Book

Line of sight : how improved information, transparency, and accountability would promote the adequate resourcing of health facilities across Papua New Guinea

LINE OF SIGHT

How Improved Information, Transparency, and Accountability Would Promote the Adequate Resourcing of Health Facilities Across Papua New Guinea

JUNE 2019

ASIAN DEVELOPMENT BANK

ADB

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ISBN 978-92-9261-624-3 (print), 978-92-9261-625-0 (electronic)
Publication Stock No. TCS190173-2
DOI: http://dx.doi.org/10.22617/TCS190173-2

Notes:
In this publication, "$" refers to United States dollars and "K" refers to kina.
All photos are by ADB.

On the cover: Villagers travelling along the Kotna Lampram Road, Papua New Guinea.

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Foreword

The Asian Development Bank (ADB) approved the *Papua New Guinea: Health Services Sector Development Program* (HSSDP) in 2018—it is ADB's largest investment in the health system of Papua New Guinea (PNG) to date and builds on 4 decades of partnership in the country's health sector. We are proud to continue our long-standing partnership in PNG's health sector and to provide ongoing support for PNG's Vision 2050. HSSDP seeks to strengthen rural health systems and improve public financial management—ensuring that adequate resources are allocated across various levels of the health system, and that they are delivered on time and accounted for. The program will enhance the quality of service delivery and improve health outcomes across the country.

Line of Sight delves into the complexity of health financing in PNG, exploring the unique characteristics of the public health system as it undergoes a process of decentralization. The report focuses on key areas of governance in health financing, touching both on reforms in the health sector and general government reforms. It sets out clear recommendations to improve the performance of the national health system, and addresses inequalities in access to health care by strengthening intergovernment and other partnerships, among others.

This report was developed in partnership with the PNG National Department of Health, and builds on close collaboration between ADB, the Department of Treasury, the Department of Finance, the Department of National Planning and Monitoring, the Australian Department of Foreign Affairs and Trade, Oil Search Foundation, the World Health Organization, and other development partners over the past two years. *Line of Sight* underpins PNG's ambition to achieve universal health coverage.

Ma. Carmela D. Locsin
Director General
Pacific Department
Asian Development Bank

The health sector in Papua New Guinea is a complex system that provides health care to all Papua New Guineans across the country—to the many in rural settings and to those in the country's key urban centers. The challenges are many, the population is growing quickly, yet the health budget is limited, and so delivering quality health services to such a widespread largely rural population demands constant innovation. We also see the pattern of disease is changing with the emergence of noncommunicable diseases and the re-emergence of tuberculosis in new forms and of polio.

In responding to this challenge, and given the budget constraints, we need to ensure that the sector's precious resources are being used well. Using resources well, means many things. It begins with clever and sustainable capital investment decisions that ensure the right level of facility is built and operating in the right place. It means skilled health workers are deployed strategically to best meet patient demand—through the right blend of facility-based and outreach services. And it means the right amount of medicines and medical supplies are procured and delivered to the network of facilities in the most cost-effective manner possible.

The National Department of Health is responding to this challenge. Provincial health authorities are being established in every province and these entities will coordinate and drive the delivery of quality health services at the provincial, district, and local levels. The department has a key role in overseeing the sector and supporting the development of provincial health authorities. We need to ensure that the resource investment within the sector translates into improved health performance—more outputs and better outcomes. In accepting this challenge, the department is mindful of the need to work closely with our many key partners—including central agencies, churches and other service providers, and development partners.

And so, it is with great pleasure that I introduce readers to the *Line of Sight* report. This report highlights the importance of getting health funding right and the need to create better visibility between health spending and health performance. In achieving this, we need to strengthen our core information systems in finance, human resources and payroll, health information, and drugs and medical supplies—at both the national and subnational levels. As we do, we need to use this information to drive better performance and communicate our success.

Pascoe Kase
Secretary for Health
National Department of Health
Government of Papua New Guinea

Acknowledgments

This report presents the analysis and recommendations of a collaborative exercise between the National Department of Health of the Government of Papua New Guinea (PNG) and the Asian Development Bank (ADB) to strengthen health financing and, more broadly, increase the effectiveness and resilience of the country's health system. The Economic Governance and Inclusive Growth Partnership, which is a key pillar of the PNG–Australia Governance Partnership, provided resources to carry out in-depth analysis and support report drafting.

The report was prepared by Alan Cairns (ADB consultant) and Johannes Wolff (consultant of the Economic Governance and Inclusive Growth Partnership funded by the Australian Department of Foreign Affairs and Trade), with inputs and under the overall guidance of Inez Mikkelsen-Lopez (ADB Health Specialist). Navy Mulou (National Department of Health), John Piel (Hela Provincial Health Authority), Ingrid Glastonbury (Oil Search Foundation), and Genevieve Howse (Health and HIV Implementation Services Provider Project) all provided valuable insights that informed the report's analysis and findings. The report was financed by ADB's Regional Technical Assistance: *Mapping Resilience to Fragility and Conflict in Asia and the Pacific.* With key substantive inputs and support provided by Emma Veve (ADB Director) and Eduardo Banzon (ADB Principal Health Specialist).

The work was carried out in 2017 and 2018, and aims to inform government and development partner initiatives to strengthen the health sector in Papua New Guinea. It directly guides ADB program design and implementation, particularly of the new Health Services Sector Development Program that combines policy reforms linked to budget support and health sector project investments to achieve sustainable health system and service delivery improvements.

Abbreviations

ADB	Asian Development Bank
CHS	Christian health services
CoSS	(NEFC's) Cost of Services Study
DDA	district development authority
DFF	direct facility funding
DIRD	Department of Implementation and Rural Development
DNPM	Department of National Planning and Monitoring
DOF	Department of Finance
DOT	Department of Treasury
DPLGA	Department of Provincial and Local Government Affairs
DPM	Department of Personnel Management
DSIP	District Service Improvement Program
eNHIS	electronic national health information system
FBB	facility-based budgeting
GDP	gross domestic product
HFG	health function grant
IFMS	integrated financial management system
NDOH	National Department of Health
NEFC	National Economic and Fiscal Commission
O&M	operation and maintenance
OSF	Oil Search Foundation
PHA	provincial health authority
PNG	Papua New Guinea
PPP	purchasing power parity
PSIP	Provincial Service Improvement Program

Currency Equivalents

(as of 7 January 2019)

Currency Unit	–	Papua New Guinea kina (K)
K1.00	=	$0.30
$1.00	=	K3.36

Executive Summary

The framers of the Constitution of Papua New Guinea expressed a desire for the new nation to witness "improvement in the level of nutrition and the standard of public health to enable our people to attain self-fulfilment." They saw health as an integral part of human development, and envisioned how a healthier populace would contribute to all facets of life. Over thirty-five years later, these dreams have yet to be fully realised. Progress has not been as significant, or as widespread, as hoped for. Especially in rural areas, where the overwhelming majority of Papua New Guineans reside, there is an acute realisation of the deterioration in health service delivery.

National Health Plan 2011–2020

Despite health having been a policy priority in Papua New Guinea (PNG) since the times the constitution was drafted, and the government continuing to spend substantial resources in the sector, improvements in access and the quality of health services as well as health outcomes have been slower than expected in the past decades. Several key health indicators have even deteriorated over the past years. To help explain this observed disconnect, the report uses a health financing lens to explore a number of contextual factors and specific health financing challenges that contribute to why resources have not translated into the same level of tangible improvements in access, quality, and outcomes as in other country settings. The report stipulates that *line of sight* between service planning, resourcing, service delivery, and performance is a precondition for establishing accountability in the health sector. In turn, accountability is the basis for corrective action to improve health services and, ultimately through these, health outcomes.

The health sector in PNG contends with a range of contextual factors—systemic, geo-demographic, and unforeseen/external—that can individually and collectively inhibit the delivery of quality services. These factors can act as disablers to the genuine ambitions of the health sector in promoting better population health outcomes. A critical systemic factor in PNG is the complex regulatory and governance architecture both within the health domain (i.e., the health system organization and legal framework) and others that are situated in the wider government domain (i.e., the country's decentralization framework). A multitude of actors and service delivery arrangements add complexity, with incoherent reform initiatives risking to open further entry points for fragility. Geo-demographic factors are concerned with the predominant rural population who are dispersed across an enormously challenging topography, which increases difficulty and cost to provide health services to the country's citizens. The third category is the impact of unforeseen, or difficult-to-predict-and-influence events, comprising disasters triggered by natural hazards and economic shocks. Both types of shocks are frequent in PNG, and directly and indirectly affect health service delivery and outcomes.

With the principle of funding following function, the complex governance and regulatory framework and resulting institutional arrangements translate into fragmented health financing arrangements. The matter is further complicated by resources stemming from different sources, including the national government, provincial governments, development partners, and user fees collected by health facilities directly, each of which are often further subdivided into different funding streams and earmarked for specific inputs. In addition to health sector institutions (and to some extent provincial governments and district development authorities) directly involved in service delivery, central agencies are also involved in the allocation, disbursement, and monitoring of health sector funds, further adding complexity.

Further to these contextual factors and complex health financing arrangements that introduce a high level of fragility into the health sector, several specific health financing issues exist that contribute to blurring or complete obstruction of lines of sight in health service delivery, and thereby increase the risk for disconnects between plans, budgets, and performance. The basic question of whether broadly adequate resources are being allocated for health in PNG cannot be answered since information gaps affect both the knowledge about health service resourcing needs as well as the level of current health sector resourcing. Available information on resources—both budget allocations and actual spending—is far from comprehensive. Several key pieces in the resourcing-needs puzzle do not fit or are completely missing, including the requirements of regional, provincial, and district hospitals to provide effective health services to the population. In addition, the costs of implementing the Free Primary Health Care and Subsidized Specialist Services Policy are still not adequately determined.

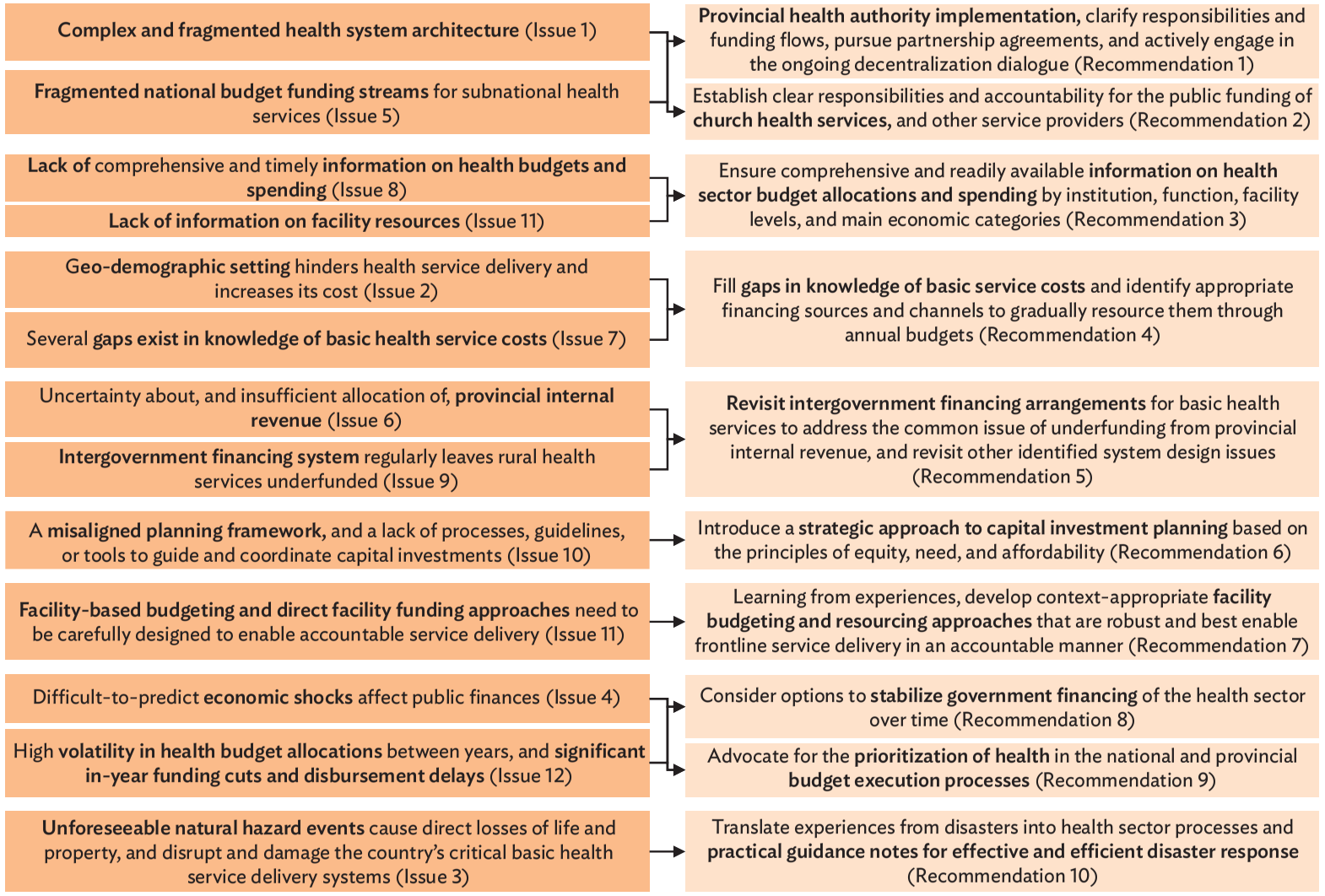
The report further identifies three issues with coordinating and securing adequate financing from available actors and funding sources: (i) internal revenue from provinces that is critical in supporting recurrent funding of health services across the rural health facility network is regularly insufficient, putting the suitability of the current intergovernment financing arrangements for health in question; (ii) coordinating capital investments and securing access to capital are highly complex, with consistent plans, adequate processes, and guidance missing, which increase the risk that new facilities are not optimally built and/or will end up inadequately resourced (or crowd out resources of existing facilities); and (iii) getting financial and in-kind support to government-run rural facilities remains a paramount challenge, preventing frontline service delivery in many cases. On top of these, the high volatility in health budget allocations between years, and significant in-year funding cuts and disbursement delays, absorb significant resources in planning and budgeting and severely undermine the implementation of planned activities. This also breaks the accountability link, allowing blame shifting and risking wastage even of available resources.

The described regulatory, governance, institutional, and financing arrangements, together with the identified specific factors and issues, result in a fragile system where the nonperformance of individual components and actors is difficult to identify. In this context, corrective action cannot be taken and actors are rarely, and often cannot be, held to account. Therefore, small issues are often not addressed and can have a ripple effect, leading to (partial) health system collapses.

With the aim of making the health system more robust, the report identifies 12 *line of sight* issues, and links these to 10 recommendations (Figure 1). These would help to delineate service delivery responsibilities clearly and align funding across actors, clarify and secure adequate resourcing for subnational health services, increase predictability in resource allocation and disbursement, and improve readiness to respond to disasters triggered by natural hazards. Strengthening health sector information systems; the sector's capacity to analyze, monitor, communicate, and influence both the health system and the wider government apparatus; as well as collaboration and avoidance of silo thinking are critical crosscutting areas that are needed if improvements in the *line of sight* and more accountability are to be achieved.

In all of the identified areas, there is no need to start from scratch. Many reform initiatives are already effecting change in the right direction, while others can be tweaked to achieve maximum impact. Some gaps will need to be filled, but domestic and external stakeholder support, including from the Asian Development Bank, appears to be readily available to ensure that health financing can successfully play its role as a key enabler on the journey toward better health outcomes that can reverse the recent deterioration in health service delivery in PNG.

Figure 1: Overview of Line of Sight Issues and Recommendations



Source: Asian Development Bank.

Motivation

Improved access to quality health services remains a long-standing priority in Papua New Guinea (PNG). The Alotau Accord II, which sets out the current government's priorities up to 2022, identified health as one of the five key areas, stating the government's objective to "pursue integral human development through (...) commitment to universal quality health care" and by creating an environment where "every citizen has access to quality healthcare."[1] This prioritization is in line with the country's strategic planning framework comprising Vision 2050, the Development Strategic Plan 2010–2030, the National Strategy for Responsible Sustainable Development, and the Medium Term Development Plan III 2018-2022.[2] At the sector level, these plans are further detailed in the National Health Plan 2011–2020, the National Health Service Standards, and a number of specific plans and policies.[3] PNG's cascading planning framework consistently prioritizes basic preventive and curative health services, including maternal and child health, reducing communicable diseases, and promoting healthy lifestyles.

To support the implementation of planning and policy priorities, the government invests substantial resources in the health sector. From 2011 to 2015, public health expenditure in PNG averaged 2.8% of gross domestic product (GDP), which is above the expected spending for a country at PNG's income level (Figure 2) and measurably higher than the lower middle-income country group average (1.3% of GDP). As a share of total government expenditure, PNG spent on average 9% on health between 2012 and 2015 (Figure 3). This is substantially higher than the lower middle-income country group average (5.4% in 2013) and higher than Pacific comparator countries like Fiji (7.2% in 2015) and Timor-Leste (4.2% in 2015).

However, despite some improvements over the past decades in overall life expectancy, health outcome, output, process, and input indicators remain poor and some have even deteriorated.[4] Life expectancy improved measurably slower over the past decades than in

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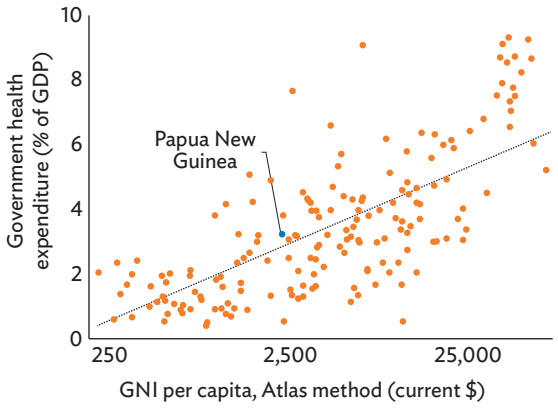
1 Government of Papua New Guinea. 2017. *Alotau Accord II*. http://www.pm.gov.pg/alotau-accord/.

2 Government of Papua New Guinea. 2011. *Vision 2050*. Port Moresby; Government of Papua New Guinea. 2010. *Papua New Guinea Development Strategic Plan, 2010–2030*. Port Moresby; Government of Papua New Guinea. 2014. *National Strategy for Responsible Sustainable Development*. Port Moresby; and Government of Papua New Guinea. 2018. *Medium Term Development Plan III 2018–2022*. Port Moresby.

3 Government of Papua New Guinea. 2010. *National Health Plan 2011–2020*. Port Moresby; and Government of Papua New Guinea. 2015. *National Health Service Standards*. Port Moresby.

4 Government of Papua New Guinea. 2015. *Health Sector Performance Annual Review*. Port Moresby; and Government of Papua New Guinea. 2016. *Health Sector Performance Annual Review*. Port Moresby. Annual health indicators are classified as outcome, output, process, or input indicators; an outcome indicator example is malaria incidence per 1,000 population; an output example is family planning use; a process example is the proportion of aid posts open; and an input example is the total budget allocation.

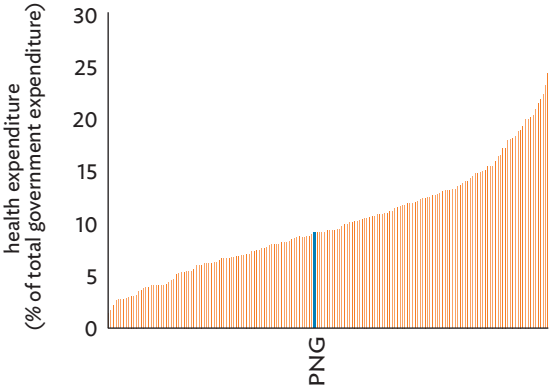
Figure 2: Government Health Expenditure Compared with Country Income, 2013–2015 Average



GDP = gross domestic product, GNI = gross national income.

Source: World Bank. *World Development Indicators*. https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed 15 October 2018).

Figure 3: Health Expenditure as a Share of Total Government Expenditure, 2013–2015 Average



PNG = Papua New Guinea.

Source: World Bank. *World Development Indicators*. https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed 15 October 2018).

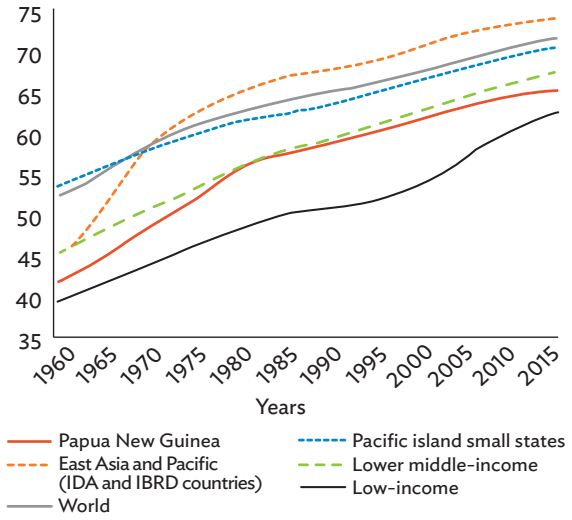
the rest of the world (Figure 4), with PNG having the lowest life expectancy in the Pacific region. Infant, under-5, and maternal mortality rates are higher than in countries at similar income levels. Utilization of basic health services has declined markedly (Figure 5). For example, there has been a decline in measles immunization in children less than 5 years old from 34% in 2012 to 29% in 2016, most likely due to a reduced frequency of outreach clinics and, as a result, exposing PNG further to communicable disease outbreaks, including measles and polio. More than 50% of women have an unmet need for modern methods of contraception, a need compounded by the largest cohort of young people in the history of PNG now entering their reproductive years.[5] Supervised births are persistently low and declined further from 44% in 2012 to 40% in 2016 nationwide. Regional variations are also significant; in this particular case, rates fell from 39% to 21% in Gulf Province over the same period.

At the input level, medical supplies are often not available, and the health workforce is insufficient, unevenly distributed, and underperforming.[6] While health workforce and demographic data are limited, survey data in 2009 showed that the production of newly qualified staff was below health workforce attrition rates, and there was one doctor

[5] Family Planning 2020. 2016. *Papua New Guinea: FP2020 Core Indicator Summary Sheet 2016.* Washington, DC; and Government of Papua New Guinea. 2014. *Family Planning Policy.* Port Moresby.

[6] S. Howes et al. 2014. *A Lost Decade? Service Delivery and Reforms in Papua New Guinea 2002–2012.* Canberra: The National Research Institute and the Development Policy Centre. http://devpolicy.org/publications/reports/PEPE/PEPE_A_lost_decade_FULL_REPORT.pdf; The World Bank. 2013. *Papua New Guinea Health Workforce Crisis: A Call to Action.* Washington. http://documents.worldbank.org/curated/en/216511468332461651/Papua-New-Guinea-PNG-health-workforce-crisis-a-call-to-action.

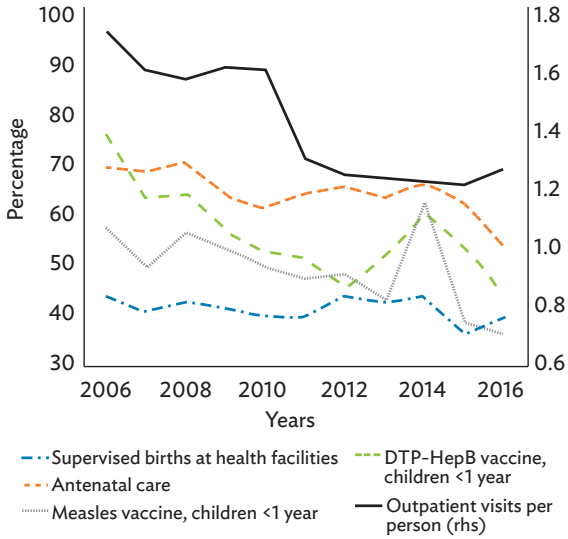
Figure 4: Trends in Life Expectancy, 1960–2014



IBRD = International Bank for Reconstruction and Development, IDA = International Development Association.

Source: World Bank *World Development Indicators.* https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed 15 October 2018).

Figure 5: Health Service Utilization, 2006–2016



DTP = diphtheria, pertussis (whooping cough), and tetanus; HepB = hepatitis B.

Source: National Department of Health.

to 17,068 people compared with 1:1,195 in Fiji (2015) and 1:286 in Australia (2016).[7] Most hospitals and health facilities are poorly maintained, do not meet national health standards, and have functional layouts that do not support patient safety. In 2012, 67% of surveyed health facilities and 77% of health worker accommodations required rebuilding or maintenance (footnote 6). A little over half of health clinics had year-round access to clean water, some 40% had electricity and refrigeration, 30% had access to fuel, about 20% had beds with mattresses and a kitchen, and only 33% had the ability to make patient transfers (footnote 6).

So why is significant health spending not leading to better health indicators? This report explores this disconnect, using (predominantly) a health financing lens. Globally, much is written about the critical area of health financing as a key element in the health system strengthening narrative, yet experience suggests the pathway to strengthen health financing is more organic than it is prescriptive with no single correct "textbook" solution. This is unsurprising, for health financing is part of a wider ecosystem of many interacting parts with numerous actors, both within and outside the sector, and only a relative few are finance professionals.

It is worthwhile to look at and systematically analyze health sector issues through a financing lens and propose solutions that can be explored collaboratively by the sector's

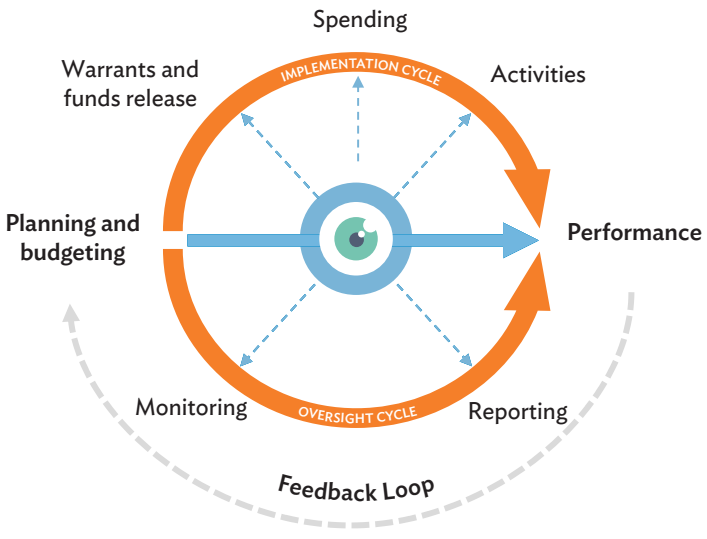
[7] Government of Papua New Guinea. 2009. *National Headcount Survey.* Port Moresby; and World Bank. *World Development Indicators.* https://datacatalog.worldbank.org/dataset/world-development-indicators. (accessed on 6 November 2018).

actors since health financing—through "getting the right resources, to the right place, at the right time"—forms the foundation, or necessary (but not sufficient) condition that enables the delivery of health services. Financing is a critical component of access to health services, but is complex due to the number of agencies involved in allocating and releasing funds in PNG. The sometimes-fragmented architecture of the plumbing through which funding flows and the inherent challenge of making sure funds or in-kind support are available to a widely dispersed network of rural health workers in remote settings further add to the complexity.

The report considers a range of factors the health sector has to contend with in PNG and that can individually and collectively undermine health system financing and inhibit the delivery of essential services: systemic, geo-demographic, and unforeseen, external factors and their implication for health financing, as well as specific resource allocation and resource flow issues. It focuses on the funding and delivery of essential health services at the subnational level, which benefit the majority of the largely rural population across PNG.

The report makes the case that *line of sight* obstructions due to a lack of information and transparency across the entire health service delivery chain are important factors that undermine accountability and the improved allocation and use of resources to achieve health outcomes (Figure 6). The availability and transparency of information across the entire service delivery chain are preconditions to establish accountability for the efficient and effective use of funds and service delivery. To overcome bottlenecks and drive improvement, health planners and managers need to see the information and hear the stories that provide *line of sight* between planning and performance.

Figure 6: Line of Sight in Health Service Delivery



Source: Asian Development Bank.

The report first provides the reader with an overview of the health system context in PNG, analyzing contextual factors and how these impact on health financing (The Health System Context, page 7). This is followed by an overview of health financing arrangements (Overview of Health Financing Arrangements, page 21) and a detailed look at specific resource allocation and resource flow issues that contribute to the perceived disconnect between health spending and health outcomes (Selected Health Financing Issues in Focus, page 29). For each factor that is explored, the issues affecting the *line of sight* are drawn out, and a number of specific recommendations (Recommendations: Improving the Line of Sight, page 47) and crosscutting support recommendations (Critical Crosscutting Support System and Capacity, page 59) are made to restore or improve the *line of sight*. Finally, links between issues, recommendations, ongoing government reforms, and development partner support are fleshed out (Link Between Issues, Recommendations, Government Reforms and Support, page 65).

A woman along Mendi-Kandep Road, Papua New Guinea.

Health System Context

The health sector in Papua New Guinea (PNG) contends with a range of contextual factors—systemic, geo-demographic, and unforeseen/external—that can individually and collectively inhibit the delivery of quality services. These factors can act as disablers to the genuine ambitions of the government in promoting better population health outcomes. Systemic factors include regulatory and governance aspects, both within the health domain (e.g., the health system organization and legal framework) and others that are situated in the wider government domain (e.g., the country's decentralization framework). Geo-demographic factors are concerned with the predominant rural population dispersed across an enormously challenging topography and comprising of multiple diverse cultures. The third category is the impact of unforeseen, or difficult-to-predict-and-influence events, comprising disasters triggered by natural hazards and economic shocks.

These factors can contribute to difficulties in coordinating, allocating, and securing financing for health; impact the predictability of funding flows; and constrain the access of health facilities to the resources they require to operate effectively. All these factors contribute to the fragility of health financing. The challenge is to identify the key impediments that make the system ineffective or fragile, and work collectively to strengthen the system by reducing impediments and fragility.

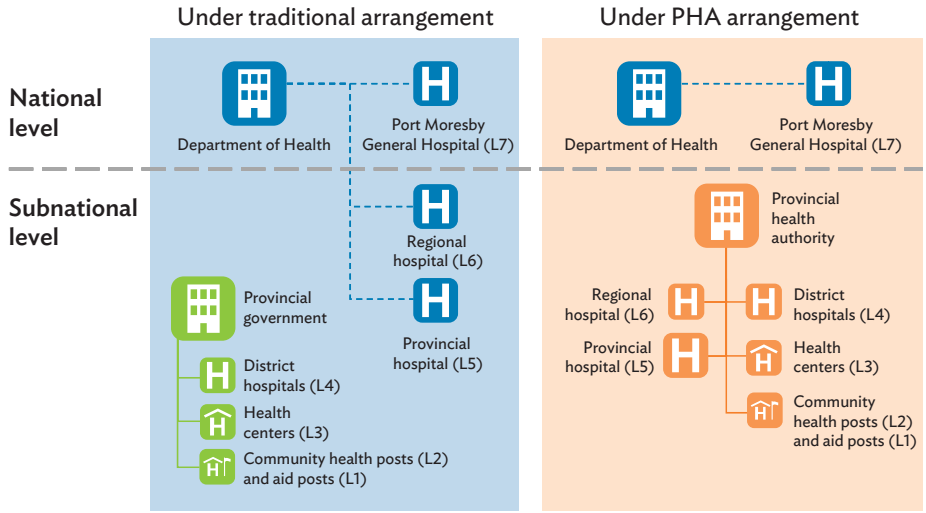
Context: Health System Organization

PNG's health sector operates within an evolving decentralized architecture. The Department of National Planning and Monitoring (DNPM), the Department of Treasury (DOT), and the Department of Finance (DOF) play important roles as central agencies in the strategic planning, funding, implementation, and oversight of health services. The Department of Personnel Management (DPM) administers and manages the public service, including health staff. The Department of Provincial and Local Government Affairs (DPLGA) is responsible for all matters relating to local government, and the Provincial and Local Level Service Monitoring Authority contributes to the assignment of service delivery functions, and coordinates and monitors the implementation of national polices at the provincial and local government levels. The National Economic and Fiscal Commission (NEFC) provides advice on aspects of the intergovernment financing arrangements that impact the health sector.

In the health sector, the key national-level actors are the National Department of Health (NDOH), which is responsible for health policy and standards, sector planning including

development of the national health plan, coordination and monitoring, as well as for medical supplies and equipment procurement and distribution; and the Port Moresby General Hospital, which operates under its own board, and reports to the minister of health.[8] Decentralization reforms in the 1990s devolved responsibility for subnational health service delivery covering all facility levels below national and regional hospitals (i.e., provincial and district hospitals, health centers, and community health posts and aid posts), from the national to provincial and local-level governments. Provincial hospitals then reported directly to the minister for health through hospital management boards. In 2007, the provincial health authority (PHA) model was piloted establishing a "*one system tasol,*" with both provincial hospitals and public health services under the one umbrella of a single managing entity (Figure 7).

Figure 7: Simplified Illustration of a Decentralized Government Health Sector Organization



L= level, PHA = provincial health authority.

Source: Asian Development Bank.

Under the Provincial Health Authorities Act (2007), PHAs are established as public bodies with both administrative and financial responsibility for hospitals and public health services and to coordinate both government and nongovernment service providers within the province. In describing the fragmentation of the health system, an AusAID Office of Development Effectiveness report noted the "disconnect between hospitals and public health programs, between priority programs and basic health services, between government, churches and other non-state providers, and between the center and different

[8] Other national-level health institutions are the Institute of Medical Research and the National AIDS Council Secretariat.

levels of the health care system."[9] In creating the PHA, the aspiration was to reduce health services fragmentation and, through better coordination, strengthen service delivery.[10] While PHAs are still subject to many government controls, including standard payroll processes and procurement guidelines and processes, in fact, they operate with a greater level of freedom than the rural health system under the provincial administration.

Below the provincial level, new entities have been introduced in the form of district development authorities (DDAs) and city authorities, which have been progressively implemented across PNG since the enabling legislation was passed in 2014. Their functional remits are still being clarified—with DPLGA leading the trialing and rollout of a service delivery policy and partnership agreement framework in this regard. To date, the implications for the health sector, and particularly for rural health services, have yet to be fully developed and understood.[11] Decentralization reforms continue to evolve in PNG with the recent announcement of autonomy for three provinces: East New Britain, Enga, and New Ireland Province.[12] In practice, the implications of this are still unclear.

The establishment of PHAs is a voluntary, step-wise process, starting with the signing of a partnership agreement between the provincial governor and the minister of health, followed by the appointment of the PHA board of governance.[13] To fund this process, a setup budget is appropriated through the national budget before full service delivery funding is provided following the successful setup. Between 2009 and 2012, three provinces volunteered to introduce the PHA modality (Table 1). By the end of 2018, 8 more provinces elected to introduce the PHA modality, bringing the total to 11 PHAs out of the country's 22 provinces. Madang, Morobe, and Oro started the process in 2017 and have initial budget funding to support the establishment of PHAs in their respective areas in 2018. In 2017, the minister of health called for a nationwide rollout of the PHA model across all provinces.[14] As of September 2018, the East New Britain and Jiwaka provinces have also started progressing toward PHA implementation. Further, the governor general made a determination in 2017 to reassign the health functions from provincial governments to their newly established PHAs.[15]

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[9] AusAID Office of Development Effectiveness. 2009. *Papua New Guinea Country Report: Evaluation of Australian Aid to Health Service Delivery in Papua New Guinea, Solomon Islands and Vanuatu.* Canberra.

[10] Government of Papua New Guinea. 2007. *Provincial Health Authority Act*. Port Moresby; and Government of PNG. 2015. *Independent Review of Provincial Health Authority Management and Structures.* Port Moresby.

[11] R. Duncan, A. Cairns, and C. Banga. 2017. Papua New Guinea's Public Service Delivery Framework at Subnational Levels. *Discussion Paper.* Port Moresby. Government of Papua New Guinea, National Research Institute.

[12] ABC Radio Australia. New Ireland governor Sir Julius Chan hails new autonomy agreement for PNG provinces. https://www.abc.net.au/radio-australia/programs/pacificbeat/new-island-aut/10016500 (accessed 6 November 2018).

[13] The minister of health may also order the establishment; however, this power has not been used to date.

[14] Government of Papua New Guinea, Department of Health. 2017. *First 100 Days Plan for Health.* Port Moresby.

[15] This also has financing implications as discussed in section on Overview of Health Financing Arrangements (page 29), allowing health function grants (HFGs) to be directly routed to PHAs.

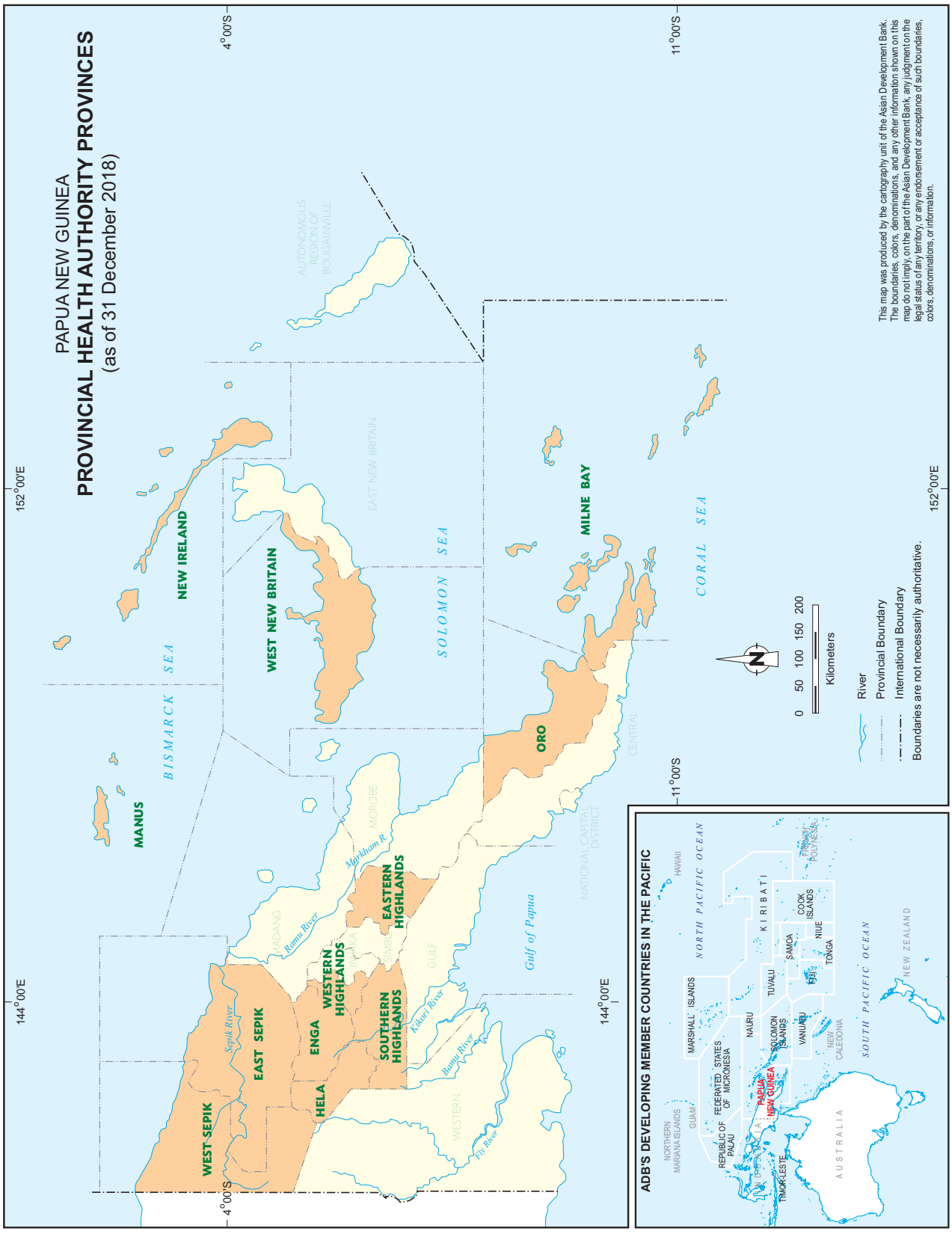

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Table 1: Progress in Establishing Provincial Health Authorities in Papua New Guinea, as of 28 February 2019

Province[a]	Board-Appointed by NEC	Setup Completed[b]	2018 PHA Budget (National)	2019 PHA Budget (National)
Western Highlands	Yes	2009	Full budget	Full budget
Milne Bay	Yes	2009	Full budget	Full budget
Eastern Highlands	Yes	2009	Full budget	Full budget
West New Britain	Yes	2014 (1 April)	Full budget	Full budget
Southern Highlands	Yes	2014 (23 April)	Full budget	Full budget
Enga	Yes	2014 (30 April)	Full budget	Full budget
East Sepik[c]	Yes	2014 (2 May)	Setup budget	Full budget
Manus	Yes	2014 (7 August)	Full budget	Full budget
West Sepik/Sandaun	Yes	2014 (16 November)	Full budget	Full budget
New Ireland	Yes	2016 (12 September)	Full budget	Full budget
Hela	Yes	2016 (6 October)	Full budget	Full budget
Oro	Yes	2018 (14 December)	Setup budget	Full budget
Madang	Yes	Planned for Q2, 2019	Setup budget	Full budget
East New Britain	Yes	Planned for Q2, 2019	None	None
Jiwaka	Yes	Planned for Q2, 2019	None	None
Morobe	For approval	In progress	Setup budget	Full budget
Gulf	For approval	In progress	None	None
Central	No	Initiated	None	None
Simbu	No	Initiated	None	None
Western/Fly River	No	Initiated	None	None
NCD	No	Initiated	None	None

NCD = National Capital District, NEC = National Executive Council, PHA = provincial health authority, Q = quarter.

[a] The health administration in the Autonomous Region of Bougainville is governed by a special arrangement within Papua New Guinea.

[b] The complete setup comprises (i) a provincial health partnership agreement signed by the governor of a province and the minister of health to create a provincial health authority (PHA), (ii) board appointed by the National Executive Council, and (iii) board sworn into office.

[c] While the East Sepik Province elected to become a PHA in 2014, the process to establish the PHA has been more recent. In the 2018 national budget, the Boram Provincial Hospital continued to receive a separate annual budget; however, a new vote (607) was established for the East Sepik Provincial Health Authority (Vote 607), which had a K1 million setup budget to support the establishment of a PHA, and the provincial health function grants (HFGs), which (together with provincial internal revenue) are intended to support rural health services. In the 2019 national budget, the Boram Provincial Hospital funding has been allocated under the East Sepik PHA Vote 607. PHA financing is discussed in more detail in the section on Overview of Health Financing Arrangements (page 21).

Sources: Asian Development Bank; Government of Papua New Guinea. *Papua New Guinea National Budget 2018;* and Government of Papua New Guinea. *Papua New Guinea National Budget 2019.*

Apart from stakeholders in the public domain, church health service providers continue to play a prominent role in the delivery of primary health care services across PNG and operate approximately half of the country's health centers. In addition, churches are responsible for running 5 of the 8 nurse training facilities, and 12 training facilities for

community health workers.[16] The Christian Health Services PNG (CHS), which was formally known as the Churches Medical Council, is the organization that used to represent all Christian churches that provide health care service and training throughout PNG.[17] Until recently, the CHS secretariat office coordinated and monitored all church agencies and training schools that provided health care and training throughout PNG. As part of its role, the secretariat also liaised with the NDOH, central agencies, and other stakeholders. As advised by NDOH, the Catholic Health Services began operating independently of the CHS secretariat in 2016 after signing a separate memorandum of understanding directly with the NDOH, which created the possibility for further fragmentation.

Church health services operate quasi-independently from government. The need to clarify service responsibilities between government and church health providers that provide such a crucial role in delivering frontline health services in PNG has already been outlined in some detail.[18] A more explicit understanding of contracted roles and expectations and greater information sharing between the government and the CHS are recommended for effective coordination as many memorandums of understanding that have been drafted remained unsigned.[19] More recently, NDOH signed umbrella agreements with both CHS and the Catholic Health Services, and several PHAs have taken the template agreement in the National Health Sector Partnership Policy and started to more formally engage church partners. Some of these agreements are umbrella partnership agreements with partnership committees, while others are directly with individual churches. This is an important first step and needs further support to ensure implementation and regular monitoring.

Partnerships with development partners and private health providers also play an important role in PNG's health sector. Key development partners supporting health system strengthening and service delivery are the Asian Development Bank (ADB); Gavi, the Vaccine Alliance; the Global Fund to Fight AIDS, Tuberculosis and Malaria; the governments of Australia and the People's Republic of China; Oil Search Foundation (OSF); the United Nations Children's Fund (UNICEF); the World Bank; and the World Health Organization (WHO). Directly engaged in service delivery are about 20 private health facilities that provide inpatient and outpatient services. However, these are largely located in the two biggest cities, Port Moresby and Lae. Larger private companies provide on-site basic health care for employees and their families. Traditional medicine and healers also play a role, particularly in rural areas.

To coordinate support, the government has a public–private partnership policy for capital investments greater than K50 million, and NDOH has a health sector partnership policy. Formal partnership possibilities in provinces are illustrated by examples in New Ireland province with (i) church providers integrating their services within the PHA structure; (ii) local mining and palm oil industries providing primary health care; (iii) Australian Doctors International volunteer doctors doing health patrols; and (iv) PNG's largest bank, Bank South

[16] Government of Papua New Guinea, NDOH and AusAID. 2013. *Christian Health Services Technical Assistance Mission Report.* Port Moresby.

[17] The CHS was established under the Christian Health Services of Papua New Guinea Act 2007 and is an associate member of the Christian Medical Commission and World Churches Council. http://www.chspng.org.pg/html/history.html (accessed 2 July 2018).

[18] A. Cairns and X. Hou. 2015. Financing the Frontline in Papua New Guinea: An Analytical Review of Provincial Administrations' Rural Health Expenditure 2006–2012. *Health, Nutrition and Population Discussion Paper.* Washington, DC: The World Bank. http://hdl.handle.net/10986/24075.

[19] D. Matheson et al. 2009. *Papua New Guinea Health Partnerships: Final Report*. Prepared for the Papua New Guinea NDOH. Geneva: World Health Organization.

Pacific, donating for primary health care, including immunizations, antenatal care, and dental services. Oil Search, which controls more than 60% of PNG's oil and gas assets, is working with NDOH to combat HIV/AIDS, malaria, and tuberculosis, and to support health system development in three provinces through its OSF. Based on these examples, there appears to be significant potential for partnerships at the provincial level, which could benefit from more systematic engagement by government actors.

Box 1: Asian Development Bank Support for the Health Sector

Papua New Guinea (PNG) has been a member of the Asian Development Bank (ADB) since 1971. Together, ADB and PNG have been partnering to improve health sector outcomes over the past two decades through financial and technical assistance to strengthen the health system. Currently, there are two health sector operations:

The **Rural Primary Health Services Delivery Project (2012–2020)** is strengthening rural health services in selected provinces across PNG by increasing the coverage of quality primary health services through infrastructure upgrades, trainings in reproductive and obstetrics health care, and a digital health information pilot system to report on service delivery and outbreaks.[a] In total, 39 health facilities will be upgraded and rehabilitated to meet the national health standards and include access to clean water, electricity, security, and staff housing to improve the quality of health service delivery. Over 2,000 health workers have been trained in essential clinical services, reproductive and obstetrics care, and health promotion to provide quality health services to communities, particularly women. Further, 200 health facilities are reporting real-time information, allowing provincial health planners access to information for decision-making.

The **Health Services Sector Development Program (2018–2025)** combines policy-based lending with project investments to support the government to ensure that sufficient resources are safeguarded for the health sector, the flow of funds to subnational level is timely, and resources are used efficiently to improve service delivery.[b] It continues similar investments to the Rural Primary Health Services Delivery Project at a national level with a greater emphasis on provincial health management capacity and strengthening networks between primary and secondary health services, including rehabilitation of health facilities. In provinces with a large private sector, the program will support more effective engagement with the private sector to improve the planning and quality of health services.

Complementary to the program and project support, ADB provides **technical assistance** in grant form to analyze issues and design solutions. These include support to the Department of Treasury in preparing medium-term expenditure frameworks, support to the Department of Finance in procurement, and support to the Department of Health on health financing.[c] This report has been developed through technical assistance as part of the ADB knowledge product series. Its in-depth analysis of selected issues in the health financing arena in PNG directly influences ADB program/project and government reform design and implementation, helping to ensure health financing—both from the government and also external partners including ADB's programs and projects—and the wider-supporting ecosystem enable frontline health service delivery.

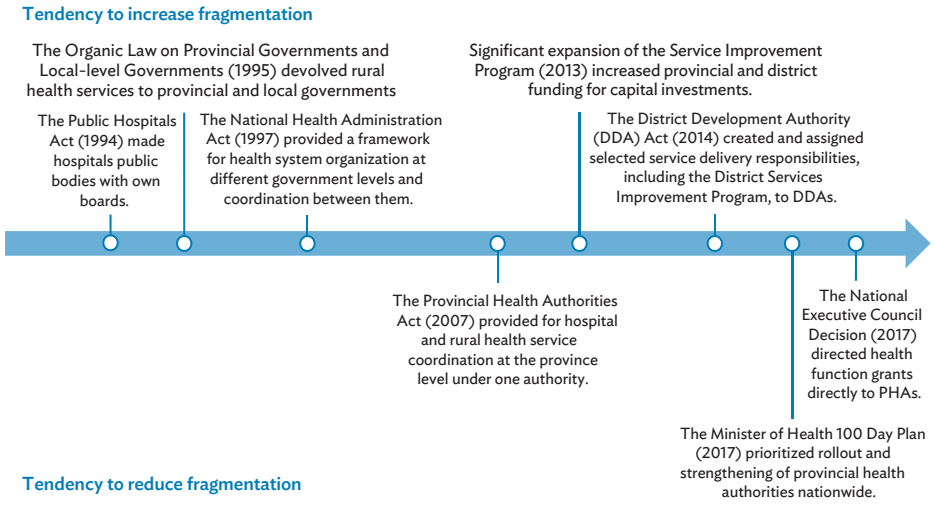
[a] ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant and Loan to Papua New Guinea for the Rural Primary Health Services Delivery Project.* Manila.

[b] ADB. 2018. *Report and Recommendation of the President to the Board of Directors: Proposed Programmatic Approach, Policy-Based Loan for Subprogram 1, and Project Loans to Papua New Guinea for the Health Services Sector Development Program.* Manila.

[c] ADB. 2014. *Technical Assistance for Mapping Resilience to Fragility and Conflict in Asia and the Pacific.* Manila; ADB. 2016. *Technical Assistance to Papua New Guinea for Supporting Public Financial Management (Phase 3).* Manila; and ADB. 2017. *Technical Assistance to Papua New Guinea for Preparing the Health Services Sector Development Program.* Manila.

Overall, PNG's health sector is often described as fragmented and becoming more, not less, complex. Several waves of decentralization and health sector reforms have had significant impact on the sector (Figure 8). Even before the introduction of DDAs in 2016, the health sector operated two different administrative modalities, with the PHA introduction in 2009 representing an entirely different health administration modality at the subnational level. In comparison, under the traditional approach, provincial hospitals would operate quite independently from the wider rural health system and report to its own board and ultimately to the minister of health, while the rural health service, with its widespread network of health centers and aid posts, was administered and operated under dual arrangements by the provincial government and different faith-based organizations.

Figure 8: Key Legislative and Policy Milestones Affecting the Health Sector, 1994–2017



Source: Asian Development Bank.

The slow establishment of PHAs has led to an extended (and ongoing) period of these dual administrative modalities, which—while not necessarily negative in a decentralized, quasi-federal system—increases complexity and thereby fragility of the system. The limited integration of church health services further adds complexity. This is of concern when aiming to establish a robust health system that can fulfill its basic functions.

Together, these multiple institutional and governance arrangements, embedded in a partially inconsistent regulatory framework, lead to some uncertainty in functions and responsibilities, and excessive complexity, both undermining accountabilities in the health sector. The institutional arrangements also have significant implications on the financing arrangements, which is discussed in detail in Overview of Health Financing Arrangements, page 21. Yet the challenge remains; the enabling system has elements that need strengthening to address fragility and ensure that frontline health services are delivered in an effective and efficient manner.

Line of Sight Issue 1: Complex and Fragmented Health System Architecture

The frequent, partially incoherent reforms of the decentralized health system architecture continue to add complexity, absorb substantial resources, and lead to fragmentation in the health sector, resulting in the blurring of lines of sight and thereby undermining accountabilities in service delivery.

Context: Geo-demographic Country Setting

Contextual factors such as country demographics and terrain make service delivery and service access enormously challenging. PNG's people are overwhelmingly rural (87%) and widely dispersed, with the country reported to have the second lowest level of urbanization in the world after Burundi.[20] The challenges associated with the country's rugged geography and terrain are well known to its people, particularly to those in government and commerce who need to travel between towns and communities to deliver services and engage in economic activity. Travel and transportation even between cities and towns are prohibitively costly and difficult. The networks of roads and bridges are very limited, costly to maintain, and often in a poor state of repair. In planning for the expansion of the road network, the government is confronted by significant geographic impediments—the mountainous and forested interior, the swamps and marshlands, and the wet tropical climate.

In this setting, travel often involves journeys by air and sea. Air travel in PNG is costly, and travel by sea is often challenging and dangerous. Even local travel, from rural communities to major service centers, is lengthy and sometimes arduous. A comprehensive study carried out in 2001 by the Australian National University estimated access to services in half of PNG's districts requires travel of 4 hours or more.[21] A more recent government study in 2014 on remoteness in PNG delivered similar findings and classified half of PNG's local-level government constituencies as moderately accessible, remote, very remote, or extremely remote.[22] The study described the commercial logistic networks as fragile.

This environment substantially increases the cost of delivering health services and developing the supporting basic infrastructure, including for transport, phone, and internet connectivity. The remoteness and difficult physical terrain also undermine the establishment and maintenance of robust logistics networks, which are particularly critical in the health sector that deals with perishable medical supplies including immunizations. In some locations, the environment even prevents the operation of health facilities, e.g., due to the inability to attract health personnel or deliver regular medical supplies, stressing the importance of regular outreach visits. The section on Selected Health Financing Issues in Focus (page 29) takes up this cost and funding issue and discusses it in some more detail.

[20] Central Intelligence Agency. *The World Factbook*. https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html (accessed 2 October 2018).

[21] L. W. Hanson et al. 2001. *Papua New Guinea Rural Development Handbook*. Canberra: Australian National University.

[22] "Moderately accessible" is described as significantly restricted accessibility to a wide range of goods and services; "extremely remote" is described as no accessibility to goods and services. Government of Papua New Guinea, NEFC. 2014. *Go Long Ples Reducing Inequality in Education Funding*. Port Moresby. http://www.nefc.gov.pg/documents/publications/other/GoLongPles.pdf.

Line of Sight Issue 2: Geo-demographic Setting

The country's geo-demographic setting (quite literally) obstructs the *line of sight* between plans drawn up in the capital, and the resources and basic services that are to be delivered to remote rural locations, requiring adequate funding and a continuous expansion of infrastructure, including improved connectivity, to overcome remoteness.

Context: Unforeseen, External Shocks

The third category of contextual factors this report looks at is the impact of unforeseen events, including natural hazards and external economic shocks. Such shocks often disproportionately affect the poor and most vulnerable, such as children, women, people with disabilities, and the elderly. They can disrupt the delivery of basic services, and lead to higher poverty rates, reduced economic development, and poorer human development outcomes.

With PNG located along the Pacific Ring of Fire, the country is exposed and vulnerable to a range of natural hazard events, including volcanic eruptions, flooding, cyclones, landslides, and tsunamis. The occurrence of disasters triggered by a natural hazard force many people in PNG into poverty and impose great cost on their local economies, and the larger national economy. Over the last 20 years, the country has experienced a series of major earthquakes, including in Hela (2018), Bougainville (2017), New Britain (2010), New Ireland (2000), and West Sepik (1998). The impact of these disasters is often widespread, with accompanying loss of life, property, and economic activity. A less-visible casualty is the disruption and damage to the country's critical basic service delivery systems, including the provision of health services. This system damage restricts the country's ability to both respond to the immediate crisis and, concurrently, restore the provision of regular health services to avoid longer-term negative consequences.

EARTHQUAKE HITS HELA PROVINCE AND THE SURROUNDING AREA, FEBRUARY 2018

A magnitude 7.5 earthquake hit Hela Province on 26 February 2018, with severe aftershocks reported through 7 April 2018. At least 200 people are believed to have died.

The Hela earthquake in Papua New Guinea provides an example. The destruction caused by the earthquake and resulting landslides in Hela and the surrounding areas in the highlands is an unwelcome reminder of their impact. It is estimated that the February 2018 earthquake resulted in at least 200 deaths, many more injured, and thousands made homeless or displaced, with an even greater number otherwise affected. The economic impact on the area and country is significant, with oil and gas activities in the greater highlands area interrupted and extensive infrastructure damage, including health facilities, roads, and bridges, costing millions.

A disaster triggered by a natural hazard, such as in Hela, tests the ability of the provincial health system. Staff had to be paid despite banks being closed. What funds were available needed to be redirected to pay for critical supplies such as extra fuel. Staff were redeployed from Port Moresby General Hospital and Hagen Hospital to Hela, which involved additional relocation and accommodation costs.[23] Medical supplies (medical kits) were sourced from Lae City and transported quickly to the affected areas. The coincidental availability of medical kits in this instance from Lae, which were originally intended for regular use in rural health facilities across the country, was fortuitous, and the redirecting worked quickly; however, from a systems perspective, what would happen if the kits were not available? Due to the national government's ongoing fiscal constraints, the PHA had not received any health function grants (HFGs) that fund operational costs of the rural health facility network when the disaster happened, so immediate funding was limited. Only subsequently was a request for additional funding made to the Prime Minister's Office, which oversees aspects of disaster management including reconstruction.

THE CHALLENGE TO MAINTAIN ESSENTIAL SERVICES

The shock from the 2018 earthquake demanded a refocus of the PHA's attention from routine health activities to disaster response, temporary shelter, emergency supplies, reconstruction of destroyed health facility infrastructure, and law and order.

Nevertheless, the challenge remains to maintain services from health facilities and schools, access to clean water, and to reestablish power.

Line of Sight Issue 3: Unforeseeable Natural Hazard Events

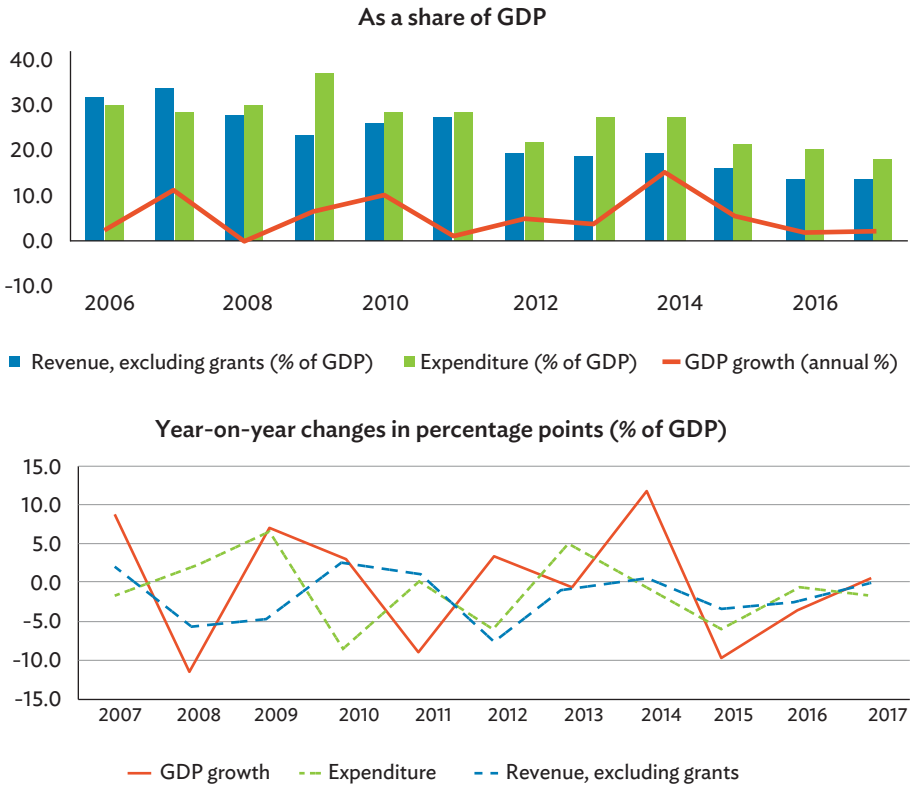
Unforeseeable natural hazard events cause direct losses of life and property, and disrupt and damage the country's critical basic health service delivery systems, restricting the country's ability to respond to the immediate crisis it faces and, concurrently, to restore the provision of regular health services to avoid a deeper malaise. A lack of preparedness can lead to higher-than-necessary negative impacts from natural hazard events.

The country is also regularly exposed to external economic shocks due to a high dependency on the natural resource extraction sector for growth and government revenue generation. Fluctuations in global commodity price markets affect PNG's economy and the fiscal situation directly and strongly. Over the past decade, GDP annual growth rates have seen six year-on-year changes larger than 5 percentage points, with three of these changes even more than 10 percentage points. While not always immediate, this feeds through to the public finances, with spending and revenue as a share of GDP frequently increasing and decreasing by high margins (Figure 9).

Periods of strong growth and revenue understandably encourage growth in government expenditure, needed for the expansion of public goods and services; however, without any measured countercyclical fiscal policy (e.g., facilitated by a savings mechanism), this can result in an inability to wind back expenditure quickly when one of the frequent downturns hit. Fiscal data shows expenditure consistently outpacing revenue since 2008, resulting in a gradual narrowing of fiscal space. Since 2015, there are visible government efforts to particularly reduce expenditure levels to reduce the fiscal deficit. Between 2014 and 2017, government expenditure decreased by 9 percentage points of GDP; however, revenue also decreased by 6 points.

[23] Port Moresby General Hospital is the country's largest hospital in the national capital, and Hagen Hospital is a large hospital in Western Highlands Province.

Figure 9: Volatility in Growth, Government Revenue, and Expenditure, 2006–2017



GDP = gross domestic product.

Sources: International Monetary Fund. *Article IV Consultation Staff Reports, 2010–2018*; and World Bank. *World Development Indicators*. https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed 15 October 2018).

The pronounced "boom-and-bust" cycles with abrupt changes in growth that contribute to fast and substantial expansions and sharp contractions in public spending in PNG create an uncertainty that undermines government planning and risks absorbing substantial resources to cope with alternating cycles of needing to scale up or cut down budgets and implementation rapidly. This can have detrimental effects on the quality of expenditure and the ability to deliver services on a continuous basis. The section on Overview of Health Financing Arrangements (page 21) explores in more detail how economic shocks and their impact on the general government public finances affect the available resources for health.

Line of Sight Issue 4: Economic Shocks

Difficult-to-predict economic shocks, in part due to a high dependency on natural resources, affect public finances, with uncertainty created by alternating sharp expansions and contractions undermining planning and service delivery.

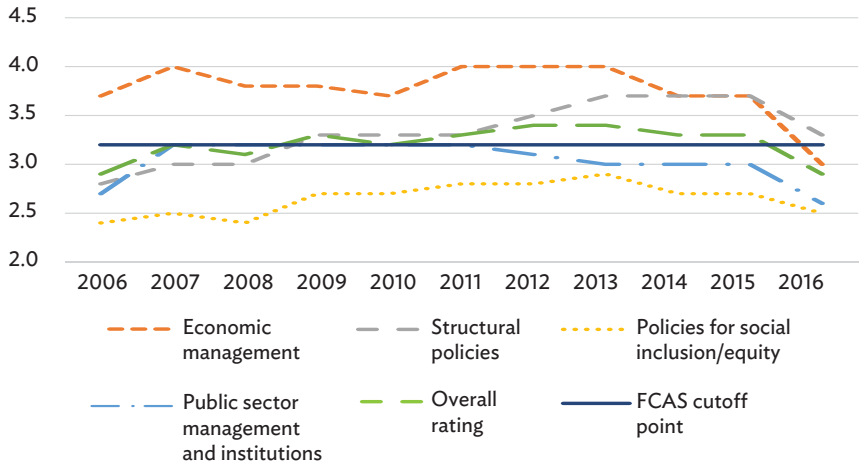
Box 2: Fragility and What It Means

The Asian Development Bank (ADB) defines fragility as the state's (i) failure to perform its functions effectively and provide basic social services, such as health, education, and security; (ii) incapacity to uphold the rule of law; and (iii) failure to provide sustainable sources of income for the population to get out of poverty.[a]

While not all aspects of this definition apply to Papua New Guinea (PNG), the country exhibits some of them. Systemic issues in the regulatory and governance frameworks are aggravated by a highly dispersed population across a vast and difficult terrain that is difficult to reach due to limited infrastructure. Exposure to external shocks, both natural and economic, contribute to this further. Together, these aspects lead to poor health indicators that contribute to persistent and widespread rural poverty in PNG. Therefore, the environment that the previous subsections describe in more detail can be considered as fragile.

ADB categorizes countries as fragile when their average annual country performance assessment score is below 3.2. This is harmonized with the World Bank categorization process. PNG's average country performance assessment scores have been oscillating around 3.2 over the past decade (Figure 10). Due to weak governance and institutions, and poor services including in health, transport infrastructure and energy access, ADB classifies PNG as a fragile country. Policies for social inclusion and equity, which include health sector policies and management, have been particularly low and are declining since 2013, reversing progress made between 2008 and 2013.

Figure 10: Country Performance Assessment Scores, 2006-2016



FCAS = fragile and conflict-affected situations.

Source: Asian Development Bank Country Performance Assessment database.

Countries that meet development partner criteria on fragility may be eligible to access additional external financing and increase the likelihood that support is appropriately tailored to local circumstances and needs. ADB is providing additional support to fragile countries through a technical assistance grant funding resilience mapping and learning to better inform strategy, program, and project design. It also supports capacity building and institutional strengthening on fragility sensitive approaches to development, focusing on government officials to gain a deeper understanding of the issues and reasons for working differently in fragile situations.

[a] ADB. 2013. *Operational Plan for Enhancing ADB's Effectiveness in Fragile and Conflict-Affected Situations.* Manila.

An early morning view of the Tubusereia fishing village, Central Province, Papua New Guinea.

Overview of Health Financing Arrangements

Health financing can come from a range of sources comprising government schemes, household out-of-pocket payments, voluntary health care payment schemes, and external financing including from development partners. In Papua New Guinea (PNG), the health sector is predominantly funded by the government, with the level of recorded household out-of-pocket spending low. Development partners play an important role in complementing domestic resources. In 2015, domestic general government health expenditure accounted for 71% of recorded total health expenditure, while domestic private and external health expenditure contributed 6% and 23%, respectively.[24] Given the importance of government financing, this section focuses mainly on government resources stemming from both national and subnational government levels. It provides an overview of health financing arrangements, followed by an analysis of specific issues in the allocation of resources and, subsequently, in the disbursement and flow of resources down to health facilities.

With the generally applied principle of funding following function, the complex governance and regulatory framework and resulting institutional arrangements described in the section on Context: Health System Organization (page 7) translate into fragmented health financing arrangements. The matter is further complicated by resources stemming from different sources, including the national government, provincial governments, development partners, and user fees collected by health facilities directly, each of which are often further subdivided into different funding streams. In addition to health sector institutions (and, to some extent, provincial governments and DDAs) directly involved in service delivery, central agencies are also involved in the allocation, disbursement, and monitoring of health sector funds, further adding complexity.

The national budget constitutes the main funding source for health services. At the central level, it funds many aspects of the health sector including NDOH, PHAs, provincial hospitals and provincial administrations for rural health services in provinces without PHA, church health services, and other health-related entities including the Institute of Medical Research and the National AIDS Council Secretariat. National budget funding channels vary for different input factors, health service levels, and service delivery models (Table 2). The national and regional hospitals receive funding for personnel, operation and maintenance (O&M), and capital investments through the budget vote "Hospital Management Services" (Vote 241), while NDOH receives funding for medical supplies and equipment and provides these in-kind to the hospitals.

[24] World Bank. World Development Indicators (accessed 16 October 2018).

At the subnational level, personnel and O&M funding is allocated directly to the institutions responsible for service delivery at a particular level, while NDOH is responsible for medical supplies and equipment procurement and distribution of some in-kind resources to health facilities (Table 2). National budget funding for capital investments is highly fragmented, even more so since the government scaled up the Provincial Service Improvement Program (PSIP) and District Service Improvement Program (DSIP) in 2013, allocating large sums of funding typically for local capital projects that reflect local priorities for provinces, districts, and local-level governments (K1.5 billion in 2013, which decreased to K1.2 billion in the 2018 national budget). Funding arrangements are different under the traditional model and the PHA model for government facilities (but the same for church-run facilities under both arrangements).

Table 2: Main National Budget Funding Channels by Input Factor and Service Level, 2018

<table>
<tr><th></th><th colspan="2">Personnel</th><th>O&M</th><th>Medical Supplies</th><th>Capital</th></tr>
<tr><td>National hospital services (L1)</td><td colspan="2">Port Moresby General Hospital (Vote 241)</td><td rowspan="2">NDOH (Vote 240)</td><td>Port Moresby General Hospital (Vote 241)</td></tr>
<tr><td>Regional hospital services (L2)</td><td colspan="2">Regional hospitals (Vote 241)</td><td>Regional hospitals (Vote 241)</td></tr>
<tr><td colspan="6">Subnational health services—traditional model</td></tr>
<tr><td>Provincial hospital services (L3)</td><td colspan="2">Provincial hospitals (Vote 241)</td><td rowspan="3">NDOH (Vote 240)</td><td>Provincial hospitals (Vote 241), provincial administrations (PSIP)</td></tr>
<tr><td>Rural health services (L4 and below)—government</td><td colspan="2">Provincial administrations (Votes 571–592)</td><td rowspan="2">DDAs (DSIP—administered via provincial administration votes 571–592), NDOH (Vote 240)</td></tr>
<tr><td>Rural health services (L4 and below)—church</td><td colspan="2">Church health services (Vote 241)</td></tr>
<tr><td colspan="6">Subnational health services—PHA model</td></tr>
<tr><td>Regional and provincial hospital services (L2 and L3)</td><td colspan="2" rowspan="2">PHAs (Votes 238, 239, 244, 248, 249, 253, 256, 260, 265, 266, 607–609, and 619)</td><td rowspan="3">NDOH (Vote 240)</td><td rowspan="2">Provincial hospitals (Vote 241), provincial administrations (PSIP) plus minor allocations to PHAs (various votes)</td></tr>
<tr><td>Rural health services (L4 and below)—government</td></tr>
<tr><td>Rural health services (L4 and below)—church</td><td colspan="2">Church health services (Vote 241)</td><td>DDAs (DSIP—administered via provincial administration votes 571–592), NDOH (Vote 240) plus minor allocations to PHAs (various votes)</td></tr>
</table>

DDA = district development authority, DSIP = District Services Improvement Program, L = health facility level, NDOH = National Department of Health, O&M = operation and maintenance, PHA = provincial health authority, PSIP = Province Services Improvement Program.

Note: The main responsible institutions for service delivery at the respective level are highlighted in bold.

Source: Asian Development Bank and Government of Papua New Guinea. *Papua New Guinea National Budget 2018.*

Under the traditional system, national budget funding for personnel, O&M, and capital investments of provincial hospitals are appropriated under the national budget under "Hospital Management Services" (Vote 241). Hospital staff remuneration (personnel emoluments) is then paid from the national level through the DPM and the DOF direct to an employee's bank account. Operational grants are paid to the provincial hospital, normally monthly, but the timeliness and amount is dependent on cash availability at the national level. NDOH is responsible for medical supplies, with resources intended to reach hospitals in-kind. There is also reference in the health legislation that NDOH is responsible for the procurement and provision of equipment.

Smaller capital outlays are appropriated directly under the respective hospital, while larger rehabilitations or upgrades are budgeted as separate activities (all under vote 241). Another potential funding stream for capital investments in provincial hospitals is from PSIP funding. Since this funding is not earmarked (since 2016) to a specific sector, provincial hospitals have had to compete for funding with other sectors through the provincial administration budgeting process. While provincial hospitals are still subject to many government controls, including standard payroll processes and procurement guidelines, in fact they operate with a greater level of freedom than the provincial rural health service.

The provincial rural health service is separate from the provincial hospital, and under the management of the provincial administration. Indeed, the health sector is the provincial administration's largest sectoral responsibility. The provincial rural health service has a dual mandate; first, it is charged to carry out responsibilities that relate to all rural facilities across the province, (Figure 7); and second, it has specific responsibility for the management, support, and funding of government-run facilities. As is the case for provincial hospital staff, remuneration (personnel emoluments) for rural health service staff, which includes staff at government-run district hospitals, is paid from the national level through DPM and DOF direct to an employee's bank account.

The national budget's contribution to the operational funding for rural health is paid through HFGs under the intergovernment financing regime, which is meant to be complemented by internal revenue from the provincial government (see further discussion on this below).[25] Medical supplies are to be provided in-kind through NDOH. For capital investments, in the past years up until 2019, rural health had to compete with other sectors for DSIP (and PSIP) funding that was appropriated in the national budget as lump sums under provincial administrations (Votes 571-592). Recent research in four districts found that district-level health projects receive some support from DSIP (but DSIP funding is not available on a routine basis for recurrent service delivery activities and operations, which is understandable given the capital focus of DSIP and PSIP).[26] In the 2019 national budget, possibly as a response to reducing funding for priority social sectors, PSIP and DSIP funding is allocated under the Department of Implementation and Rural Development (DIRD) budget, with 20% of funding earmarked to the health sector.

RECAP: TRADITIONAL PROVINCIAL HEALTH SYSTEM

Under the traditional provincial health system, provincial hospitals operate independently under a board.

Rural health services function under the administration of the provincial government.

Church health service providers operate under their church agency.

[25] HFGs are approved by the treasurer, acting under advice from the NEFC. The NEFC has an established methodology for calculating intergovernment grants (www.nefc.gov.pg).

[26] Footnote 11.

Further fragmentation of capital funding was introduced recently through new district hospital development funding under NDOH (Vote 240). According to NDOH, this funding was not planned by NDOH and was not part of the NDOH budget submission or the health sector medium-term development plan (2018-2022), but instead was initiated by DNPM without consulting NDOH. This points to gaps in effective coordination among government agencies at the national level, which should be addressed to ensure that effective use of capital funding and recurrent funding for staff and other operational supplies, including medicines, is available for completed projects.

Church agencies receive separate staff and operational grants under Vote 241 from the government to meet the costs of running rural health facilities under their management. Historically, all funding for staff and operations is paid to the CHS and then to church agencies for distribution to support particular facilities. It is expected that there will be a change in the disbursement arrangements. Under the new arrangements, the operational cost component of the CHS grant will continue to be processed through the budgetary system in a manner similar to how it is now, apart from a possible change of a budgetary separation between the operational grants for CHS and those for the Catholic Health Services.[27]

However, the staffing grant component of the CHS budget, including that of the Catholic Health Services will all be paid through a separate Alesco payroll system for the CHS and the Catholic Health Services under the new arrangements. The initiative to establish this separate payroll system is already underway with joint work taking place between the DPM, DOF, and NDOH. NDOH envisages, that by 2019, all CHS and Catholic Health Services staff will be paid their fortnightly salaries from the separate Alesco payroll system. The move to centralize church agency health staff on the Alesco payroll system is a long-standing matter approved by the National Executive Council to reduce disparity in remuneration levels between church agency health staff and their colleagues on the government payroll. For capital funding, church agencies, at least theoretically, have access to the same national budget funding sources as government-run rural health services.

RECAP: PROVINCIAL HEALTH AUTHORITIES

Under a PHA arrangement, provincial hospitals, district hospitals, and rural health services operate together under a PHA board.

Church health service providers operate under their church agency.

Together, this results in quite complex funding arrangements for national budgetary resources that are only slightly less fragmented under the PHA model. Apart from core funding for PHA governance, administration, and sector coordination, the only differences are that PHAs receive budget allocations for (i) health personnel for both the provincial hospital and rural health services (with payments directly routed to staff bank accounts as under the traditional model); (ii) HFGs to fund (a share of) operational funding for rural health facilities; and (iii) minor allocations for small capital outlays, replacing separate funding streams to the provincial hospital and the provincial administration. A detailed illustration of funding streams and actors involved in subnational health financing under both health system models is included in the Appendix.[28]

[27] NDOH advises that the Catholic Health Service share of the CHS budget is still being appropriated together with the CHS annual budget. The Catholic Health Services secretariat has expressed the need to have a separate budget vote relating to its funding and facilities under its management.

[28] The funding flow diagrams in the Appendix also capture provincial internal revenue, which is discussed in more detail in subsequent paragraphs and in the section on Selected Health Financing Issues in Focus (page 29).

The fragmentation in capital funding, government and church facility funding, and medical supplies and equipment from national resources remains unchanged. This is not by default negative or would necessarily need to be changed, but it increases complexity and requires significant coordination, information sharing, and performance by each institution controlling input factors to ensure integrated planning, efficient implementation, and, importantly, monitoring and accountability. Without that, the collapse of health service delivery due to a missing input factor and wastage of resources, combined with blame shifting and a lack of accountability, is a high risk (that far too often comes true in PNG's health sector).

Line of Sight Issue 5: Fragmented National Budget Funding Streams

Fragmentation in national budget funding streams for subnational health services, particularly in capital funding, government and church facility funding, medical supplies and equipment, and responsibility spread across multiple actors, increases the risk for health service delivery failures due to a missing input factor and/or the wastage of resources, combined with blame shifting and a lack of accountability.

To complement national budget resources, the subnational health sector can also access provincial internal revenue. Such funding can be used for any input factor as is deemed useful in the provincial budgeting process, but there is no guarantee or earmarking of funding for health. Health institutions, i.e., the provincial hospital and the provincial administration's health team under the traditional model or the PHA under the new model, have to compete with other sectors and many other interests for a share of the limited pool of provincial own-resource revenue.

Provincial revenue is particularly critical for rural facilities' operational funding since the current design of the intergovernmental fiscal arrangements for health envisage a shared responsibility between national and provincial governments. The NEFC estimates operational budget needs for a standard set of activities through a cost of services study (CoSS) that is updated every 5 years. The resulting amount is then equitably split by province between the national government and the provincial government, taking into consideration the province's own-resource revenue, including from natural resource projects. HFGs from the national budget mentioned previously are calculated to finance the funding shortfall (or fiscal gap) between the estimated cost of delivering rural health services within a province and the province's own internal revenue contribution. In practice, internal revenue can be difficult to secure through the annual provincial budget process, including for operational expenses of basic rural health services.[29] In 2013, for example, internal revenue funded only 5% of the estimated cost of rural health facility operations, with 80% of the 5% coming from only two provinces.[30]

[29] A significant amount of internal revenue tends to be allocated to expenses related to provincial administration and to provincial projects of a capital nature. It has traditionally been less common for internal revenue to be allocated to support recurrent health services.

[30] In 2013, operational spending on rural health services from provincial internal revenue was K6.435 million, with the Western and Morobe provinces contributing 80% of this amount; the estimated operational cost of rural health services for all provinces was K132.3 million. Government of Papua New Guinea, NEFC. 2015. *Raising the Bar, 2013 Provincial Expenditure Review with trend analysis from 2009 to 2013.* Port Moresby.

Line of Sight Issue 6: Provincial Internal Revenue

Uncertainty about, and insufficient allocation of, provincial internal revenue can undermine the delivery of provincial health services, particularly across the rural network where provincial revenues are required for (a share of) operational facility funding.

User fees directly paid to health facilities and development partner financing also play a role in subnational health financing, adding further complexity. The importance of user fees has always been low in PNG and reduced further since the introduction of the Policy on Free Primary Health Care and Subsidized Specialist Services in 2013.[31] To compensate health facilities for foregone revenue, some additional funding is allocated through the national budget process.

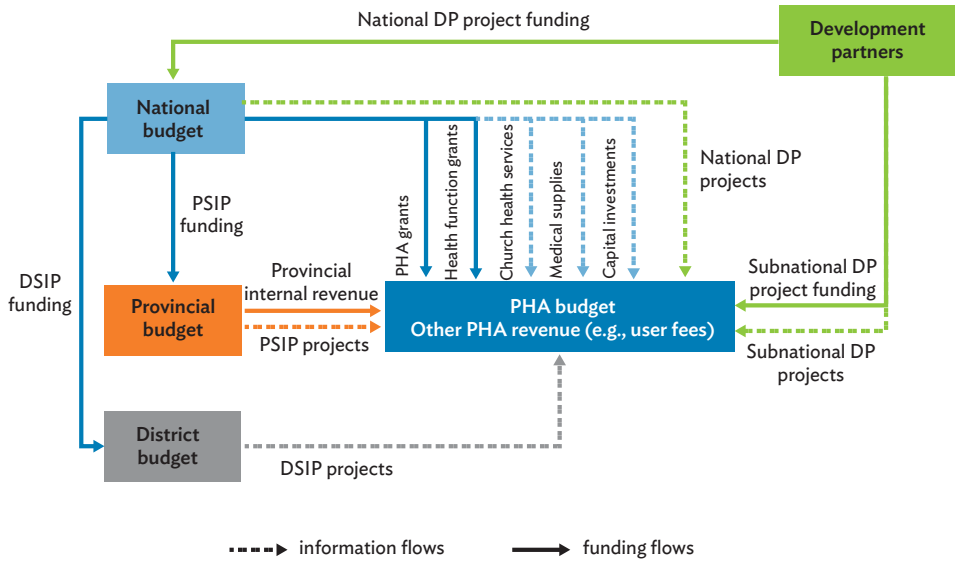
Development partners play an important role in the health sector and support health institutions across all government levels and input factors, with a focus on capital investments and disease/service-specific response programs, including immunization, tuberculosis, and other communicable diseases. For health sector development partner projects included in the national budget, DNPM is responsible, with warrants issued by DOT and cash released by DOF. Development partners also directly engage at the subnational level, providing financing or in-kind resources to government and church institutions, or deliver services directly.

Together, the following complex picture of funding streams (solid lines), and information flows (dashed lines) emerges under the PHA model (Figure 11). To be able to plan, coordinate, and oversee provincial health services, PHAs need a comprehensive and timely flow of information (dashed lines) in the budget process on in-kind resources (e.g., medical supplies, facility infrastructure) as well as complete services to be delivered under the responsibility of other actors (churches and development partners).

The described fragmentation increases complexity and the risk that health service delivery fails due to the absence of one critical input factor. A basic thought experiment of probability illustrates the issue, assuming that the availability of health personnel, facility operational funding, medical supplies, and adequate facility infrastructure are independent events given their different arrangements of funding and institutional responsibility. At a (relatively high) probability of 80% for each input factor to be available at the right place and at the right time, the resulting combined probability that all four input factors are available concurrently and health services can be provided is only about 40% (0.84). This emphasizes the need for close coordination, information sharing, and performance of all entities involved in subnational health service delivery.

[31] Government of Papua New Guinea, Department of Health. 2013. *Policy on Free Primary Health Care and Subsidized Specialized Health Services in Papua New Guinea.* Port Moresby.

Figure 11: Illustration of Budget Funding and Information Flows for Provincial Health Authorities



DP = development partner, DSIP = District Service Improvement Program, PHA = provincial health authority, PSIP = Provincial Service Improvement Program.

Notes:

In addition to information flows on capital investments from the national budget to PHAs, for example funded through the Department of Health (Vote 240) or Hospital Management Services (Vote 241) budgets, PHAs may also receive national budget funding directly into their budgets in the future.

Development partners include multi- and bilateral donors, as well as faith-based organizations, nongovernment organizations, and private sector donors and partners, from which PHAs may receive funding and/or in-kind support.

Several goods and services outside the health sector, including education, water and sanitation, and road infrastructure, are of critical importance to provincial health service delivery and outcomes. These funding and information flows are not captured in the illustration above, but require PHAs to engage actively with responsible government and non-government agencies to ensure the enabling environment for health is in place.

Source: Asian Development Bank.

Villagers visiting the Tsinjipai Community Health Post for information and treatment.

Selected Health Financing Issues in Focus

This section discusses selected issues in health financing in more detail, with a focus on the subnational level. It highlights various areas where the blurring, or complete obstruction of lines of sight in health service delivery, increases the risk for disconnects between plans, budgets, and performance, which can have detrimental impact on health outcomes. The first two points look at information availability to answer the question "Are adequate resources allocated?". This requires understanding needs and current resourcing levels. Subsequently, the section looks at issues with coordinating available resources and securing adequate financing to fill gaps in an attempt to match resources with needs. Last, the section analyzes the lack of predictability in budgets and disbursements, which undermines planning, budgeting, and implementation.

Information about Health Sector Resourcing Needs

Understanding how many resources are needed for a basic level of health service delivery at different facility levels is important to inform resource allocation processes. The funding levels from national resources for the subnational health sector institutions, including PHAs and CHS, are established annually in the national budget process administered by the DOT. Provincial resources are allocated through the provincial budget processes administered by the provincial administrations. While these are politically influenced processes—and the health sector has to compete with other needs for a limited pool of resources, and often ends up receiving less than requested—equipping the health sector actors with technical expertise and information on what is needed to provide a basic level of health resources is a critical input to make an evidence-based case for adequate financing.

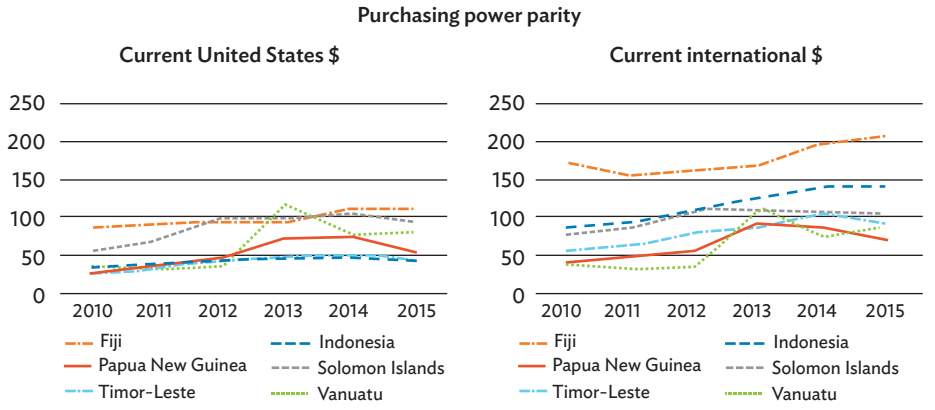
Impact of geographical costs on service delivery

While PNG allocates a substantial amount of resources to health, both as a share of GDP and of total government spending, and also relative to other lower middle-income countries (see section on Motivation, page 1), the unanswered question is whether these resources are adequate to deliver health services across the country.[32] At the aggregate level, the case can be made that, on a per capita and purchasing power parity (PPP) basis, spending is actually fairly low relative to comparator countries. Considering relative costs of goods

[32] Health funding data gaps discussed above can also feed through into global databases, subject to data sources and compilation methodologies.

across countries, PPP-adjusted data shows that the same resources can buy comparably less health services in PNG than in comparator countries (Figure 12). While the PPP concept is not exact and estimates are not specifically for a basket of health goods and services, it gives an insight into cost differences between countries, which are also affected by geo-demographic settings—a predominantly rural, dispersed population and difficult terrain (see section on the Health System Context, page 7)—and its impact on transport costs (plus other important factors like exchange rate valuation, small market scale, labor market issues, and trade barriers). Twin pressures of fiscal constraint and a rapidly growing population have started to put further strain on health resources, evidenced in the decline in government health expenditure per capita in 2015 (Figure 12).

Figure 12: Domestic General Government Health Expenditure per Capita, 2010–2015



Note: An international $ would buy in the cited country a comparable amount of goods and services a United States dollar would buy in the United States. This term is often used in conjunction with purchasing power parity data.

Source: World Bank World Development Indicators (accessed 15 October 2018).

NEFC's CoSS factors in transport costs for goods and health outreach services when calculating operational funding needs for rural facilities, which is a good starting point. However, it assumes functional and relatively efficient logistics networks by measuring the cost of input factors for health services that have made it to a specific location. In practice, unforeseen events and other inefficiencies in supply chains can increase the cost of bringing resources to facilities further (e.g., in the extreme case of the Hela earthquake, Oil Search used helicopters to transport supplies). It is further unclear as to what extent other health sector allocations factor in the geographical cost of service delivery adequately.

Resource needs of regional, provincial, and district hospitals

Provincial and regional hospitals consume a sizeable proportion of the government's health budget. As such, and particularly during repeated periods of fiscal constraint, it is important to understand better the costs and services of provincial hospitals, and to compare what is estimated to be needed to the actual funding that hospitals receive. There may be key areas of hospital operations that are currently underfunded, and other areas where costs can be better managed or reduced, and savings can be redirected to support service improvement.

District hospitals (Level 4) facilities are being gradually introduced, with dedicated capital investment funding allocated under NDOH (Vote 240) in the 2018 budget; however, funding arrangements have yet to be fully developed since there is currently no dedicated and discrete source of funding. Under the existing intergovernment financing arrangements, district hospitals compete for operational funding with many other rural facilities in the province (health centers, community health posts, and aid posts). For government-run facilities, this would be from the HFG or provincial internal revenue, while for church-run facilities this would be from the CHS operational grant allocations. Further, in the costing study that underpins the intergovernment financing arrangements and guides the calculation of function grants, for costing purposes, level 4 district hospitals are categorized the same as level 3 health centers, despite district hospitals having more citizens to serve (population catchment of a health center is 5,000–40,000, while for district hospitals 30,000–100,000) and more services to deliver.[33] Therefore, this matter of classification will likely undervalue the estimated cost of provincial health services and, consequently, reduce the funding provided under the intergovernment financing arrangements to the health sector and the provincial internal revenue contribution needed.

QUALITY SPENDING AND SERVICE IMPROVEMENT

Hospitals consume a large amount of health resources. The constant challenge is to ensure that health money is spent well and savings are redirected to service improvement.

SUPPORT FOR DISTRICT HOSPITALS

Dedicated funding is required to support district hospitals that are being gradually introduced in accordance with geographic and population catchment requirements.
(NHP 2011-2020)

Resource needs for the Policy on Free Primary Health Care and Subsidized Specialist Services

As briefly highlighted in the section on Overview of Health Financing Arrangements (page 21), the government introduced the Policy on Free Primary Health Care and Subsidized Specialist Services in 2013 in line with its priorities set out in the Alotau Accord.[34] As the name suggests, the policy eliminated user fees for primary health services and reduced fees for selected specialist services, with a detailed list of services and corresponding user fees published through the Public Hospitals (Amendment) Regulation 2013 and Dental (Charges) (Amendment) Regulation 2013. Free primary services include antenatal care visits and skilled birth attendance at delivery. Starting with the 2014 budget, the government allocated K20.0 million under Treasury and Finance Miscellaneous (Vote 207). In the initial stage of free health care policy development, DOT asked NDOH to provide an estimate of the revenue from user fees that hospitals and rural health facilities collect on an annual basis. A brief data collection exercise arrived at an approximate amount of around K20.0 million, which is the basis for budget allocations since 2013.

Whether this amount is reflective of actual costs remains unclear and no inflation adjustments have been applied. Further, how this amount is allocated among hospitals and

[33] Government of Papua New Guinea, NEFC. 2014. *The Thin Blue Line, Technical Report on the Methodology and Results of the Cost of Subnational Services Study.* Port Moresby.

[34] Government of Papua New Guinea, NDOH. 2013. *Free Primary Health Care and Subsidized Specialist Services Policy.* Port Moresby.

rural facilities remains unclear, except for some references to the policy in the expenditure notes in public hospital appropriations under Hospital Management Services (Vote 241), but these lack funding information. Anecdotal evidence suggests that many lower-level facilities still have to charge some user fees to remain operational. To what extent this is linked to delays in disbursement of budget allocations due to the recent fiscal crisis, or is due to insufficient resources being allocated (or a combination of both), is unclear but should be analyzed and factored into policy costings and resource allocations. Compared with the tuition fee free policy in education that has received K451 million in 2016 (until then also appropriated under Vote 207), which was further increased to K602 million for 2017 and 2018 (since appropriated under the Department of Education budget Vote 235), it seems unlikely that the K20 million per year allocation for the health sector suffices to implement the policy. In both cases, the funding is in addition to function grants allocated for operations of the rural school and health facility network.

The NDOH started looking into the policy resourcing as part of the 2019 budget process, which is a good first step; however, more comprehensive analysis should be done to understand the resourcing needs and how these should be allocated across provinces and facility levels. With this information, the budget process for 2020 can be informed and the case made for additional resources to fund the Policy on Free Primary Health Care and Subsidized Specialist Services.

Resource needs for church health services

Last, the resourcing levels and needs of the CHS-run facilities is unclear. Consultations in 2013 suggested that church-run facilities are no more likely to benefit from other sources of funding through their broader ministries and networks than government facilities.[35] This challenges some long-standing views as reflected in other reports.[36] Overall, no reliable information appears to be available, with presumptions and speculation dominating the debate.

Line of Sight Issue 7: Gaps in Knowledge of the Cost of Basic Health Services

Several information gaps do not allow a clear understanding of costs and needs for essential health services in PNG. Key elements include the adequate reflection of service costs in PNG's geo-demographic setting, costings for various levels of hospitals, resource needs of the Policy on Free Primary Health Care and Subsidized Specialist Services, and of church health services.

[35] Government of Papua New Guinea, NDOH and AusAID. 2013. *Christian Health Services Technical Assistance Mission Report.* Port Moresby.

[36] See, for example, Nossal Institute. 2011. *Strengthening Church and Government Partnerships for Primary Health Care Delivery in Papua New Guinea: Lessons from the International Experience.* Melbourne: University of Melbourne.

Information about Available Health Sector Resources

Without information, there is, by definition, no transparency, and accountability is blurred. Basic assessments of efficiency, performance, or value-for-money in service delivery require knowledge about resources available for service provision (the inputs), on the one hand, and information on the services delivered (the outputs and outcomes achieved through these), on the other hand. For PNG, information on the availability of health sector resources requires substantial effort to compile and often is incomplete both at the national and subnational levels as discussed below. The 2015 public expenditure and financial accountability assessment carried out by the International Monetary Fund also highlighted that the indicator measuring resources going down to service delivery units performed poorly. It should be noted that the outlined information gaps in the areas of budgeting and financial reporting discussed previously contribute to the information gaps on health service costs and needs since both are interrelated through the iterative, incremental resource allocation process.

In the national budget, health sector allocations are highly fragmented, with sector spending agencies distributed across budget volumes 2b, 2c, and 2d. PHAs are distributed across votes for national government departments (volumes 2b and 2c) and statutory authorities (volume 2d), the reason for which is unclear. The allocation of capital projects is also highly fragmented, split between NDOH (Vote 240), hospital management services (Vote 241), PHA votes for minor capital spending (various votes), and PSIP and DSIP funding, until the 2019 national budget, under provincial administrations (votes 571–592) and in the 2019 national budget under DIRD for onward transfer to provincial administrations and DDAs.

Further, the national government-funded health sector budget as it is shown in the national budget, and the unaudited actual spending reported in DOT's final budget outcome reports, does not capture government health financing comprehensively. It does not capture health budgets and actual spending allocated under provincial administrations comprising rural health staff and HFGs in provinces operating under the traditional model, i.e., provinces without PHAs since these fall under the classification of "provinces" as a separate sector in budget documentation and reporting. While HFGs have a separate line item under provincial government votes, rural health personnel allocations are grouped with other provincial staffing allocations in the national budget, preventing identification of actual allocations without separate information from the central agencies. The introduction of PHAs leads to some improvements by explicitly showing total subnational health personnel budgets, combined with HFGs under the same institution, which will enable some tracking of operational resource composition (excluding medical supplies) from national budget resources at the subnational level.

The predominately capital expenditure funded from PSIP and DSIP has been allocated under provincial administrations under the sectoral classification of "provinces" until the 2019 national budget and did not have any sector earmarking in recent years (in the past, 20% was allocated to the health sector but this was changed; with funding channeled through DIRD from 2019 onward, the sector earmarking appears to have been reintroduced). Reports on how these transfers have been allocated to sectors in lower government level budgets—provincial budgets for PSIP and district budgets for DSIP

allocations—and subsequently expended are not available. Together, this means that the sectoral overview of budget allocations in the national budget and the related final budget outcome reports by DOT have not been comprehensive and underreport health resourcing. Further, through these limitations, the composition of allocations by input factors, even at a high level (personnel, O&M including medical supplies, capital), can neither be established nor tracked over time. The lack of detailed, publicly available audited or unaudited financial statements, with the most recent audited public accounts being from 2012, prevent the tracking of actual spending.

At the subnational level, the resource allocation and expenditure information is also incomplete and public access to documents severely constrained. Information about health sector allocations and actual spending funded from provincial internal revenue is not readily available. PSIP and DSIP allocations appear to be included in provincial and district budgets; however, these are not publicly accessible nor are financial statements (audited or unaudited), if prepared. The only available information on government CHS funding is from the national budget, with more detailed breakdowns at the provincial level and about nongovernment church resources not systematically available. Information on domestic and external nongovernment resources from development partners, which are an important source particularly for capital investments, and the private sector is also only sporadically available.

Information on nationally funded and procured medical supplies and equipment is not presented on a provincial basis and, therefore, is not adequately integrated into subnational planning, budgeting, or reporting processes.[37] On the one hand, this undermines accountability for the in-kind resources—if one is not aware how much one should get, how can one make sure one gets it—while it could also lead to common pool issues when resources are allocated on a "first come, first serve" basis rather than an equitable or needs basis, with a risk that premature and excessive ordering is incentivized, which could increase wastage of resources in one place and shortages in others. Reforms are ongoing to improve medical supplies management, including through the rollout of a logistics management information system (through provider mSupply); however, more progress is urgently needed.

Together, this results in a situation where even basic questions on the allocation and use of national and subnational government resources can either not be answered or only with great effort in compilation and analysis. The situation is even less transparent for nongovernment domestic (e.g., user fees, private sector spending) and external resources (e.g., development partner spending). Documents that show such information are most likely incomplete and risk being misleading. This undermines planning at all levels, which can lead to poor allocation decisions (reducing allocative efficiency of scarce resources), and hinders or prevents corrective actions. It also reduces transparency and makes scrutiny by the legislature, the media, and the general public more difficult.

[37] There are also well-documented, significant issues in the medical supplies and equipment procurement and distribution system that affect the availability of quality medicines across PNG. The challenges to improve the system and reduce frequent stockouts are many and complex, including irregularities in procurement processes, high costs compared with international market prices, outsourced distribution arrangements to seven different logistics companies that lack government oversight, and no functioning pharmacovigilance system to assess and improve the safety of drugs, among others.

Line of Sight Issue 8: Gaps in Information on Health Budgets and Spending

Without systematically collected comprehensive and timely information on how much is budgeted and what is spent across all input factors, both for the entire sector nationwide and at the provincial level, planning, coordination, and the delivery of health services, as well as their monitoring and accountability for resources, cannot be effectively and efficiently exercised.

Issues with Coordinating and Securing Adequate Financing

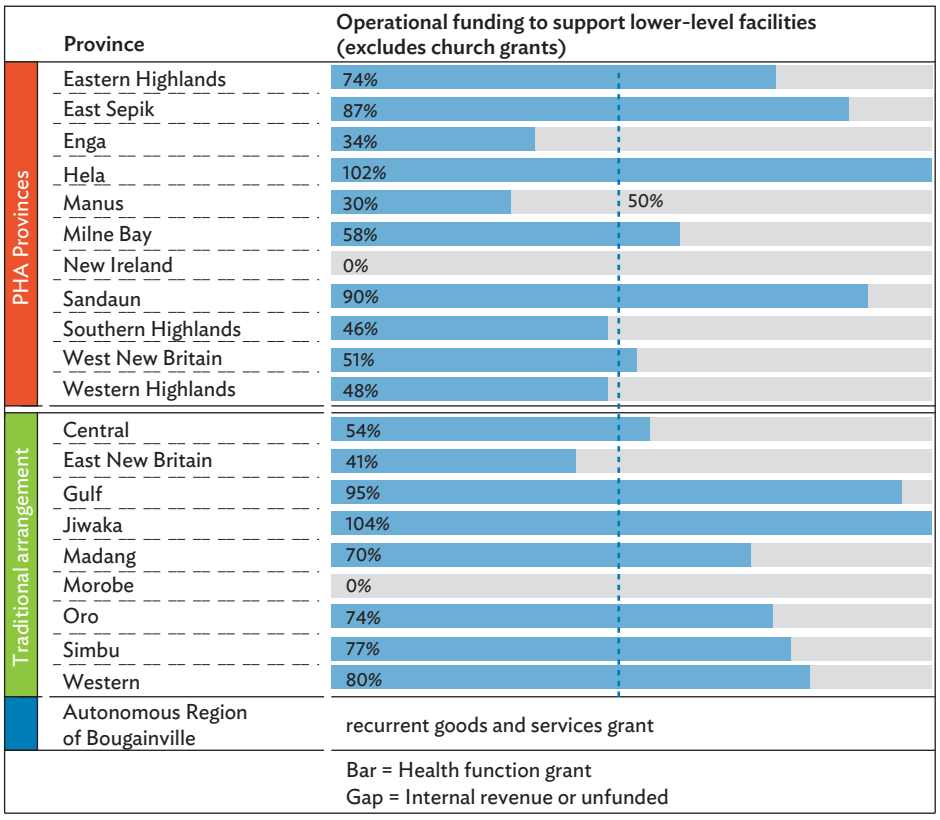
As summarized in Table 2 and Figure 11 in the section on Overview of Health Financing Arrangements (page 21), subnational health financing arrangements are complex and fragmented, with PHAs (and health teams in provincial administrations in provinces without PHAs) having to coordinate and access a range of financing sources to ensure adequate resourcing of provincial and rural health services, including operational funding (e.g., HFGs and provincial internal revenue) and capital investments (e.g., PSIP, DSIP, and development partner financing), as well as in-kind resources (e.g., medical supplies plus information on CHS and other nongovernment service providers in the province). Once coordinated and secured, PHAs have to ensure that resources reach the right places and are used effectively (i.e., for the right things) and efficiently (i.e., without wastage) to enable frontline service delivery. The following points highlight bottlenecks in this complex process.

Securing internal revenue from provinces to support recurrent health services

The difficulty in accessing provincial internal revenue for health was already briefly highlighted in the section on Overview of Health Financing Arrangements (page 21), but it is worth looking at in more detail since, by design of the intergovernment financing system, it is a critical component in funding the operations of rural health services. Without the provincial contribution, there is a risk that rural health services are only partially, or even not, delivered. Provinces are responsible for covering a share of the costs based on their assessed fiscal capacity, i.e., ability to collect provincial own-resource revenue, while HFGs are intended to meet the funding shortfall between the estimated cost of rural health services and a province's fiscal capacity.

Figure 13 illustrates the importance of internal revenue in funding health sector operations. In fiscal year 2018, HFGs are projected to meet less than 60% of estimated needs in Central, East New Britain, Enga, Manus, Madang, Milne Bay, the Southern and Western Highlands, and West New Britain provinces. Thus, these require significant allocations of provincial internal revenue, if they are to meet the estimated cost of rural health service delivery in their provinces. Further, Morobe and New Ireland provinces were assessed to have sufficient provincial internal revenue to fully fund their rural health service delivery obligations, and so they will receive no HFG funding at all for the year. This has been greeted with some dismay by affected provinces despite information being repeatedly provided that this reform would be implemented. Anecdotal reporting suggests the affected provinces were not prepared for the transition.

Figure 13: Health Operational Funding for Lower-Level Government Facilities, 2018



PHA = provincial health authority.

Notes:

1. Government health function grants are per the National Economic and Fiscal Commission (NEFC) 2018 Fiscal Report. The gap between the health function grants and the amount to be funded from provincial internal revenue have been estimated using 2013 costs from the NEFC 2013 public expenditure review as a base and adjusted by the consumer price index (Volume One of the Government Budget) and annual population growth of 2.83% for the period 2014–2018.

2. Under its special arrangement, Bougainville receives a single recurrent goods and services grant for operational costs relating to all sectors. The Bougainville administration then allocates a portion of this recurrent grant to the health sector. The Arawa Hospital receives a budget to support its operational costs. Church-run facilities in Bougainville receive funding under Hospital Management Services (Vote 241), Program: Church Health Services (labeled North Solomon's Province).

Source: Government of Papua New Guinea, National Economic and Fiscal Commission. 2018. *Budget Fiscal Report*; Government of Papua New Guinea. *Papua New Guinea National Budget 2018.*

Therefore, provincial internal revenue is, by design, a critical source of funding for many provinces under the intergovernment financing arrangements. If PHAs are to operate effectively and sustainably, and to fulfill their mandate to deliver rural health services and support government-run lower-level facilities, in practice they need two grants—one from the provincial government and the other from the national government. Yet the difficulties experienced by provincial health managers in securing an allocation of internal revenue from the provincial budget process to support their recurrent activities are a significant and critical constraint in many provinces.

PROVINCIAL HEALTH GRANTS FROM INTERNAL REVENUE

If the intergovernmental financing system is going to work for health, PHAs need to receive a combination of provincial and national grants for health operations.

In reality, an analysis of the 2009–2013 provincial expenditure reviews shows that internal revenue funded between 5% (in 2013) and 8% of the estimated cost of rural health facility operations.[38] With nothing in the existing applicable laws and financial instructions to compel provinces to make such a grant, NDOH noted that the success of a PHA in securing internal revenue was dependent on health being a priority within the province. If health was not a provincial priority, the chances of the PHA operating effectively within that province by securing the funding it needed to deliver rural services from the provincial internal revenue would be very slim. While this could be the result of a genuine prioritization process, provincial budget processes can, similar to the national budget process, either be affected by a lack of information and knowledge (see also discussion in the sections on Information about Health Sector Resourcing Need, page 29 and Information about Available Health Sector Resources, page 33) or be captured by groups whose individual priorities do not necessarily reflect the preferences of the provincial population.[39] In contrast, HFG budget allocations have been a more predictable source of funding. In practice, many rural health service teams, whether under a PHA or a provincial administration, therefore continue to rely primarily (or even exclusively) on HFGs for their operational funding.

Given the view that under the PHA modality health services are now "the PHA's responsibility to deliver," one could argue that the challenge of securing provincial internal revenue may be even more, not less, difficult under a PHA arrangement than it was under the traditional arrangement where rural health services were explicitly the responsibility of provincial administrations that manage provincial own-resource revenue. On the other hand, PHAs may have more influence in some aspects of the budget process since they are larger agencies with the added responsibility for the provincial hospital compared with the provincial health team. Regardless, tensions are expected to persist.

In theory, while the financing arrangements requiring a contribution from provincial internal revenue based on fiscal capacity are a good, equitable system, in practice it appears to result in underfunding of rural health services. While one can argue that it is up to the provinces to decide and prioritize resources through their own budget processes, one may need to revisit the system, if it turns out that in practice the sick, poor, or otherwise disadvantaged are suffering.

[38] Government of Papua New Guinea, NEFC. *Provincial Expenditure Reviews 2009–2013*. www.nefc.gov.pg. As an example, in 2013, the total NEFC cost of services estimate for health was K132.3 million, while spending was K69 million (including K6.4 million from internal revenue), leaving a shortfall of K57 million that conceptually needed to be funded from internal revenue.

[39] In the latter case, surveys globally show that basic health services are one of the highest priorities of households, particularly in settings with widespread rural poverty comparable with PNG, which suggests that provincial budget processes that do not allocate adequate financing to rural health services could be captured by interest groups to satisfy their own preferences rather than those of the poor, rural majority.

Box 3: Other Observations on the Cost of Services and Health Function Grant Methodology

Overall, the intergovernment financing reforms in 2009, with the introduction of the cost of services study and the function grant system, led to very positive change. The quantum of operational funding for rural health services did grow significantly from 2009 and has translated into a greater focus and increased spending on rural health and minimum priority activities across the country. However, some areas remain for further consideration and reform. Apart from the issues around the provincial internal revenue arrangement and the question to what extent the costings of operational funding needs for the standard set of activities in rural health services are adequately reflecting the true cost of services in Papua New Guinea's geo-demographic setting (see discussions in Context: Geo-demographic Country Setting, [page 15] and Information about Health Sector Resourcing Needs [page 29]), three other observations on the cost of services and health function grant calculation methodology are worth noting (with the first two equally applicable to other sectors' function grants).

(Dis-)incentives for provinces to collect internal own-resource revenue
The calculation of provincial fiscal capacity includes the consideration of a province's own-resource revenue assessed on the basis of actual collections in the fiscal year 2 years prior.[a] This defines capacity in terms of effort rather than potential, and implies that provinces that invest substantial effort in collecting its own sources of revenue are—while achieving greater control and independence from national government resources at the same time—disadvantaged through reduced function grants. Conversely, provinces that commit less efforts receive the shortfall to the calculated cost of services through function grants. While the impact that this has in practice needs to be assessed, a redesign that takes into consideration (a share of) the own-resource revenue potential of a province instead of past actual collections could be appropriate. Importantly, it should be noted, that only potential from sources that have a dominant revenue—raising objective (e.g., property taxes or, to some extent, business licenses) and no competing strong social or economic policy objectives (such as user fees for social services) should be used to calculate a province's potential. Otherwise, incentives may be introduced that lead to a ramping up of user fees for social services with detrimental impact on service access and utilization that could negatively affect human development outcomes.

Focus on existing operational facilities only and disconnect with capital investment decisions
The second issue relates to the cost of services study and its application in isolation from capital investment planning and decision-making. Together with a list of other gaps, this issue, was already highlighted in the National Economic and Fiscal Commission's report The Thin Blue Line.[b] From a practical point of view, basing estimates of costs of services on the number and type of operational facilities in a province appears sensible to ensure that existing facilities receive funding and can operate. However, such an arrangement does not help to make capital investment planning and decision-making more equitable or needs-based. Instead, if such capital investment decisions are inequitable or not sufficiently needs-based, they can exacerbate, and not counter, existing inequities in service provision. Regardless of equity and needs, a province with more facilities automatically receives more function grants. This stresses the importance for a strategic, integrated approach to capital investment planning and operational funding, framed by the principles of affordability, equity, and need.

Uncertain relevance of health function grants for church health services
Last, the National Department of Health recently noted that the costing model for rural health services includes costs related to both government and church-run district hospitals and health centers. This issue is further unpacked in the World Bank report Financing the Frontline.[c] As interpreted by some, the implication, is that provincial health authorities and provinces that receive health function grants have a responsibility to support church-run health facilities and to meet some aspects of their operational costs, particularly the minimum priority activities of facility operations, outreach patrols, and the distribution of drugs and medical supplies. Unfortunately, there is still uncertainty as to which costs relating to church-run facilities are intended to be paid from church health service operational grants, and what costs are intended to be paid by the provincial health authority or province.

[a] Government of Papua New Guinea, National Economic and Fiscal Commission. 2009. *Plain English Guide to the New System of Intergovernmental Financing.* Port Moresby.

[b] Government of Papua New Guinea, National Economic and Fiscal Commission. 2014. *The Thin Blue Line, Technical Report on the Methodology and Results of the Cost of Subnational Services Study.* Port Moresby. This particular issue is described on page 20, with further gaps highlighted on pp. 18–19.

[c] A. Cairns and X. Hou. 2015. Financing the Frontline in Papua New Guinea: An Analytical Review of Provincial Administrations' Rural Health Expenditure 2006–2012. *Health, Nutrition and Population Discussion Paper.* Washington, DC: World Bank.

Line of Sight Issue 9: Intergovernment Financing System Issues

A theoretically equitable intergovernmental financing system for operational costs, in practice, often leaves rural health services underfunded, leading to a disconnect between needs and resourcing, which can limit service provision. Other system design issues also risk negatively affecting incentives and equitable, needs-based resource allocation.

Coordinating capital investment and securing access to capital

As highlighted above, capital investment in the health sector is funded in several ways by both the government and development partners. Development partners have a long tradition of funding capital projects in PNG—from building health facilities to providing medical equipment. Government investment has traditionally been sourced through the development budget coordinated by DNPM, with some capital funding periodically directed through NDOH's national budget (Vote 240), including for new district hospitals in the 2018 budget, and the Hospital Management Services (Vote 241) allocation. At the subnational level, provincial governments also have sources of internal revenue which can, and are, directed to support capital projects within the province.[40]

In 2013, the landscape of capital funding changed with the significant scaling up of the nationwide service improvement programs through which PSIP and DSIP capital investment grants have become important funding sources to support priority projects, including in health. In the 2018 budget, the program continues to provide significant annual allocations to provinces (K220 million in total, being K10 million per province), districts (K880 million in total, being K10 million per district), and wards (K64.4 million in total, being K10,000 per ward) to support service improvement initiatives that are mainly capital in nature. With no fixed sector allocations, provinces and districts have enjoyed maximum discretion in allocating these funds to address local development priorities. However, in 2019, the DIRD is reintroducing sector allocation guidelines for the SIP that will see major sectors including health receive set amounts annually.[41] PSIP funds are allocated by a province, and DSIP funds are allocated through district-level boards that are chaired by the local Member of Parliament.

The challenge for the health sector, and for PHAs more specifically, is twofold—to both secure and help guide funding for capital investment to support the delivery of health services in their localities. The challenge of guiding funding reflects a growing reality that the sector has limited direct control over, and requires PHAs and NDOH to work politically, publicly, and within the bureaucracy to ensure that capital investment decisions are coordinated and consistent with sector strategy, in accordance with national health standards, and critically are sustainable given the recurrent resourcing available to the sector. Securing funding is a matter of understanding the various funding sources—central government, provincial government, PSIP and DSIP, and development partners—and matching them with capital investment needs.

COMMUNICATION

The "soft skills" of communication and maintaining effective working relationships are vital for health leaders, CEOs, and managers.

[40] Goods and services tax and royalties being the larger sources.

[41] As per discussions with the secretary of the DIRD in December 2018.

STRATEGY AND COORDINATION

NDOH and PHAs have key advisory roles to play in guiding new capital investment in the sector, as the country builds a system that is affordable, equitable, and meets health standards.

Service plans can provide critical information to inform capital investment decisions. But where are the entry points for PHAs to effectively dialogue with politicians and bureaucrats?

In this context, NDOH is trying to assist PHAs, provinces, and districts by ensuring that each PHA or province has its own strategic health services development plan. So far, 11 service plans have been developed with the assistance of ADB's Rural Primary Health Services Delivery Project.[42] NDOH anticipates that the other 11 provinces will have their own service plans soon. This is an excellent start, but it should be noted that there is also a need for an interprovincial or national element to service planning to ensure an equitable and needs-based facility allocation across the whole of PNG. Another recent initiative by NDOH is the preparation of district profiles. Each district profile helps to communicate the health situation within a district and can help inform local development priorities and guide future investment decisions. District profiles are being shared with local members of Parliament.

However, currently, there appear to be no binding processes or guidelines nor other tools that would help ensure that new capital investment projects in health are in line with national and provincial sector plans, and that the required resourcing is available to fund the costs of new health personnel and facility operations. This increases the risk that new facilities are not optimally built—in terms of location, facility level, and/or design—and/or will end up inadequately resourced (or crowding out resources of other existing facilities, leaving them underfunded) since they are just not affordable within a constrained resource envelope. Further, there are cases of misalignment between different planning and budgeting documents, with the rationale for and technical quality of prioritization unclear. For example, in Hela province, the strategic health services development plan prioritizes Margarima and Koroba as locations for district hospital investments, the Medium Term Development Plan II (2016-2017) prioritizes Tari, while the 2018 national budget allocates funding for Kopiago.[43] While there will always be a political element to resource allocation, feeding technically sound, consistent information into decision-making processes can help guide such politically influenced processes and minimize wastage of resources through suboptimal investments, whether these are politically motivated or due to a lack of information.

Line of Sight Issue 10: Misaligned Planning Framework

A misaligned planning framework, and a lack of processes, guidelines, or tools to guide and coordinate capital investments from a multitude of sources likely makes it harder for the health sector to access financing and, importantly, increases the risk that new facilities are not optimally built and/or will end up inadequately resourced (or crowd out resources of existing facilities), leading to wastage of resources.

[42] ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant and Loan to Papua New Guinea for the Rural Primary Health Services Delivery Project.* Manila.

[43] Government of Papua New Guinea. 2016. *Papua New Guinea Medium Term Development Plan II (2016-17).* Port Moresby; Hela Provincial Health Authority. *Strategic Health Services Development Plan.* Tari; and Government of Papua New Guinea. 2017. *2018 National Budget.* Port Moresby.

Getting financial and in-kind support to government-run rural facilities

Despite the success of the 2009 intergovernment financing reforms in getting more funding to the provincial level specifically to support rural health services, it is widely acknowledged that many rural health facilities are still having trouble in accessing any funding and/or in-kind support for their day-to-day service delivery activities. At the March 2018 interagency workshop in Port Moresby on health financing and public financial management, both national and provincial attendees agreed this is still a very real issue.[44] In discussing this issue, it is important to frame the discussion with the objective of "enabling"—ensuring that the right funding and/or in-kind support is available at the right place at the right time. The right answer is the approach, or combination of approaches, that best enables frontline service delivery activities to happen in a more timely and predictable manner with an acceptable level of probity. What are the available options to achieve this?

A facility-based budgeting (FBB) arrangement can ring-fence funding, facilitate tracking of resource flows (in cash or in-kind) to facilities, and provide the basis for better accountability in local service delivery. Under an FBB arrangement, facilities have an annual budget with funding that is ring-fenced for their use. However, simply splitting budgets by facility does not automatically improve service delivery. Several points should be considered: first, FBB will not necessarily address the perennial issue of unpredictable release of funds from the national (and provincial) level (see further discussion under the section on Lack of Predictability in Budgets and Disbursements, page 43); second, budgeting has to be complemented by a simple form of facility-based accounting and reporting; and last, there needs to be appropriate monitoring by PHAs (and NDOH), and auditing of the system (including the services delivered with the increased resources) for accountability.

The Milne Bay, Manus, and Hela PHAs are continuing to develop and implement their own systems of FBB, with (in-kind) PHA resources designated and available at the district level for facilities to access. NDOH noted the progress currently being made by the Manus PHA in implementing a workable model of FBB.[45] In East New Britain, which operates under the traditional model, the provincial administration is also developing a similar FBB arrangement. The lessons from these on-the-ground FBB experiences are incredibly valuable and timely, and provides the sector with the opportunity to develop a workable approach in the PNG context.

A step further than FBB is direct facility funding (DFF). Under a DFF arrangement, facilities not only have an annual budget, but also direct control of their allocated funds. Under a DFF arrangement, facilities may have a facility bank account that they manage, and a local facility committee that provides oversight, support, and direction. While (at least the financial part of) accounting, reporting, monitoring, and auditing of resources under an FBB arrangement can be done at the level in control of the resources (i.e., PHAs or health teams in provincial administrations), these management and accountability arrangements have to be functional at the facility level once facilities receive funding directly through DFF.

WHICH HEALTH FACILITY ACTIVITIES NEED FUNDING?

Facility operations, mobile credit, outreach patrols, patient referrals, facility maintenance, [clean] water supply, staff duty travel, vehicle and boat fuel and maintenance, and sometimes power.

FACILITY-BASED BUDGETING

Under a facility-based budgeting arrangement, facilities have an annual budget and funding ring-fenced for their use. However, the actual funding continues to be managed through the system (provincial health authority or provincial administration / subnational finance office).

DIRECT FACILITY FUNDING (DFF)

Under a direct facility funding (DFF) arrangement, facilities have an annual budget and direct control of their allocated funding, often through a bank account.

The Department of Health trialed a DFF arrangement in Bougainville (2011–2012). Schools in Papua New Guinea also operate under a DFF arrangement, with budgets and bank accounts, and school oversight committees.

[44] Health Financing and Public Financial Management Workshop, hosted by the Government of Papua New Guinea, NDOH and ADB, 7 March 2018.

[45] NDOH and NEFC have been undertaking a joint exercise looking at FBB in the health sector. The Manus FBB model has received particular mention, regarding its design and effectiveness. With that said, Manus has a simple administrative architecture, being a small province with only one district.

Schools in PNG are a long-standing example of community level government facilities operating under a DFF arrangement. They have annual budgets, operate their own bank accounts, and come under the oversight of a board of management and parents and citizens committee.[46] However, there are elements of the school setting that are likely to make maintaining a DFF arrangement a more comfortable fit. Many members of the local community, including parents and grandparents of students, have a strong interest and weekly involvement with the school and its activities. Allied to this, parents everywhere are naturally curious and concerned about their child's progress and journey through the schooling system. As such, many parents commit to serving on school committees and boards, and even those who do not, are in contact with those who do. This natural level of community interest creates a strong social fabric of accountability for the education sector to harness.

The business of health is somewhat different to education—with patients who typically only visit a facility intermittently, perhaps only once or twice a year—and so health at the local level can lack the social fabric created through recurring contact. Nevertheless, health ministries in some countries have sought to replicate the education model and introduce aspects of DFF, such as facility budgets, facility bank accounts, and health committees. In the Pacific region, there are country examples where the ministry of health operates a DFF arrangement with lower-level facilities, charging user fees and operating bank accounts under the auspices of a local health committee. In PNG, Hela Province is considering establishing facility committees under the PNG Partnership Fund program funded by the Australian Department of Foreign Affairs and Trade and the OSF as a governance mechanism to ensure that communities take ownership of health services and that facilities spend the funding for the intended purpose.[47]

In the past, a version of DFF was trialed in the Autonomous Region of Bougainville through an initiative that commenced in 2011. Under the Bougainville DFF pilot, one of the preconditions was that facilities were not allowed to charge user fees. This promoted better patient access to rural health services by ensuring that user charges did not act as a barrier to access. The trial ran over a period of 2 years with funding from the New Zealand Aid Programme (NZAid). A 2013 review of the initiative gave generally positive feedback, while noting areas for improvement that mirrored the experience of other countries, notably: the need to sustain and support supervisory and other oversight mechanisms, while pursuing timeliness in disbursement and flexibility in the use of funds. NDOH noted that "DFF can work if managed properly."

Line of Sight Issue 11: Design of Facility-Based Budgeting and Funding Approaches

Facility-based budgeting and direct facility funding approaches have been trialed and used in provinces across PNG, with partially positive results in safeguarding resources for and getting resources down to rural facilities; however, such arrangements need capacity for management, accounting, reporting, monitoring, and auditing at different levels and, therefore, need to be carefully designed to enable service delivery in an accountable manner.

[46] S. Howes, et al. 2014. *A Lost Decade? Service Delivery and Reforms in Papua New Guinea 2002–2012.* Canberra: The National Research Institute and the Development Policy Centre.

[47] Per advice and discussions with Hela health officials in June 2018.

Lack of Predictability in Budgets and Disbursements

Developing high-quality costed plans and establishing robust systems for their implementation only is of value, if resources for the delivery of services are reliably allocated through the annual budget process and disbursed in a timely manner throughout the fiscal year. Both of these are problematic and the lack of predictability severely undermines service provision.

Volatility in health sector budget allocations and outcomes across fiscal years

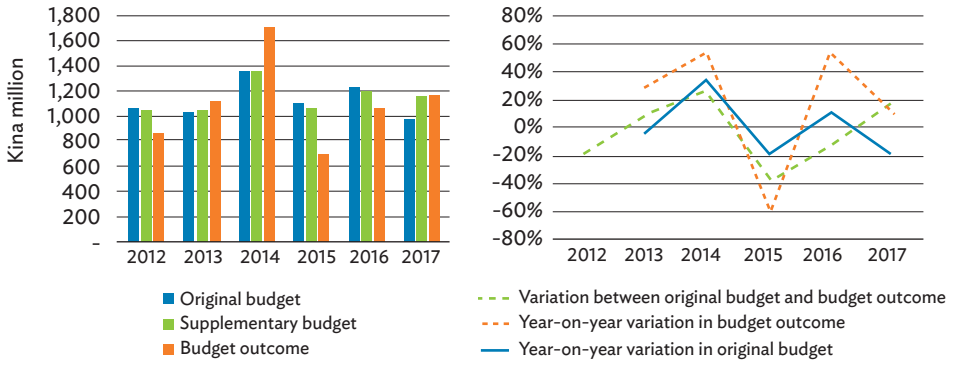
The volatility in economic growth, revenue, and expenditure patterns described in the section on Context: Unforeseen, External Shocks (page 16) have been feeding through to the national health sector budget, which has also seen significant volatility over the past years (Figure 14).[48] Measurable increases in national budget allocations for health in 1 year were regularly followed by drops in the following year, with year-on-year changes regularly ranging between ±20%–60%. Budget outcomes appear to be even more volatile and have seen particularly steep increases in 2014 and 2016 and an equally sharp drop in 2015. The risk from this is that significant resources are used up in the process of having to adjust plans, identifying areas for significant funding cuts or to absorb additionally available resources. Similar data are not available for the subnational level, but it seems unlikely that provincial internal revenue, which is hard to access for provincial health sectors in the first place, would be able to compensate for the volatility in national budget transfers. Volatility might even be further exacerbated since provincial revenue may be absorbed by other provincial administration priorities that were similarly underfunded from national transfers.

Further uncertainty is introduced through the annual budget preparation process. Initial ceilings based on which spending agencies are tasked to prepare their budget proposals appear to be vastly lower than the previous year's appropriation and the eventual appropriation for that year. While budgeting is a political process, and it is understandable that central agencies want some room for negotiation to resolve the common pool problem of aggregate needs and budget requests exceeding available resources, unrealistically low ceilings that would prevent the delivery of a substantial share of basic services in the subsequent year risks wasting of resources through focusing attention and resources away from improving on the previous year's allocation and implementing the current year's budget more than would be needed.

Available data also suggests that proposed cuts in indicative ceilings are often detailed by budget activity and implemented almost equally across all activities, thus reducing the ability of the technical agencies to determine where cuts would least affect service delivery. The Spending agencies can of course still do that prioritization; however, this would imply agreement to some proposed cuts and might undermine the sector's negotiation position overall. It should also be noted that cuts in budgets (and disbursements) in the PNG context only affect O&M, which includes medical supplies and facility operations, and capital expenditure since personnel funding needs have historically been fully resourced (and disbursed, often exceeding appropriations).

[48] Data gaps and quality issues discussed in the section on Information about Available Health Sector Resources (page 33) should be kept in mind. It is unclear how these would affect the picture.

Figure 14: Volatility in National Budget Health Sector Allocations and Outcomes, 2012–2017



Note: The data most likely do not capture health budgets and actual spending allocated under provincial administrations comprising rural health staff and health function grants in provinces operating under the traditional model, i.e., provinces without provincial health authorities, as well as capital expenditure funded from provincial and district services improvement programs.

Sources: Government of Papua New Guinea, Department of Treasury. *Final Budget Outcome Reports (2015–2017)* and financial management information system data.

HOW TO SUPPORT SERVICE DELIVERY

No business can operate effectively without timely access to funding for core activities; the business of health is no different.

Untimely and unpredictable disbursement within a fiscal year

Getting operational funding and in-kind support to the subnational levels and frontline facilities in a timely manner is of fundamental importance for enabling the delivery of government health services. Chronically poor disbursement within a fiscal year undermines frontline service delivery activities, and results in annual service delivery plans that cannot be implemented in an orderly manner. This means funding is not available to carry out key activities, including the referral of patients, the delivery of medicine to rural health facilities, supervision visits to lower-level facilities, and health extension patrols to reach the rural majority. There are other unintended consequences: with substantial amounts of funding rolled over or spent on things unrelated to basic services, the accountability link is broken, and implementers cannot be held accountable when funding is untimely or inadequate, service expectations decline, and staff become demotivated. More broadly, service delivery activities break down leading to declining health outcomes.

Government and nongovernment organizations have published on the problems associated with the slow and unpredictable disbursement of subnational function grants over many years.[49] The situation is long-standing and has been exacerbated in more recent years with fiscal consolidation facing the national government since 2015. As previously discussed,

[49] Including the DOT, the DOF (PEFA review), and provincial and local-level government affairs and the NEF; the World Bank; PNG National Research Institute, and the Development Policy Centre of the Australian National University; and Coffey Governance Program. 2016. *The Timing of Subnational Function Grant Transfers and the Implications for Frontline Service Delivery in Papua New Guinea.* Port Moresby.

given the prioritization of wage bill spending, funding cuts and significant and worsening delays in the transfer of funds are severely affecting operational funding, leading to the collapse of rural service delivery in many instances.

Line of Sight Issue 12: Volatility in Health Budget Allocations, Funding Cuts, and Disbursement Delays

High volatility in health budget allocations between years, and significant in-year funding cuts and disbursement delays, (i) absorb significant resources in planning and budgeting and (ii) severely undermine the implementation of planned activities. This also risks breaking the accountability link, allowing blame shifting and risking wastage even of available resources.

A health worker administering immunization at the Tsinjipai Community Health Post in Western Highlands Province.

Recommendations: Improving the Line of Sight

This section discusses 10 recommendations across four areas analyzed in the sections on the Health System Context, Overview of Health Financing Arrangements (page 21), and Selected Health Financing Issues in Focus (page 29) to make the Papua New Guinea (PNG) health system more robust and efficient by addressing challenges affecting the *line of sight*, and thereby undermining accountability and performance in the health sector.

Clear Service Delivery Responsibilities and Aligned Funding

Recommendation 1: Provincial Health Authority Implementation

Continue the rollout of provincial health authorities to harmonize delivery models across provinces clarify and simplify responsibilities and funding flows through the health sector legal review; continue shaping provincial partnership agreement frameworks, and actively engage in the intergovernment decentralization dialogue to ensure coherent system architecture for the health sector.

As has been discussed, PNG has a highly decentralized and complex operating environment, with institutional and financing arrangements continuing to change and evolve (Figure 8). The advent of district DDAs and city authorities is particularly relevant to the health sector, with many health facilities including district hospitals, health centers, community health posts, and aid posts and their health staff based at the community level. It has introduced yet another governance dynamic, with potentially significant implications for service delivery responsibilities and the alignment of financing that is yet to be fully developed. This sense of complexity is heightened with the health sector operating two quite different health management structures—the traditional model and the PHA model.

The cumulative effect of these changes means that there is a need to periodically review the responsibilities of the institutions involved to maintain and promote clarity and reduce the negative impact of uncertainty. The implications of the country's evolving decentralized architecture, health's preexisting dual delivery structure, and the critical role played by church partners require careful thought to ensure that the arrangements that result from future changes prove effective in supporting the delivery of health services.

Despite declines in health indictors and related prevailing concerns in the functioning of PNG's health system, there are some positive areas of change that provide entry points to make the health system more robust and efficient. First, the PHA concept is now well

established and there is ministerial support for the modality to be implemented across the whole country. PHAs create an opportunity to better deliver health services under a single health institution with management and control of all health resources and services in the province. The payment of HFGs directly to PHAs based on the Governor General's determination to reassign the health function from provinces to PHAs in 2017 instead of via provincial administration is a start to simplifying funding flows and aligning a key aspect of funding with functional responsibility, a reform which had been much advocated for over many years and that reduces fragility of the system by reducing opportunities to delay or divert health funding.[50]

FUNDING FOLLOWS FUNCTION

A good understanding of service delivery responsibilities together with effective financial arrangements are fundamental enablers of all health systems.

Further, the NDOH, at the time of writing, had embarked on a review entitled Integrated Health Governance and Service Delivery—A Review of Legislation. This review is attempting to consider laws affecting health service delivery both within and outside the health sector, including laws affecting health financing. This presents an opportunity to revisit the institutional arrangements, and subsequently amend the laws governing administrative and financing arrangements for better-aligned national and subnational health service organization. This is a key attempt to make the system more robust and efficient and, given its legal nature, can have long-lasting implications.

In parallel to this more fundamental system review, the service delivery policy and partnership agreement framework is being rolled out under the leadership of the DPLGA, which aims to bring together all stakeholders in a particular sector in a province to collaboratively agree on better-coordinated, more robust, and efficient arrangements. Working to maximize functionality of the prevailing arrangements is of critical importance since (i) fundamental system changes are time-consuming, and may or may not happen; (ii) the absence of a perfect textbook solution combined with limited political room to maneuver will always lead to suboptimal system design solutions from any ongoing review; and (iii) decentralization reforms and health system architecture will continue to evolve and, as they do, they will disalign certain elements.

As the sector moves forward, NDOH has the lead role in working with central agencies to clarify, simplify, and align the service delivery responsibilities and, concurrently, funding arrangements within the sector. This has to happen in a participatory and collaborative approach with the other health sector actors, first and foremost, the PHAs, but also provincial administrations and DDAs, among others.

Recommendation 2: Church Health Services Responsibilities and Accountability

Establish clear responsibilities and accountability for the public funding of church health services, and other service providers and partners in a province, through coordination, regulatory frameworks and/or contractual relationships, including basic performance frameworks and monitoring/oversight arrangements.

[50] This was a real concern for PHAs and NDOH. Officials noted that some provincial governments displayed reluctance in releasing HFG monies to PHA, particularly in circumstances where other provincial grants were delayed or cut.

Recent progress has also been made in clarifying service responsibilities and establishing initial performance agreements between the government and (some) church health providers. Church health providers will continue to be important partners in the health sector in PNG and form a model for how the government can purchase services. Given the complexities in the health system, the small diverse market, and low capacity in PNG, together with the unique partnership and trust established with the CHS and the government, a purchaser model would need to be explored with careful dialogue. Strengthening the current arrangement and expanding partnerships to other (nonprofit interest) providers are the recommended ways forward.

In addition to national umbrella agreements, the provincial partnership frameworks are an important tool for PHAs to be able to fulfill their responsibilities in sector planning, coordination, and oversight at the provincial level. These are important first steps that need further support to ensure implementation and regular monitoring. Questions around public funding of CHS and potentially other service providers should also be explored, including resourcing needs and applicability of function grants for CHS (see the following section on Understand and Secure Adequate Resourcing for Subnational Health Services).

Understand and Secure Adequate Resourcing for Subnational Health Services

Recommendation 3: Information on Health Sector Budget Allocations and Spending

Ensure comprehensive and readily (and publicly) available information on health sector budget allocations and spending—by institution, function, facility levels, and main economic categories—through improving budget and reporting formats, including underlying classifications as needed, and strengthening information systems and analytical capacity.

As discussed above, without systematically collected comprehensive and timely information on how much is budgeted and what is spent across all input factors, services cannot be effectively planned, delivered, or monitored. This is the case for the entire sector nationwide and at the provincial and facility levels. The situation in PNG, as in many countries, is complicated by the multitude of actors and funding streams, and the combination of cash and in-kind resourcing arrangements. However, the importance of such information for service planning, coordination, performance measurement, and accountability is clear.

Therefore, it is important that information gaps on resource allocations and actual spending are filled. For this, several areas need attention. First, the health sector under the lead of NDOH needs to work with central agencies to improve national budget documentation as well as financial reporting, so that these present a clear picture of health sector funding from national government resources. Efforts are already underway by DOT to improve national budget documents. The trialing of a comprehensive and well-structured health sector budget in addition to the existing formats could be an option to inform future whole-of-government reforms to improve budget classifications, documentation, and processes. On the spending side, the publication of detailed, unaudited financial reports that link

spending with service outputs would be a useful approach, particularly while bottlenecks in auditing of public accounts are resolved.

Second, each health spending agency needs to clearly allocate the resources under its control; communicate those to relevant agencies further down (and up) the service delivery chain; and report against them in a comprehensive, timely, and public manner. For example, NDOH could introduce equitable and needs-based allocations for medical supplies and equipment at the provincial level, with PHAs (and/or facilities) ordering supplies against those and receiving the resources in-kind. A mechanism for in-year reallocation of unused allocations and/or rollover of allocations could be designed to avoid inefficiencies in the use of resources. Systematizing information on capital outlays is also needed and would facilitate planning, coordination, and accountability. At the facility level, basic FBB approaches could help in clarifying allocations and spending of (mainly in-kind but potentially also some cash) resources. However, such a system should, be tailored to the country context and available capacity to avoid introducing new elements of fragility.

Recommendation 4: Filling Knowledge Gaps about Costs of Basic Services

Fill gaps in knowledge about the costs of basic services—including adequate reflection of service costs in PNG's geo-demographic setting, costings for various levels of hospitals, resource needs of the Policy on Free Primary Health Care and Subsidized Specialist Services, and of church health services—and identify appropriate financing sources and channels to gradually resource them through annual budgets.

Currently, several information gaps do not allow a clear understanding of costs and needs for essential health services in PNG. The important question is to what extent current costing and budgeting approaches adequately reflect (i) costs of various levels of hospitals, (ii) resource needs of the Policy on Free Primary Health Care and Subsidized Specialist Services, (iii) costs of church health services, and (iv) effects of PNG's geo-demographic setting on service costs. Understanding this questions and identifying appropriate financing sources and channels for gradual financing through annual budgets are the bases for enabling service delivery.

Various costing exercises that can be built upon to close such knowledge gaps have been carried out or are underway. These include the work around the CoSS on operational costs for rural health services, NDOH's ongoing work on essential health service packages, analytical work on hospital and lower-level facility resourcing (for both the government and church facilities), and initial costings around the Policy on Free Primary Health Care and Subsidized Specialist Services. As the sector moves forward, it is timely to draw upon the body of existing and recent analytical work, and try bringing the different exercises together, fill any gaps—for example, the costs and financing requirements of running district-level hospitals—and draw up an equitable, needs-based allocation framework across provinces, facility levels, and service providers, embedded within a sustainable resource envelope. Finding the right balance between operational funding and capital investments is a critical piece to the puzzle in this exercise, given their direct competition for resources (i.e., each

kina spent on capital investment cannot be spent on personnel and O&M including medical supplies) as well as their interrelated nature (i.e., new capital investments today increase the ongoing operational funding needs from tomorrow).

Recommendation 5: Revisit Intergovernment Financing Arrangements

Revisit intergovernment financing arrangements for basic health services to address the common issue of underfunding from provincial internal revenue, and revisit other system design issues, including the costing methodology to ensure adequate resourcing of needs, calculation method of provincial fiscal capacity, interaction with capital investment planning and decision-making, and relevance for church health service operational funding.

As highlighted in detail above, provincial internal revenue is a critical component of the intergovernment financing arrangements and required for (a share of) operational facility funding across the rural network. While the system commendably incorporates horizontal equalization considerations across provinces, underfunding from provincial internal revenue appears to be common and, in practice, hampers local health service delivery. Therefore, the question arises if the current system needs reform. Several options would need to be explored. First, it might be sufficient to increase awareness of provincial cofinancing requirements. In that case, at the national level, there is merit in revisiting the idea of an annual guidance note on the funding mix that is estimated to be required, i.e., the blend of HFGs and provincial internal revenue that each provincial health service needs to deliver rural health services and support government-run (and possibly also church-run) lower-level facilities. This practice was developed in 2010 by NDOH, but discontinued in 2013.

The guidance note could be published again to help guide the annual budget allocation process at both the national and provincial levels. The sector guidance note to provinces could inform them of (i) the estimated cost of delivering a standard set of rural health services, (ii) the amount of HFGs to be allocated in the upcoming national budget, and (iii) the estimated amount required from a provincial health operational grant appropriated under the provincial budget.[51] NDOH, and other agencies and organizations, can continue to encourage provinces to provide financial support for health by monitoring and reporting the adequacy of provincial health budgets and the funding support PHAs receive.[52]

Complementary at the provincial level for this solution to work, PHAs need to be equipped with skills in advocacy to secure sector funding through the national and provincial annual budget processes that fund the delivery of basic services. These soft skills are essential, and a key part of the suite of training courses that are being further developed for PHAs and the health sector.[53] The role of monitoring and reporting at the provincial level will also be

GUIDE FOR RURAL HEALTH SERVICES BUDGETING

In 2010, the National Department of Health developed the Guide for Rural Health Services Budgeting to assist provinces in estimating their annual operational budgets. In 2013, the initiative was discontinued.

[51] The guidance note could also include information on the appropriate allocation of ring-fenced resources that are required across facility levels. This will help ensure that funding for higher-level facilities does not "crowd out" the funding that is required to support lower-level facilities. The guidance note thereby could complement and support the discussion on facility access to funding in the section on Issues with Coordinating and Securing Adequate Financing (page 35) and recommendation 7 below.

[52] Reporting by NEFC over many years and by the National Research Institute and the Development Policy Centre of the Australian National University are examples of monitoring activities that support visibility and good practice in the health sector.

[53] A suite of training courses has been developed under ADB's Rural Primary Health Services Delivery Project.

critical in institutionalizing the good budget practice the sector requires. To this end, PHAs need to demonstrate, through effective reporting, that the funding they receive from the national and provincial levels is allocated appropriately and spent effectively on priority activities to achieve provincial health outcomes.

This solution of making the current arrangement work better could also be supported through regulatory measures, incorporating the provincial co-funding requirement into the regulatory framework in an attempt to make them binding. Instead, the sector could also consider a more fundamental review, exploring whether the funding of essential local health services is at all suitable for cost-sharing between government levels in the current PNG context, or if the national government with their larger revenue sources should cater for this altogether. In the latter case, the national government could instead consider giving funding responsibility in other, less-critical areas to provinces, and (for a budget-neutral solution) reallocate national transfers from those areas to increase HFGs without discrimination to provincial fiscal capacity. While this could be seen as an admission that provinces are not able to responsibly prioritize their own resources, it would at least guarantee that the poor, rural majority does not have to suffer under the consequences. Such an option could be discussed as part of the ongoing health sector legal review mentioned previously.

The other intergovernment financing system design issues that risk negatively affecting incentives and an equitable, needs-based resource allocation should also be revisited. These include the costing methodology to ensure adequate resourcing of needs in view of PNG's geo-demographic setting; understanding of provincial fiscal capacity and the disincentives for provinces collecting own-resource revenue, e.g., by exploring options on how to move toward a more incentive-based intergovernment financing system that rewards provinces for allocating funding for services; the implications of capital investment planning and decision-making on operational funding needs and how both can be integrated; and clarifying the relevance of HFGs for church health service operational funding.

Recommendation 6: Strategic Approach to Capital Investment Planning

Introduce a strategic approach to capital investment planning based on the principles of equity, need, and affordability, taking into consideration the geo-demographic setting, existing facility distribution, as well as implications on health personnel and operational costs. This could be supported by a basic capital investment planning model and should be translated consistently into the planning framework, accompanied by processes/guidelines.

Capital investment is a critical input factor for health service provision. Without adequate facilities and equipment (e.g., medical, transport, and information and communication technology equipment), it is hard, or even impossible, to deliver health services effectively and efficiently. Capital projects also absorb high amounts of resources, first through the investment itself and subsequently through the need for maintenance and running of facilities and equipment. In PNG, funding for capital projects is highly fragmented and decision-making processes involve many actors within and outside the health sector. Some initiatives promoting capital investment can be without a technical basis and do not sufficiently factor in operational cost implications. Processes, guidelines, or tools that would be critical in this context to guide and coordinate capital investments are not readily

available, and priorities across the planning framework are often not aligned. This likely makes it harder for the health sector to access financing and, importantly, increases the risk that new facilities are not optimally built in terms of location, facility level, and/or design, and/or will end up inadequately resourced (or crowd out resources from existing facilities), leading to wastage of resources.

On a positive note, the planning framework in PNG is comprehensive, with several high-level national plans that cascade down to the local government level, and a health sector plan that is (at least in principle) translated into multiyear corporate and annual plans of health sector agencies. More recently, strategic health services development plans have been developed for 11 provinces, with the remaining provinces to be covered soon. These plans prioritize facility development, rehabilitation, and upgrades for a province (while projected cost implications are not yet captured in the current version of the plans). However, these priorities do not necessarily appear to match higher-level plans or lower-level investment decisions, e.g., funded through DSIP grants. This needs to be addressed. There may also be opportunity to strengthen provincial service plans with further discussion and analysis around prioritization, sequencing, costing, and funding.

As the sector moves forward, coordination is needed to ensure that the country's limited resources for new capital development are invested wisely in the health sector and in areas that can be sustained. NDOH and PHAs each must play key advisory roles in the formal and informal planning processes and decisions that take place at the national, provincial, district, and ward levels. Working together, NDOH and PHAs are well-placed to provide the range of information that is critical in guiding key capital investment decisions. At a macro level, NDOH can understand the sector's resource envelope and the prevailing fiscal constraints, and how these best translate toward an effective and sustainable health service delivery system. By communicating the resourcing and recurrent cost implications—see "the recurrent factor"—of new capital investment decisions, NDOH and PHAs can promote informed debate on what infrastructure investment the country can sustain, without simply stretching and further diluting the existing pool of staff and operational funding. An effective health sector medium-term expenditure framework, linked to a basic capital investment model, may help in this area.

THE RECURRENT COST FACTOR

Every new health facility that is built requires a new staff complement and access to dedicated operational funding to be effective. These costs are the "recurrent cost factor"—the recurrent cost of new capital investment.

At a national level, NDOH also has a key role in promoting equity in the provision of health services across the country, which is reemphasized in the National Health Plan (footnote 3). To do this, there should be a good understanding of the dispersal of facilities and staff, and any existing critical gaps that inhibit the delivery of basic services. This analysis will draw upon local information on population catchments, utilization levels, and health-seeking behavior, and the burden of disease across communities. This gap analysis does not need to be overly elaborate, but when done well, can help inform the prioritization and sequencing of new capital investment that will have the most impact in service improvement.

At the provincial and district levels, the health gap analysis, together with information from NDOH's district health profiles and local knowledge, can help to highlight key service delivery gaps and inform discussions on capital investment (including PSIP and DSIP investment). However, to fulfill this key advisory role, PHAs need to be equipped with the skills and information to work with local stakeholders, including local members. This blend

of technical and soft skills is essential, and a key part of the suite of training courses that NDOH, with support from development partners including ADB, is further developing for PHAs and the health sector. Changes to processes, combined with measures and incentives that these are followed as much as possible, may also be needed. For example, this could include requiring sector agency sign-off and recurrent resourcing commitments for projects prioritized for national government, PSIP, DSIP, and development partner investment. In the context of the recent change to channel service improvement program funding through DIRD, DIRD's and DOF's plan to reissue administrative and financial instructions for PSIP and DSIP use can provide entry points to improve the alignment of investments with sector plans and available recurrent funding.

Recommendation 7: Suitable Facility Budgeting and Resourcing Approaches

Learning from experiences develop context-appropriate budgeting and facility resourcing approaches that are robust and best enable frontline service delivery activities to happen in a more timely and predictable manner with an acceptable level of probity. Processes should be formalized and accompanied by guidelines and training.

As discussed previously, FBB and DFF approaches have been trialed and used in provinces across PNG, often with positive results in safeguarding resources for and getting resources down to rural facilities. Experiences also show that such arrangements need capacity for budgeting, management, accounting, reporting, monitoring, and auditing at different levels and, therefore, need to be carefully designed to enable service delivery in an accountable manner. Given the fact that many rural facilities still have trouble accessing any funding and/or in-kind support for their day-to-day service delivery activities, it is worth looking into this more systematically.

As the sector moves forward, a working group involving national and provincial delegates can coordinate and build upon the efforts that are already well underway.[54] Getting financial (and in-kind) support to government-run rural facilities requires a strategy that is well-considered and provides for the complexity involved. Also required are budget frameworks that provide *line of sight* from the national and provincial levels where funding typically is provided, to the district and lower-level facilities where spending decisions are flagged and implemented. Sensible governance arrangements of any FBB/DFF arrangements will also be required, and these can draw upon the experience of provinces that have or are experimenting with FBB/DFF, including Bougainville, East New Britain, Hela, Manus, and Milne Bay. A sensible level of periodic reporting and monitoring—that utilizes advances in technology—will be critical in ensuring effective implementation.

THINKING THROUGH POSSIBLE STRATEGIES

Could direct facility funding be considered for district hospitals and for very remote facilities?

Is facility-based budgeting a good approach for getting more funding support to most levels 5–6 facilities (health centers and community aid posts)?

Ultimately, an effective strategy for getting financial support to government-run rural facilities may combine a variety of approaches and reflect the capacity of individual PHAs and facilities (including the growing number of district hospitals), as well as funding sources. Indeed, NDOH and PHAs may choose to employ versions of both FBB and DFF, and perhaps other mechanisms, to ensure that the funding and in-kind support facilities need reach the required level in a timely and predictable manner with an appropriate level of accounting probity embedded within the arrangements.

[54] The working group can be an existing group, if a suitable group exists, or a newly created group for this purpose.

Increase Predictability in Resource Allocation and Disbursement

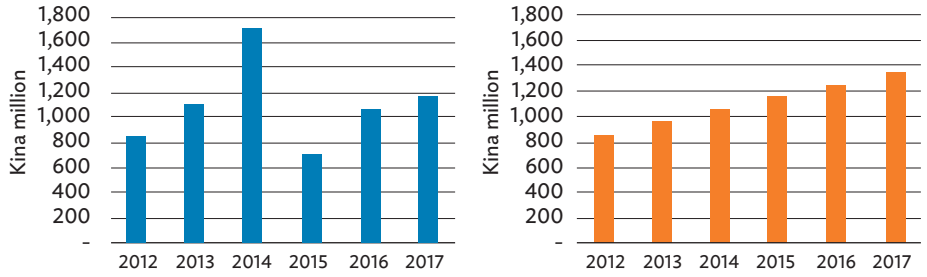
Recommendation 8: Stabilize Government Financing

Consider options to stabilize government financing of the health sector over time, including the role the Papua New Guinea Sovereign Wealth Fund could play, to facilitate both annual and multiyear strategic planning and budgeting, and avoid large year-on-year swings in funding that negatively affect service provision.

PNG is subject to economic and other shocks, in part due to its substantial reliance on natural resources. This impacts public finances and leads to large swings in government budgets and spending, including in the health sector. A lack of countercyclical fiscal policy does not improve, and can even exacerbate, the situation. Such frequent and significant year-on-year changes to budgets and spending outcomes can result in high inefficiencies. Staff resources are occupied by adjusting plans and budgets to either accommodate measurably more resources or sharp funding cuts, and investment projects that were started in 1 year may be put on hold for a period (as the worst case scenario during implementation). In a year with high resource levels, funding these may exceed absorptive implementation capacity, increasing the risk that resources flow out in the wrong places (like water in a leaky garden hose when water pressure is increased). In a year with low resource levels, not even enough funding may be available for the most basic services. Comparing the actual national health budget spending profile with a smoothened version with the same total resource envelope over 2012–2017, it is clear which of these scenarios would be easier to plan for, budget, and implement—the one with gradually increasing resources while the system is being strengthened, which ensures a continuous and gradually expanding provision of a set of basic health services across PNG (Figure 15).

Under the lead of central agencies, NDOH together with subnational health sector spending agencies should work toward stabilizing the national health sector budget and expenditure profile over time. DOT's efforts to maintain a multiyear fiscal strategy are a first entry point and could be linked more explicitly with multiyear sector allocations within a conservative resource and public debt envelope. Strengthening the fiscal strategy's link to the annual budgets to safeguard allocations for a minimum level of basic services is also critical. Another option to consider could be the establishment of a tax-funded trust or social security fund arrangement that pools health resources and feeds them into the health sector budget in a smoothened pattern. Development partner contributions, including through budget support, could also potentially be channeled through such a fund. PNG's ongoing efforts to establish a sovereign wealth fund may provide an avenue to consider such a social services fund window or function. However, arrangements that ring-fence resources also come with downsides, e.g., by generating separate management costs and by reducing the discretionary share of public resources available to the government, which in turn reduces its ability to prioritize expenditure. Therefore, such an arrangement should be carefully considered and well-designed to ensure functioning and minimize downsides and any risks of misuse.

Figure 15: National Health Budget Outcomes, Actual (left) and Smoothed over Period (right), 2012–2017



Sources: Asian Development Bank and Government of Papua New Guinea, Department of Treasury. *Final Budget Outcome Reports (2015–2017)* and financial management information system data.

Recommendation 9: Prioritize Health in the Budget Execution Process

Advocate for the prioritization of health in the national and provincial budget execution processes, including with the political leadership at the national and subnational levels; the Public Debt Committee that manages the government cash flow and determines the order and extent in which allocations are resourced throughout the year; and the legislature, general public, and media.

Significant in-year funding cuts and disbursement delays have been severely undermining the implementation of planned activities at the subnational level. This breaks the accountability link and thereby risks wastage of the limited resourcing that is available, as well as provides an entry point for blame shifting. An example of the latter is paid health personnel not being able to perform their jobs while an example of the former is nonperformance since nonessential inputs are not available (with the difference between both cases difficult to identify and can only be determined on a case-by-case basis). Worsening delays and unpredictability in the disbursement of grants to provincial health—both to government entities and to church agencies—are probably the most significant and widespread issues of all.

As the sector moves forward, NDOH, PHAs, and other health sector institutions jointly have to build the case and lobby for a higher prioritization of health budgets in the in-year budget execution processes. This includes continuous advocacy with the political leadership at national, provincial, and district levels; engagement with the legislature, media, and general public; as well as with the central agencies' Public Debt Committee that manages the government cash flow and determines the order and extent in which allocations are resourced throughout the year.

Improve Readiness to Respond to Disasters Triggered by Natural Hazards

Recommendation 10: Processes and Guidance Notes for Disaster Response

Translate experiences from disasters triggered by natural hazards into health sector processes and practical guidance notes for effective and efficient disaster response, with the aim of minimizing direct and indirect losses, damages, and disruptions to health service delivery systems.

PNG is regularly affected by severe natural hazard events. Such unforeseeable events cause direct losses of life and property, and disrupt and damage the country's critical basic health service delivery systems, restricting the country's ability to respond to both the immediate crisis and concurrently restore the provision of regular health services to avoid longer-term negative impacts. A lack of preparedness can lead to higher-than-necessary negative impacts from natural hazard events. Therefore, it is important to learn from past experiences and translate them into health sector processes and practical guidance notes for effective and efficient disaster response.

What can be learned from the disaster in Hela province? On the day of the earthquake, the PHA management team came together with Oil Search and OSF and created an informal disaster response committee. The PHA chief executive officer was the chair, and different managers took responsibility for different challenges. The strong working partnership with Oil Search and its foundation was positive and helped in the recovery process. In Hela, it was the experience of health management and staff in other disasters that helped the most in responding to the current crisis. Local leadership was said to be critical, and the PHA—which unifies health services within a province—was an advantage in coordinating an immediate response. In future situations, there is scope for greater coordination between NDOH, the affected PHAs, and DPLGA.

A disaster, such as in Hela, tests the ability of the provincial health system. Staff had to be paid despite banks being closed. Funds that were available needed to be redirected to pay for critical supplies such as extra fuel. Staff were redeployed from the Port Moresby General Hospital and the Hagen Hospital, involving additional relocation and accommodation costs. And medical supplies (medical kits) were sourced from Lae City and transported quickly to the affected areas. The availability of medical kits in this instance from Lae—originally intended for regular use across the rural facility network countrywide—was fortuitous, and the redirecting worked quickly; however, from a systems perspective, what would have happened if the kits were not available? The PHA had not received any HFGs when the disaster happened due to the national government's ongoing fiscal constraints, so immediate funding was limited. Subsequently, a request for additional funding was made to the Prime Minister's Office, which was overseeing aspects of disaster management, including reconstruction.

THE IMMEDIATE HEALTH RESPONSE

On-the-ground, provincial health authority informal disaster response committee with good support from local partner Oil Search.

Aid and assistance: Air transport and emergency supplies; and financial assistance of $46 million.

THE CHALLENGE TO MAINTAIN ESSENTIAL SERVICES

The shock from the 2018 Hela earthquake demanded a refocus of the provincial health authority's attention from routine health activities to disaster response, temporary shelter, emergency supplies, maintenance of destroyed health facility infrastructure, and law and order.

Nevertheless, the challenge remains to maintain services from health facilities and schools, access to clean water, and to reestablish power.

Community health liaison officer at the Rural Primary Health Service Delivery Project.

Critical Crosscutting Support Systems and Capacity

If health financing is to be the enabler of service improvement that leads to better health outcomes for all Papua New Guineans, it requires an approach that reduces the negative impact of silos and creates a better *line of sight* between spending and performance.

One of the challenges facing the health sector at the national and provincial levels is the tendency to operate in silos—with individual units in the key areas of planning, human resources, finance, and health information often operating in relative isolation to each other. While these organizational structures and divisions exist for a reason, and reflect the complex tasks that each unit undertakes, the focus "on the particular" is often to the "detriment of the bigger picture." One question is to ask who paints and communicates the integrated picture of sector performance at the national and provincial levels?

To effectively monitor performance and drive the improvement that the government desires, health management needs to know the bigger picture that synthesizes the stories through the various informational lenses. The challenge is to find a sustainable approach for developing these aptitudes at board, executive, management, and analyst levels. Developing this capacity across the health community is a long-term ambition that requires a strategic perspective and a layered approach. To be successful, it is likely to involve a mixture of structured training and on-the-ground support at strategic times.

The recommended approach involves the development of standard processes, strong information systems, and a sustainable in-service professional development platform that is aimed at improving financial and performance management across PHAs (Figure 16). The development of standard processes will ensure the promotion of good practice in PHA administration and avoid unnecessary duplication and reinvention as more provinces adopt the PHA management structure and modality. A practical example of establishing standard processes is the development of a financial management manual for PHAs that meets both health sector needs and central agency requirements. Information systems support the systematic collection, analysis, and presentation of data and other information. Staff capacity is needed to implement processes, use information systems effectively, and feed resulting information into decision-making processes.

Figure 16: Integrating Processes, Systems, and Professional Development

Source: Asian Development Bank.

Strengthen Health Sector Information Systems

INFORMATION SYSTEMS IN PAPUA NEW GUINEA

- Financial management system: Integrated financial management system
- Payroll and human resource management systems: Alesco payroll system and HR Ripot
- Health information system: Electronic national health information system
- Medical supplies system: mSupply

While the business of health is complex, all health systems rely on four key information systems that together provide the management information necessary to monitor results and drive improvement. These include the financial management system, the payroll and human resource management system(s), the health information system, and the medical supplies system (or pharmaceutical logistics management information system). First, it is important that each of the systems individually are designed and implemented in a way that it satisfies the sector's specific needs. Second, by integrating systems, or at least their information, significant value can be added, creating an information basis for accountable and efficient service delivery. An example of this is bringing together financial data from the financial management system with service utilization and health outcome data from the health information system, which allows assessing, and taking steps to improve, the value-for-money in health service delivery. Therefore, strengthening these four types of systems is of paramount importance.

The financial management system is the accounting system that records revenue and expenditure, facilitates reporting, and helps ensure probity and good budget management. In Papua New Guinea (PNG) at the subnational level, the sector still relies on legacy accounting systems—with the PNG Government Accounting System *"PGAS,"* the (commercial) accounting system *"Attache,"* or Excel-based spreadsheets. The DOF is in the process of rolling out a new TechnologyOne Integrated Financial Management System (IFMS) across provinces, starting at the DOF provincial and district finance offices, followed by provincial administrations, local-level governments and DDAs, with plans to cover PHAs in 2019.[55] This presents a rare opportunity to address both central agency financial control needs as well as health sector and PHA-specific financial and performance management needs, and is thus worthy of considered effort, given that the system is likely to serve PHAs for the next 20–25 years.

[55] DOF issued a financial instruction to all government agencies, including health sector agencies, that the IFMS will be rolled out to all agencies, including PHAs.

This includes exploring how the IFMS budget and financial reporting functionalities can be tailored to satisfy health sector needs, e.g., allowing for budgeting and accounting of resources at the facility level [i.e., facility-based budgeting (FBB) and, potentially, elements of DFF]. It may also require exploring how the DOF can incorporate additional functionality into the IFMS—without infringing on the system's functionality for the DOF and other central agencies—that would facilitate health sector-specific budgeting; financial management; and reporting by institutional, functional, and economic classification (e.g., by extending the existing Chart of Accounts). As of December 2018, the DOF is working with NDOH to develop a model configuration for PHAs to be trialed in one of the PHAs and subsequently further refined and then rolled out to all PHAs. NDOH is in the process of engaging PHAs and other relevant stakeholders, such as the NEFC, to develop a suitable chart of accounts configuration. ADB's Health Services Sector Development Program provides support to this process and includes complementary activities for the strengthening of PHA systems and capacities.[56]

The largest part of the PHA budget is human resources. As such, the payroll and human resource system(s) play a critical role in supporting effective health management. Having ready access to the organization's human resource information is another key enabler for health managers. Therefore, developing this capacity in a pragmatic and workable manner is a priority for PHAs. NDOH piloted a reporting initiative called HR Ripot, which draws information from the Alesco payroll system. The HR Ripot provides health managers at all levels with accessible information to use for management purposes.

In recent years, NDOH also developed and implemented an electronic national health information system (eNHIS) that makes the collection and reporting of health information from lower-level health facilities much more accessible in a timely, cost-effective, and more accurate manner. The eNHIS has been implemented in seven provinces and the National Capital District under ADB's ongoing Rural Primary Health Services Delivery Project and will be implemented in the remaining provinces under ADB's new Health Services Sector Development Program. Service information related to the country's hospitals will be monitored and captured separately using a hospital-based information system.

Medical supplies are one of the sector's most expensive and critical input factors. In all countries, the procurement and distribution of medical supplies needs to be carefully planned, monitored, and controlled to ensure the quality and timeliness of supply. A level of strategic monitoring is required that considers disease statistics—like morbidity and disease patterns—to determine the quantity of drugs and medical supplies that are required in the health system at any one point in time and at a particular location. In 2015, NDOH began the installation of the pharmaceutical stock management software mSupply in locations across the country.[57] By using mSupply, and the real-time information it collects, NDOH and PHAs can monitor actual usage and improve forecasting and procurement, thereby avoiding errors in supply, expiry, and waste.

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[56] ADB. 2018. *Report and Recommendation of the President to the Board of Directors: Proposed Programmatic Approach, Policy-Based Loan for Subprogram 1, and Project Loans to Papua New Guinea for the Health Services Sector Development Program.* Manila.

[57] According to World Vision, mSupply has been installed in area medical stores, provincial transit stores, hospital pharmacies, bulk stores, and hospital laboratories with government and nongovernment staff trained on the use of the software. World Vision. 2017. *Enhancing Access to Quality and Affordable Medicine in PNG.* https://www.wvi.org/papua-new-guinea/article/enhancing-access-quality-and-affordable-medicine-png (accessed 16 April 2018).

Crosscutting recommendation 1: Strengthen Critical Information Systems

Ensure that the four critical information systems for financial management, human resources, health information and medical supplies individually satisfy health sector needs and, through their integration, add further value to enable efficient and accountable health services delivery across PNG.

Strengthen Health Sector Capacity to Analyze and Monitor

The implementation of the PHA administrative modality creates up to 21 new umbrella health entities at the provincial level. In maximizing this opportunity, NDOH will need to design and implement a monitoring strategy that is effective in collating, analyzing, and reporting on PHA performance, and in responding to PHAs with the support they need to operate effectively in a complex environment. Effective monitoring will also enable NDOH to address issues that arise in a timely manner and implement any remedial action necessary to mitigate unwanted escalation. At the national level, NDOH will need to consider its own information needs—the information it requires to fulfill its oversight role of the sector—to respond to emerging situations in a timely manner, and to advise the minister of health. Some, but not all, of this information will already be identified and routinely collected. The strategy will also involve assisting PHAs in designing and strengthening their own monitoring system and capacity.

EFFECTIVE PROVINCIAL HEALTH AUTHORITY MONITORING

- Timely reliable data—finance, HR, HIS, medical supplies
- Analyze sector performance
- Identify key constraints and successes
- Drive improvement

Similarly, PHAs will need to develop and implement monitoring strategies for health facilities (including specific input factors like personnel and medical supplies) under their control. Both NDOH and PHA strategies should build upon the data generated by the four key information systems described above. For example, the new eNHIS provides an excellent opportunity for accessing timely facility level information that was previously only intermittently available. (Re)designing data collection, analysis and monitoring processes, and capacity development of staff are critical complementary needs to allow the effective implementation of monitoring strategies, and analysis of generated information and feed it into decision-making processes to improve the quality of decisions and timely respond to identified issues.

Crosscutting recommendation 2: Develop Monitoring Strategies

Building upon the four key information systems, develop monitoring strategies at NDOH and PHA level. Complementary to that, strengthen capacity and processes to implement monitoring strategies, analyze information, and feed it into decision-making processes to improve the quality of decisions and respond timely to identified issues.

Strengthening Health Sector Capacity to Communicate and Influence

The importance of effective sector communication has been emphasized throughout this report and is critical at many levels. The skills of NDOH and PHA officials in using both formal and less formal channels of communication to inform and influence on key health matters is a key area for capacity development.

At budget time, the sector—at both national and provincial levels—needs to engage with a wide variety of stakeholders to ensure that the sector understands, coordinates, and secures the funding it requires to support the upcoming year's activities. NDOH has a key role in coordinating with the central agencies that set the level of grants and expenditure ceilings, and in communicating widely on any shortfall in funding support that the sector and individual PHAs do not receive. In this context, it is also important that the sector meets the requirements of the Treasury in terms of the budget reforms that the Treasury has instituted, since 2015. For example, the health sector has to coordinate sector inputs, timely submit completed budget forms, attend all scheduled budget reviews with the DOT, and present its final budget submission.

The PHA leadership has a key role in preparing the province's health budget and advocating for funding for recurrent activities and capital investment projects. Engagement is required between the PHA and the provincial administration, particularly to secure provincial internal revenue to support recurrent rural health activities and funding for government-run (and possibly also church-run) facilities. Ongoing discussions will also be required to discuss local priorities for the sector in capital investment and how PSIP, DSIP, and other capital funding can best be directed for maximum sustainable impact.

Communicating performance results is another critical area for the sector to build its capacity. At the national level, NDOH has a role to lead in communicating sector performance regularly both to fulfill its formal reporting responsibilities, and to develop a broader understanding of the challenges the sector is facing across the wide constituency of interest. At the provincial level, the PHA has a key role in informing its many stakeholders of sector performance within and across the province, both to fulfill its formal reporting responsibilities, and to develop a broader understanding of the local challenges the PHA faces. At the facility level, communication is critical to raise awareness of needs, issues, and performance.

COMMUNICATING HEALTH PERFORMANCE

- Track progress
- Celebrate success
- Identify key constraints and how improvements can be achieved
- Develop partnerships and coalitions

Crosscutting recommendation 3: Strengthen Communication Capacities

Strengthen communication capacities at NDOH, PHA, and facility level to gather information on needs and available resources, influence political resource allocation and other decision-making processes, coordinate actors and funding streams, and share results (successes and issues).

Villagers travelling along the Kotna Lampram Road, Papua New Guinea.

Link between Issues, Recommendations, Government Reforms, and Support

This section links the 12 identified *Line of Sight* issues with the 10 recommendations, and brings them together with ongoing government initiatives and development partner support that already contribute, or could contribute in the future, to the implementation of recommendations (Figure 17).

Figure 17: Overview of Issues, Recommendations, Government Initiatives, and Support

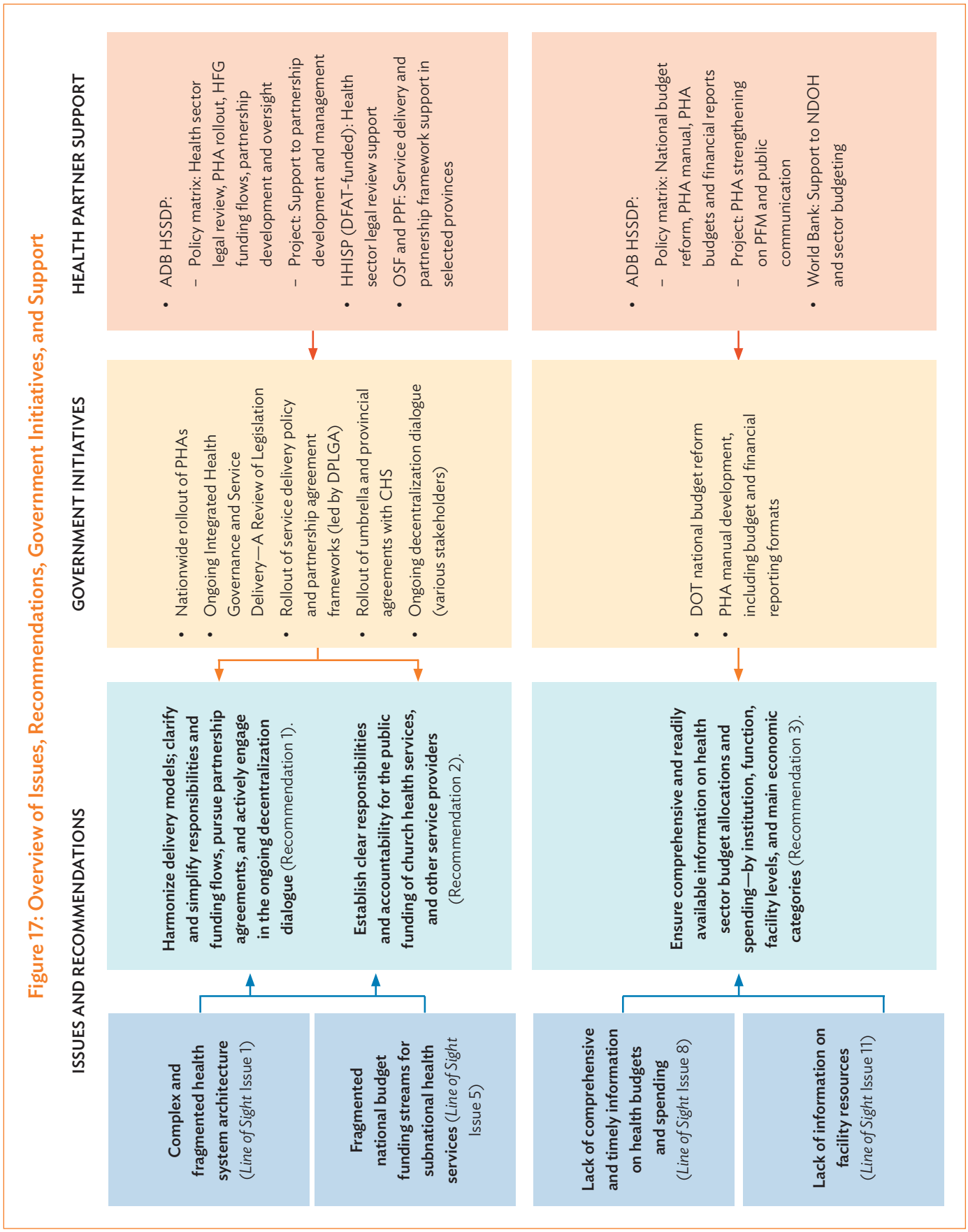


Figure 17: Overview of Issues, Recommendations, Government Initiatives, and Support (continued)

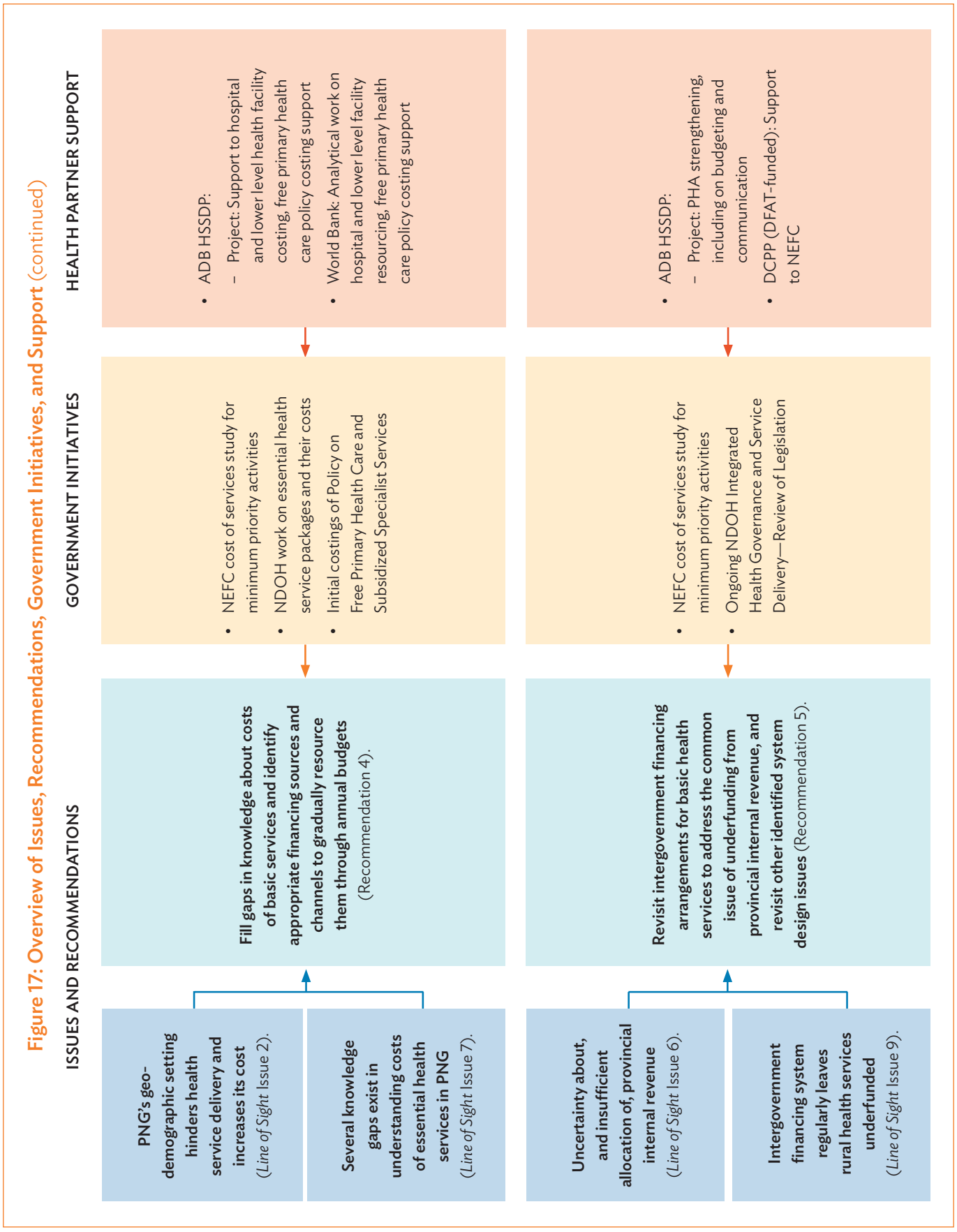


Figure 17: Overview of Issues, Recommendations, Government Initiatives, and Support (continued)

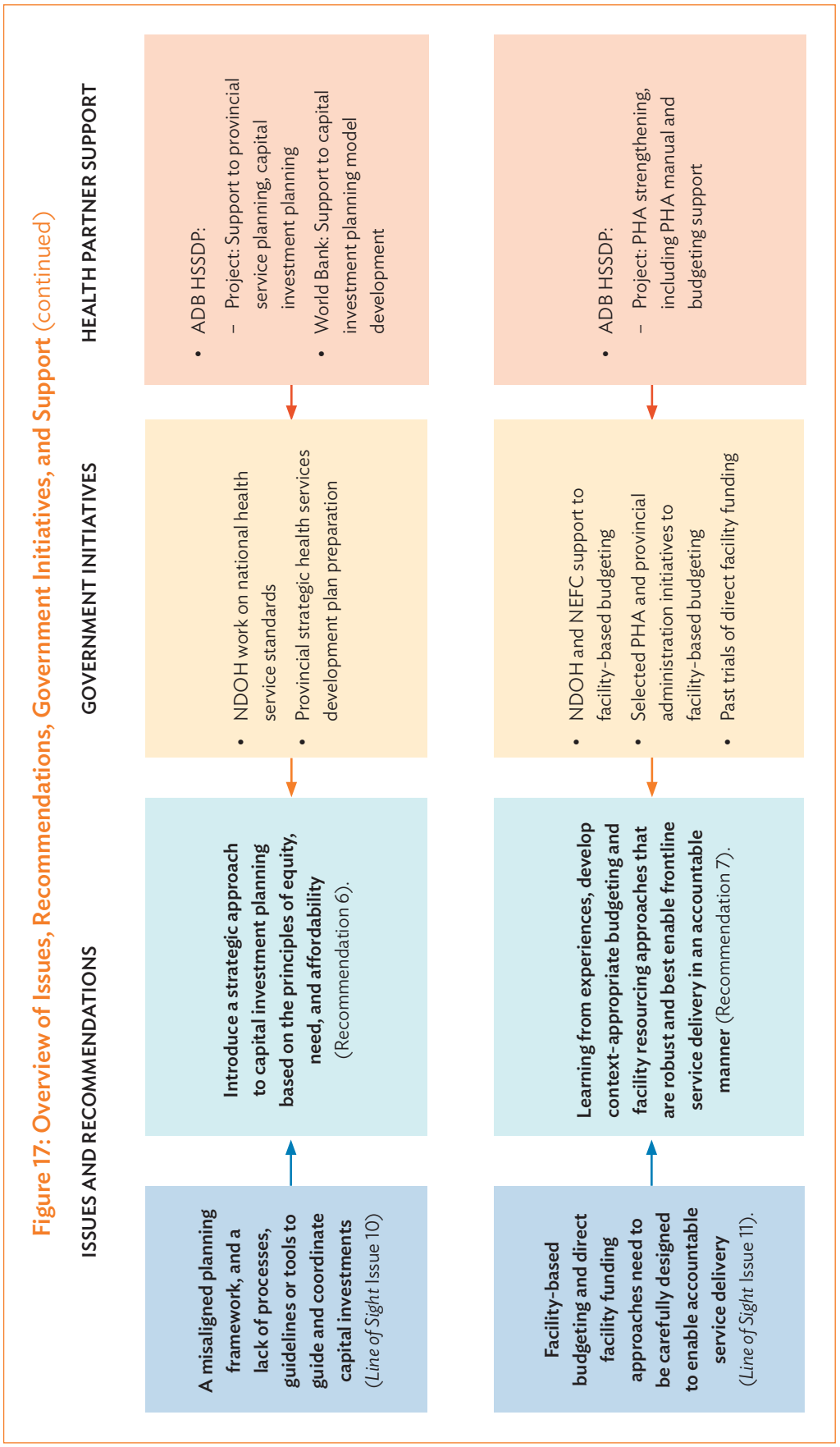
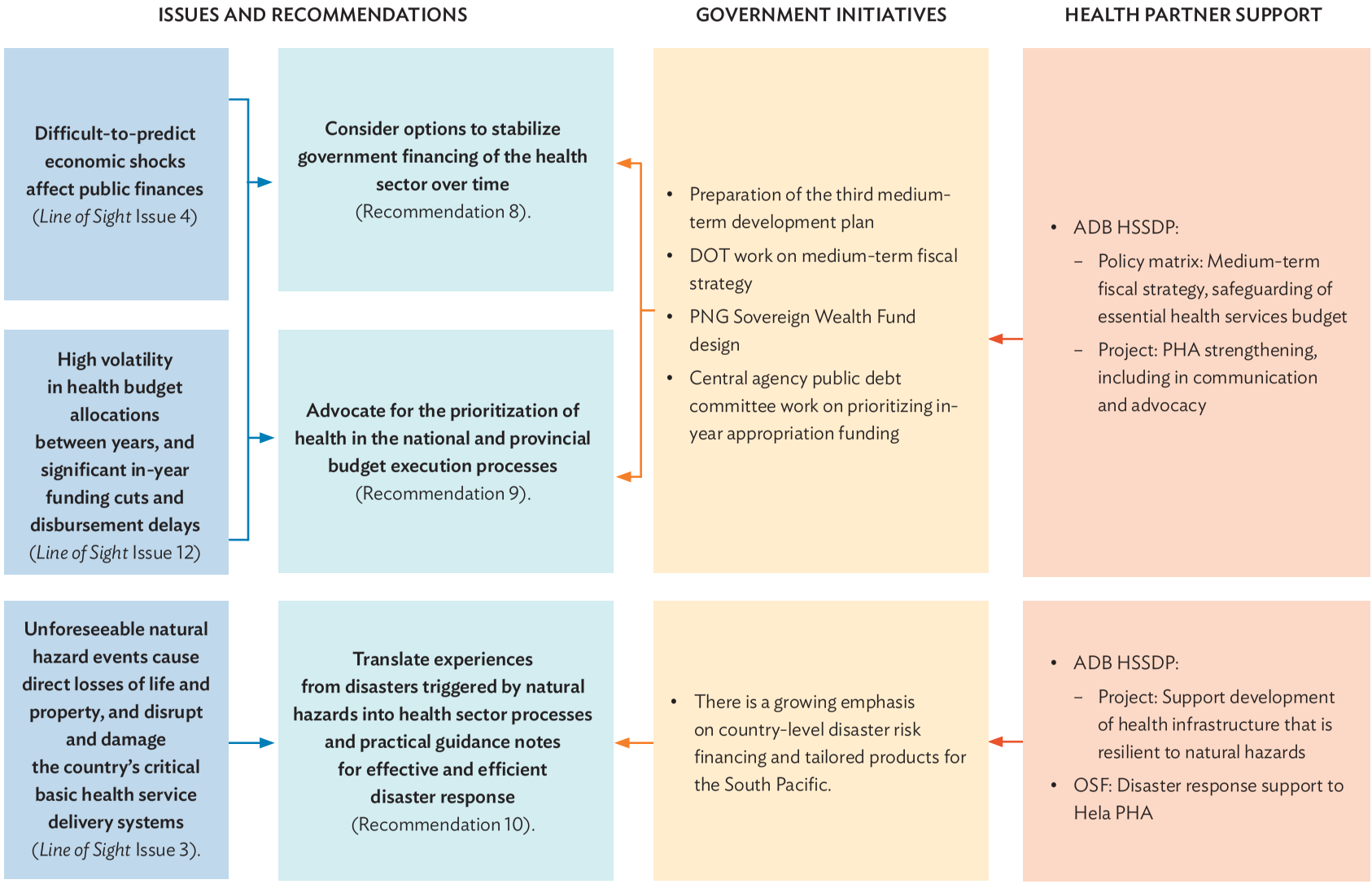


Figure 17: Overview of Issues, Recommendations, Government Initiatives, and Support (continued)



ADB = Asian Development Bank, CHS = church health services, DCPP = Decentralization and Citizen Participation Partnership, DFAT = (Australian) Department of Foreign Affairs and Trade, DOT = Department of Treasury, DPLGA = Department of Provincial and Local Government Affairs, HHISP = health and HIV implementation services provider, HSSDP = Health Services Sector Development Program, NDOH = National Department of Health, NEFC = National Economic and Fiscal Commission, OSF = Oil Search Foundation, PFM = public financial management, PHA = provincial health authority, PNG = Papua New Guinea, PPF = Papua New Guinea Partnership Fund.

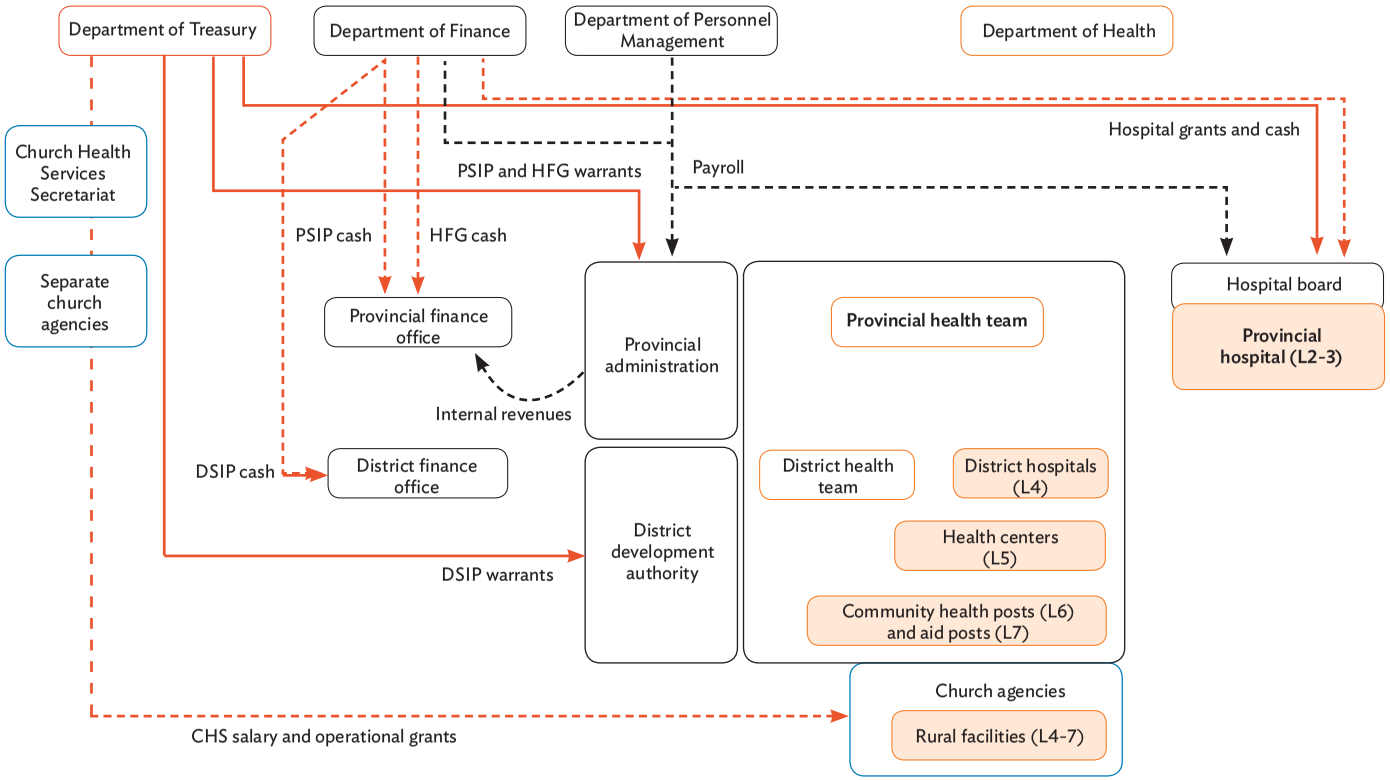
Note: The list of government reforms and development partner support is not necessarily comprehensive.

Source: Asian Development Bank.

APPENDIX

Overview of Subnational Funding Flows

Figure A1: Subnational Funding Flows under the Traditional Health Management System



CHS = church health services, DSIP = District Service Improvement Program, HFG = health function grant, PSIP = Provincial Service Improvement Program.

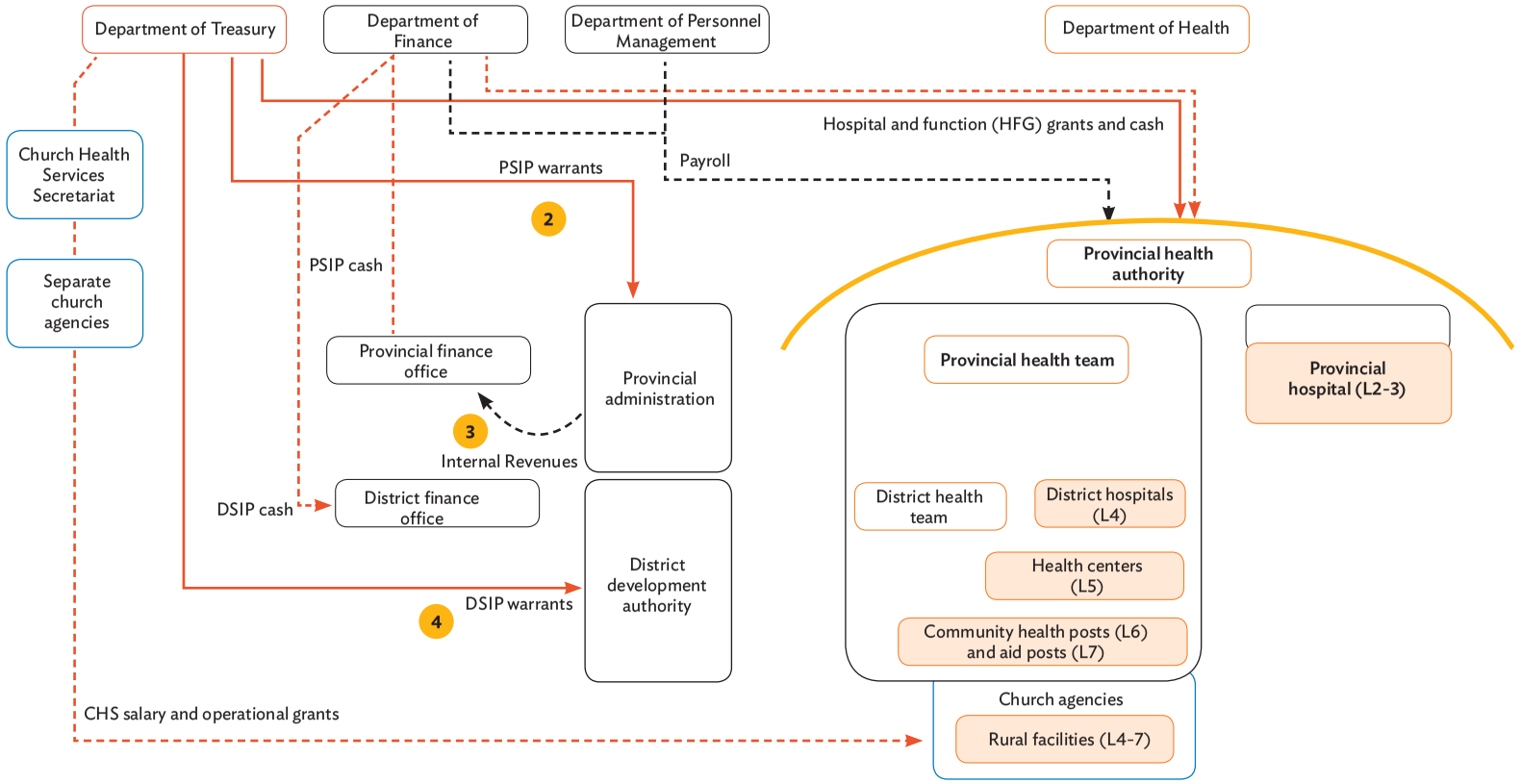
Notes:

1: The diagram does not capture development partner funding and private user fees directly to facilities. The Department of National Planning and Monitoring has responsibility for development project funding to health sector agencies. Warrants for development projects are issued by the Department of Treasury, and cash is released by the Department of Finance.

2: From 2019, the Department of Implementation and Rural Development will be administering the disbursement of service improvement program funding. This function has been inherited from the Department of Finance.

Source: Asian Development Bank.

Figure A2: Subnational Public Funding Flows under the Provincial Health Authority Model



CHS = church health services, DSIP = District Service Improvement Program, HFG = health function grant, PSIP = Provincial Service Improvement Program.

Notes:

1: The diagram does not capture development partner funding and private user fees directly to facilities. The Department of National Planning and Monitoring has responsibility for development project funding to health sector agencies. Warrants for development projects are issued by the Department of Treasury, and cash is released by the Department of Finance.

2: From 2019, the Department of Implementation and Rural Development will be administering the disbursement of service improvement program funding, this function has been inherited from the Department of Finance.

Source: Asian Development Bank.

Line of Sight

How Improved Information, Transparency, and Accountability Would Promote the Adequate Resourcing of Health Facilities Across Papua New Guinea

This report analyzes the complexities of health financing in Papua New Guinea with a focus on resource allocation, use, and accountability. It explores information gaps and transparency issues that undermine health service delivery and outcomes. Recommendations in this report aim to improve health sector governance and capacity, which will ultimately contribute to a more robust and equitable health care system.

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