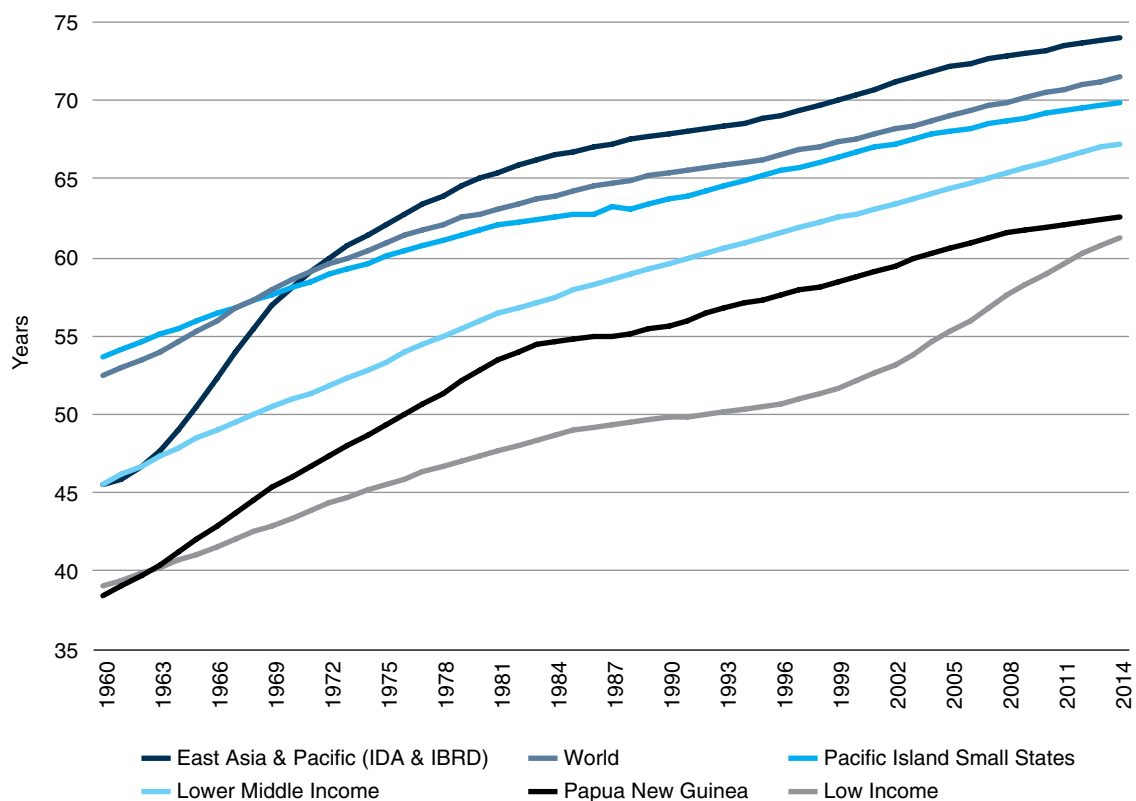
condition and many villages can only be reached on foot (Department of National Planning and Monitoring 2015). In coastal areas, the main mode of transport is by boat. In addition to rural challenges, an increasing population in unplanned urban settlements is presenting a new set of health challenges.

FIGURE 2-5: Population Health Outcomes (1967–2015)



Source: World Bank 2016.

FIGURE 2-6: International Life Expectancy Comparison (1960–2014)



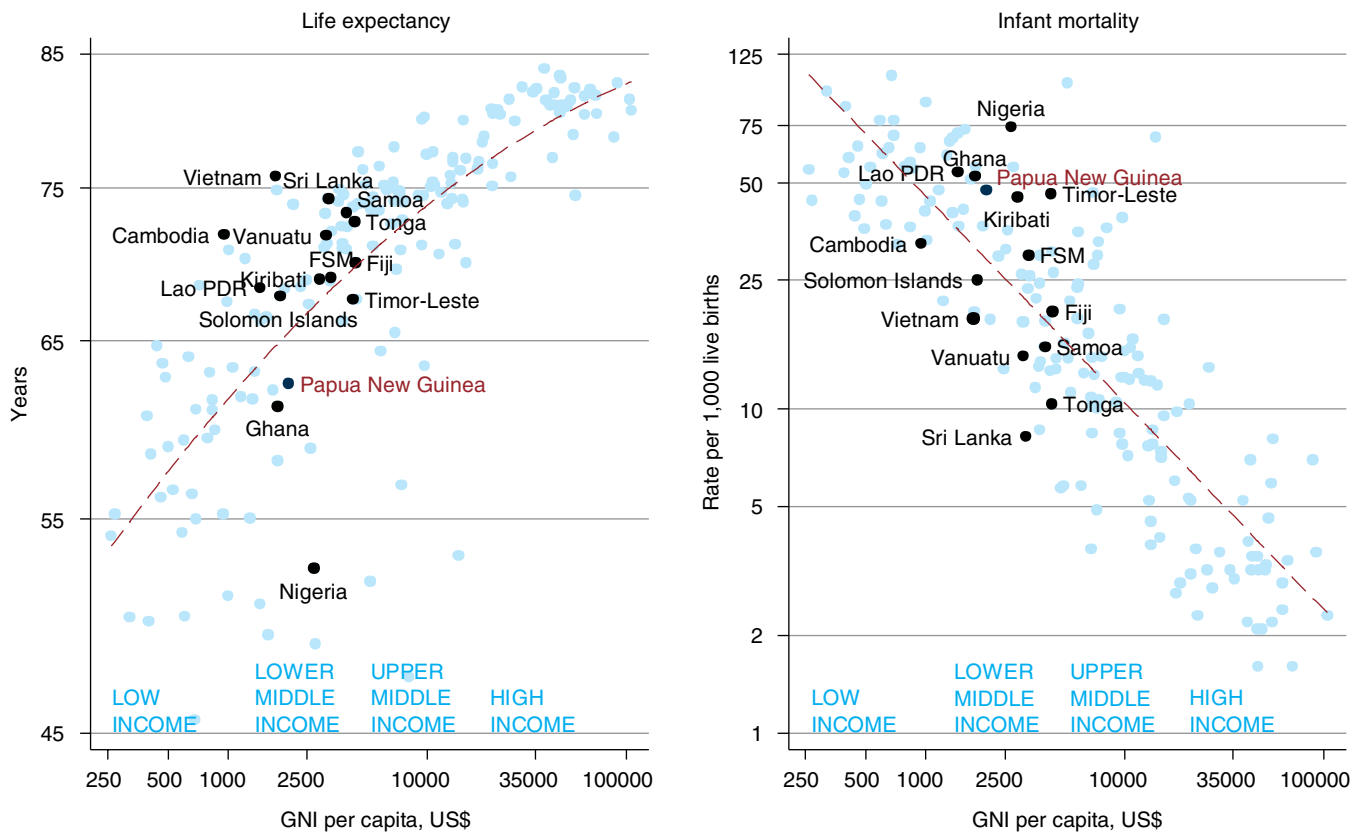
Source: World Bank 2016.

PNG still lags other countries in the region and those of similar income status in a number of health indicators.

Life expectancy rose from 43 years in 1967 to 56 years in 1990, and 63 years in 2014 (Figure 2–5). The *pace* of increase in life expectancy has declined notably since 1980, which is uncharacteristic for a country at PNG’s level of economic development (Figure 2–6). The under-five mortality rate

declined from 159 per 1,000 live births in 1967, to 89 in 1990, and 57 in 2015, however, PNG failed to reach the Millennium Development Goal (MDG) of an under-five mortality rate of 30 per 1,000 by 2015, and is far from the new SDG of 25 per 1,000 by 2030 (UNICEF⁶ et al. 2014).

6. UNICEF: United Nations Children’s Fund.

FIGURE 2-7: Country Comparison of Population Health Outcomes (2014)

Source: World Development Indicators database.
Note: Both y- and x-axes logged.

Although infant mortality has declined by one-third since 1960 (to 45 per 1,000 live births in 2015), life expectancy and infant mortality rates are worse than expected for PNG's income level (Figure 2-7). Furthermore, PNG's outcomes compare especially unfavorably to better-performing countries such as Vietnam, Sri Lanka, Cambodia, and other Pacific countries. PNG is also off-track for the maternal health MDG. The maternal mortality rate (MMR) remains high at 220 per 100,000 live births.⁷ Malnutrition rates are high and persistent: almost one-half of children under five years of age are stunted and 28 percent are underweight. Malnutrition indicators are relatively high, even among richer income groups.

2.3 THE DISEASE BURDEN

PNG is undergoing an epidemiological transition, like other countries in the region. The NCD share in PNG is rising rapidly. In 1990, 38 percent of disability-adjusted life years (DALYs)⁸ were attributable to NCDs; by 2015 this number had risen to 54 percent and this trend is expected

to continue (Figure 2-8). Lower respiratory infections are responsible for the largest share of the overall disease burden, causing 8.3 percent of DALYs lost due to morbidity and premature mortality in 2015 (Table 2-1). NCDs such as diabetes have rapidly increased in PNG between 1990–2015. High fasting plasma glucose, smoking, and household air pollution are prominent risk factors (IHME 2016).

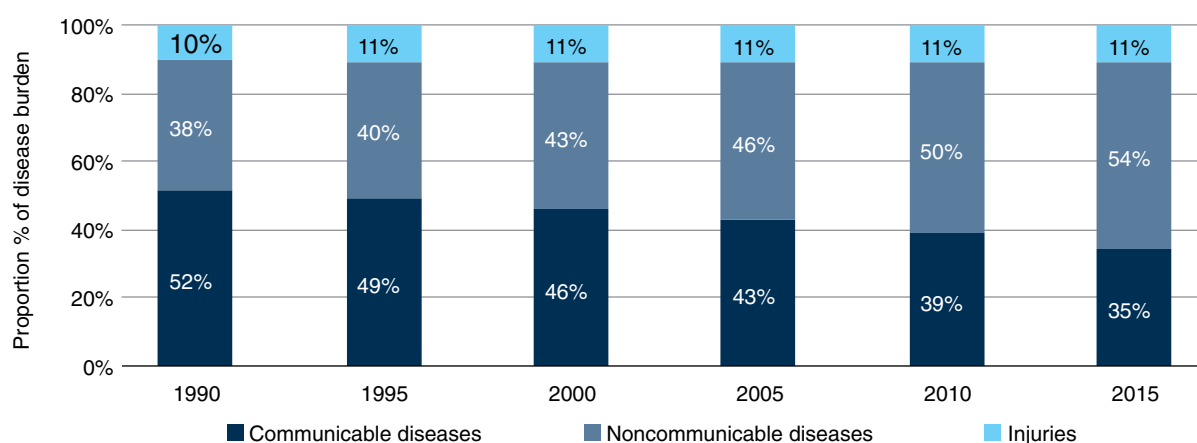
Malaria, HIV and AIDS remain significant contributors to the disease burden, although malaria's share is on the decline due to decreasing incidence and prevalence. The World Health Organization (WHO) estimates that 94 percent of the population lives in high-transmission areas (>1 case per 1,000 population). The prevalence of HIV is estimated at 0.7 percent. HIV is a mixed epidemic as key subpopulation categories (sex workers, MSM,⁹ and transgender people) living in urban areas have a disproportionately high incidence. Certain rural areas are, however, characterized as geographic "hotspots" due to high levels of (unprotected) sexual partner turnover and concurrency.

Tuberculosis (TB) is a serious public health issue and the leading cause of death in PNG. According to the WHO Global TB Report 2017, the estimated TB incidence rate was 432 per 100,000 population (35,000 cases)

7. Probably higher. Other studies suggested 541/100,000 based on death audits and hospital data; or 730/100,000 (Vince 2017).

8. DALYs refer to aggregated healthy years of time lost at the population level because of disease-related morbidity and premature mortality.

9. MSM: Men who have sex with men.

FIGURE 2-8: Disease Burden Attributable to Communicable Diseases, NCDs, and Injuries (1990–2015)

Source: Institute of Health Metrics and Evaluation 2016.

Note: The burden of disease data is drawn from hospital records of death that are limited in PNG, so the data may not be fully accurate.

TABLE 2-1: Top Ten Causes of Morbidity and Premature Mortality (Various Years)

Rank in 2015	Condition	DALYs		
		1990	2000	2015
1	Lower respiratory infections (including TB)	14.8%	12.9%	8.3%
2	Ischemic heart disease	3.5%	4.3%	6.3%
3	Cerebrovascular disease	4.6%	4.9%	5.5%
4	Chronic obstructive pulmonary disease	4.1%	4.3%	4.7%
5	Diabetes mellitus	1.7%	2.6%	4.2%
6	Asthma	2.8%	3.0%	3.4%
7	Road injuries	2.5%	2.6%	2.9%
8	Iron-deficiency anemia	2.1%	2.3%	2.6%
9	Diarrheal diseases	5.6%	4.3%	2.6%
10	Neonatal preterm birth complications	3.4%	3.4%	2.6%

Source: Institute of Health Metrics and Evaluation 2016.

and the prevalence rate was 529 per 100,000 population (39,000 cases). The estimated mortality rate, excluding deaths associated with HIV, was 44 per 100,000 (3,600 deaths).

Multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB occurrences have risen to unprecedented levels in hotspots across PNG, particularly in Western Province, Central Province, Gulf Province, and the National Capital District (NCD). Western Province has the highest number of drug-resistant cases in PNG. All three districts in the Western Province have experienced a doubling of TB notification rates since 2011. In Daru Island, Western Province, an unprecedented outbreak of MDR-TB is occurring with a prevalence of nearly 1 percent. Patched data also indicated a high number of MDR-TB cases in the NCD and Gulf provinces. The actual number of cases may, however, be significantly higher than current estimates due to the

lack of an active case-finding program. The NCD has been declared the most important TB hotspot, with five times the national average TB case notification and contains 25 percent of the total TB caseload (NDoH 2015).

2.4 HEALTH SYSTEM STRUCTURE

PNG has a government-funded health system throughout much of the country. It is supplemented by government-subsidized health services provided by various Christian missions. At the time of independence, a centralized NDoH managed the whole health system. Since independence, the government has made successive attempts to decentralize the provision of services to provincial and district governments, including the introduction of two significant Organic (Constitutional) Laws (1977 and 1995). This legislation attempts to give provinces and local-level

governments (LLGs) increased control over health service delivery and resources. The 1995 Organic Law devolved primary health care (PHC) services to the provincial level. Hospitals (including their budgets, human resources, and payroll) are, however, managed by an autonomous board, which is independent of the NDoH. This structure contributes to a diffuse and fragmented health delivery system.

To address health system fragmentation, the 2007 Provincial Health Authority Act enabled provincial governments to establish a PHA to be responsible for both primary and secondary health care in their province.

This legislation is supposed to streamline the provision of health services at the provincial level and bring together the provincial health departments, hospitals, and district health services under one management board, however, under this legislation, it is not mandatory for provincial governments to establish a PHA.

By 2016, 10 provinces have fully established PHAs, and an additional five provinces plan to establish a PHA by the end of 2017 (NDoH 2017).

Initial implementation of the PHA was slow in the three pilot provinces, as many staffing, financial management, and institutional hurdles had to be overcome. Since then, implementation has accelerated and an independent review found early success in the financial management and service delivery support PHAs are providing.

The model suffers from an inconsistent legal and regulatory framework.

A key example is that provincial governments should immediately pass the funding for rural health service delivery to PHAs after it has been transferred from the national level (see Section Three: Health Expenditure Trend Analysis for a mapping of these flows). This is only a voluntary arrangement, however, that allows some provinces to retain a share of funding for their own activities.

Future strengthening of the PHA model requires commitments in terms of adequate levels of resourcing, timely release of funds, recruitment of skilled staff, improved communication, coordination and effective reporting between all stakeholders, and sufficient levels of support from national departments.

If such issues are resolved and capacity constraints are removed, the PHAs may prove to be a successful model that unifies all service-delivery functions within the province under one management structure.

Church health services are the key partners in delivering health services in PNG.¹⁰

CHS and Catholic Church

Services have each negotiated a separate funding agreement with NDoH. It is estimated that churches provide 47 percent of primary health services, and a significant share of secondary services, particularly in rural areas. The role of church health services varies significantly across the country. In rural areas, church health services provide up to 60 percent of primary health services and, in some provinces such as West Sepik (Sandaun), CHS accounts for 80 percent of all health services provided (Christian Health Services 2013).¹¹

The National Health Administration Act 1997 required the NDoH to develop a set of national health standards to operationalize the NHP.

In 2011, the Medical Standards Division, through extensive consultation with clinicians, public health, and health service managers, developed the National Health Service Standards (NHSS) for PNG. These standards contribute to the government's Vision 2050 and were endorsed by the National Health Board at their March 2011 meeting.

The NHSS outlined a structure for health service provision in PNG for the following 10 years.

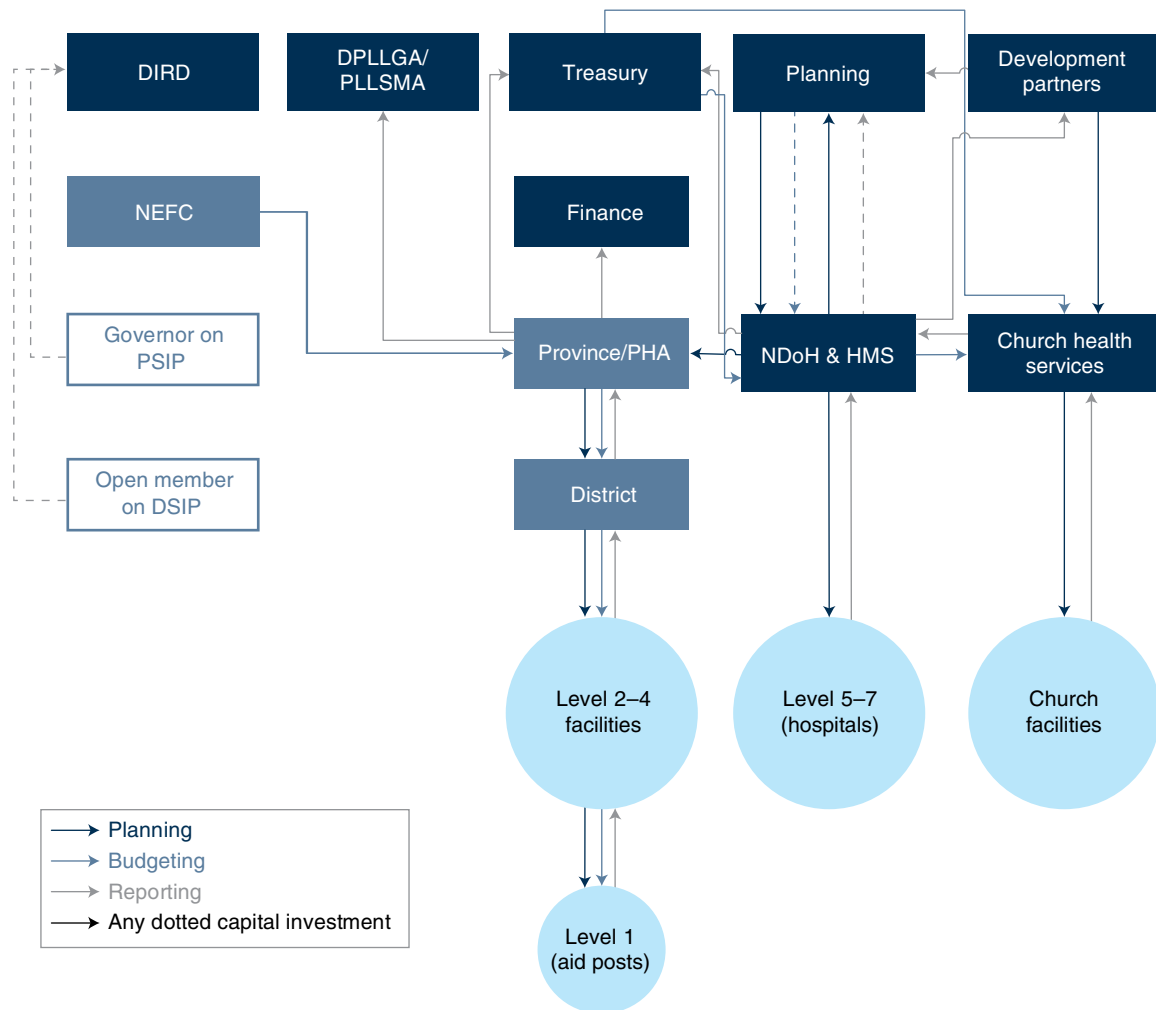
The standards are: (i) an important tool for national, provincial, and district planning and delivery of health services; and (ii) a blueprint for providing safe, quality care consistent with the NHP objectives. The minimum standards envisage a hierarchical structure for health services across the nation: Level One village aid posts; Level Two community health posts; Level Three health centers and/or urban clinics; Level Four district hospitals; Level Five provincial general hospitals; Level Six regional referral hospitals; and Level Seven national referral hospital(s) offering secondary and complex tertiary-level clinical services.

The NHSS specify:

- (i) **core clinical and PHC services** such as medical, sexually transmitted infections (STIs), and maternal and child health;
- (ii) **support services**, such as diagnostics (medical imaging and pathology, pharmacy, drugs, and medical supplies), infection control, and public health;
- (iii) **management support**, including leadership, teacher training, and health information;
- (iv) **health workforce productivity and capability;**
- (v) **drugs, equipment, and medical supplies;** and
- (vi) **health infrastructure** (that is, buildings that meet minimum standards) (Government of PNG 2011).

10. CHS only administer funding to various church organizations for the delivery of health services and liaise centrally with NDoH. They are not technically service providers, but this report will refer to CHS as such throughout the report.

11. The Catholic Church is not part of CHS and has negotiated a separate MoU for funding. The Catholic Church is the largest church provider.

FIGURE 2-9: Governance Structure of the Health System

Source: Based on a consultative process between World Bank and NDoH staff.

Note: (i) Not all DPs provide funding directly to Church Health Services; (ii) HMS: Hospital Management Services.

Governance mechanisms in the sector remain convoluted and, in many ways, ineffective. While the PNG Government has goals to streamline the health system structure and service delivery, in practice, governance is fragmented in many provinces due to the persistent ambiguity surrounding functional roles and responsibilities. Figure 2-9 shows the governance mechanisms of the health sector, with respect to planning, budgeting, and reporting channels.

An extensive list of central agencies receives siloed reporting data. These include: (i) the Department of Implementation and Rural Development (DIRD), which receives reports specifically on provincial and district infrastructure out of PSIP and DSIP¹² funding; (ii) the Department for Provincial and Local-Level Government Affairs (DPLLGA), which receives reports on provincial health

service delivery; (iii) the Departments of Finance and Treasury, which budget for, and release operational expenditure, and receive financial reports on budget expenditure and performance (but very inconsistently) from provinces and NDoH; (iv) the Department of Planning, which budgets for the capital investment component and receives performance reporting on infrastructure projects; and (v) the National Economic and Fiscal Commission (NEFC), which budgets for rural facilities in provinces, but does not receive financial or performance reports from provinces directly.

This reporting structure creates a clear mismatch between those agencies that budget, plan, and set standards; the agencies that monitor adherence to standards and receive financial and performance reports; and the agencies that can impose sanctions (for example, by withholding funding). For example, NEFC and NDoH set provincial operational budgets and service delivery requirements, but PSIP reporting data

12. PSIP: Provincial Services Improvement Programme; DSIP: District Services Improvement Programme.

is received by DIRD, DPLGA, Treasury, and Finance (all of whom rarely share information with each other). This creates poor incentive and accountability structures that severely limit the departments' ability to pressure provinces to pursue beneficial reforms.

2.5 HUMAN RESOURCES FOR HEALTH

PNG is facing a health worker shortage that could worsen in the medium to long term. The doctor ratio per 1,000 population was 0.06 in 2009 and 0.07 in 2016; while the ratio of Community Health Workers (CHWs) to 1,000 population dropped significantly from 0.66 to 0.49. The aggregate number of health workers is considerably lower than the WHO minimum threshold of 2.28 per 1,000 population that is required to achieve the health-related MDGs. This critical shortage is impacting the PNG health system's ability to reduce maternal mortality rates.

The workforce is inequitably distributed between rural and urban areas, with a substantial predisposition toward urban areas. The NCD has the highest number of employed health workers (15 percent) with the presence of Port Moresby General Hospital, followed by Central Province (9 percent), while Hela has the least (1 percent). West New Britain has the highest number of vacant positions (89 percent) and Milne Bay has the least (8 percent). Reasons for the higher numbers of vacancies include recruitment funding constraints, remoteness of health facilities, rural-urban migration, and an increased shift from clinical support to administration (NDoH 2016).

The existing health workforce is rapidly aging, compounding the health worker shortage issue. In 2009, roughly 16 percent of the workforce was 55 years of age or older, which qualified them for retirement. An additional 38 percent was aged 45–54, meaning they will be eligible for retirement inside the following decade. Just 12 percent of the workforce was under 35 years old. Loss of health workers to retirement decreases service capacity.

Another compounding factor is PNG's lack of significant progress in medical and health-training capacity, which has resulted in a shortage of qualified staff

TABLE 2-2: Health Workers per 1,000 Population (2009 and 2016)

Category	Baseline (2009)	2016
Doctors	0.06	0.07
Nurses	0.49	0.44
CHWs	0.66	0.49

Source: NDoH 2016.

to replenish the aging workforce. The School of Medicine and Health Sciences is the only accredited medical school in PNG, and it graduated 316 doctors during the period 2010–16. Divine Word University is in the process of establishing the second medical school in the country. Recognizing the lack of training capacity, the Government of PNG and donors have invested in more training schools during 2012–16. This will not resolve the urgent shortage of health workers, however, as it takes years to produce a qualified health worker.

The quality of the existing health workforce is inconsistent. This is partly due to the regulatory bodies poor accreditation and audit processes and the inability of the Nursing Council and Medical Board to update the curriculum for nurses and health workers in a timely, routine manner. The NDoH and provincial authorities continue to implement strategies to combat shortages of health workers in rural and remote areas, with very limited success.

The government has endorsed a Health Workforce Enhancement Plan, which lays out priorities for workforce strengthening. The eight nursing schools in PNG trained 1,364 nurses during the period of 2010–15, and the 13 CHW training schools trained 2,326 CHWs during the period 2010–16. The number of nurse and CHW graduates will increase hereafter with the addition of five nursing schools and four CHW training schools (NDoH 2016). Despite an increase in the number of nurses being trained, only 56 percent of available nursing positions were filled in 2016.

Timely and more accurate information on human resources in the health profession is needed. The last comprehensive survey of the health workforce was conducted in 2009. This renders assessing progress and shortfalls in human resources challenging and represents a key constraint to effectively planning reforms. Undertaking a comprehensive assessment and maintaining consistent records of the workforce is a priority for the department. Coordination between the National Department of Personnel, NDoH, and central agencies needs to be strengthened. For example, positions on the payroll need to be reconciled with NDoH records to avoid possible mismatches between positions and payments.¹³

2.6 HEALTH CARE ACCESS AND UTILIZATION CONTEXT

There are significant disparities in access to, and utilization of, health services, particularly between rural and urban areas. As discussed earlier, the terrain of PNG presents a challenge to access and provision of health

13. It should be noted that some progress has been made on the Nursing Council's registration data.

care services. The poorest quintile of the population cites staff absenteeism, the cost of health care, distance, lack of transport, transport costs, and the quality of health care as the main barriers to visiting a health facility in the case of illness (Irava et al. 2015).

Maternal health is another area that highlights challenges in access and utilization of health services in PNG. Only one-third of women have access to modern contraceptive methods. Only 66 percent of pregnant women attend four or more antenatal care (ANC) visits and less than 53 percent of women deliver with the assistance of a skilled attendant (Table 2–3). These indicators have decreased since 2014 in the government’s own National Health Information System (NHIS) (NDoH 2016) (Figure 2–10).

Rural outreach plays a critical role in ensuring access to health services for rural and remote populations. Outreach provides a key platform for maternal health

initiatives, preventive child health programs (for example, immunization), and community health education. In geographically challenging settings, immunization coverage directly correlates with the prevalence of outreach patrols.

Several aid posts have been closed, partly due to lack of human resources, and rural outreach has continued to fall. There were 42 outreach clinics per 1,000 children under-five in 2010 but this had fallen to a ratio of 37 per 1,000 children under-five in 2015 (Figure 2–11). Anecdotal reasons for this reduction, cited by health managers, include shortages and delays in operational funding and shortages in available personnel. This is due to a slow release of funds from the central level and delays in fund distribution and support provision at the provincial level (see also Figure 3–2). In 2013, 55 percent of facilities did not receive external funding for outreach clinics; opting to rely on user fees, own salaries or not providing the service at all (Howes et al. 2014).

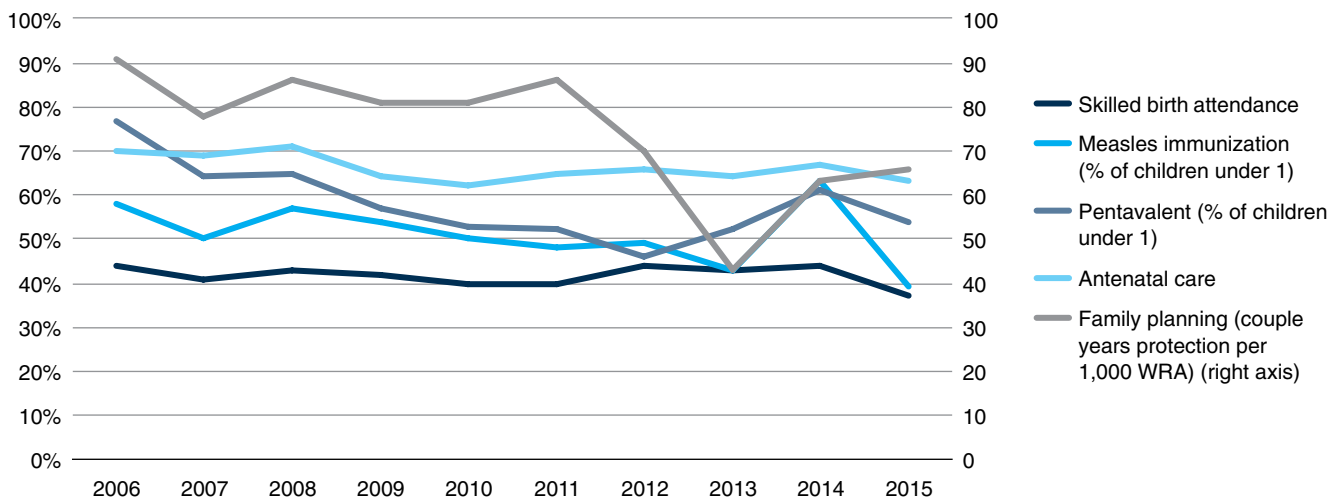
TABLE 2–3: Comparison of Access to Health Services and Infrastructure

Country/ Region	Family Planning Needs Satisfied (%)	Women Receiving ANC Four or More Times from Any Provider (%)	Skilled Birth Attendance at Delivery (%)	DPT3 Immunization Coverage among 1-year-olds (%)	Population Using Improved Drinking- water Sources (%)	Population Using Improved Sanitation Facilities (%)
Cambodia	56	89	89	89	76	42
Fiji	44	98	100	99	96	91
Micronesia, Fed. Sts.	55	80	100	72	89	57
Kiribati	22	88	80	87	67	40
Lao PDR	50	53	42	89	76	71
PNG	32	66 [63]	53 [37]	62	40	19
Samoa	27	93	83	66	99	91
Solomon Islands	35	91	86	98	81	30
Timor-Leste	22	84	30	76	72	41
Tonga	34	99	98	82	100	91
Tuvalu	31	93	98	96	98	n.a.
Vanuatu	49	76	89	64	95	58
Vietnam	76	96	94	97	98	78
EAP	48	89	85	85	86	69
Low-income	30	80	58	80	72	36
Lower- middle- income	48	86	78	84	85	61

Source: World Health Organization and World Bank 2017.

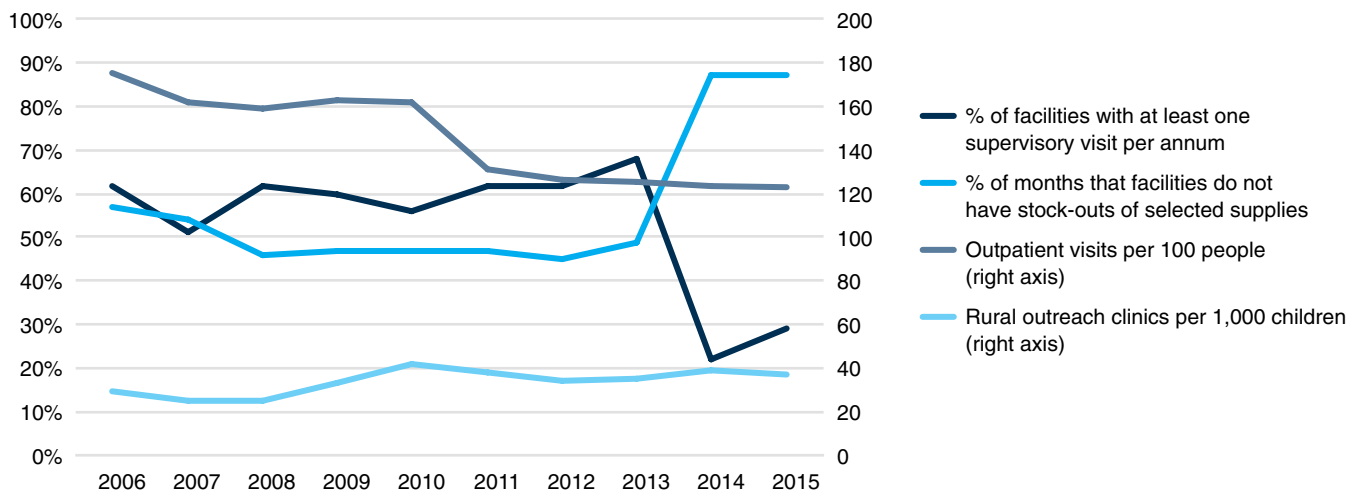
Note: (i) DPT3: Diphtheria, pertussis, tetanus. (ii) 2015 data from PNG Government’s NHIS in square brackets [] if available. (iii) n.a. not available.

FIGURE 2-10: Selected Health Access Indicators (2005–15)



Source: NDoH National Health Information System 2016.
 Note: WRA: women of reproductive age (15–44).

FIGURE 2-11: Selected Service Delivery Indicators (2006–15)



Source: NHIS 2016.

PNG has experienced an overall decline in the utilization of outpatient services between 2010 and 2015.

The average number of outpatient visits to a health facility (health centers and hospitals) per person, per year dropped from 1.62 (2010) to 1.23 (2015) (Figure 2–11). Rates varied across provinces but the decline in utilization was consistent across all provinces except two—Bougainville and Oro.

2.7 HEALTH FINANCING

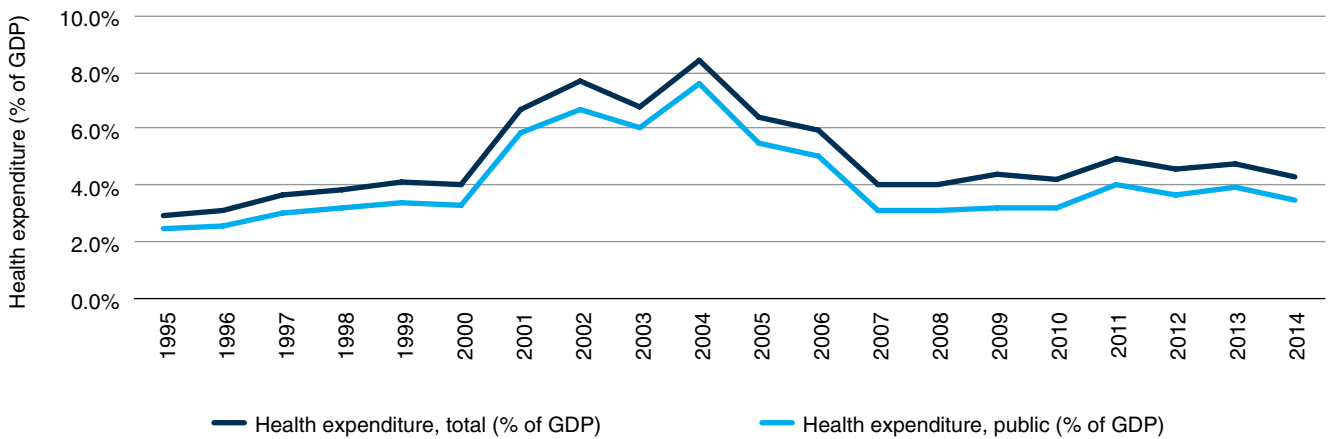
Despite steady growth, Total health expenditure (THE), as a proportion of GDP, has been stagnating between 4 and 5 percent since 2007. As Figure 2–12 illustrates, THE rose rapidly between 2000–01, a 2.7 percent increase in one year. THE peaked in 2004 at 8.4 percent, before falling by 4.4 percent between 2004 and 2007. In 2014, THE (4.4 percent)

was comparable to the low-middle-income country average of 4.5 percent and to other countries in the region: Fiji (4.5 percent), the Solomon Islands (5.1 percent), and Vanuatu (5.0 percent) (Figure 2–13) (World Bank 2016).

The budget allocated to the health sector as a share of GDP represents the fiscal costs of health policy relative to the size of the overall economy. Government allocation to health as a share of the total budget, in turn, reflects the fiscal costs of government health policy. Health spending, as a share of general government spending, decreased from 13.2 percent in 2013 to 9.5 percent in 2014 (World Bank 2016).¹⁴

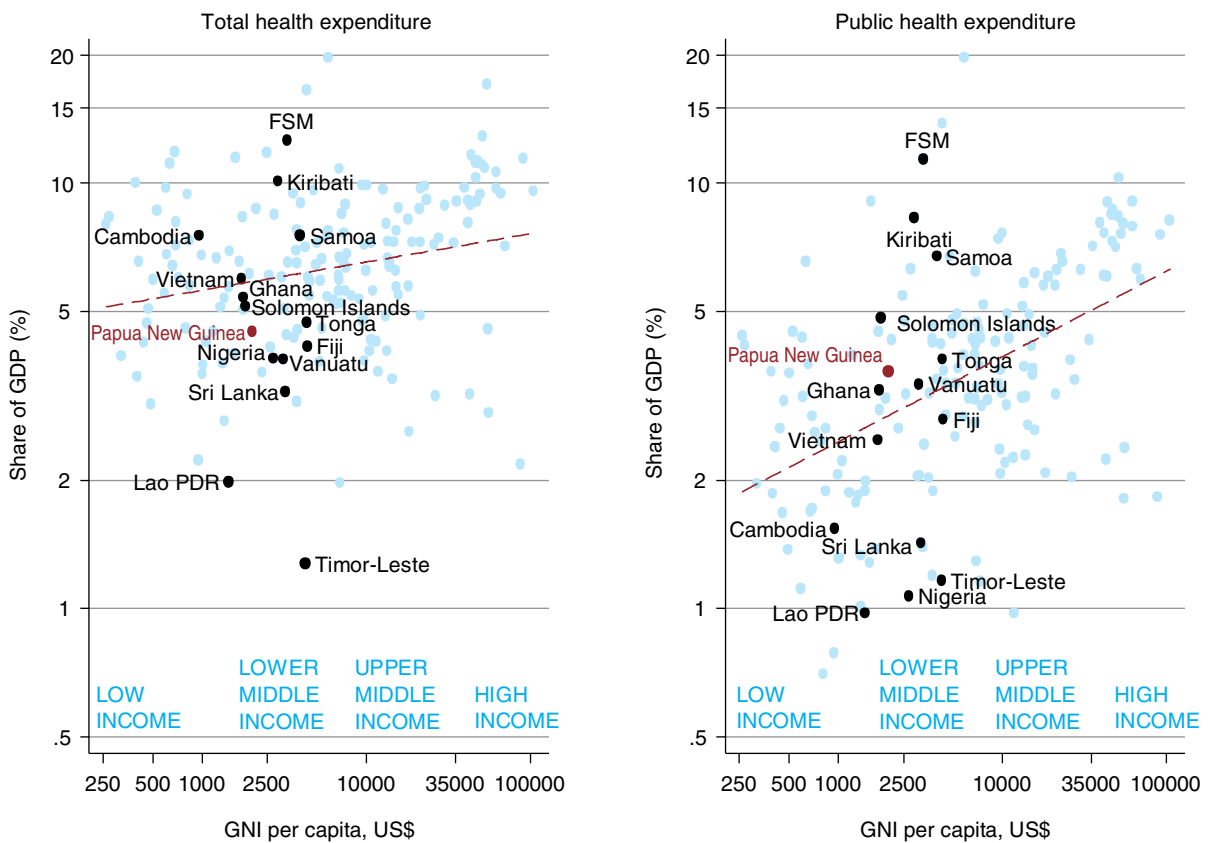
14. It should be noted that 2014 is the latest year available for this information in the World Development Indicators (World Bank 2016) database.

FIGURE 2-12: THE as a Proportion of GDP (1995–2014)



Source: World Bank 2016.

FIGURE 2-13: THE and Public Health Expenditure (PHE) as % of GDP in East Asia Countries

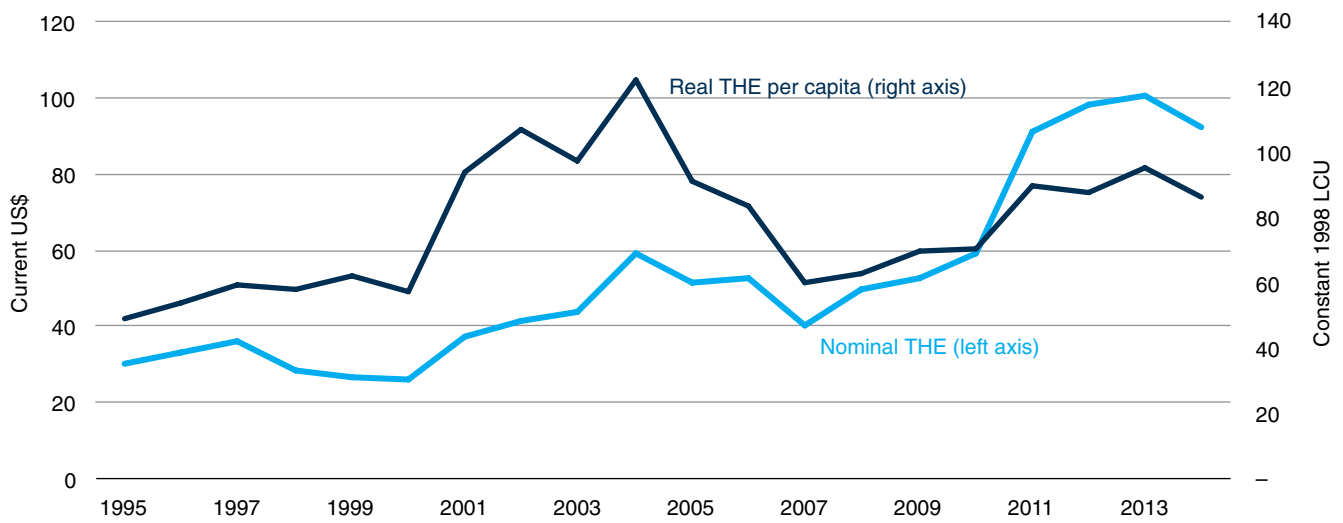


Source: World Development Indicators database.
 Note: Both y- and x-axes logged.

Real THE (private and general government expenditure on health) per capita was K 86 (using constant 1998 prices) in 2014 (Figure 2-14). This marks a significant rise from K 60 in 2007, but a decrease in expenditure from 2012 (K 88) and 2013 (K 95) levels. When compared to 2014 international and regional standards, PNG’s health expenditure per capita (US\$92) is low in comparison with the low-middle-income countries average (US\$265), EAP (US\$643), Fiji (US\$204), the Solomon Islands (US\$102), and Vanuatu (US\$158).

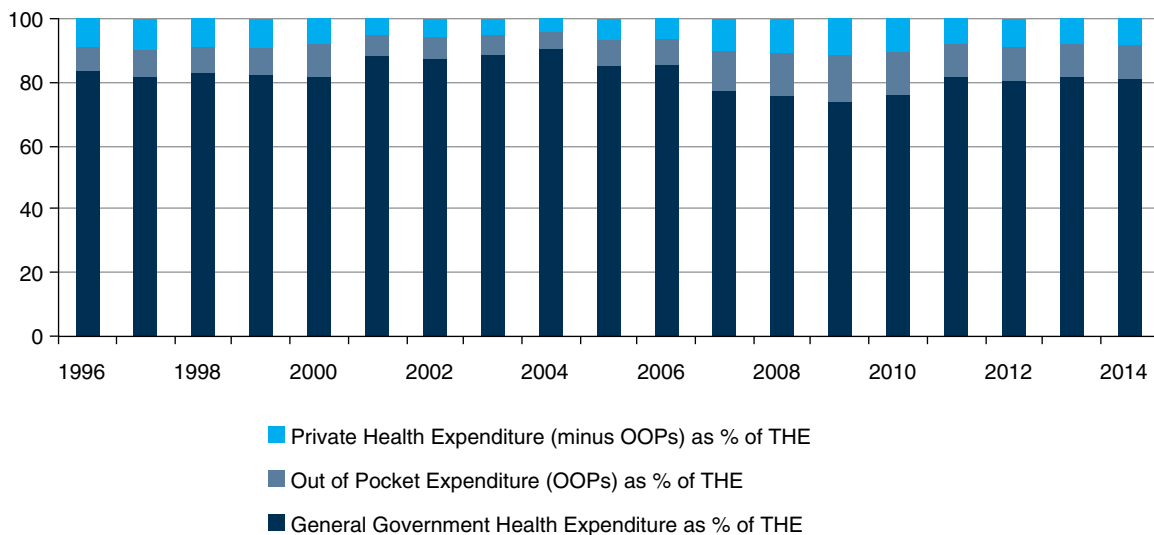
Overall health expenditure is exposed to volatility from a variety of sources. In the absence of an effective sovereign wealth fund, government expenditure is highly dependent on the international commodity price cycle and the performance of resource projects in the country. Donor financing represents a large share of PHE and has been historically volatile. In addition, within a given budget year, cash flow tends to be inconsistent as the government receives revenue lumped around corporate tax collections in May, August, and September. This reduces

FIGURE 2-14: Health Expenditure per capita (1995–2015) (Current US\$ and Constant LCU)



Source: World Bank 2016.

FIGURE 2-15: Trends in the Structure of THE (1996–2014)

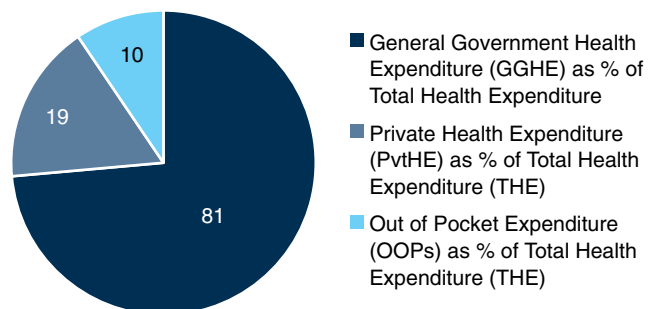


Source: World Health Organization 2016.

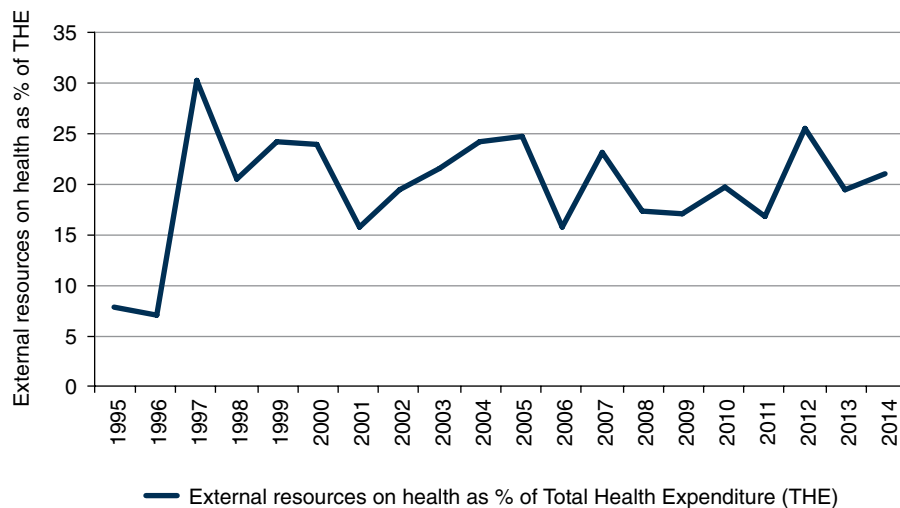
cash flow in the first quarter of the calendar year, as there currently is no effective mechanism to smooth expenditure through the usage of short-term debt instruments, such as treasury bills. Since public expenditure represents the main source of health sector funding, fluctuations in this component have a strong, direct effect on THE.

Health financing is predominantly centralized. In 2014, government spending—including government spending financed by external sources—accounted for over 80 percent of total health spending; the remaining 20 percent was attributed to private expenditure (Figure 2-16). In comparison, the percentage of government expenditure as a share of THE for Fiji was 66 percent, the Solomon Islands (92 percent), and Vanuatu (90 percent) indicating

FIGURE 2-16: Health Financing Mix (2014)



Source: World Health Organization 2016.

FIGURE 2–17: External Resources on Health as % of THE (1995–2014)

Source: World Bank 2016.

that PNG Government spending is in the mid-range for the immediate region (World Bank 2016).

External resources on health,¹⁵ as a percentage of THE, continue to play a significant role in PNG's health financing. In 2014, external resources accounted for 21 percent (Figure 2–17) and have stabilized around 20 percent in the preceding years. This share is high when compared to the low-middle-income average of 3.3 percent and some Pacific countries, for example, Fiji (9 percent). The percentage is, however, lower than for many others in the region: Timor-Leste (31 percent), the Solomon Islands (56 percent), and Vanuatu (48 percent).

PNG has relatively low out-of-pocket (OOP) expenditure on health by international standards. Given comparatively low access rates, there may be a significant degree of foregone care that reduces OOP spending, and low OOP does not necessarily mean financial protection. In fact, health care costs are cited as one of the main reasons

the poor do not visit health facilities in the case of illness (Irava et al. 2015). Only 10.46 percent of total health spending is attributed to OOP payments. OOP expenditure was less than 30 percent of total consumption in every household in PNG. Only 0.02 percent of households spent more than 20 percent and less than 1 percent of households spent more than 10 percent of their budgets on OOP payments. An estimated 0.3 percent of households were, however, impoverished because of OOP health spending, and 3 percent of the poor were pushed further into poverty.

The government has renewed its intention to reduce OOP spending by introducing a fee-free basic and subsidized specialized health care policy that requires all facilities to stop charging user fees for primary care. K 20 million has been allocated to compensate facilities for the loss of user fees—in addition to the existing health function grant (HFG) that funds facility operations. The persistent slow release of funding by central agencies and delays in channeling funds at the provincial level (see also Section Three for further discussion) means that facilities do not receive the financial support required to function without user fees. This has prevented the successful elimination of user fees at primary public health facilities to date.

15. External resources for health are funds or in-kind services that are provided by entities not part of the country in question. The resources may come from international organizations, other countries through bilateral arrangements, or foreign NGOs. These resources are part of THE.

SECTION THREE

Health Expenditure Trend Analysis

Key messages:

- A snapshot of THE from 2010–15 reveals significant volatility in government spending and misalignment between appropriations and actual expenditure—both under and over budget.
- Although the majority of the population resides in rural areas, the budget for frontline service expenditure is quite small. NDoH, followed by hospitals, account for the largest expenditure shares.
- The untimely release of warrants results in detrimental delays and inefficient use of resources. Timely disbursement is critical to improved health outcomes.
- The 2015 and 2016 health budgets were adjusted to meet the government goal of a balanced budget by 2021.
- The 2017 health sector budget represented the first budgeted reduction of K 314 million or 19 percent, from K 1,647 million in 2016 to K 1,333 million in 2017.

This section looks at current and historical budget allocation patterns within the PNG health sector. The focus of any analysis of health financing is to gain as much information about budget allocations to improve efficiency and, in turn, service delivery. It relies primarily on data from the government's accounting system. Health sector spending referred to in this section does not, therefore, include any sector spending by provincial governments (apart from PHAs or HFGs and so excludes internal revenue), salaries of health workers at subnational facilities, and donor spending that is not included in the national

budget books.¹⁶ It is also assumed that all PHA allocations and HFGs are spent on service delivery at the subnational level.

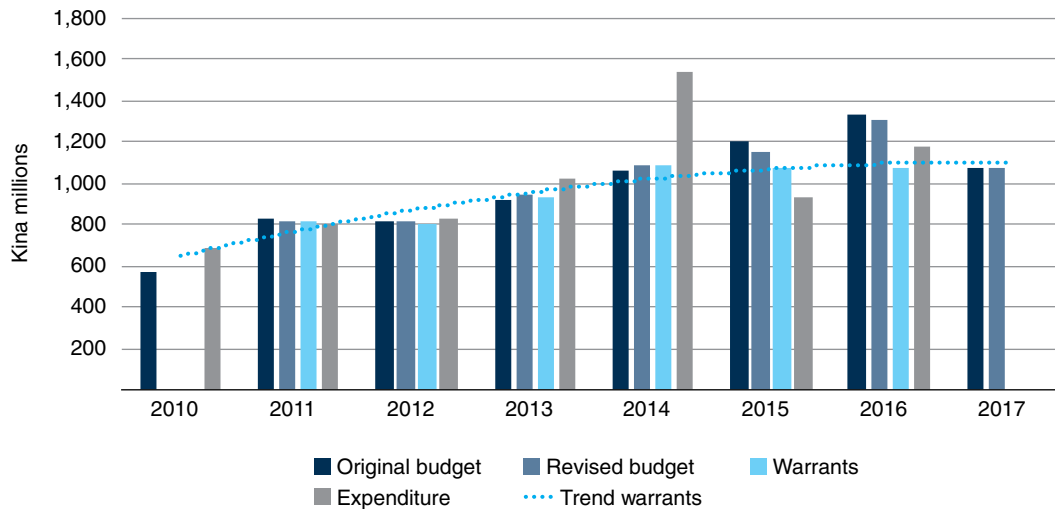
General government expenditure almost doubled from K 8.1 billion in 2010, to K 15.5 billion in 2014, before falling back to K 13.8 billion in 2016. The health sector budget increased significantly from 2010 to 2016 (Figure 3–1), but this likely overstates the actual availability of resources to the sector. In 2015 and 2016, both warrants (an authorization from DoT which allows agencies to access budgeted funds during budget execution) and expenditure were below the budget allocation as cash rationing prevented the full release of budgeted funds.

Expenditure likely gives a poor indication of actual spending, due to issues with the government's accounting system (see also discussion on data issues in Appendix One), so warrants should serve as the main indicator of the actual availability of funding to the sector. Warrants increased by about one-third from 2011 to 2014, and have remained constant since then. During the period from 2011 to 2016, total government expenditure increased by 10 percent per annum, while the health sector budget increased by an average of 12 percent per annum, annual health sector warrants increased by 7 percent per annum, and health sector expenditure increased by 9 percent per annum. Taking either expenditure or warrants as an indication, the health sector, therefore, grew more slowly than total government expenditure during this period.

In nominal terms, government health expenditure started to increase significantly in 2013, when the

16. Most significantly, this excludes funding from Gavi and GFATM.

FIGURE 3-1: Government Health Sector Operational Budgets, Warrants, and Expenditure (2010–17) (millions of Kina)



Source: DoT from IFMS data 2017.

incoming government changed from the previous path of fiscal consolidation to a path of rapid fiscal expansion with commensurate increases in the deficit.

The increase was not, however, distributed evenly across agencies. From 2011 to 2016, NDoH funding decreased by almost 3 percent, as the budget was reallocated to PHAs and HFGs. HMS expenditure increased by about 4 percent or 1.4 percent on an annual basis.

In real terms the picture is less positive, as the health sector budget increased by 9 percent per annum from 2011 to 2016, while warrants increased by 4 percent, and expenditure increased by 6 percent. Given population growth of approximately 2.8 percent, real expenditure (measured through warrants) just kept pace with population growth, even during a time of significant fiscal expansion. Overall, the fiscal inconsistencies of the government's accounting system and large in-year deviations from budgets due to the revenue shortfalls in the resource sector make it difficult to provide a clear and accurate assessment of the trend in resources available to the sector.

The health sector budget finances the NDoH hospitals, CHS, Rural Health Services (HFGs),¹⁷ and PHAs. Provinces receive two sources of funding for frontline facilities, the HFG, for facility operations and discretionary funds

managed by the governor (in a province) and open member (in a district), a part of which is available for investments in health infrastructure. The flow of funds from the central level to provincial governments and health facilities is mapped in Figure 3-2. The budget also allocates funding to the Institute of Medical Research (IMR) and the National AIDS Council (NAC) (omitted in Figure 3-2). NAC is responsible for HIV policy and coordination of the HIV response.

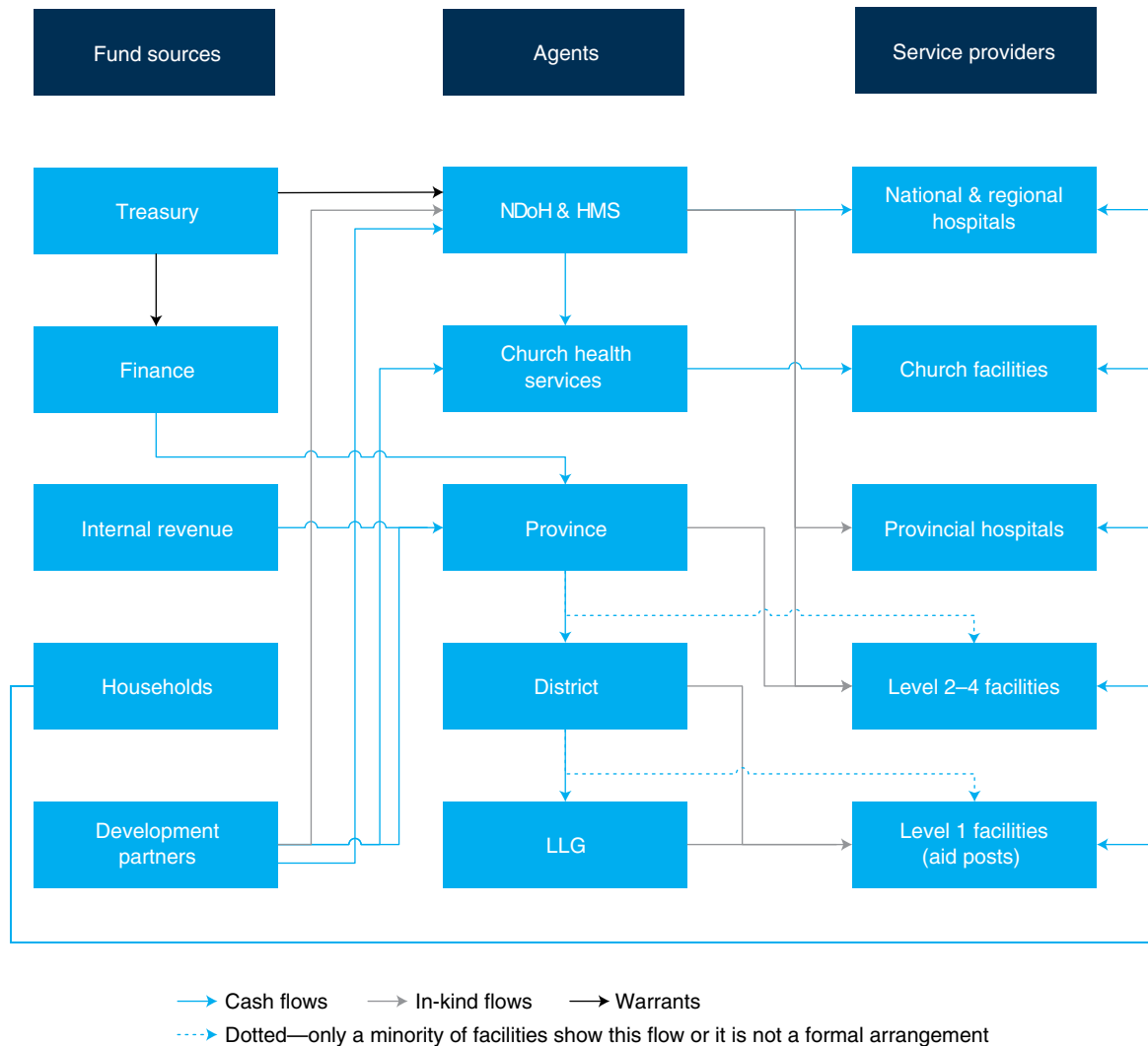
Fund flows in PHA provinces differ from nonPHA provinces. It is mainly because funding for the provincial hospital (Level 5) and rural service facilities (Level 1-4) both flow through the PHA, rather than NDoH/HMS and the provincial government (see Figure 3-3 for a comparison of the two fund flow models).

Between 2011 and 2017, hospitals share of the total domestic health appropriations ranged between 30 and 45 percent (Figure 3-4). This includes salaries of hospital staff, other operational expenditure, and funding for rehabilitation and upgrading of facilities. NDoH expenditure declined from 40 percent of the domestic health sector budget in 2011 to 26 percent in 2017.¹⁸ In addition to wages and salaries, the NDoH budget also includes procurement of medicines and other consumables. The budget for frontline service expenditure (through HFG

17. HFGs are not intended to fully fund operational budgets. The HFG is calculated based on provinces using their own internal revenue towards health. It finances operational budget transfers for frontline health facilities.

18. A large share of external funding is traditionally allocated under NDoH in budget books, out of a requirement of the accounting system to display donor funds within the budget of a government agency, but the majority of this is managed outside the department.

FIGURE 3-2: Health Sector Fund Flows



Source: Based on discussions between a World Bank consultant and NDoH staff.

and CHS) is quite small although the majority of the population lives in rural areas. It has, however, been steadily growing from 16 percent in 2011 to 21.6 percent in 2017.

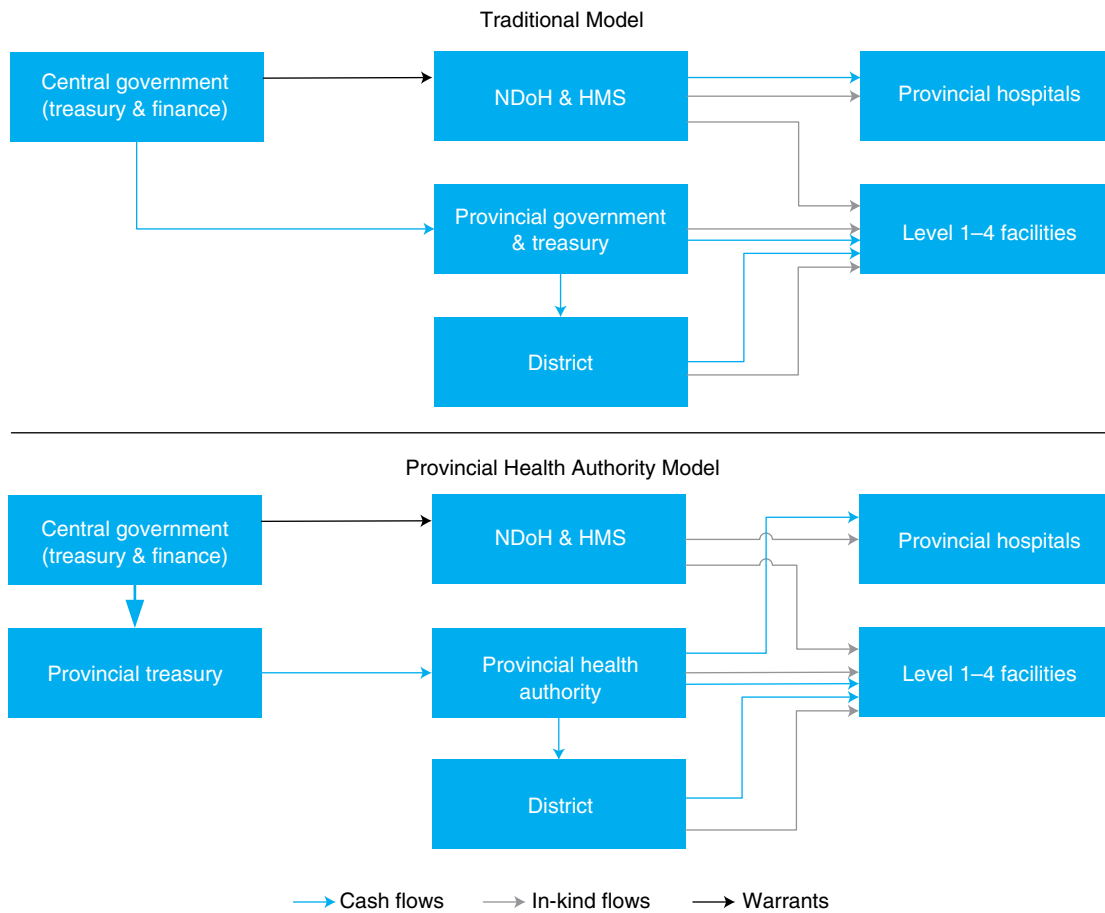
At an aggregate level, wage and nonwage expenses are relatively balanced. Some 54 percent of recurrent expenditure in the health sector is allocated for wages (an increase from 47 percent in 2011), while goods and services make up 46 percent in 2017.¹⁹ This is shifting increasingly towards salaries, given their rigidity. The pay-

roll costs in NDoH and HMS (including all hospital staff) continuously run over budget appropriations (Figure 3-5). Salaries in the civil service are paid fortnightly directly into worker’s accounts through a separate payroll system which does not require warrants. This means that the government payroll costs are based on the actual number of staff on the payroll, rather than budget appropriations which are not reconciled with the payroll. This leads to extensive annual payroll overruns across whole-of-government (K 471 million or 11 percent in 2016) (DoT 2017), which also affects the health sector and diverts funding from budgeted goods and services expenditure.

The capital investment component (previously the separate development budget) of the health sector

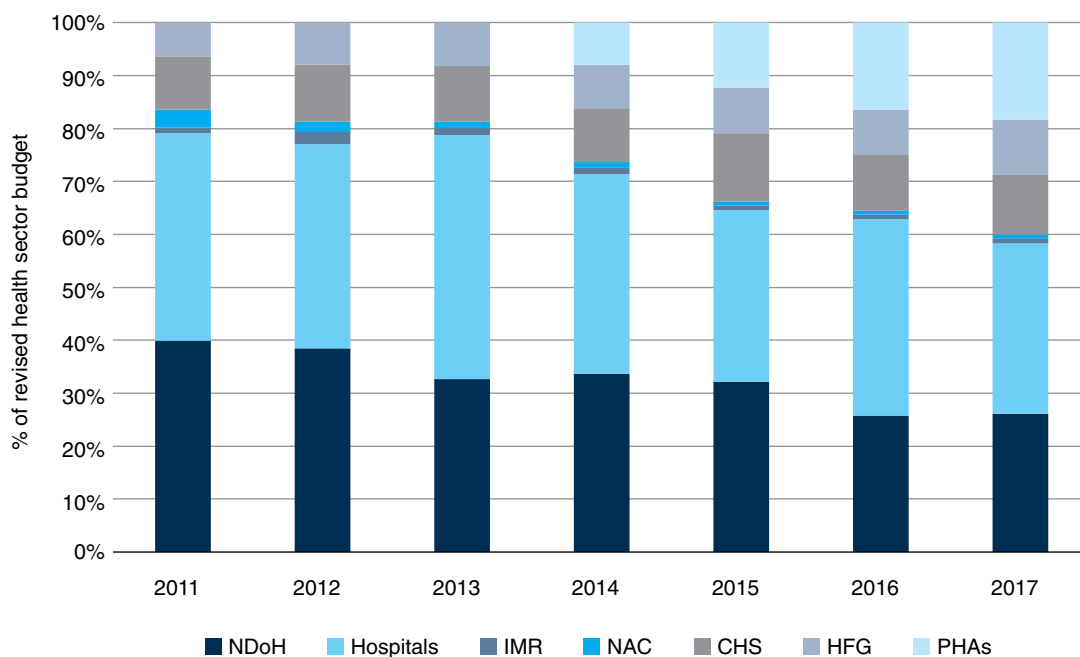
19. Note that the salaries for rural health workers (Level 1–4 facilities) are lumped into the general provincial salaries budget and are, therefore, never shown as part of the health sector budget. It is estimated that approximately K 140 million are allocated to provincial health staff (10 percent of the health sector budget).

FIGURE 3-3: Health Sector Fund Flows at the Subnational Level : Comparison Between Traditional and PHA Models



Source: Based on discussions between a World Bank consultant and NDoH staff.

FIGURE 3-4: Share of Health Sector Budget by Agency (2011-17) (revised budget figures, domestic financing only)



Source: DoT IFMS data 2017.

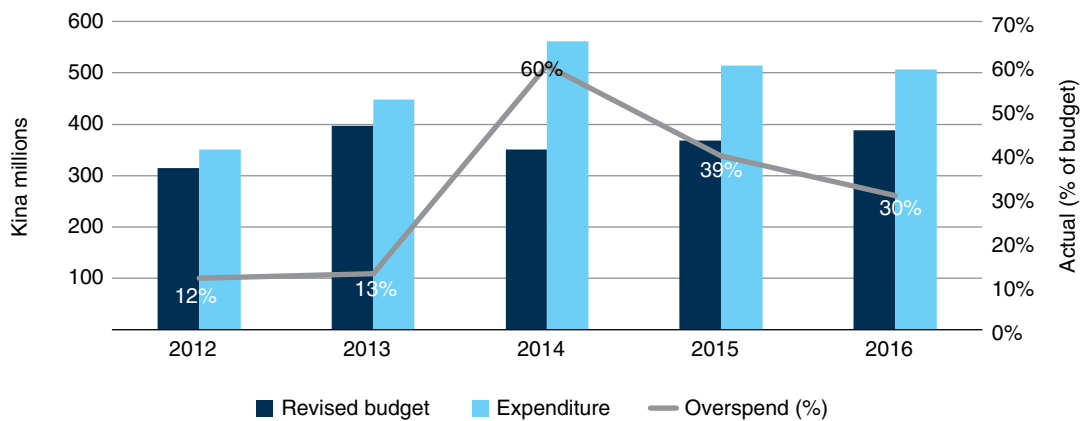
BOX 3-1: Service Improvement Programme Funding

In 2013, the PNG Government introduced a new directive to target resources to provincial, district, and local levels, through direct discretionary development grants, with specific guidelines for sector allocation. The new directive of subnational financing encompassed the PSIP, DSIP, and the Local Level Government Services Improvement Programme. Based on DIRD guidelines, these funds (totalling about K 1.492 billion annually since 2013) were to be distributed according to the formula: 30 percent of all direct subnational financing to be allocated to infrastructure projects, 20 percent to health (totalling approximately K 1 billion from 2011–16), 20 percent to education, 10 percent to the law and justice sector, 10 percent to administration, and 10 percent to the economic sector.

The DSIP funds were given their own set of DIRD spending guidelines approved by the National Executive Council in 2012, however, these guidelines have since been abolished. The NDoH has no oversight of these funds, as reporting is provided to the DIRD, which does not release reports to central agencies or NDoH. In addition, fund usage reporting is poor, with DIRD reporting that only 31 percent of provinces and 32 percent of districts acquitted their usage of funds in 2016. Changes in facility levels captured in the NHIS from 2011–15 do not indicate a significant increase in open Level 1–4 facilities, for which DSIP and PSIP funding is primarily responsible.

In 2012, only 6 percent of facilities surveyed in a representative study reported receiving funding through DSIP in the four years prior to the survey (Howes et al., 2014). Staff in NDoH also raise concerns that infrastructure built through these funds does not comply with the NHSS, and operational sustainability is often not guaranteed. Overall, while no systematic evidence is available, it appears that PSIP and DSIP do not contribute meaningfully to the establishment of health infrastructure at the subnational level. This is significant, as national investments ceased to be targeted to subnational infrastructure, under the assumption that they would be covered through PSIP and DSIP, leaving a clear funding gap in a critical area.

FIGURE 3-5: Payroll Overruns in NDoH and HMS (2012–16): Personnel Emoluments Revised Budget and Actual Expenditure, Domestic Financing Only (millions of Kina)



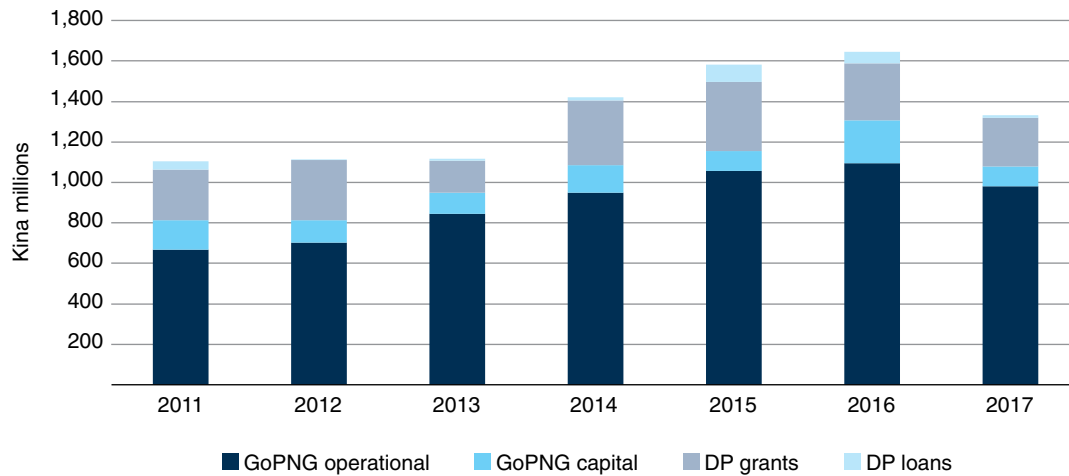
Source: Chart prepared by World Bank consultant based on data provided by NDoH.
 Note: Some overspend may be due to reporting errors in the IFMS.

budget is relatively small (Figure 3-6).²⁰ Capital investment is allocated mostly to nonsalary expenditure such as other operational expenses and capital formation expenditure such as construction, renovation, and improvement. Capital expenditure also captures spending that is operational in nature, such as operational materials, supplies, travel, and subsistence spending for particular projects.

Capital investment component appropriations include DP support through project support grants and concessional financing (shown separately in Figure 3-6). While no consistent breakup is available, a large share of external funding, captured under the capital investment component of the budget, is used for programs that are operational in nature. The capital investment component of the budget fell significantly from 2016 (K 214 million) to 2017 (K 98 million), even though actual expenditure in 2016 was significantly lower than the budget (more discussion below). The Public Expenditure and Financial

20. This does not include potential funding for health infrastructure sourced from PSIP and DSIP, as consistent data, showing how much is allocated by provinces and districts, is not available.

FIGURE 3-6: Total Government Health Sector Expenditure by Fund Source (2011–17)
(millions of Kina)



Source: DoT from IFMS data 2017.

Accountability 2015 acknowledged that the capital investment component of the budget faces considerable underspends, particularly due to capacity limitations and weak planning systems.

There is no fixed rule on the budget allocation ratio of maintenance to capital spending, which is reflected in the physical condition of health facilities across PNG.

Maintenance allocation depends on the initial capital base. Given the lack of investment in health infrastructure, it is likely that the share of capital spending for new investments would exceed that for maintenance. In addition to the ambiguity around the budget allocation ratio, there is a general lack of consistency around the responsibility for administration and execution of the maintenance budget.

There are many small and micro-sized health facilities (aid posts, health centers and subcenters) that require substantial maintenance. A survey conducted in 2010 (Cairns and Xiaohui 2015) found that only four of the 35 facilities visited were in “good” condition and most required substantial repair. Funding for routine maintenance is reflected in the calculation of the HFG (and is, therefore, the responsibility of provinces), but provinces do not allocate sufficient funding for this activity. Facility upgrades and new facility construction should be funded out of PSIP and DSIP, but the available evidence suggests that this is not taking place in a reliable, systematic way.

Warrant Release

The release of funds to rural health services is often untimely and unpredictable. This results in disruptions to health service delivery, hinders health managers’ capacity to implement planned activities, contributes substantially to inefficiencies, and prevents the elimination of user

fees at primary facilities. The year-to-year unpredictability of funding to the HFG can be seen in Figure 3–7.

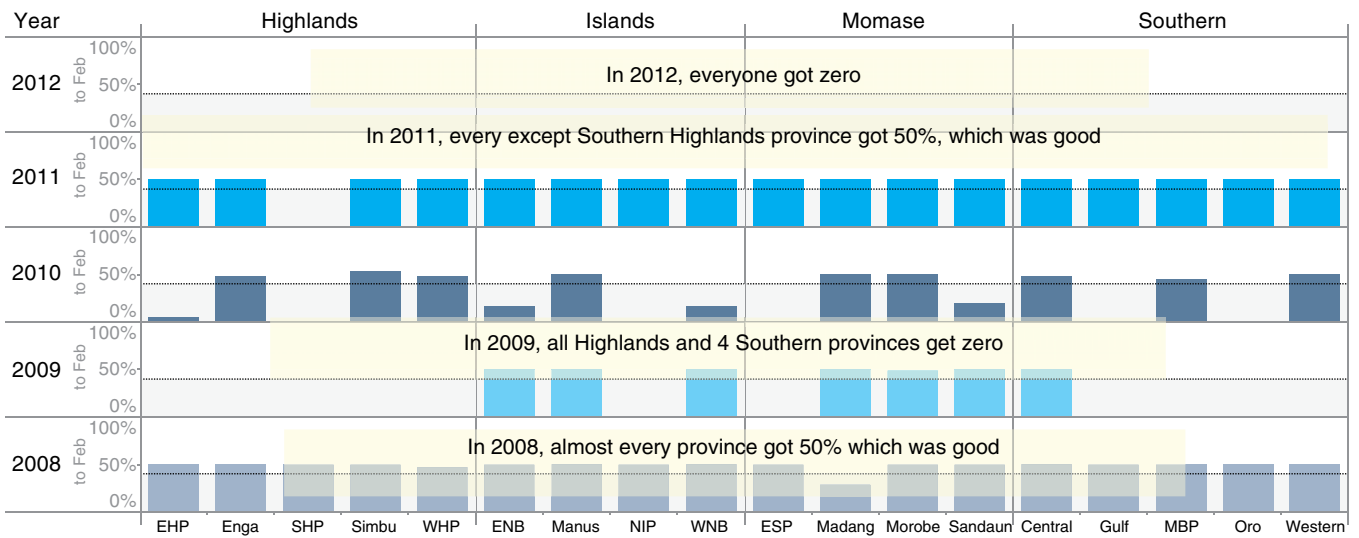
This problem worsened in 2015 and 2016 despite several commitments from central agencies to improve fund flows. In 2016, only 11 percent of the HFG was released by the end of the second quarter.²¹ At the same time, health sector agencies—which receive their full remaining balances for their operational and capital investment budgets toward the end of the year—face difficulties in spending their funds in time. It takes provincial administrations about two to three months to spend or transfer the money received to districts, LLGs or facilities. Once again, these delays result in the inefficient use of resources. Continued progress in the timely disbursement of funds is critical to improved health outcomes in PNG.

In line with the Medium Term Fiscal Strategy 2013–2017, the government is gradually working toward a balanced budget by 2021. To reduce the 2015 budget deficit to 3.5–4 percent of GDP, the government approved a 2015 Supplementary Budget that required a K 28.1 million or 2 percent reduction across the total health sector budget. The savings were realized from capital investment projects across hospitals (K 25.5 million) and from the operational budget of NDoH (K 2.6 million). All other health sector agencies were expected to receive the full amount of 2015 appropriations.²² NDoH expenditure figures show a significant underspend, which is likely caused by errors in the government financial management system.

21. Based on reports from the IFMS.

22. Actual expenditure is most likely reported with errors in the 2015 budget, as NDoH shows a large underspend and HMS a large overspend (see also separate discussion on data limitations in PNG in the appendix).

FIGURE 3-7: Cash Release for HFGs by February (Province and Region) (2008–12)



Source: Cairns and Xiaohui 2015.

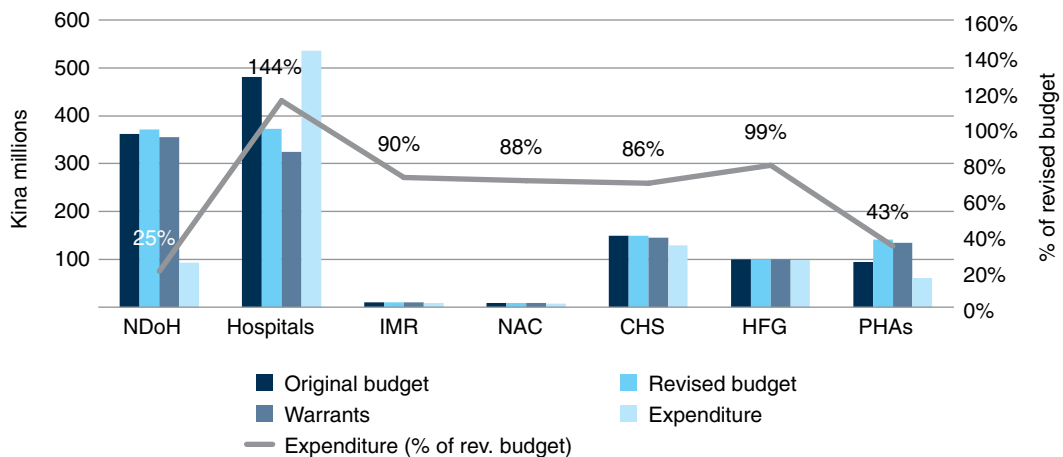
Note: The shaded area represents the 40% target funding that provinces need to commence their service delivery responsibilities.

The 2016 health sector budget was increased from the revised 2015 Supplementary Budget by 13 percent, from K 1.388 billion to K 1.567 billion. One of the key drivers of the increase was the transfer of K 225 million from the PSIP (direct development grants to members of parliament of K 5 million per district, per province) funding to support hospital infrastructure rehabilitation and redevelopment. The government has not, however, clarified usage and distribution of these funds. Additional funding was approved for three new PHAs in 2016. Despite an overall increase to the health sector in the 2016 budget, in comparison to the 2015 Supplementary Budget, some agencies were negatively impacted. The distribution of the budget increases has been varied due to significant reductions in some agency operational budgets, such as CHS and the NDoH (see Figures 3–8 and 3–9). Ongoing cash flow constraints negatively affected the execution of the

2016 health sector budget, and not all agencies received their full funding by the end of the year. Only K 23 million of the K 225 million that was newly budgeted for hospital infrastructure was released by the end of the year.

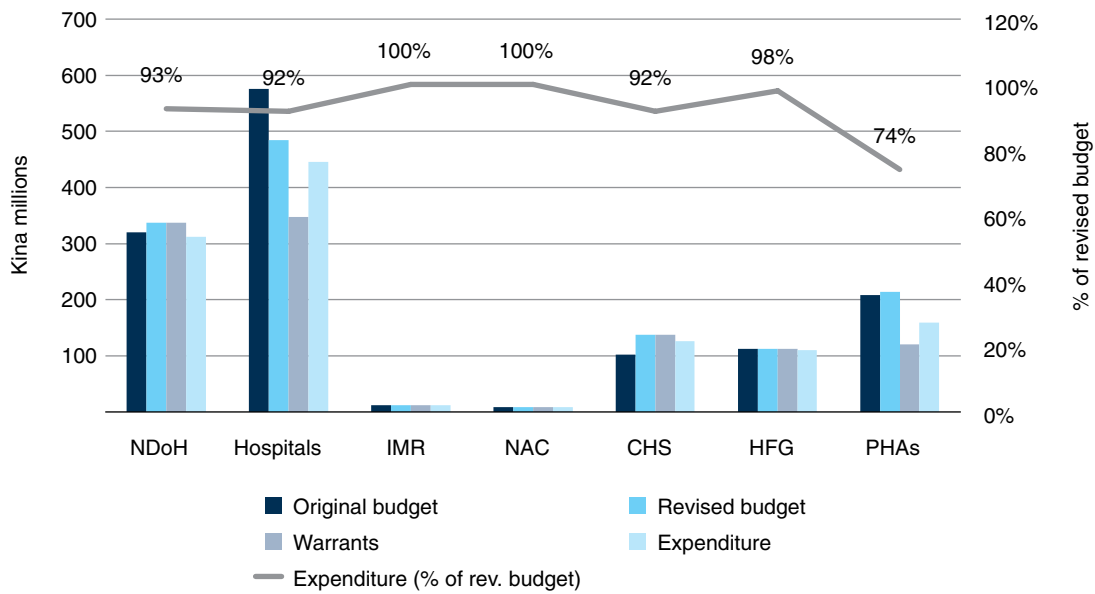
The health sector budget was reduced to K 1.333 billion in 2017. The main reductions are found in the operational budget of NDoH, (which faces a K 59 million or 18.4 percent operational budget cut, including drug procurement and salaries) and Hospital Management Services (mostly due to the termination of the K 225 million appropriation for provincial hospitals). CHS received similar funding, or a mild reduction when considering a reallocation from hospital funding to CHS late in 2016. A positive development is the maintenance of the HFG, which protects frontline service delivery from reductions across the sector.

FIGURE 3-8: Health Sector 2015 Budget, Warrants, and Expenditure, Domestic Financing (millions of Kina)



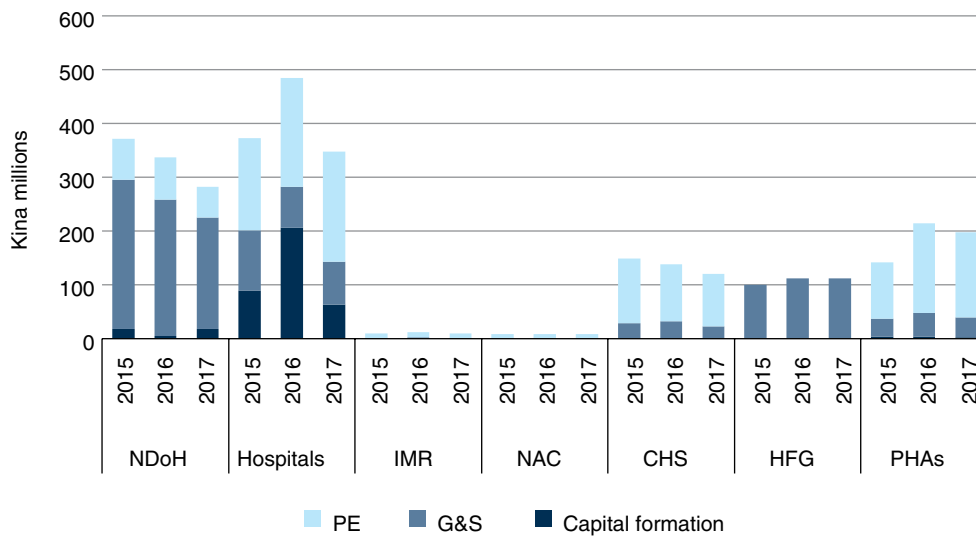
Source: DoT from IFMS data 2016.

FIGURE 3-9: Health Sector 2016 Budget, Warrants, and Expenditure, Domestic Financing (millions of Kina)



Source: DoT from IFMS data 2017.

FIGURE 3-10: Comparison of Revised Appropriations by Agency and Economic Item Categories, Domestic Financing (2015-17) (millions of Kina)



Source: DoT from IFMS data 2017.

Note: G&S: Goods and Services; PE: Personnel Emoluments.

SECTION FOUR

PNG Reliance on Donor Financing

Key messages:

- On average, 20 percent of total annual health spending in PNG is from DPs and funding is volatile with regards to levels, sources, and recipients. Australia is the largest bilateral donor. GFATM and Gavi have become increasingly important partners in health service delivery in PNG.
- PNG has entered the accelerated transition phase from Gavi support and must prepare to meet strict cofinancing agreements and assume responsibility for key functions currently provided by the donor.
- PNG will benefit greatly from early preparation for the eventual graduation from GFATM by unbundling and gradually integrating the support into government-funded activities.
- GFATM has invested over US\$190 million to date. Support is targeted to the HIV and AIDS response, malaria, TB, and HSS. Grants are now implemented through NGOs and nonprofits rather than the NDoH. The designation of NGOs and nonprofit organizations as Principal Recipients (PRs) increases the capacity of nongovernmental service providers but limits the ability of NDoH to understand service-delivery functions provided by donors. Whether NDoH can utilize the increased capacity of NGOs depends on the ability to enter into successful partnerships in the eventual case of donor transition.
- GFATM's multiple PRs and subgrantees illustrate PNG's fragmented financing and service delivery.

Donor funding was a significant source of health spending in PNG between 2006 and 2015, averaging 20 percent of total health spending per year (Figure 2–17). Total external funding to the health sector in PNG increased substantially, from US\$38.4 million in 2006, to a peak of US\$164.4 million in 2012. Since then, donor

funding has declined significantly to US\$99.1 million in 2015 (Figure 4–1). Donor health funding, from partners such as DFAT and Gavi, is projected to decline further in the near future.

Australia remains the largest bilateral donor, but its share of external resources fell from 86 percent in 2006 to 71 percent in 2015 (Figure 4–2).²³ In 2006, Australia and New Zealand together contributed over 96 percent of external resources to the PNG health sector. By 2015, this share had fallen to 72 percent. During this period, multilateral resources from the GFATM and Gavi came to play a substantial and important role (20.1 percent of all external resources in 2015).

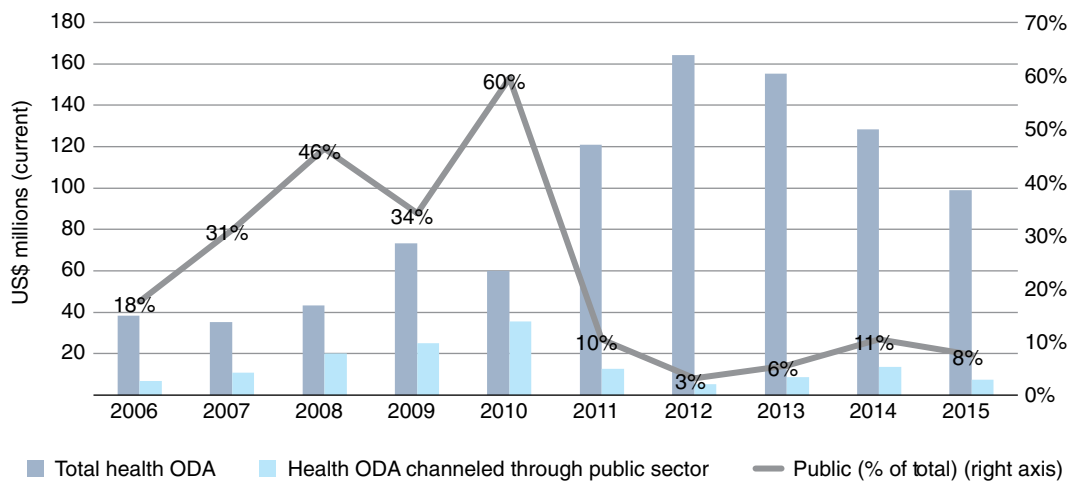
Donors are increasingly supporting health initiatives through nongovernmental organizations (NGOs) and civil society rather than through the PNG Government. In several cases, this was due to concerns about financial management practices within NDoH. This raises concerns regarding financial and institutional sustainability. GFATM resources are directed to NGOs and civil society rather than directly to the public sector. After an audit revealed discrepancies in the use of funds, NDoH resigned as a PR and GFATM was classified as off-budget support. GFATM drugs and vaccines are procured directly from providers of choice. Gavi support is provided in the form of immunization services support, health system strengthening (HSS), and vaccines. Gavi vaccines are procured through the UNICEF Supply Division only.²⁴

External resources, particularly the share contributed by Gavi and GFATM, comprise a much larger share of health expenditure in vaccines, and the three GFATM diseases. This raises concerns in light of decreasing external funds, and/or more general budget support to the health sector. There is likely to be an expansion

23. The reduction in recent years is both due to a decline in the grant allocation and a reduction of the exchange rate.

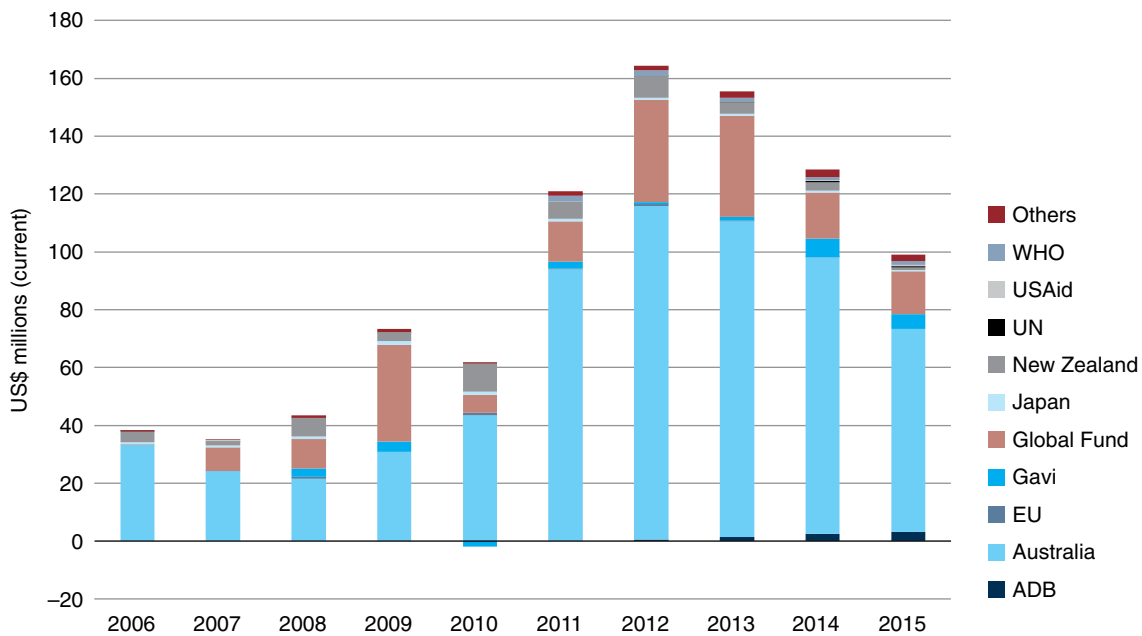
24. <http://www.gavi.org/country/all-countries-commitments-and-disbursements/>

FIGURE 4-1: Official Development Assistance (ODA) for Health by Channel (US\$ millions)



Source: Organisation for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS) 2017.
 Note: OECD-CRS include Gavi resources in multilateral arrangements, not to the public sector. Gavi procures supplies via UNICEF Supply Division. ODA channeled through public sector includes both donor and recipient governments.

FIGURE 4-2: ODA for Health by Donor (US\$ millions)



Source: OECD-CRS 2017.
 Note: The graph presents the figures based on OECD data. DFaT actual funding might be higher than presented. DFaT communicated that its 2015 spending on health in PNG was A\$98.5 million, including joint understanding funding on health activities.

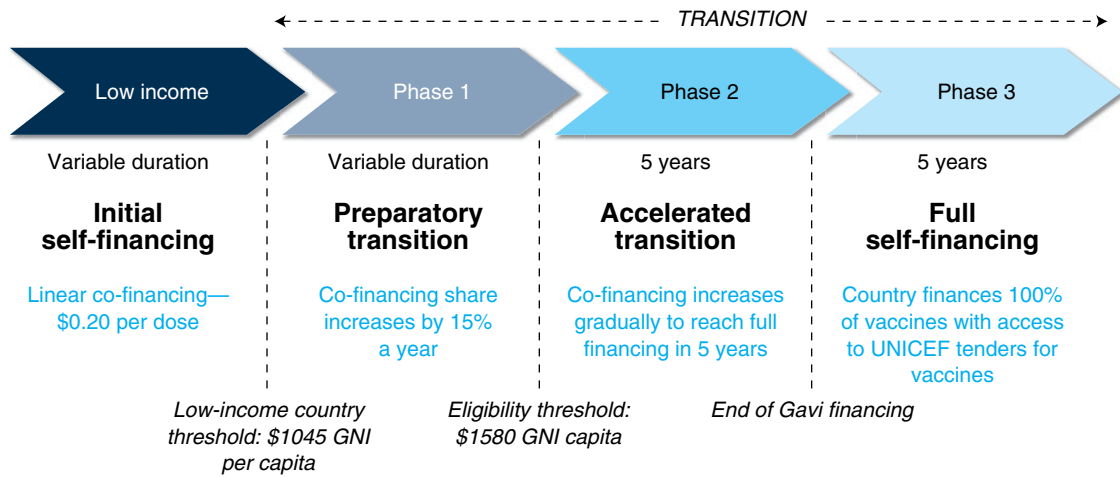
of concessional lending in the sector by the World Bank and Asian Development Bank (ADB) in 2017 and 2018. The World Bank board recently approved a US\$15 million credit for the emergency TB project to target an unprecedented increase in MDR and XDR TB in several hotspots in PNG. The ADB is preparing a credit-financed program to provide budget support for existing health operations and an HSS component.²⁵

25. Negotiations for the ADB credit are yet to be finalised.

4.1 KEY PNG DONORS: GFATM AND GAVI

Over the past decade to 2016, the GFATM and Gavi have played an increasingly important role in PNG’s health service delivery. In 2015, GFATM funds comprised 15 percent and Gavi funds comprised 5 percent of external funding to PNG’s health sector. GFATM resources have been directed to malaria treatment (43 percent), HIV and AIDS response (32 percent), and TB (25 percent). Gavi resources

FIGURE 4-3: Gavi’s Transition Policy and Country Preparedness



Source: Gavi 2017a.
 Note: These thresholds are updated annually.

have been directed to vaccines and immunization-specific activities. Both donors have also directed some funding to HSS.

GFATM and Gavi resources have conditions (commitments) and counterpart-financing requirements to encourage financially sustainable programs. PNG’s cofinancing share is expected to increase over the short to medium term. It is important that these requirements and commitments are included in the Medium-term Expenditure Framework (MTEF) as well as the annual health budget.

Under the GFATM new funding model (NFM), PNG must contribute 20 percent of the grant amount in counterpart funding as a lower-middle-income country. In addition, 15 percent of grant funds are contingent on domestic investment. This is known as “increasing future commitments” and formerly called “willingness to pay.” In practical terms, if a government does not make an additional investment, year-three funds are cut (from the three-year 2015–17 grant) to offset the 15 percent country requirement. For PNG, additional domestic investment includes the budget for HIV drugs.

For 2015–17, the government committed to spend US\$119.7 million, an additional investment of US\$48 million. The additional investment equates to a 67 percent increase in government commitment on the three programs from 2012–14.²⁶ In 2014, the chair of the GFATM Country Coordinating Mechanism (CCM) noted

concerns regarding the “willingness to pay” provision as the CCM has limited influence on government expenditure, and the government is no longer a PR.²⁷

Gavi requires recipient countries to contribute toward the cost of the vaccines to ensure the immunization program is sustained after Gavi’s financial support ends (Gavi 2017b). Support is based on Gross National Income (GNI) per capita, and when the three-year average exceeds the threshold (currently set at US\$1,580), countries enter phase two or accelerated transition. Countries gradually transition from donor support to domestic resources when they are 100 percent self-financing (see Figures 4–3 and 4–4). PNG began phase two of the Gavi program in 2017.

These programs operate on the theory that, as countries become richer, their capacity to self-finance improves and donor funding can be transferred to countries with greater needs, thus linking donor eligibility to GNI per capita. In reality, economic growth is almost never synonymous with equal access to health care across a population, nor does it guarantee a government’s capacity to increase funding to the health sector. Gavi is phasing out its PNG support at a time when the broader health system still lacks capacity and faces many constraints, including human resources (HR) shortages and PFM problems, which pose a risk to a successful transition.

26. Note the actual spending is less than the commitment between 2012–14.

27. The Country Coordinating Mechanism (CCM) is a partnership composed of all key stakeholders in a country’s response to the three diseases. The CCM does not handle Global Fund financing itself, but is responsible for submitting funding applications to the Global Fund, nominating the entities accountable for administering the funding, and overseeing grant implementation.

4.2 GAVI: IMMUNIZATION IN PNG

Gavi provides cash support for HSS, operational costs for campaigns, and vaccine introduction grants. All other Gavi support is in the form of vaccines; Gavi currently supports five vaccine initiatives in PNG: pentavalent, pneumococcal, measles, measles-rubella (MR), and inactivated polio vaccine (IPV).

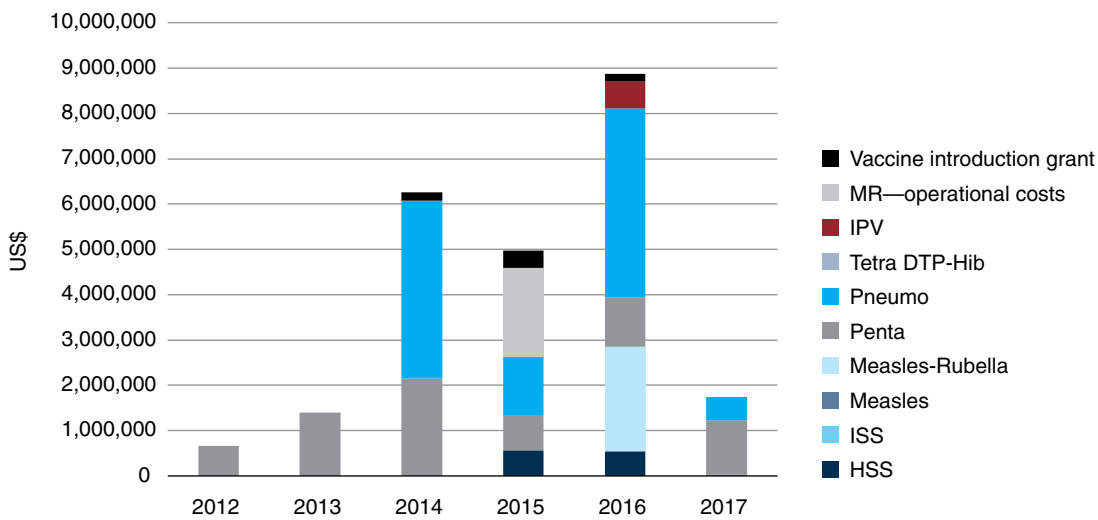
In 2016, Gavi disbursed US\$8.87 million; including US\$5.2 million worth of pentavalent and pneumococcal vaccines (Figure 4–4). Gavi support for IPV was in the form of one-time cash assistance. Gavi also provided operational costs for the MR campaign on a one-time basis to facilitate vaccine rollout across the country.

Neither initiative required cofinancing. HSS support was committed for 2016 and 2017, but cash for 2014 was only disbursed in 2015 due to low utilization. Gavi is providing US\$3 million from 2013 through 2017 to assist HSS.

As explained in a previous section, Gavi is entering the accelerated transition phase and PNG must fully finance vaccines by 2021. At that point PNG will be able to access Gavi prices from manufacturers for five years. It is highly recommended that PNG develop a costed transition plan with Gavi as a basis for targeted support from partners and potential time-limited investment from Gavi.

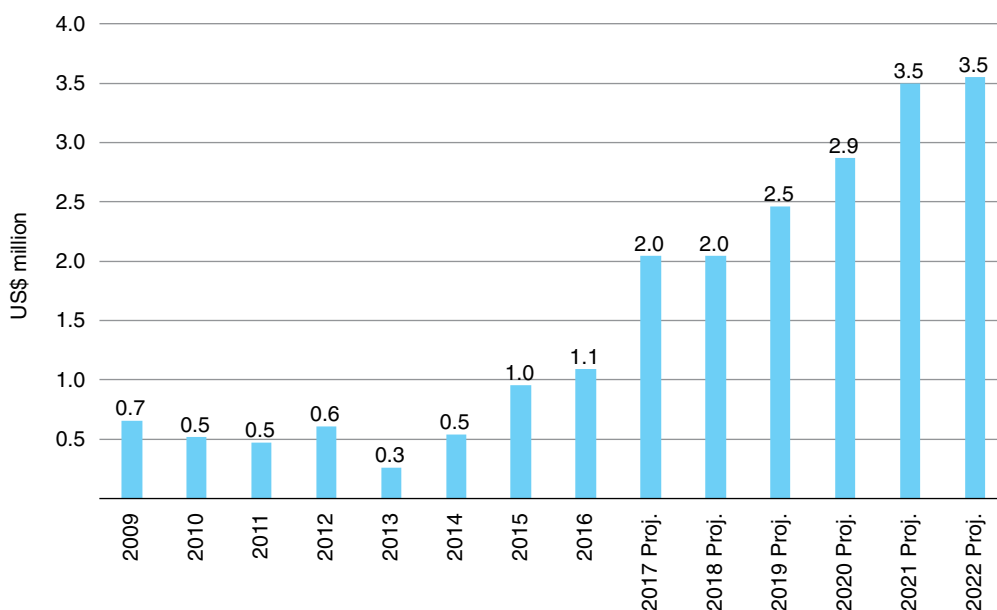
GoPNG’s financial commitment to immunization is evident from its funding for routine vaccines, however, in

FIGURE 4–4: Gavi Disbursements by Year and Program (US\$)



Source: Gavi 2017c.

FIGURE 4–5: Gavi Cofinancing Requirements (US\$ millions)



Source: Gavi 2017c.

past years, PNG health centers at all levels have experienced vaccine stock-outs due to delayed or inaccurate reporting of vaccine supply and demand. A key reason for such stock-outs is that the annual vaccine demand forecasts, that include central-level stock information, are often not submitted within the given timelines to the NDoH procurement unit and UNICEF’s Supply Division. In 2013, the Hepatitis B vaccine was unavailable at the national level for two months because stock levels at the district level were not documented. The following year, stock-outs of the BCG, OPV, and measles vaccines were also reported to have lasted for two months at the district level, interrupting the delivery of vaccinations.²⁸ As these vaccines are not supported by Gavi, and given the upcoming Gavi transition, stock-outs of various government-funded vaccines, combined with a default of 2014 cofinancing obligations, have raised questions regarding the government’s ability to self-finance immunization programs.

Gavi funding was channeled through a trust account held within NDoH, however, an audit in 2016 revealed discrepancies in the management of this account. This led Gavi to request a refund of US\$750,000 and to channel its support outside the government system. This highlights constraints in the effective management and accounting of the NDoH trust account as a key issue preventing greater reliance of donor programs on government systems.

Many funding and implementation decisions are made at subnational levels. While vaccines and supplies are funded nationally and distributed to the provinces, little funding is available for nonvaccine service delivery costs (that is, operational costs) at subnational levels. Funds for vaccine procurement are disbursed relatively regularly in

quarterly installments—this should prevent unnecessary stock-outs.

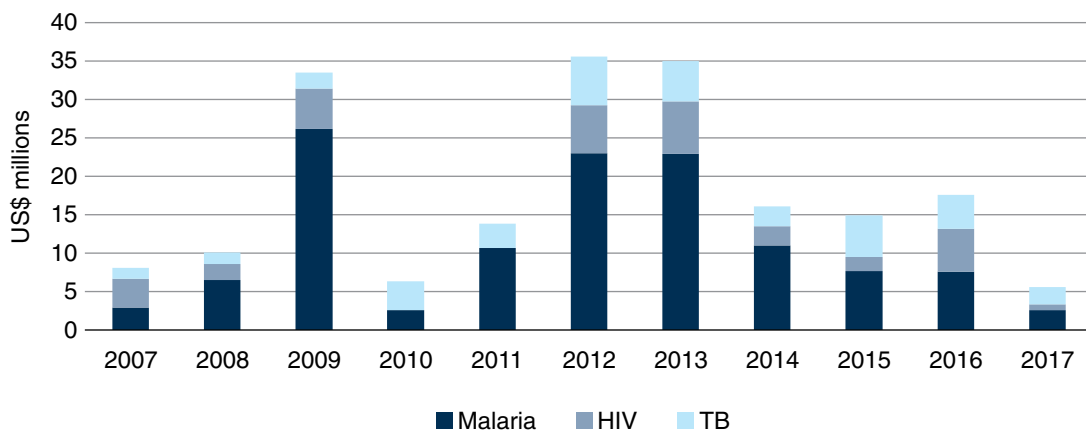
4.3 GFATM: HIV AND AIDS RESPONSE, TB, AND MALARIA TREATMENT

The Global Fund has been active in PNG since 2004, with total disbursements of more than US\$190 million (Figure 4–6). Until 2008, NDoH was the single principal recipient (PR). The Global Fund expressed concern over the capacity of NDoH to perform the PR role after the Office of the Inspector General raised concerns (The Global Fund 2014). Numerous donors identified the relevant NDoH trust account as lacking rigor in terms of effectiveness and administration systems. Since 2010, GFATM grants have, therefore, been implemented through NGOs and non-profit organizations. NFM grants were structured for the years 2015–17. Four development partners implement GFATM grants under the NFM—Oil Search Foundation (OSF), Population Services International (PSI), Rotarians Against Malaria (RAM), and World Vision International (WVI). This creates fragmentation and appears to be misaligned with the principles of the Paris Declaration.

Due to broad budget categories, it is difficult to estimate specific interventions and how much the GoPNG spends on the three diseases that are supported by GFATM funding. For example, TB is combined with leprosy, and HIV is combined with other STIs. Funding for the three diseases, which is considered as counterpart by GFATM includes: (i) drugs purchased out of the general drugs budget (even though this is not publicly visible in budget books); (ii) budget allocations to the respective units in NDoH; (iii) a share of the operational budget (both salaries and goods and services) for provincial health service delivery (for example, 10 percent of rural health workers’ salaries, which are not visible in the budget books,

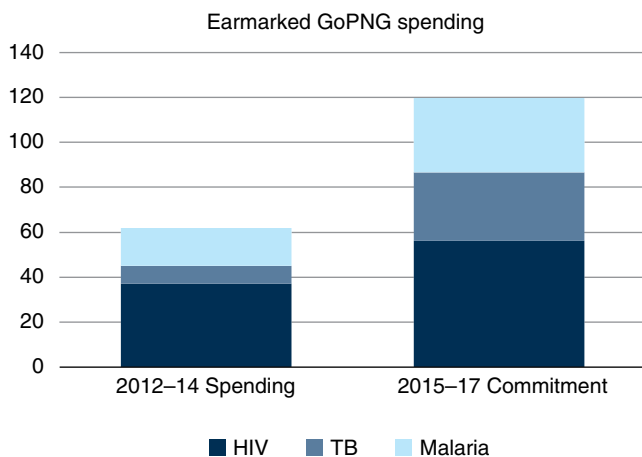
28. Regular stock-outs are the result of a series of interrelated issues across the medical supply chain, including operating procedures, facilities, transport, the cold chain, and reporting (see Brown and Gilbert 2014).

FIGURE 4–6: GFATM Disbursements by Disease (US\$ millions)



Source: The Global Fund 2017.

FIGURE 4-7: GoPNG Agreed Spending for GFATM Funds (US\$ millions)



Source: Based on discussions between a World Bank consultant and NDoH staff.

are assumed to contribute towards malaria); and (iv) any relevant components of loan-funded donor projects—currently the ADB’s Rural Primary Health Services Project. Overall, GFATM rates counterpart funding as well as systems to track it as sufficient. It is clear, however, that the government is spending far less than GFATM. Figure 4-7 presents budget data related to the three diseases. The actual spending is much less than the budgeted amount due to a variety of reasons.

Current GFATM Grants

Health services to the target populations are partly delivered using NDoH’s systems, in combination with service provider networks operated by CHS. For example, LLIN distribution is managed by RAM, and implementation is partly supported by government agencies and CHS. As a result, NDoH remains involved despite no longer receiving GFATM funds directly. In addition, NDoH receives funds through the TB/HSS grant and the PSI malaria grant. The PSI grant also provides support to the IMR. Funding to the NDoH and IMR are on a no-cash basis. CHS providers also receive subgrants from PRs (for example, Anglicare receives a subgrant from OSF for HIV).

HIV and AIDS

The GFATM grant for the HIV and AIDS response is managed by OSF and focuses on reducing the risk of HIV and STI transmission by improving access to prevention programs and improving links to HIV testing, care, treatment, and support services.²⁹ In terms of pre-

29. OSF was established and is supported by Oil Search. Oil Search is Papua New Guinea’s largest company, employer, and investor. As a key player in PNG’s oil and gas industry, Oil Search believes that proactive participation in the development of the country by the corporate sector is not only needed, but an obligation.

vention program goals, the grant aims to more than double the number of sex workers tested for HIV and provide them with condoms and anti-retroviral treatment. A similar program of testing, condom distribution, and risk reduction discussion, and STI treatment and partner notification is outlined for vulnerable populations. The grant includes US\$1.55 million for an integrated bio-behavioral study (IBBS) amongst key populations.³⁰

The three-year grant is for US\$14.2 million, however, it is not known how much the government spends on HIV counseling, testing or treatment in NDoH facilities, nor what activities are undertaken by either CHS or NDoH hospitals.³¹ In contrast, over one-half of the grant is spent on HR costs (55 percent); 16 percent is spent on travel-related costs and an additional 16 percent on external professional services. In terms of program sustainability, it is highly unlikely that the government will be able to finance similar HR costs in the future. It could be possible to provide similar HIV prevention outreach through training and capacity building for aid post staff, and by improving referral systems at facilities.³² GoPNG identified outreach as a minimum priority area under its HFGs. In other words, a minimum outreach-spending threshold is required for all provinces, but funding for outreach activities continues to be constrained.

DFaT is transitioning from targeted HIV and AIDS programs to an integrated sexual and reproductive health-funding approach. As such, GFATM funding for targeted HIV and AIDS services is becoming increasingly important. It will be important for the GoPNG to understand the changes in the different donor programming so that they can identify and address gaps that arise. Even though the delivery model runs in parallel to the government system, NDoH should carry more responsibilities in coordinating and planning to maximize value for money.

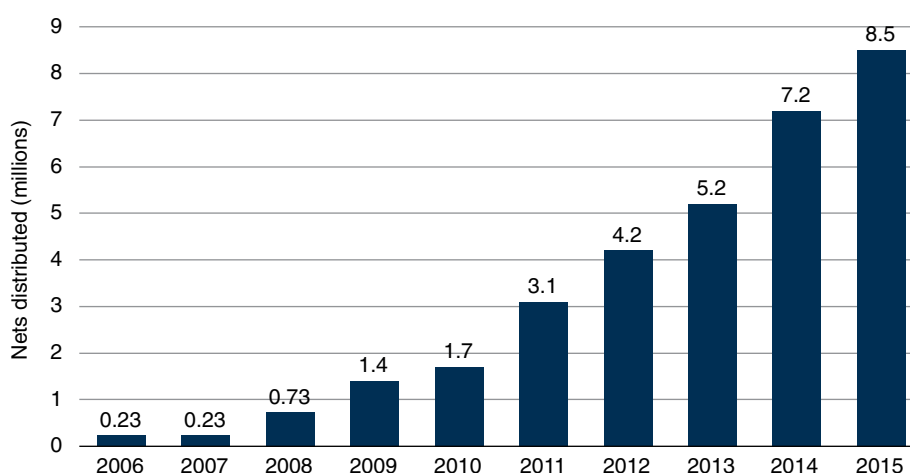
Malaria

PSI and RAM are the two NGOs selected as PRs to support the implementation of the malaria grants. The malaria grants aim to provide coverage (60 percent) of long-lasting insecticidal nets (LLINs) (Figure 4-8 highlights the increase in distribution of LLINs); increase the use of appropriate malaria prevention measures; and maximize access to early diagnosis and treatment for malaria. In addition, HSS components focus on strengthening malaria epidemic preparedness and response capacities at all

30. Under the terms of the grant, the size estimation and bio-behavioral data generated by the IBBS related to the size, location, and prevalence of key populations must be reported to the GFATM by December 3, 2017.

31. In the first 18 months there have been disbursement issues of the GFATM HIV grant.

32. For example, aid posts could also provide sex workers with referrals to facilities that provide testing.

FIGURE 4–8: Number of LLINs Distributed (millions)

Source: The Global Fund 2017.

Note: Figures are cumulative.

levels; and program management, prioritizing the district level. The goal is to reduce annual parasite incidence to 41 per 1,000 by 2018.

The RAM grant focuses on vector control, with 31 percent of the grant total allocated to nonpharmaceutical products, 30 percent to procurement and supply chain management costs, 23 percent for HR costs, and 10 percent for travel. RAM targets include 454,429 LLINs distributed via the mass campaign, and 75,000 distributed to targeted risk groups through continuous distribution. Provincial health offices and PHAs will be involved in the logistical planning for distribution, and government health facilities will serve as the main centers of distribution to households. Mothers can also receive bed nets while visiting antenatal clinics. The total cost requested for LLIN distribution is US\$29.5 million between 2014 and 2017 (The Global Fund 2017).

WHO recommends a three-year LLIN serviceable lifespan; as a result, despite distribution campaigns, GoPNG will need to assume an LLIN serviceable life of three years and budget for replacements. A study in Rwanda that considered survivorship/attrition (a measure of the number of nets remaining), and fabric integrity, found that after two years LLIN survivorship decreased to 42 percent (Hakizimana et al 2014).³³ The study estimated that almost 60 percent of LLINs needed replacement after two years, and were of little-to-no benefit to a user. The findings are instructive for PNG as they create a replacement and redistribution plan. NDoH has yet to allocate

funding for the replacement of nets, and an understanding of replacement costs is unknown, thus risking the sustainability of outcomes.

The PSI component of the three-year malaria grant focuses on NHIS case management and improving the efficacy of LLINs through educational outreach programs, facilitating consistent messaging, and producing low literacy packaging. As is the case with the grant for the HIV and AIDS response, the majority of funds are allocated for HR (50 percent) and travel-related costs (24 percent). Little is directed to health products (only 1.0 percent of the grant), in the form of nonpharmaceuticals, health product equipment, procurement, and supply-chain management costs. NDoH and IMR are recipients under the PSI grant. The NDoH component of the grant supports routine reporting, regional meetings, program salaries, administration costs, and the purchase of some IT equipment.

TB/HSS

The TB grant aims to reduce the estimated prevalence and death rate of TB to one-half the 1990 levels by 2020. This means reducing the prevalence rate to 339/100,000 population (or lower), and reducing the death rate to 30/100,000 population by 2020. The grant also supports the availability of drugs and laboratory diagnostics for TB, HIV, and malaria under HSS, and laboratory services with an emphasis on PHC.

The WVI activities are centered on TB care and prevention in 12 provinces where 28 of the 30 targeted underperforming basic management units (BMUs) are located. These 28 BMUs comprise only 11 percent of total BMUs, however, they account for 53 percent of the national TB burden, 75 percent of “defaulters” and

33. In Rwanda, the National Malaria Control Programme in charge of LLIN distribution and replacement predicts the proportion of nets remaining at any given time by a three-year NetCALC net loss model.

65 percent of “smear not done” cases nationally. Other components focus on program management of drug-resistant TB in three provinces (NCD, Western Province, and Gulf Province) with high drug-resistant TB prevalence, and increased HIV testing of TB patients in eight high HIV-burden provinces. The grant also supports HSS, focusing on the national pharmaceutical supply-chain management system, health information systems, monitoring and evaluation, and service delivery. NDoH is a recipient of the grant primarily under HSS components.

The designation of NGOs and nonprofit organizations as PRs increases the capacity of nongovernmental service providers but limits the ability of NDoH to understand service-delivery functions provided by donors.

The multiple PRs and subgrantees are another example of PNG’s fragmented financing and service delivery. Whether NDoH can utilize the increased capacity of NGOs depends on their ability to enter into successful partnerships in the eventual case of donor transition.

SECTION FIVE

Financial and Institutional Sustainability

Key messages:

- Financial resources available to the health sector are expected to decline, and it is unlikely that GoPNG will be able to fully finance current DP support as they graduate from assistance programs. It is, therefore, important to identify interventions (including LLINs and TB care) that are affordable within the projected resource availability and can be integrated into government budgets.
- In addition, to increase financial sustainability and prevent the loss of health gains, it is recommended that the NDoH:
 - adequately budget for vaccines, delivery costs, cold chain, and operational expenses; and
 - clarify functional responsibilities for medical supplies and drug distribution at every level.
- To ensure institutional sustainability, it is critical for PNG to develop replacement strategies for the human and technical resources that exit as donor support ends. Local organizations and NGOs may serve as resources as grants close.
- To continue Gavi's gains and improve PNG immunization rates and overall institutional sustainability, GoPNG will need to:
 - align vaccine and vaccine consumables purchase and delivery;
 - improve the National Regulatory Authority to meet WHO-recommended functions; and
 - investigate taking advantage of available Gavi vaccine prices through UNICEF in a more coordinated national effort to save financial resources.

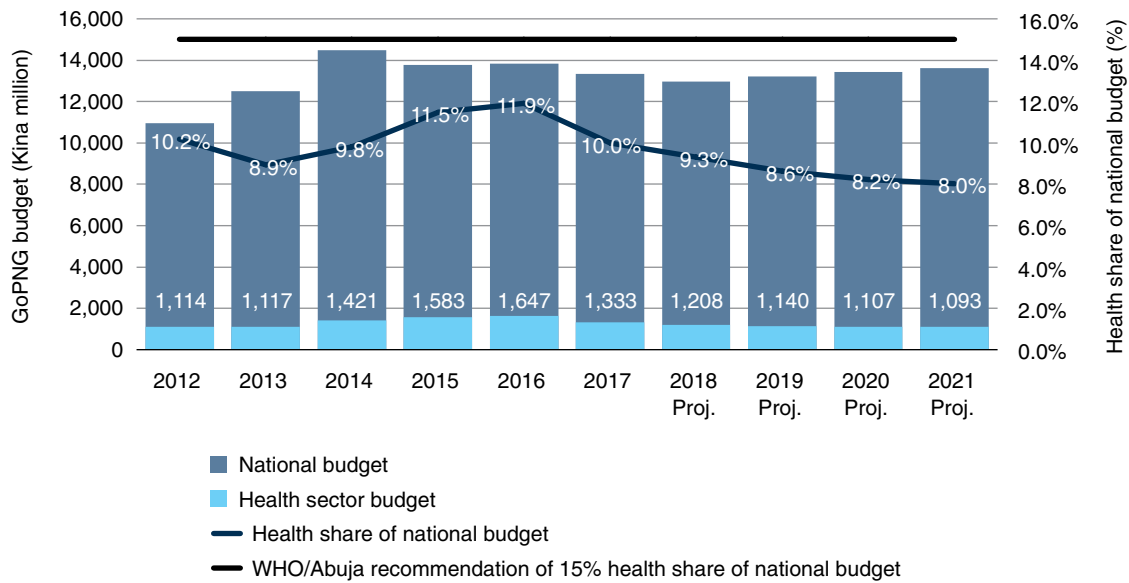
5.1 FINANCIAL SUSTAINABILITY

Given that both donors contribute significant amounts to specific areas of PNG's health sector, the financial sustainability of GFATM and Gavi-financed programs needs to be carefully assessed. Figure 5–1 provides a summary of future financing to the health sector over the medium term to 2021, as projected in 2017 budget documents. The summary shows a decline in financial resources available to the sector—in both monetary terms and as a proportion of the national budget. In addition, the GoPNG national budget figures do not capture GFATM and Gavi support and, therefore, risk overlooking any financial requirements for the transition and graduation phases of both DPs. Central agencies also do not capture GFATM disbursements or contributions as part of their DP expenditure reports or in either the Mid-Year Economic Fiscal Outlook or the Final Budget Outcome.

Upcoming program funding responsibilities should be integrated into the government's budget planning cycle. Given the complexity of the situation, an early integration of funding into the budget will enhance the chances of a successful post-graduation transition. Recommendations for smaller-scale integration efforts include financing LLINs and TB care and prevention efforts in underperforming BMUs.

Similarly, to smooth the transition, NDoH should update vaccine and related resource requirements in the budget and MTEF. Like GFATM, Gavi is a substantial donor in immunization. To prevent the loss of immunization gains when Gavi vaccine support ends, it is important for the NDoH to understand, communicate, and incorporate the required financial resources in the budgets. The government has initiated the process of budgeting for the vaccines previously provided by Gavi, with a goal to graduate by 2021 and fully finance the procurement, distribution, and administration of the vaccines. Further analysis

FIGURE 5-1: GoPNG Health Sector Projections (millions of Kina)



Source: Government of PNG 2017.

Note: (i) Health sector excludes provincial funding on health, as there are no projections included for this in the National Budget Book. (ii) WHO/Abuja Declaration: In April 2001, the African Union countries met in Abuja and pledged to set a target of allocating at least 15 percent of their annual budget to improve the health sector and urged donor countries to scale up support.

is recommended to determine the effectiveness of the national immunization program and establish a strategy to fully integrate Gavi support as part of the transition phase.

NDoH should adequately budget for the cost of vaccine deliveries (including cold chain and operational expenses) and factor in high distribution costs. Establishing clear responsibility for the distribution of medical supplies and drugs from medical stores to facilities will increase reliable coverage for the population. NEFC recommends that provinces take responsibility for drug distribution from the transit stores to facilities. NDoH has, however, assumed responsibility for this function in many provinces, and many mixed and informal funding modalities exist. Unfortunately, stock-outs of essential drugs remain a persistent problem.

Ultimately, financial sustainability of these programs, which have contributed to health gains, will depend on PNG’s ability to improve stewardship of existing funding, leverage development partnerships to increase capacity and strengthen existing health systems or identify key changes in current practices, and improve financial planning and integration efforts in the short to medium term.

5.2 INSTITUTIONAL SUSTAINABILITY

Institutional capacity is also an important issue for PNG—as discussed, GFATM support is channeled through nonprofit organizations and NGOs due to a

lack of confidence in NDoH capacity. PRs use NDoH systems; grants are implemented through CHS or NDoH, and through a myriad of NGO networks.³⁴ The grants increase the technical capacity of NGOs to deliver services and finance some NDoH staff. In addition, CHS providers may also become recipients of subgrants. GFATM programs have been aligned to support the disease programs within NDoH and the national strategies for TB, HIV and AIDS, and malaria treatment. It is important to recognize that GFATM and other donor partner support is not limited to financial support. As donors transition out, they also take human and technical resources with them. It is, therefore, critical that strategies for successful transitions are put into place to ensure institutional sustainability as well as financial sustainability.

The use of multiple organizations (NGOs, nonprofits) to implement GFATM grants has multiple advantages, but also presents risks to the system. The parallel delivery builds capacity and knowledge across a wide range of local organizations and can potentially build long-term institutional capacity given the decentralized and tiered health system in PNG. It is likely that some of the many organizations will continue to be active in the health sector when grants end, whether at the central, provincial, or district level.

34. Despite this, funding from GFATM is not captured in the PNG budget books (a process that is managed by the Department of National Planning without the input of NDoH) even if some of it is eventually utilized by NDoH.

As funding is unlikely to continue at the same rate, it is difficult to predict actual frontline delivery impacts.

It is unlikely that the activities will continue in as many districts over the long term unless they are integrated into the services provided by facilities and aid posts. GoPNG could, in future, work with RAM and their distribution network to distribute LLINs. As discussed earlier, analysis is required for a LLIN distribution and replacement plan over the next five years, particularly given WHO guidelines regarding a three-year LLIN life span. In addition, it is important to maintain improvements in TB care in the underperforming BMUs and to continue HIV and TB testing. Initially, this will require improvements in government facility-referral systems.

Similar challenges also exist in immunization programs. Vaccines are currently ordered and distributed without vaccine consumables. Geography and cold-chain

management present significant constraints if vaccine consumable deliveries are not aligned with vaccine deliveries. To establish a sustainable immunization system, NDoH should align vaccine consumable deliveries with vaccine deliveries.

Medicine stock-outs, reflecting the poor stock management and procurement system in PNG, remain one of the big challenges.

DPs have provided assistance to help project the demand and manage the overall stock for the three major diseases and immunization. Even with that level of support, stock-outs happened, partly due to poor communication between central, regional, and provincial medical stores and, therefore, the supply does not match the real demand in the areas. The capacity of the National Regulatory Authority also needs to be strengthened, as it does not meet WHO-recommended functions for a self-procuring country.

SECTION SIX

Summary and Policy Recommendations

PNG can successfully transition from key areas of donor support by improving budgeting, planning, prioritization of strategies, procurement systems, and HR. The sustainability of externally supported programs will depend upon the government’s ability to unbundle the support being provided and determine the components that need to be sustained and integrated into government systems in the medium term.

PNG’s current weak fiscal position has implications for the health sector. During 2012–16, central-level health expenditure has been volatile. Fiscal policies continued to tighten in 2016 to meet debt targets. Given APEC preparations and electoral spending in 2017 and 2018, it is unlikely the health budget will increase significantly. Budget constraints represent an imperative for the NDoH and CHS to assess current spending and costing models.

The recommendations below span short-term, urgent priorities, to longer-term and deeper reforms for the health sector. The recommendations are based on the analyses in this report, and on recent reports produced by the World Bank and other DPs. Some issues can be addressed by the NDoH, while others will benefit from the support of DPs.

1. Prepare for Medium- to Longer-term Donor Transition

	Technical Capacity		
Urgency	Requirement	Cost	Timeframe
Medium	Medium-high	Medium-high	Medium- to long-term

PNG is not ready for eventual graduation away from GFATM and other donor support in the medium term. To improve preparedness for graduation, the government should unbundle the support it is currently receiving and determine the key components to integrate and sustain in the national budget. The government should also use this period to improve the financial and institutional capacities in preparation for future transition and graduation.

Next steps:

- Improve reporting process of DPs (requiring their increased cooperation) to receive better projections, with a clear breakup of program components, channels, and cofinancing requirements.
- Undertake a donor mapping exercise.
- Improve the enabling environment to bring donor support back on system, including more reliable financial management of trust accounts.
- Review the feasibility of using current NGO program implementation partners, currently used by donors, to maintain important health services once PNG graduates from donor support.
- Use a donor transition plan to prepare the sector and articulate the requirement for additional support to central agencies.

2. Continue Partnerships in Service Delivery

	Technical Capacity		
Urgency	Requirement	Cost	Timeframe
Medium	Medium	Medium	Medium- to long-term

The NDoH should continue partnerships and dialogue with NGOs and CHS to establish alternative modalities for financing and service delivery across the key disease programs. Opportunities exist to mobilize resources through the private sector.

Next steps:

- Map NGOs and private sector providers and their comparative advantages, so that partnership agreements can be considered when funding constraints ease over the medium term.

BOX 6-1: Examples of Partnerships to Deliver Health Services

As a way of strengthening the health system and using limited resources efficiently, alternative service-delivery and financing modalities through Civil Society Organizations (CSO)s, churches, and NGOs could be considered.

Some examples of current partnerships include:

Between NDoH and CHS:

In 2014, a partnership agreement between the CHS and NDoH was signed to more formally reaffirm the already existing partnership. Under the 2014 Partnerships Policy, government entities and partners in health service delivery are required to adhere to more formal agreements. The partnership agreement formally established a health service delivery and training partnership with CHS by allocating and distributing government grants to members.

Between provincial governments, hospitals, and the Oil Search Health Foundation:

a) Gulf Provincial Government and OSF

The OSF partnership with the Gulf provincial government, working with the Kikori district government, focuses on improving and running “integrated primary and preventative health programs.” These contribute to improved and measurable health outcomes for agreed public health authorities,” through the implementation of primary and preventative health care services using a health care model focused on communities and district levels. One of their objectives is to move away from “disease specific, resource inefficient” approaches through a more integrated primary approach and to include broader public health priorities beyond HIV and AIDs, TB, malaria, and maternal-child services. The partnership also includes Oil Search’s contribution to HSS, by rebuilding district health systems and acting as a “systems enabler,” given their private sector comparative advantage to build partnerships with stakeholders, other DPs, and with local authorities and leaders.

b) Hela Provincial Hospital Board and Oil Search

The Oil Search partnership agreement provides several support services to the Hela provincial hospital. In particular, the partnership aims to support the hospital CEO and management by strengthening their leadership roles. The Oil Search Health Foundation provides supplemental funding for hospital staff (both clinical and support staff), funding support for the recruitment of 200 priority positions in the hospital, general financial management improvements, and the role of liaison with DPs for additional funding and other support.

3. Integrate Major Disease Programs and Clarify Types and Levels of Interventions

	Technical Capacity Requirement	Cost	Timeframe
Urgency	Medium	High	Medium- to long-term

Integrating the major disease programs as part of the overall HSS effort will require further linkages between the National Health Plan to the key disease program plans. First and foremost, PNG needs to determine which components of each key disease program to integrate and provide cost and resource requirements (such as with Gavi support and the immunization program). These program activities need to be linked to PHA implementation and integrated into provincial service plans down to the health

facility level. This will establish a clear demarcation of roles and responsibilities to effectively coordinate and implement the national strategies already in place for the key disease programs.

Next steps:

- Establish which donor responsibilities require integration into service-delivery functions at all facility levels.
- Identify nongovernment sector partnerships that provide a competitive advantage over government providers.
- Enact reforms across medical supply and pharmaceutical procurement and distribution services to support health system preparation for the transition phase.

4. Manage Gavi Transition

Urgency	Technical Capacity Requirement	Cost	Timeframe
High	Medium	Medium	Short- to medium-term

The transition from Gavi support is already underway, as PNG’s cofinancing requirements are increasing by 20 percent each year from 2017 onwards. To successfully transition, the following actions are necessary: (i) identify a funding source for the increasing cofinancing requirements; (ii) identify the components of support that must be integrated over the coming years; and (iii) maximize the benefit of the remaining years of HSS support.

Next steps:

- Communicate increasing cofinancing requirements—and their inevitability—clearly to central agencies, so they can be factored into the budget.
- Identify components of Gavi support that must be integrated over the short to medium term.
- Improve support mechanisms for vaccine delivery by improving communication between medical stores and NDoH, aligning vaccine and vaccine consumables deliveries, and strengthen the capacity of frontline facilities to deliver immunization services.

5. Increase Health System Efficiency to Increase the Fiscal Space

Urgency	Technical Capacity Requirement	Cost	Timeframe
High	Medium-high	Medium	Short- to long-term

It is particularly important for the government to increase the efficiency of current spending. Higher spending on health can contribute to better outcomes, but so can improvements in health spending efficiency. There appear to be significant inefficiencies in health spending, although the extent of these inefficiencies is not entirely clear. The systematic documentation of the budget, expenditure, personnel, and health utilization information will help track expenditures and expenditure outcomes. Improved efficiency will ensure that resources are available in a timely manner and will reduce cost pressures. Improving the efficiency of spending will create a stronger health system—one that is better prepared for the Gavi transition and decreased vertical support from GFATM.

Next steps:

- Identify the areas of inefficiency, including both allocative inefficiency and technical inefficiency. For example, in the case of salary overruns, which divert funding from goods and services and prevent recruitment of critical new staff, efficiency could be improved through: (i) a payroll cleansing exercise; (ii) updating staff numbers across the health sector; and (iii) improving the efficiency of drug procurement and distribution to prevent stock-outs and expiry.
- Improve budget coordination with provinces through service plans and the Annual Implementation Plan process. Enhance alignment with plans and encourage funding to frontline facilities.
- Improve the impact of programs that have experienced funding increases but still perform below potential, especially the HFGs, PSIP, and DSIP. Consider direct facility funding and improve coordination with provinces and districts.
- Implementing agencies and health facilities need to identify areas for waste reduction (such as unnecessary travel, purchase of stationery, printing, and procurement of supplies) that will create more fiscal space in the short term for the key program areas.

6. Fiscal Analysis and PFM

Urgency	Technical Capacity Requirement	Cost	Timeframe
High	Medium	Low	Short- to medium-term

Short-term estimates of funding needs and cofinancing requirements must be included in the MTEF, to better understand future resource requirements and communicate them effectively to central agencies. Overall, PFM needs to be continually strengthened to improve the cost-effectiveness of service delivery and free up resources from poorly performing areas.

Poor financial management systems within NDoH have prevented donors from increasing on-system support through the Health Sector Improvement Program (HSIP) trust account. Improving this capacity would serve as a precondition and allow donors to increasingly rely on government systems.

Next steps:

- Improve reporting from donors to furnish the MTEF with projections of disbursements and counterpart requirements.

- Identify key PFM constraints at the subnational level and identify innovative ways of delivering training.
- Clarify necessary capacity and processes required by donors to use government systems at a DP summit.
- Consider using technical assistance to build capacity in the HSIP account and place a donor-funded accountant in the unit, as is the case in other Pacific countries.

7. Ensure Timely Release of Warrants

Urgency	Technical Capacity Requirement	Cost	Timeframe
High	Low	Low	Short-term

Warrant releases (which authorize an agency to access budgeted funds throughout the budget year) need to be timely to improve health system performance.

While untimely disbursement is a DoT issue, the NDoH needs to improve its own budget execution and disbursement of operational funds for the hospitals and for CHS. Although the issuing of warrants is unpredictable and ad hoc, NDoH has the potential to create further bottlenecks if funds to hospitals and CHS are not disbursed immediately upon receipt from the treasury.

Next steps:

- Continue to inform central agencies of priority HFGs for uninterrupted frontline service delivery.
- Track the timing of fund release to hospitals and CHS as a PFM performance indicator.

8. Protect Government Financing to the Frontlines to Ensure the Successful Implementation of the Free Health Care Policy

Urgency	Technical Capacity Requirement	Cost	Timeframe
High	Medium	Low	Short- to medium-term

The government has committed to eliminating user fees, which are a barrier to health care access—especially for the poorest segments of the population.

To date, the related funds are not disbursed in a timely manner, resulting in delays at the provincial level and forcing facilities to charge fees. Warrants for HFG and the Free Health Care Policy funding must be released reliably to eliminate user fees. A majority of this funding must be utilized reliably to finance facility operations (in-kind or cash) rather than activities at the provincial and district level.

Next steps:

- Improve reporting from donors to furnish the MTEF with projections of disbursements and counterpart requirements.
- Identify key PFM constraints at the subnational level and identify innovative ways of delivering training.
- NEFC and NDoH should continue to analyze provincial expenditure and identify areas that impede fund flows to facility operations. They should continue to work with provinces to improve the chart of accounts to accurately track allocations to facilities.
- NDoH should use the Annual Implementation Plan process to oversee provincial budgets and encourage sufficient allocations to facility operations.
- Consider the feasibility of funding facilities directly (as is currently the practice with schools) to reduce cash flow bottlenecks at the provincial level.
- Improve the provision of medical supplies so facilities are not forced to collect user fees during stock-outs.

9. Reporting and Information Sharing

Urgency	Technical Capacity Requirement	Cost	Timeframe
Medium	Low	Low	Short- to medium-term

Increased engagement and membership at the Ministerial Economic Committee, as well as the Provincial and Local Level Service Monitoring Authority (PLLSMA) could help the NDoH, as the lead agency for the health sector, improve communication and report on the key disease areas and the health strategy implementation challenges as donor partner support decreases (particularly with Gavi). The challenges of the health sector, in terms of integration and transition, need to be more clearly articulated. Furthermore, policy options and strategies should be established in close consultation and partnership with the DoT and the Department of National Planning and Monitoring, as well as with other sectors like transportation and education.

Next steps:

- Prepare an accessible summary of a donor transition for central budget agencies; include clear transition schedules and predictable funding requirements for integration into the national budget.

10. Improve Data Accessibility, Comprehensiveness, and Quality

Technical Capacity			
Urgency	Requirement	Cost	Timeframe
High	High	Medium	Short- to medium-term

There is an urgent need to assess the country's disparate data collection systems (across different service delivery levels and programs, both routine NHIS and eHealth pilots) in order to improve the NHIS. Pilot programs are being implemented to strengthen the routine NHIS system, but are not coordinated across the health sector, which means that current, accurate data for surveillance of all diseases and services is not available. The Global Fund grant included K 2.4 million to support NHIS strengthening, and to support NDoH in reviewing and assessing options to establish proper electronic systems.

Next steps:

- Improve data sources for domestic funding (national and provincial), external funding, disease burdens, health access, health workforce and health infrastructure so they can be effective planning and monitoring tools.

- Improve the NHIS and strengthen staff capacity to use various tools for reporting and information sharing. Continue progress on the eNHIS system to improve timeliness and accuracy of data.
- Work with DoT to ensure budget figures are accurate and can be used to estimate sector funding trends.
- Consolidate data sources for health workers and complete payroll reconciliation with DoT, Department of Finance, and Department of Personnel Management to reduce salary overruns.
- Liaise with the WHO to identify reasons for inconsistencies in donor funding levels reported in the CRS.
- Consolidate and strengthen the disease-reporting system to provide accurate data, which will improve financial planning and targeted health staff and supplies deployment.

APPENDIX ONE

Data Challenges in PNG

BUDGET AND EXPENDITURE DATA

This report aimed to provide and use PNG Government data where possible because it gives a more granular, up-to-date view on budgets and expenditure than data from international repositories. NDoH has access to two sources of budget data for the health sector—national budget books and data from the IFMS. Both data sources have significant limitations that are often not apparent to the uninformed viewer.

Budget Books

Budget books only show health sector totals since 2015—before that, the health sector was included in the social sector (together with education). Sector figures (in the expenditure section of Budget Volume 1 and the Final Budget Outcome) had several errors that significantly distort analysis. The errors included the omission of external financing in sector figures in the 2015 Final Budget Outcome (indicating a large underspend) without a note to clarify the omission. In addition, sector budgets do not add to total expenditure—leaving a large unexplained component that reduces the reliability of sector forward projections in the 2015 and 2017 budget books.

Macroeconomic data contains recurrent errors. One example was the inclusion of two different Gross Domestic Product (GDP) series in the 2017 budget books, without any explanation as to which one is correct and a miscalculation in the deficit (which does not equal the difference between revenue and expenditure). This makes calculating ratios and trends uncertain (for example, health as a percentage of GDP in 2017 is either 2.3 percent or 1.7 percent depending on which GDP series is used).

Some important health expenditures are not visible either in budget books or the IFMS. This includes potentially significant health infrastructure spending out of PSIP and DSIP, for which there is no reliable data, and salaries of provincial health workers (Level 1–4 facilities), which are incorporated in a broad provincial staffing grant.

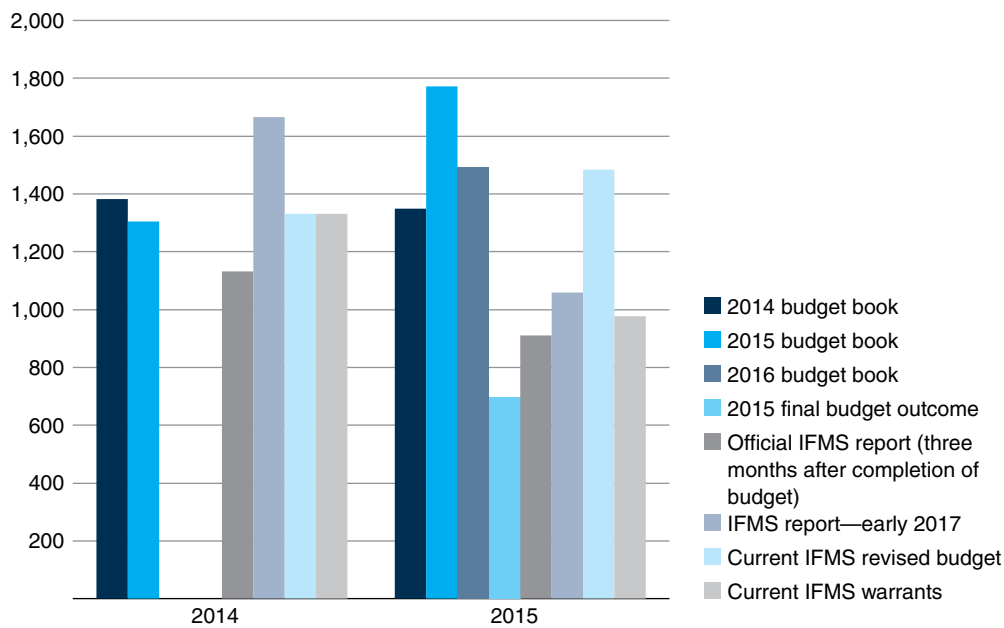
IFMS

The national budget is managed through the IFMS, which provides detailed reports on agency budgets, the release of warrants, and actual spending by project and activity, fund source, and economic item. This system, in principle, allows very detailed analysis of expenditure trends and this report benefited greatly from this system.

Several issues significantly affected the ability to analyze trends in the sector, including:

- **Significant expenditure deviations from both budgets and warrants, and large variations in figures depending on the time at which a report was run.** In 2014, health sector expenditure was 146 percent of the revised budget and NDoH expenditure was 158 percent of the budget. In 2015, sector expenditure was 79 percent of the revised budget, while NDoH expenditure was 25 percent of the revised budget. Officers in NDoH, Treasury, and Finance could not explain these deviations on request.
- **Variations were especially apparent in the 2014 and 2015 budgets, where figures from reports a few months after the completion of the budget year are significantly different from reports one or two years after.** In the case of the 2015 budget, changes in the system were apparently only made more than a year after the completion of the Final Budget Outcome for that year (so sometime mid-2016). These changes were significant enough that they affected the analysis and conclusions in this report.

Figure 1A–1 shows a comparison of 2014 and 2015 health sector budgets from a variety of data sources, including preceding budget books (that is, projections), current budget books, the Final Budget Outcome document, and IFMS reports run at a variety of times. This clearly demonstrates the large range of estimates of what should be very similar figures.

FIGURE 1A–1: Budget Data Variance (2014 and 2015) (millions of Kina)

Source: Based on discussions between a World Bank consultant and NDoH staff.

Subnational Expenditure

The problem of data variation is exacerbated at the subnational level as the IFMS only captures a lump sum transfer of the HFG as a single line to each province. At the next level, provincial governments run a legacy accounting system. NEFC regularly tries to review provincial expenditure (funded through HFGs), but large variations in the chart of accounts and budget classifications used makes this task challenging. The result is a complete lack of consistent and reliable information on how much provinces spend on frontline service delivery vs. provincial administration and particular disease programs (for example, malaria, TB, HIV, as this is often not reported in provincial budgets).

This lack of data presents a challenge in reviewing expenditure against standards and policy priorities. It also makes it impossible to estimate with any certainty how much the government allocates as counterpart financing against the GFATM diseases and vaccination. GFATM currently uses estimates to calculate cofinancing actuals of the government (for example, 10 percent of salaries of health workers are used in malaria-related activities).

External Health Funding

There are a variety of funding sources for DP expenditure available in PNG and challenges were found in each source:

- **OECD CRS:** The OECD CRS is an international repository that is generally well audited, however,

commitments and disbursements in this system deviate—sometimes significantly—from figures in donor’s own reports. For example, DFAT disbursements in the CRS are only about 45 percent of DFAT’s own reported figures in 2014 and 2015. GFATM funding in the PNG CRS data misses the HIV and AIDS component, even though this is shown in GFATM’s own reports. CRS estimates funding by whether funding is channeled through donor or recipient governments, but has a (large) category where these two are mixed, making it difficult to estimate precisely how much development assistance is on PNG Government systems.

- **IHME Development Assistance for Health:** This is another well-prepared international repository that also includes funding for international NGOs. This source highly overstates GFATM and DFAT funding. IHME does not have information on whether funding is on government systems.
- **PNG Government Budget Books and Accounting System:** ODA donor figures (both budgets and actuals) are captured in budget books each year by the Department of National Planning and Monitoring. The break-up of these is, however, too coarse for detailed analysis (for example, no break-up into disease areas or cash and in-kind support) and forward estimates are generally too inaccurate to inform policy making (donors generally state that their projections are quite imprecise, and a large donor simply assumes that funding will continue at precisely the current level over the forward estimates). The information is unable

to be used as a tool to understand how and where donor funding in the sector is allocated and will change over time. The reporting of actuals in the system is inconsistent, and there are several years where actual funding (which should be reported by donors after the budget year to the Department of National Planning and Monitoring) is missing for some donors. For this reason, the report excluded donor funding in charts, unless otherwise indicated.

- **Direct Donor Projections to NDoH: NDoH asks donors to prepare and provide projections to NDoH directly, with a break-up of in-kind support and disease areas.** The projections are not consistently provided, however, and forward estimates are not reliable enough for policy decisions. Without a clear break-up of program areas, funding channels, and implementation partners, NDoH cannot understand the current support it will eventually have to absorb into government systems.

HEALTH SYSTEM OUTPUTS AND OUTCOMES

This report used information from international repositories as well as the NDoH NHIS. The NHIS captures input, process, output, and outcome indicators of the

health system and publishes an annual update through the NDoH website. The NHIS also tracks all facilities in the country, including their operational status. The NHIS relies on information from provincial governments. Reporting rates generally fluctuate between 85 and 90 percent. NDoH also cites concerns that provinces overstate achievements and the quality and status of facilities. Anecdotally, NDoH staff have been told on many occasions by clients or staff of referral facilities that a facility has been closed for a long time, even if it is reported as open by the province.

NDoH, the government more generally, and CHS have several databases that contain important information on health sector employees. Many of these systems duplicate information contained in other systems and, in other cases, the same information is collected but different codes are used. These data systems include: (i) the government payroll system (Department of Finance); (ii) the CHS payroll; (iii) the Health Care Practitioner's Professional Registration System (within NDoH); (iv) Health Human Resource Management System (within NDoH); (v) the National Headcount Survey 2009 (within NDoH); and (vi) the Health Management Information System (within NDoH). All these systems have significant constraints and data gaps which have degraded over recent years. This means that the only reliable audit of health workers was in 2009, and since then only imprecise estimates are available.

Bibliography

- Brown, A. N., and B. Gilbert. 2014. "The Papua New Guinea medical supply system—documenting opportunities and challenges to meet the Millenium Development Goals." *Journal of Pharmaceutical Policy and Practice* 7(5).
- Cairns, A., and X. Hou. 2015. "Financing the frontline: an analytical review of provincial administrations' rural health expenditure 2006–2012." Washington, DC: World Bank.
- Christian Health Services. 2013. "Christian Health Services Technical Assistance Mission Report."
- Department of National Planning and Monitoring (PNG). 2015. "Medium Term Development Plan 2: 2016–2017." Waigani: Department of National Planning and Monitoring.
- Department of Treasury (PNG). 2016. "2016 Mid-Year Economic and Fiscal Outlook (MYEFO) Report." Waigani: Department of Treasury. http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2016%20Mid%20Year%20Economic%20and%20Fiscal%20Outlook%20Report.pdf
- . 2017. "Final Budget Outcome 2016." Waigani: Department of Treasury. http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2016%20FBO%20-%20FINAL.pdf
- Gavi. 2017a. "Gavi's Transition Policy and Country Preparedness." <http://www.results.org.au/gavis-transition-policy-and-country-preparedness/>
- . Gavi. 2017b. "Gavi's business model." <http://www.gavi.org/about/gavis-business-model/country-commitment-to-co-financing/>
- . Gavi. 2017c. "Papua New Guinea: Key information on co-financing." <http://www.gavi.org/country/papua-new-guinea/documents/cofiss/co-financing-information-sheet-papua-new-guinea/>
- Government of Papua New Guinea. 2011. "National Health Service Standards for Papua New Guinea 2011–2020." Waigani: Government of Papua New Guinea.
- . 2017. "2017 National Budget Book: Economic and Development Policies Vol. 1."
- Hakizimana, E., B. Cyubahiro, A. Rukundo, A. Kabayiza, A. Mutabazi, R. Beach, R. Patel, J. E. Tongren and C. Karema. 2014. "Monitoring long-lasting insecticidal net (LLIN) durability to validate net serviceable life assumptions, in Rwanda." *Malaria Journal*, 13:344.
- Howes, S., A. A. Mako, A. Swan, G. Walton, T. Webster, and C. Wiltshire. 2014. "A lost decade? Service delivery and reforms in Papua New Guinea (2002-2012)." Canberra: The National Research Institute and the Development Policy Centre.
- Institute for Health Metrics and Evaluation (IHME). 2016. "Global Burden of Disease database." <http://www.healthdata.org/gbd>.
- International Monetary Fund. 2015. "IMF Executive Board Concludes Article IV Consultation with Papua New Guinea." Press Release. Washington, DC: International Monetary Fund. <http://www.imf.org/external/pubs/ft/scr/2015/cr15318.pdf>.
- . 2016. "IMF Executive Board Concludes 2016 Article IV Consultation with Papua New Guinea." Press Release. Washington, DC: International Monetary Fund. <https://www.imf.org/en/Publications/CR/Issues/2017/01/30/Papua-New-Guinea-2016-Article-IV-Consultation-Press-Release-and-Staff-Report-44596>
- . 2016a. "World Economic Outlook (WEO) Database." <https://www.imf.org/external/pubs/ft/weo/2017/01/weodata/index.aspx>
- . 2017. "2016 Article IV Country Report." Washington, DC: International Monetary Fund.

- Irava, W., K. Barker, A. Somanathan, and X. Hou. 2015. "A snapshot of health equity in Papua New Guinea: an analysis of the 2010 household income and expenditure survey." Working Paper. Washington, DC: World Bank.
- National Department of Health (PNG). 2009. *National Head Count Survey*. Waigani: National Department of Health.
- . 2015. "MDR/XDR-TB Emergency Response Team Annual Report." Waigani: National Department of Health.
- . 2016. "2015 Sector Performance Annual Review." Waigani: National Department of Health.
- . 2017. "2016 Sector Performance Annual Review." Waigani: National Department of Health.
- National Statistical Office (PNG). 2013. "Papua New Guinea—Household Income and Expenditure Survey 2009–2010: Summary Tables." <http://catalog.ihsn.org/index.php/catalog/3243>.
- Organisation for Economic Co-operation and Development (OECD). 2017. "Creditor Reporting System (CRS)." <https://stats.oecd.org/Index.aspx?DataSetCode=CRS1>
- The Global Fund. 2014. "Malaria control in Papua New Guinea: Scaling up for impact." <https://www.theglobalfund.org/en/portfolio/country/grant/?k=e4617a46-d656-46ab-9fc7-d0600c7d2687&grant=PNG-812-G08-M>
- . 2017. "Papua New Guinea Country Overview." <http://www.theglobalfund.org/en/portfolio/country/?loc=PNG>
- UNICEF/WHO/World Bank/United Nations. 2014. "Levels & Trends in Child Mortality: Report 2014." New York: UNICEF.
- United Nations. 2015. "World Population Prospects The 2015 Revision: Key findings & advance tables." New York: United Nations.
- Vince, J. D. 2017. "Millennium Development Goals: progress in Oceania." http://adc.bmj.com/content/archdischild/100/Suppl_1/S63.full.pdf
- World Bank. 2011. "PNG Health Workforce Crisis: A Call to Action." <http://documents.worldbank.org/curated/en/216511468332461651/pdf/NonAsciiFileName0.pdf>
- . 2016. "World Development Indicators Database." <https://data.worldbank.org/data-catalog/world-development-indicators>
- . 2017. "Global Tuberculosis Report." Geneva: World Health Organization.
- World Health Organization. 2016. "Global Health Observatory (GHO) data." <http://www.who.int/gho/en/>
- World Health Organization and World Bank. 2017. "Tracking universal health coverage: First global monitoring report." http://www.who.int/healthinfo/universal_health_coverage/report/2015/en/

