

# Assessment of Health Financing Options — Papua New Guinea

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## Abbreviations

|        |   |
|--------|---|
| AAP    | Annual Activity Plan                                  |
| ADB    | Asian Development Bank                                |
| ARB    | Autonomous Region of Bougainville                     |
| CBHI   | Community-Based Health Insurance                      |
| DB     | Development Budget                                    |
| DFaT   | Department of Foreign Affairs and Trade               |
| DFF    | Direct Facility Funding                               |
| DHO    | District Health Officer                               |
| DHS    | Demographic and Health Survey                         |
| DNPM   | Department of National Planning and Monitoring        |
| DoF    | Department of Finance                                 |
| DoT    | Department of Treasury                                |
| DPLGA  | Department of Provincial and Local Government Affairs |
| DSIP   | District Service Improvement Program                  |
| GDP    | Gross Domestic Product                                |
| GNI    | Gross National Income                                 |
| GoPNG  | Government of Papua New Guinea                        |
| GST    | Goods and Services Tax                                |
| HFG    | Health Function Grant                                 |
| HIES   | Household Income and Expenditure Survey               |
| HSIP   | Health Sector Improvement Program                     |
| IMF    | International Monetary Fund                           |
| IMR    | Infant Mortality Rate                                 |
| IPBC   | Independent Public Business Corporation               |
| IRC    | Internal Revenue Commission                           |
| LLG    | Local Level Government                                |
| LNG    | Liquefied Natural Gas                                 |
| MMR    | Maternal Mortality Rate                               |
| MPA    | Minimum Priority Areas                                |
| MSB    | Marie Stopes Bangladesh                               |
| MTFS   | Medium-Term Fiscal Strategy                           |
| MVIL   | Motor Vehicles Insurance Limited                      |
| NACS   | National AIDS Council Secretariat                     |
| NCD    | National Capital District                             |
| NDoH   | National Department of Health                         |
| NEC    | National Executive Council                            |
| NEFC   | National Economic and Fiscal Commission               |
| NGCB   | National Gaming Control Board                         |
| NGI    | New Guinea Islands                                    |
| OOP    | Out-of-pocket   |
| PER    | Public Expenditure Review                             |
| PHA    | Provincial Health Authority                           |
| PHI    | Private Health Insurance                              |
| PIP    | Public Investment Program                             |
| PNG    | Papua New Guinea                                      |
| PNGSDP | Papua New Guinea Sustainable Development Program      |
| PSIP   | Provincial Services Improvement Program               |
| RB     | Recurrent Budget                                      |
| SDO    | Service Delivery Organisation                         |
| SHI    | Social Health Insurance                               |
| SPAR   | Sector Performance Annual Review                      |
| SSG    | Special Support Grant                                 |
| SWAP   | Sectorwide Approach                                   |

|       |                                   |
|-------|-----------------------------------|
| UPHCP | Urban Primary Health Care Project |
| WB    | World Bank                        |
| WHO   | World Health Organization         |

## Executive Summary

**Papua New Guinea's (PNG) health system is characterised by low health inputs per capita, low health service contact rates and significant inequities in health care use.** Health spending relative to GNI per capita, and as a revenue share of GDP is low. Government spending as a share of total health expenditure is, however, high and the financing system is dependent on a number of complex interactions between a number of agencies, both at the national and subnational level. Anecdotal evidence suggests that out-of-pocket (OOP) spending is minimal.

**The current system of health financing has not delivered improved health outcomes; in fact health outcomes in PNG have been stagnant in recent decades.** PNG is not on track to meet any of the health-related Millennium Development Goals (MDGs). Significant investment in the health sector is needed to address the decline, meet current demographic trends and address inefficiencies and inequities. These additional resource requirements will have to be met while maintaining the high levels of financial risk protection and relatively equitable access to health care. The additional resource requirements will have to be financed in a sustainable manner.

**This report examines three broad health financing options in PNG: (i) increasing the level of general revenue spending; (ii) introducing contributory, insurance-based health financing arrangements; and (iii) mobilizing additional resources through efficiency savings in the sector.** The three options are not mutually exclusive.

### *Increase fiscal space by increasing general revenue allocations to health*

**In the medium to long term, there exists some scope for economic growth to mobilize additional general revenues for health, particularly with the commencement of Liquefied Natural Gas (LNG) production in 2015 and a number of additional extractive projects that are under active consideration.** Based on past trends, the Government of Papua New Guinea's (GoPNG) health spending as a share of GDP is likely to remain flat. Government revenue as a share of GDP is, however, projected to fall over the medium term. Should GoPNG's revenue base not improve, budgetary financing gaps are expected to emerge through to 2017. As such, in the short to medium term, significant increases in fiscal space for health are unlikely.

### *Introduce contributory insurance-based health financing*

**In the current context, the introduction of comprehensive Social Health Insurance (SHI) is not feasible or sustainable.** The feasibility and sustainability of SHI as a health financing mechanism depends on how quickly it can be scaled up to cover the entire population. The informal sector accounts for over 67 percent of the population in PNG. In this context, SHI is likely to be a further drain on GoPNG revenues as additional government spending will be required to cover the informal sector. It is not likely to bring in significant new funding for health. Moreover, many of the prerequisites needed for effective implementation are also not in place. Administrative and technical capacity to run a comprehensive SHI scheme is currently limited, and whilst there has been renewed political commitment to the idea through the Alotau Accord, there is also limited regulatory capacity in country.

### *Mobilising resources through efficiency savings*

**Continuing to rely on general revenue financing whilst mobilising additional resources through efficiency savings will be the most feasible and sustainable option for PNG.** There is significant scope to realise efficiency gains through: (i) allocating more resources to primary care vis-à-vis

tertiary care; (ii) improving the mix and productivity of inputs; (iii) leveraging the resources allocated to vertical programs; (iv) continuing improvement in procurement reform; (v) implementing improvements in planning and budgeting; and (vi) alternative financing modalities such as facility based budgeting and provincial health authorities. These options will not only generate additional resources for health but will improve the sustainability of financing in the longer term. Improving the effectiveness and coordination of external donor resources will be equally important.

In conclusion, in the short to medium term, with total government revenues as a share of GDP expected to fall, there would be little additional fiscal space to allocate to health. In the medium to long term, assuming revenue and GDP prospects improve with the expansion of the LNG industry, PNG may well increase public health spending. However, the health sector is characterized by a range of inefficiencies that are a significant drain on public sector resources. In essence, the public health sector is a “leaky bucket”. Increasing public spending on health in PNG is unlikely to substantially improve health outcomes until inefficiencies in the management, financing and delivery of health care are addressed. Thus, while PNG might potentially increase its level of public health spending in the medium to long term, the Government’s first priority should be to address the inefficiencies in spending that currently undermine service delivery and key health system goals such as equity of access. In addition, alternatives such as Social Health Insurance are not viable options to finance any increase in health spending given low levels of formal employment and administrative challenges.



## Chapter 1: Introduction

**The objective of this paper is to provide an assessment of available options for financing health care in Papua New Guinea (PNG).** The analysis considers the country-specific economic, political and institutional factors that ultimately influence the performance of the health financing mechanisms. The assessment was undertaken in response to specific requests from the PNG Government to the World Bank (WB) regarding appropriate financing options for the health sector, given the current situation in the sector and the mineral boom which promises rapid resource-led growth.

**The National Department of Health (NDoH) has requested advice from the World Bank on the feasibility of SHI in PNG, implications of user fee removal, and options for improving the sustainability and efficiency of government financing for health.** The Department of Treasury (DoT) has requested fiscal space analysis to be carried out in view of the expected resource revenue boom. The World Bank has put together this assessment in order to respond in a systematic and coherent manner to these separate requests from government. The Note seeks to provide the evidence and information needed to guide GoPNG in making decisions about different health financing options.

### 1.1 Analytical Framework for Assessing Health Financing Options

**The analysis of health financing options for PNG is underpinned by the three basic principles of public finance: *the revenue collection, risk pooling, and allocation of those revenues across a range of services.*** Revenue collection involves raising an adequate and sustainable level of revenues in an efficient and equitable manner. The pooling involves combining the revenues so that the members of the pool share collective health risks, thereby protecting them from large, unpredictable health expenditures. Finally, revenues need to be allocated efficiently to maximise health outcomes and ensure equitable access to good quality health services. Health care financing reform implies introducing changes to one or more of these three key functions of financing.

**Based on these principles, the paper will compare the different financing options against four criteria on the financing mechanism:**

- 1) *be sustainable and feasible;***
- 2) *be able to pool risks and ensure financial protection;***
- 3) *lead to greater efficiency in revenue collection and resources allocation; and***
- 4) *enhance equity in financing and access to services.***

**There are four types of health financing arrangements that foster prepayment, raise revenues, pool risks, and purchase services.** They are: (i) financing through government general revenues; (ii) SHI; (iii) private health insurance; and (iv) community-based health insurance. Each is linked to distinctive instruments for revenue collection, pooling and purchasing. This paper will assess each of these four options in terms of their ability to mobilise resources sustainably, pool risks and improve efficiency and equity for PNG. Alternatively, additional resources could be mobilised for the health sector through efficiency savings. This will be a fifth option considered in this paper.

### 1.2 Methodology

**The paper is based on the review and analysis of existing data and documents.** Information about current fiscal policy and future economic prospects in PNG was obtained through discussions with, and documents published by, GoPNG, the International Monetary Fund (IMF) and the World Bank. Information about the current system of health financing was obtained from NDoH and a review of documents produced by the Australian Department of Foreign Affairs and Trade (DFAT) and other

stakeholders. The paper also draws on documents and reports on the international experience of health financing reform and translates the lessons learnt to the PNG context.

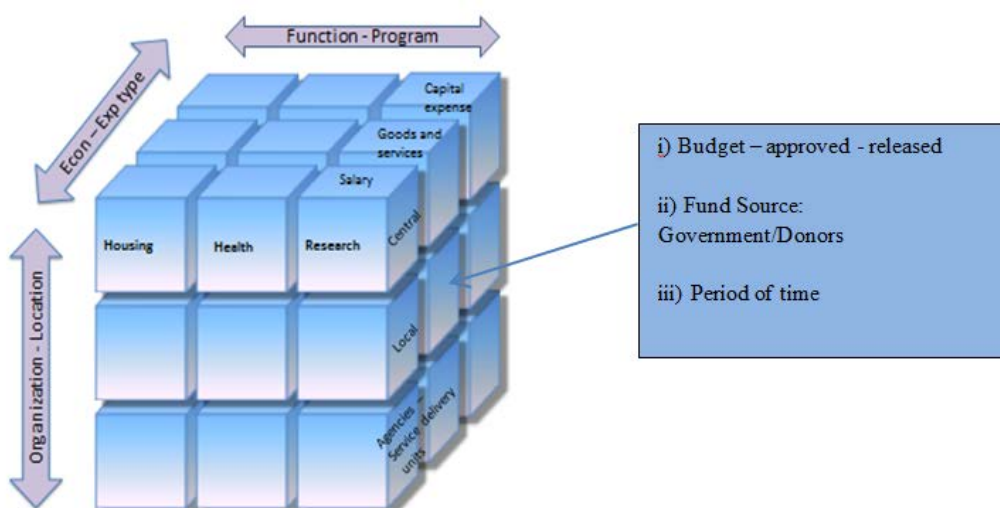
**The 2009-2010 Household Income and Expenditure Survey (HIES) (GoPNG 2010b) was analysed to examine inequalities in health care use, and the impact of household OOP payments for health services on consumption.** Data on health outcome indicators was drawn from the 2013 Department of Health Sector Performance Annual Review (SPAR). Box1-1 below describes some data limitations.

**Box 1-1: Inadequate Data and Using BOOST to Further Analyze Expenditure Efficiency/Inefficiency**

**The available PNG public expenditure data in health which this report is based on suffers from three main problems.** First, it is easier to get aggregated data at the national level but more difficult to get spending information at the sub-national level; second, data is available with a two or three years lag, making it less useful for informing policy decisions in a timely manner; third, the data rarely contains information about initial and revised budgets in addition to actual spending. Existing data and the way it is organized make it difficult to conduct detailed efficiency analyses that can identify specific inefficiencies.

**To reap savings from inefficiencies, governments must be able to identify such inefficiencies and examine their root causes in a timely manner.** BOOST, an *analytical tool* developed by the World Bank, aims at facilitating this process and improving the quality of public expenditure decisions. BOOST collects and compiles detailed data on public expenditures from national treasury systems and presents it in a simple user-friendly format in an excel based tool that uses a pivot table to easily sort and analyze large amounts of detailed data. BOOST can then be used to examine trends in allocations of public resources, analyze potential sources of inefficiencies and how governments finance the delivery of public services.

Diagram: Different 'dimensions' of data that BOOST allows users to analyze



### Box 1. Continued

BOOST in PNG. The BOOST tool is currently developed in PNG. The process starts by gathering detailed government expenditure data directly from the treasury system - the Provincial Government Accounting System (PGAS) for the past and the Integrated Financial Management System (IFMS) for the current. By requesting raw data at the most disaggregated level available, the resulting BOOST database takes advantage of the full breadth and depth of the country's budget classification system. The data on expenditures, organized using the chart of accounts, is then compiled in one database that covers the sectors, spending units, and types of expenditures recorded in the treasury system.

How BOOST can be used? BOOST can be used for expenditure analysis by "functional classification" at the sector level (such as education, health, defense, etc)<sup>1</sup>, "economic classification" (such as materials, salaries, transportation, etc.) and different levels of administration, provided that at the sub-national level uses the standard Chart of Accounts. Boost can also be used to analyze spending performance. For example, comparing data on budget allocations with actual expenditure to find where agencies are systematically underspending or overspending. BOOST training has been and will be further provided to government officials and other stakeholders in PNG.

### 1.3 Audience and Structure of the Paper

**The primary audience for the report is GoPNG and development partners.** The remainder of this paper is organised as follows. Chapter 2 provides a brief overview of PNG's health system. Chapters 3 to 6 examine the main financing options. Chapter 6 compares the health financing options in terms of their ability to ensure financial sustainability, risk pooling and financial protection, efficiency and equity in the context of PNG. Chapter 7 examines opportunities for efficiency savings in the health sector as an alternative way to mobilise resources within the current system. Chapter 8 concludes.

## Chapter 2: Health System Overview

**The deterioration in health outcomes in recent decades in PNG is widely recognised as a failure of health service delivery.** Health outcomes in PNG have stalled over the last quarter century and have even declined in the last decade, giving rise to a sense of crisis in the health sector. The Sector Performance Annual Review 2013 reports, however, that there have been encouraging signs since 2011 (NDoH 2013a). Investments in and the distribution of health system building blocks such as the health workforce, medical supplies etc are inadequate. As a result, no observed improvements in outputs or outcomes have taken place. PNG is not on track to meet any of the health-related MDGs by 2015.

### 2.1 Health Inputs

**PNG's health system consists of hospitals and rural health facilities.** The 19 hospitals are run by statutory boards under the supervision of the national Minister of Health except those under Provincial Health Authorities. The rural health system consists of 719 health centres and rural/district hospitals and 2,672 aid posts (GoPNG 2010a). District health offices are responsible for a range of supervisory and public health functions including village water supply programs, provision of bed nets and environmental health programs.

**Health centres provide a range of clinical inpatient and outpatient services as well as outreach patrols to supervise aid posts, visit schools and deliver primary health programs such as maternal and child health.** Forty-five percent of health centres and rural/district hospitals and 10 percent of aid posts are run by church agencies (GoPNG 2010a). The national government, through NDoH, funds the operating costs of church services through two grants—one for wages and one for operating costs. The provincial government is expected to meet other costs.

**A comparison of health infrastructure and staff across the Pacific Island countries indicates that per capita health inputs are significantly lower in PNG.** Whilst the high level of population dispersion in the Pacific Islands region demands a higher ratio of health inputs per capita than more densely populated countries if good access to health care is to be ensured, PNG has the lowest ratio of both doctors and nurses per 1,000 population (Table 2-1).

**Table 2-1: Health Inputs in the Pacific Islands (2010)**

| Country                                  | GNI per capita (US\$) | Doctors per 1,000 population | Nurses per 1,000 population |
|--|-----------------------|------------------------------|-----------------------------|
| Fiji                                     | 3,670                 | 0.426                        | 2.242                       |
| Kiribati                                 | 1,980                 | 0.376                        | 3.706                       |
| Marshall Islands                         | 3,780                 | 0.438                        | 1.74                        |
| Micronesia, Fed. Sts.                    | 2,870                 | 0.177                        | 3.319                       |
| Samoa                                    | 2,830                 | 0.479                        | 1.851                       |
| Solomon Islands                          | 930                   | 0.224                        | 2.053                       |
| Tonga                                    | 3,490                 | 0.563                        | 3.883                       |
| Vanuatu                                  | 2,700                 | 0.116                        | 1.696                       |
| Papua New Guinea                         | 1,300                 | 0.053                        | 0.457                       |
| East Asia & Pacific Developing Countries | 3,695                 |                              |                             |
| Least Developed Countries                | 688                   |                              |                             |

Source: WDI, latest

**The distribution of per capita health sector inputs across provinces is also unequal.** Table 2-2 presents the number of health facilities and medical officers per 1,000 population across provinces in 2010. For instance, the New Guinea Islands region has significantly more medical officers per 1,000 population than the Momase region. In addition, anecdotal evidence indicates that much of the health infrastructure is outdated and in need of renovation or repair in most parts of PNG. The Function Grants system is intended to equalize funding based on need, and has shown some promise in terms of improving the distribution of inputs.

**Table 2-2: Health Inputs by Province (2010)**

| Province                | Annual per capita expenditure (PNG Kina) | Health centres per 1,000 pop. (Government, mission and other) | Percentage of health centres that are church run | Open aid posts per 1,000 pop. |
|-------------------------|--|---|--|-------------------------------|
| <b>Southern Region</b>  |  |   |  |                               |
| Western                 | 40                                       | 0.2   | 54   | 1.3                           |
| Gulf                    | 56                                       | 0.2   | 48   | 0.6                           |
| Central                 | 32                                       | 0.2   | 44   | 0.4                           |
| NCD                     | -  | -   | 6  | -                             |
| MBP                     | 37                                       | 0.2   | 61   | 0.5                           |
| Oro                     | 20                                       | 0.1   | 26   | 0.6                           |
| <b>Southern Region</b>  | <b>37</b>                                | <b>0.2</b>  | <b>40</b>  | <b>0.7</b>                    |
| <b>Highlands Region</b> |  |   |  |                               |
| SHP                     | 15                                       | 0.1   | 55   | 0.3                           |
| Enga                    | 23                                       | 0.1   | 40   | 0.4                           |
| WHP                     | 20                                       | 0.1   | 61   | 0.2                           |
| Simbu                   | 14                                       | 0.1   | 31   | 0.2                           |
| EHP                     | 16                                       | 0.1   | 44   | 0.3                           |
| <b>Highlands Region</b> | <b>18</b>                                | <b>0.1</b>  | <b>46</b>  | <b>0.3</b>                    |
| <b>Momase Region</b>    |  |   |  |                               |
| Morobe                  | 13                                       | 0.1   | 28   | 0.3                           |
| Madang                  | 18                                       | 0.1   | 36   | 0.4                           |
| ESP                     | 23                                       | 0.1   | 63   | 0.6                           |
| WSP                     | 37                                       | 0.2   | 68   | 0.6                           |
| <b>Momase Region</b>    | <b>23</b>                                | <b>0.1</b>  | <b>49</b>  | <b>0.5</b>                    |
| <b>Islands Region</b>   |  |   |  |                               |
| Manus                   | 42                                       | 0.2   | 23   | n/a                           |
| NIP                     | 29                                       | 0.2   | 34   | 0.4                           |
| ENB                     | 26                                       | 0.1   | 38   | 0.3                           |
| WNB                     | 24                                       | 0.1   | 41   | 0.5                           |
| ARB                     | 22                                       | 0.2   | 38   | 0.9                           |
| <b>Islands Region</b>   | <b>29</b>                                | <b>0.2</b>  | <b>35</b>  | <b>0.5</b>                    |
| <b>PNG Total</b>        | <b>27</b>                                | <b>0.1</b>  | <b>42</b>  | <b>0.5</b>                    |

Source: GoPNG 2010a; Author's calculations.

Note: NCD: National Capital District; MBP: Milne Bay Province; SHP: Southern Highlands Province; WHP: Western Highlands Province; EHP: Eastern Highlands Province; ESP: East Sepik Province; WSP: West Sepik Province; NIP: New Ireland Province; ENB: East New Britain; WNB: West New Britain; and ARB: Autonomous Region of Bougainville. Data pre-date the establishment of Jiwaka province.

## 2.2 Organisational Structure of the Health System

The roles and responsibilities of various actors in the health sector are set out in a number of guiding pieces of legislation.<sup>1</sup> The NDoH is responsible for policy, standard setting, technical advice and monitoring. The National AIDS Council and its secretariat (NACS) are responsible for the formulation of policy, monitoring and coordination of the many actors involved in the HIV responses.

The Provinces and newly established Provincial Health Authorities (PHAs) are responsible for overseeing implementation, whilst service delivery is the ultimate responsibility of the Districts. Provincial responsibilities include delivering health programs in rural areas such as immunisation patrols and village birth attendant training; operating government rural health facilities; maintaining all health centre equipment; delivering drugs to all rural facilities; maintaining rural health infrastructure and providing staff training. Provinces are also responsible for supporting provincial HIV committees; establishing voluntary counselling and testing sites; ensuring compliance with national standards; and distributing condoms and Antiretroviral Therapy (or Treatment) (ART) drugs, although most of these functions are currently being carried out by donors.

## 2.3 Health Outcomes and Utilisation

Rates of infant and maternal mortality are high. In 2006, the maternal mortality rate (MMR) was 733 per 100,000 births, one of the highest outside of conflict-affected regions.<sup>2</sup> Infant mortality rates (IMR) are also high relative to average incomes in PNG in comparison to other countries. The 2006 Demographic and Health Survey (DHS) (NSO, 2009) estimated the IMR at 57 per 1,000 live births; the under-five mortality rate was estimated to be 64 per 1,000 live births. The available data (table 2-3) indicates that IMRs have been trending downwards, however, the decline in IMRs in the 1980s and beyond has not been as fast as the decline in the 1970s. There are also large differences between regions and provinces within PNG—with the highest IMRs in west Sepik (105) versus the lowest in NCD (22).

**Table 2-3: IMRs (%) at the Regional and Provincial Levels (per 1,000 live births)**

| Geographic Subdivisions | 1971 Census | 1980 Census | 2000 Census | Geographic Subdivisions         | 1971 Census | 1980 Census | 2000 Census |
|-------------------------|-------------|-------------|-------------|---------------------------------|-------------|-------------|-------------|
| PNG (National)          | 134         | 72          | 64          |                                 |             |             |             |
| Rural                   | -           | 79          | 69          | Urban                           | -           | 44          | 29          |
| Southern Region         | 108         | 58          | 58          | Momase Region                   |             |             |             |
| Western                 | 129         | 83          | 66          | Morobe                          | 123         | 62          | 80          |
| Gulf                    | 191         | 71          | 103         | Madang                          | 122         | 62          | 78          |
| Central                 | 85          | 59          | 47          | ESP                             | 183         | 94          | 79          |
| NCD                     | 85          | 35          | 22          | WSP                             | 143         | 104         | 105         |
| MBP                     | 98          | 50          | 69          |                                 |             |             |             |
| Oro                     | 94          | 67          | 59          |                                 |             |             |             |
| Highlands Region        | 151         | 85          | 57          | New Guinea Islands (NGI) Region | 81          | 52          | 52          |

<sup>1</sup> The National Health Administration Act, Public Hospitals Act, Provincial Health Authority Act, Christian Health Services of PNG Act and the Organic Law on Provincial Governments and Local-level Governments.

<sup>2</sup> It should be noted, however, that there is concern on the reliability of this estimate. The estimated MMR from the 1996 DHS (referring to 1984) was 370 per 100,000 live births whereas the MMR estimated from the 2006 DHS (referring to 1994) is 733 per 100,000 thousand live births. These figures suggest that maternal mortality almost doubled during the ten-year period.

|        |     |     |    |       |    |    |    |
|--------|-----|-----|----|-------|----|----|----|
| SHP    | 159 | 116 | 61 | Manus | 86 | 55 | 45 |
| Enga   | 153 | 91  | 69 | NIP   | 74 | 62 | 52 |
| WHP    | 153 | 81  | 48 | ENB   | 77 | 57 | 54 |
| Chimbu | 149 | 87  | 54 | WNB   | 88 | 60 | 55 |
| EHP    | 141 | 55  | 54 | ARB   | 83 | 33 | 47 |

Source: GoPNG 2010b.

Note: In 1971, NCD was part of Central Province and Enga was part of Western Highlands.

**Among adults, the disease burden is still dominated by infectious and vector-borne diseases, especially tuberculosis (TB) and malaria.** According to the 2013 SPAR (NDoH, 2013), overall, the incidence of malaria has declined over the past five years (2008 to 2012) from 270 per 1,000 population to 171 per 1,000 population. Rates have, however, continued to increase. For instance, the incidence of malaria increased in New Ireland from 432 cases per 1,000 in 2011 to 548 cases per 1,000 in 2012. TB, which was identified as multi-drug resistant in 2014 also accounts for a disproportionately large share of the burden of disease.

**Health service contact rates are relatively low by regional comparison.** The 2009-2010 HIES (GoPNG 2010b) found that 54.8 percent of people reporting health problems sought treatment. Of those who sought treatment, 65.8 percent went to a government facility<sup>3</sup> and 16.3 percent to a church health centre. By comparison, in many low-income countries in the East Asia and Pacific region 60-75 percent of the population seek care when ill and do so from a modern medical provider (Langenbrunner and Somanathan 2011). The SPAR (2012) indicates that the average outpatient visits per person decreased from 1.59 in 2008 to 1.31 in 2011 and 1.26 in 2012. This is not because people are healthier so they seek less care; on the contrary, given the high IMR, such a declining trend is worrisome.

**Maternal and child health service coverage is low.** In 2012, 66 percent of women nationally attended at least one antenatal visit at a hospital, health centre or outreach clinic during pregnancy, and 44 percent of women gave birth at a health facility attended by skilled health personnel (NDoH 2013a). Disparity at the provincial level is once again large, with particularly low antenatal coverage in provinces in the Highlands region (55 or lower percent in 2012) and a low percentage of supervised births in the Morobe province (30 percent in 2012).

**There was, however, an increase in the proportion of outreach clinics per 1,000 children under the age of five from 2007 until 2011, although this declined in 2012.** Rates in the Momase region are the lowest in the country (16 per 1,000 children under the age of five), while Simbu, Milne Bay and Manus were the best performing in 2012: 99, 109 and 99 respectively. Despite the increasing number of outreach clinics, however, the percentage of children under one year who have received three doses of the DTP-HepB-Hib pentavalent vaccine has declined over the past five years from a national average of 65 percent in 2008 to 46 percent in 2012 (NDoH 2013a).

## 2.4 Equity in Health Care Use and Outcomes

**There are significant inequities in health care use and outcomes across PNG.** Higher levels of education for mothers tend to be generally associated with lower mortality risks of children at early ages (table 2-4). The IMR for children born to mothers with no education is 74 per 1,000 live births compared to 34 deaths per 1,000 live births for children whose mothers completed Grade Seven or

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<sup>3</sup> Of these, 27.6 percent attended a government hospital or clinic; 20.1 percent attended a government health centre; and 18.1 percent attended a government aid post.

higher. Similarly, the likelihood that a woman will consult a doctor during pregnancy increases as education increases.

**Disparity in health outcomes at the subnational level in PNG is large, particularly when compared to other countries in the South Pacific Region.** Significant differences also exist between rural and urban areas more broadly. For instance the IMR in urban areas is 31 per 1,000 live births, which is half that of the rural areas where over 87 percent of the population reside, with 62 deaths per 1,000 live births (NSO, 2009). Moreover, as discussed by Müller et. al. (2002), children from the central PNG Highlands and from affluent lowland areas have the highest birth weights, whilst they tend to be lowest in the largely lowland Sepik, Western, Madang and Milne Bay Provinces and remote highland fringe areas.

**Maternal health care use, particularly child delivery, is characterised by large inequalities (table 2-4).** Of all women who gave birth in the five years prior to the survey, 62 per cent with no education gave birth at home compared to 20 per cent with a Grade Seven or higher level of education. Fifty percent of women in rural areas gave birth at home compared to 10 per cent in urban areas. Women with a higher level of education and located in urban areas are also more likely to receive antenatal care and assistance from health care professionals.

**Table 2-4: Inequalities in Maternal and Child Health Care Use and Outcomes**

| Indicator                 | Infant Mortality Rate | Child Mortality Rate | Under-5 Mortality Rate | Antenatal Care (%) | Assistance During Delivery (%) | Home Delivery of Live Births (%) | Tetanus Toxoid Vaccination During Pregnancy (%) |
|---------------------------|-----------------------|----------------------|------------------------|--------------------|--------------------------------|----------------------------------|---|
| <b>Place of residence</b> |                       |                      |                        |                    |                                |                                  |   |
| Urban                     | 31                    | 12                   | 42                     | 93                 | 88                             | 10                               | 83  |
| Rural                     | 62                    | 18                   | 79                     | 76                 | 47                             | 50                               | 68  |
| <b>Region</b>             |                       |                      |                        |                    |                                |                                  |   |
| Southern                  | 45                    | 13                   | 58                     | 84                 | 58                             | 37                               | 73  |
| Highlands                 | 72                    | 19                   | 90                     | 76                 | 52                             | 44                               | 67  |
| Momase                    | 55                    | 18                   | 71                     | 72                 | 39                             | 60                               | 65  |
| Islands                   | 50                    | 15                   | 64                     | 90                 | 75                             | 25                               | 80  |
| <b>Level of education</b> |                       |                      |                        |                    |                                |                                  |   |
| None                      | 74                    | 23                   | 95                     | 64                 | 34                             | 62                               | 56  |
| Grade 1-5                 | 66                    | 14                   | 79                     | 76                 | 44                             | 50                               | 67  |
| Grade 6                   | 49                    | 14                   | 63                     | 84                 | 56                             | 43                               | 75  |
| Grade 7+                  | 34                    | 11                   | 45                     | 92                 | 79                             | 20                               | 82  |

Source: NSO 2009

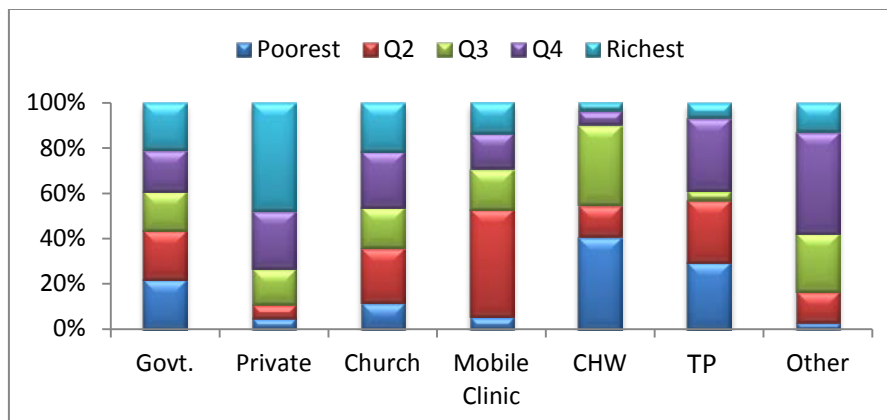
Note: (i) Mortality rates are per 1,000 live births. (ii) Antenatal care and assistance during delivery provided by doctor, nurse or midwife.

**Overall health care utilisation is also characterized by large inequalities across income groups as analysis of the HIES 2010 shows (World Bank 2014b).** To assess inequalities in health care use across income groups, households were ranked on the basis of their average monthly consumption, and split into five quintiles from the poorest (lowest level of per capita monthly consumption) to the richest (highest level of per capita monthly consumption). Outpatient utilisation by quintiles and facility type shows that private facilities are more utilised by the rich, while community health workers and traditional healers are more utilised by the poor. Government-run facilities are relatively equal amongst quintiles in utilisation (Figure 2-1). Inpatient utilisation by quintiles and



facility type shows that the richest are far more likely to use public and private facilities while the poorest are concentrated in the church and other inpatient facilities (Figure 2-2).

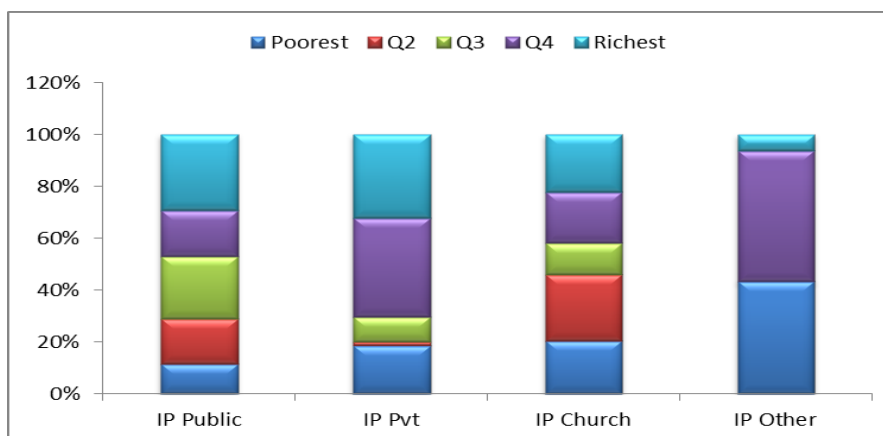
**Figure 2-1: Outpatient Utilisation by Socioeconomic Quintiles across Facility Type**



Source: World Bank, 2014b

Note: CHW: Community Health Worker; TP: Traditional Practitioner

**Figure 2-2: Inpatient (IP) Utilisation by Socioeconomic Quintiles across Facility Type**



Source: World Bank, 2014b

**In rural areas, the lack of staff and other inputs has forced patients to bypass lower-level services in favour of hospitals, which are more costly and located further away.** Many aid posts, the first line providers, have been shut down. In 2012, only 66 percent of aid posts were open (NDOH 2013a). All of the factors mentioned above, when combined, have led to significant financial and physical barriers to access in a context where there was already significant underutilisation of services. These results point to a disjointed health system, with significant geographical and socioeconomic differences.

## 2.5 Health Financing

### 2.5.1 Levels and trends in expenditures

**Total health expenditure in Papua New Guinea was estimated to be US\$78.87 per capita in 2011, or about 4.28 percent of GDP (Table 2-5).** The World Health Organization recommends that for a

developing country to provide a basic package of essential services it must spend at least US\$34 per capita, per annum. From 2000-2007, PNG spent between US\$30 to US\$39 and since 2008 has spent US\$50 per capita or more per year. However, as discussed in Chapter 0, whilst there are noted improvements in the level of inputs in the health sector, there are no observed improvements in outputs or outcomes.

**Table 2-5: Health Expenditures in PNG (2008-11)**

| Indicator  | 2008   | 2009   | 2010    | 2011    |
|--|--------|--------|---------|---------|
| Total health expenditure* (K, millions)          | 970.60 | 903.25 | 1057.09 | 1245.45 |
| Total health expenditure per capita** (K)        | 148.16 | 134.72 | 154.12  | 177.59  |
| Total health expenditure per capita (US\$)       | 55.82  | 49.98  | 56.73   | 78.87   |
| Total health expenditures share of GDP (percent) | 4.56   | 4.23   | 4.10    | 4.28    |

Source: World Bank, 2014a. Author's calculations.

Note: \*Total health expenditure is calculated by the total health expenditure per capita times total population. \*\* Total health expenditure per capita in Kina is calculated by the total health expenditure per capital in US dollars multiplied by the exchange rate.

**Health spending in per capita terms and as a share of GDP is low relative to the income level of PNG when compared with other countries in the Pacific Islands Region (Table 2-6).**

**Table 2-6: Health Expenditures in Pacific Islands Region (2011)**

| Country                | Total health expenditure per capita (US\$) | Total health expenditure as percentage of GDP | Government health expenditure as percentage of total government expenditure |
|------------------------|--|---|---|
| Cook Islands           | 614.2                                      | 5.5   | 14.3  |
| Fiji                   | 167.8                                      | 3.8   | 9.1   |
| Kiribati               | 177.0                                      | 10.1  | 10.0  |
| Marshall Islands       | 524.2                                      | 16.5  | 18.3  |
| Micronesia, Fed. Sts.  | 382.6                                      | 13.4  | 19.8  |
| Nauru                  | 683.2                                      | 9.8   | 9.9   |
| Niue                   | 2,189.5                                    | 14.6  | 17.6  |
| Palau                  | 929.5                                      | 10.6  | 16.0  |
| Papua New Guinea       | 78.9                                       | 4.3   | 12.8  |
| Samoa                  | 248.3                                      | 7.0   | 25.1  |
| Solomon Islands        | 134.0                                      | 8.8   | 25.5  |
| Tonga                  | 219.2                                      | 5.3   | 15.8  |
| Tuvalu                 | 629.2                                      | 17.3  | 18.0  |
| Vanuatu                | 133.6                                      | 4.1   | 15.0  |
| <b>Country Average</b> | <b>507.94</b>                              | <b>9.36</b>                                   | <b>16.23</b>  |

Source: WHO WHOSIS database (2010).

## 2.52 Financing sources

**The two main sources of financing for health in PNG are GoPNG and development partners.** Government spending represents an average of 78 percent of total health expenditure over the

period 2000-2011, unusually high by international standards, although informal user fees are not captured by this estimate (WHO 2011a).<sup>4</sup>

**In 2004, the six major Papua New Guinea (PNG) development partners joined in partnership with the Government of PNG (GoPNG) and agreed to operate under a Sector Wide Approach (SWAp) as the Health Services Improvement Program (HSIP).** Initially the flow of funds through the program was limited, however in 2007 the Government of Papua New Guinea (GoPNG) commenced contributing large sums of development budget funding while at the same time large grants from the Global Funds were received. The HSIP trust account (TA), managed centrally by the NDoH, has subsidiary accounts in all provinces. An independent evaluation of the SWAp (Janovsky et. al. 2010) was critical of the efficiency of the HSIP trust account to disburse and account for funds, noted the limited results from high volumes of technical assistance to the sector, and commented that donors continuing to operate in project mode and earmarking funds. Subsequent audits of the HSIP TA in 2010/11 identified that the governance structures were ineffective; there was weak absorptive capacity at different levels of the service supply chain. There were also significant financial management challenges, and difficulty in getting resources to provinces and districts. At the same time, it is recognised that HSIP TA plays a vital role in funding rural health services (over 30 per cent in 2010). In 2009 the GoPNG introduced the reforms of the intergovernmental financing arrangements (RIGFA) that saw over the next three years funding to Provinces increase significantly which lessened the dependence on HSIP TA funding for rural health services. As a result of the above concerns and the traction being experienced from the RIGFA, the three major co-financiers of the HSIP trust account, the GoPNG (represented by the NDoH), DFAT and the New Zealand Ministry of Foreign Affairs and Trade [NZMFAT]) sought to re-design the approach of the HSIP TA. This re-design was completed in 2012.

**The new design recommitted the Development Partners to aligning to GoPNG budget and National Health Plan priorities and proposed to significantly reduce the amounts of pooled funding over four years.** There was also an increased focus on targeted expenditure on the key GoPNG priorities of infrastructure and maternal health as well as quarantined funding for twenty disadvantaged districts. The new design was expected to compliment RIGFA and other programs happening within the Sector.

**Australia and the Government of PNG are the now major financiers of the HSIP, with the remaining donors providing relatively small amounts of aid and generally in niche areas.** USAID has recently indicated a desire to fund GoPNG priorities. The HSIP TA no longer holds funds for the Global Funds. Grant funding is now managed by external Principal Recipients.

**GoPNG funding for health is through the recurrent budget, administered by the Department of Treasury (DoT) and the development budget, administered by the Department of National Planning and Monitoring (DNPM).** Within the recurrent budget, the health sector is supported by health function grants to provincial governments,<sup>5</sup> primarily for operational spending on the three Minimum Priority Areas (MPA) for health, staff salaries and related costs for the delivery of services and separate appropriations to NDoH, NACS, the Institute of Medical Research and Hospital Management Services (which includes funding for church facilities). Health function grants are appropriated in the national budget to provinces on the basis of a cost of services estimate made by the National Economic and Fiscal Commission (NEFC). The province must then use the grant to

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<sup>4</sup> The global and regional average is about 60 percent, in most countries private expenditure financed from insurance or OOP contributions are higher.

<sup>5</sup> All provinces, except ARB and NCD. Instead of an annual health function grant, ABG receives an annual unconditional recurrent goods and services grant to cover all its functions including health.

deliver the health services for which it holds responsibility. Notably, the 2014 budget was a partially “integrated” budget. Both recurrent and development allocations were presented in the budget books. However, there is still further work to be done in terms of integration.

**GoPNG financing of health within the development budget includes Public Investment Programs (PIPs), loan-financed projects (for example, the ADB-assisted rural primary health service delivery project) and health projects under the tax credit scheme.** Additional funding for health in the development budget includes: (i) Special Support Grants (SSG) and other funding related to mining and petroleum projects; (ii) the nondiscretionary component of the District Support Grants that are paid via provincial governments; (iii) the Social Development Program providing support to civil society and churches; (iv) the District Service Improvement Program (DSIP); (v) Provincial Service Improvement Program (PSIP); and (vi) the restoration grant for ARB.

**In addition to national government funding, provincial governments also allocate funds towards health through their own internal revenue sources (700 series).**<sup>6</sup> The provinces’ revenues comprise national grants earmarked for provinces, GST distribution, bookmakers’ tax, own source revenues, royalties and dividends. Table 2-7 details health expenditure by source for 2010. Data from 2010 have been used due to a lack of provincial data (internal revenue) for 2011.

**Table 2-7: Health Expenditures by Source (2010)**

| Indicator                       | Expenditure (K, millions) | Share (%)    |
|---------------------------------|---------------------------|--------------|
| <b>GoPNG</b>                    | <b>895.0</b>              | <b>90.8</b>  |
| NDoH – Recurrent                | 202.7                     | 20.6         |
| NDoH – Development*             | 145.2                     | 14.7         |
| Hospital Management Services    | 224.0                     | 22.7         |
| Church Health Services          | 79.1                      | 8.0          |
| Health Function Grants          | 33.7                      | 3.4          |
| Province’s Internal Revenue     | 9.0                       | 0.9          |
| Payroll Expenditure             | 201.3                     | 20.4         |
| <b>Health SWAP (HSIP)</b>       | <b>90.4</b>               | <b>9.2</b>   |
| National HSIP                   | 82.4                      | 8.4          |
| Provincial HSIP                 | 8.0                       | 0.8          |
| <b>Subtotal (A)</b>             | <b>985.4</b>              | <b>100.0</b> |
| Institute of Medical Research** | 9.4                       | 40.7         |
| NACS**                          | 13.7                      | 59.3         |
| <b>Subtotal (B)</b>             | <b>23.1</b>               | <b>100.0</b> |
| <b>Total (A + B)</b>            | <b>1,008.5</b>            | <b>100.0</b> |

Source: NDoH Public Sector Health Reports; Author’s calculations.

Note: \* NDoH – Development refers to health PIPs only, and does include additional health-related expenditure through other sources of funds under the development budget such as the tax credit scheme or loan-financing. \*\*Includes recurrent and development budget expenditure.

**It should be noted that, in the absence of national health accounts and data limitations, Table 2-7 does not capture total expenditure.** For instance, it does not include health-related expenditure through support grants under the development budget (such as DSIP and SSG); additional awards for health sector workers under Division 207–Treasury and Finance miscellaneous;<sup>7</sup> tax credit scheme

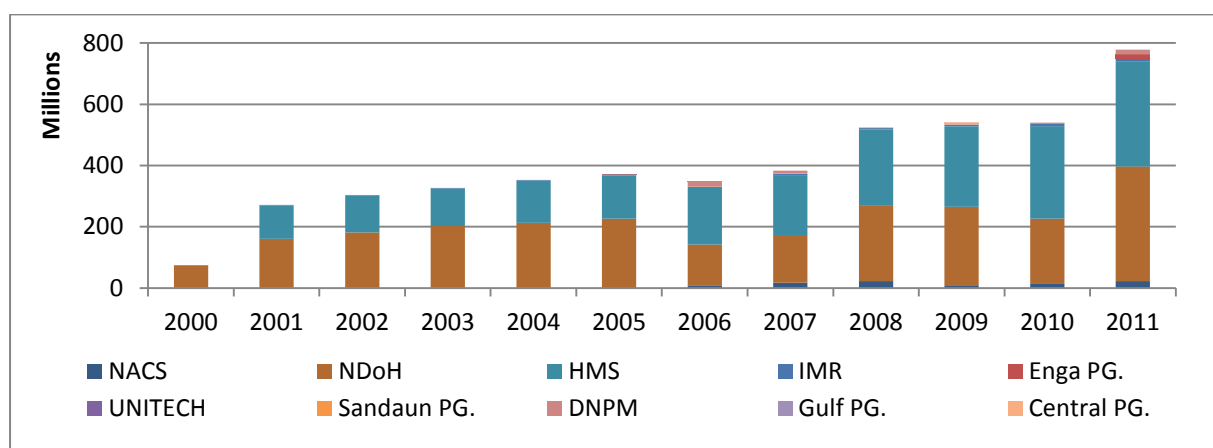
<sup>6</sup> Refers to the government budget books.

<sup>7</sup> In 2013, K 75 million has been appropriated under Division 207 for health workers’ awards/allowances.

expenditure;<sup>8</sup> nor OOP expenditure. Additional expenditure by the agricultural and extractive industries in PNG,<sup>9</sup> large NGOs operating in PNG (for example Susu Mamas and St. John’s Association) are also not accounted for, nor investments made by the PNG Sustainable Development Program (PNGSDP) which has the task of applying funds coming from the Ok Tedi Mine in Western Province for development projects across PNG.<sup>10</sup>

**Over the past ten years, appropriations and expenditure under the recurrent and development budgets have also been made to a number of different institutions outside of those traditionally tasked with health implementation (such as the DNPM).** Figure 2-3 illustrates the number of institutions expending GoPNG funds on health-related activities from 2000-11. As illustrated, appropriations and associated expenditure have increased over time, and have been appropriated under an increasing number of entities—from three entities in 2000 to six in 2011.

**Figure 2-3: Health Expenditure Excluding Donors and Internal Revenue (2000-11)**



Source: NDoH 2013a

Note: UNITECH- University of Technology, Papua New Guinea

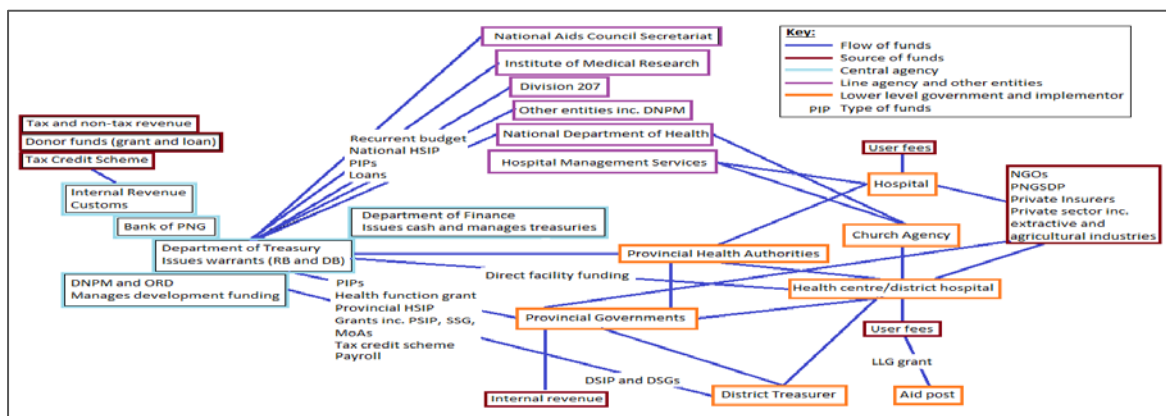
There are two key challenges in the current system—proximity to source funders and multiplicity of participants (Cairns 2012) (Figure 2-4). Firstly, many rural health service providers are not based in close proximity to their funding source. In such cases, health workers may be required to travel from their facility to the provincial capital to access funding to support their various activities. This is often impractical, time consuming and costly. Secondly, in the existing context, the sector is reliant on multiple participants and relies not only on systems but, just as critically, on interagency and interoffice relationships. For instance, there is a complicated relationship between the provincial treasuries who report to the Department of Finance (DoF) and their ‘client’—the provincial administration. In addition, once the funds reach the provincial treasury, the funding flow may yet continue to the district treasury level, the local level government (LLG) or to actual facilities. Each staging point that funds pass through in reaching their destination is an opportunity for delay and possible diversion or blockage (DPLGA 2009). For these and other reasons, the District Case Study proposed that funding for facilities should go straight to facilities via DFF.

<sup>8</sup> For instance, health expenditure under the tax credit scheme is estimated to have been K 1.4 million in 2011 (DNPM 2012).

<sup>9</sup> These companies include OK Tedi Mining Limited, Oil Search Limited, CTP Higaturu Oil Palm Company, New Britain Oil Limited and Ramu Agri Industries Limited, WR Carpenters and Co-Estates.

<sup>10</sup> Health investments made by PNGSDP include the Western Province Health Improvement Program (K 5.8 million since 2008) and a further K 3.9 million in 2011 for infrastructure, equipment and community health projects (PNGSDP 2011).

Figure 2-4: Health Fund Flows



Note: ORD: The Office of Rural Development, is now known as the Department of Implementation and Rural Development (DIRD). MoA- Memorandum of Agreement.

Furthermore, the fact that public hospitals and provincial health services operate independently of each other in the provinces has caused unnecessary bottlenecks, boundaries and health service liabilities. A parallel system as illustrated in Figure 2-4 has been caused mainly by the decentralisation of powers through the Organic Law on Provincial and Local Level Government and the Public Hospitals Act of 1994. To address this situation, GoPNG enacted the Provincial Health Authority Act in 2007 to merge the public hospitals and provincial health services under a single provincial health system, governed by a PHA board.

These two important reforms (DFF and PHAs) are currently being implemented in PNG in selected areas and are discussed in the following section.

### 2.53 Direct Facility Funding (DFF) and Facility-Based Budgeting

It is critical that funds reach the point of service delivery, which is at the health facility level. Evidence from both the case study of district service delivery and the rural health services costing model (DPLGA, 2009) reveal that lack of operating funds and medical supplies at the facility level have been inhibitors of improved service delivery. To ensure health sector funding reaches the service delivery front-line, NDoH—with support from NZAID—implemented a direct provincial to facility transfer of funds in Bougainville. Selection criteria included government/church health services, district, number of aid posts supervised, and distance from the administrative centre of Buka. Two of the nine health centres are church facilities. An alternative direct financing model is national to facility transfers.

Under the DFF model, money is transferred from a central or provincial account into specific health facility cheque accounts as quarterly transfers to meet health centre and aid post operational expenses—the latter being provided through the supervising health facility. Districts and provinces maintain oversight and management responsibilities, and retain their ability to direct facility allocation. NEFC unit cost estimates have been used to determine overall facility cost requirements including an allocated amount for each aid post. To qualify for funding, each facility is required to prepare an AAP covering agreed costs within a predetermined allocation. This is endorsed by the facility's Health Committee and approved by the Chief Executive Officer, Division of Health.

**A recent evaluation of the DFF has shown that the nine health centres spent around 40 percent of total expenditure on referral, mobile clinics, and outreach activities; and around 60 percent on casual staff, maintenance, office supplies and utilities (NDOH 2013b).** Health centres were able to spend, on average, 94 percent of the total funds they received in 2012. The per capita budget allocation varied from K 6.88 to K 20.07 between health centres. Some health centres also receive operating funds from other sources. The patient exit survey included in the DFF evaluation shows improved satisfaction with the services received. The evaluations include recommendations for when the DFF is rolled out nationally.

**The DFF model has not been rolled out nationally for several reasons.** To begin with, several inequities were identified in the design of the DFF pilots: 9 DFF facilities receiving between K40 – 120,000 per annum in additional funding, compared to as low as K4,000 for remaining 23 non-DFF facilities. It was impossible to compare the DFF modality against non-DFF facilities since the significant additional funding is a major variable in itself. Secondly, there were methodological concerns regarding the evaluation itself.

**Facility-based budgeting, a pre-cursor to DFF may prove a less onerous alternative to DFF.** FBB provides the benefits of DFF by encouraging explicit resource allocation at the facility level through Chart of Accounts coding, but avoids some of the weakness of DFF implementation. The success of DFF depends crucially on ex-post controls, such as the establishment of inspectors and/or internal audit mechanisms (Hiddink, 2012). In reality, in many areas of PNG financial control staff are hard to find. DFF also requires a strong qualitative and quantitative staff base at the facility level. Given the capacity constraints at the provincial and facility levels in PNG, FBB may prove to be more feasible.

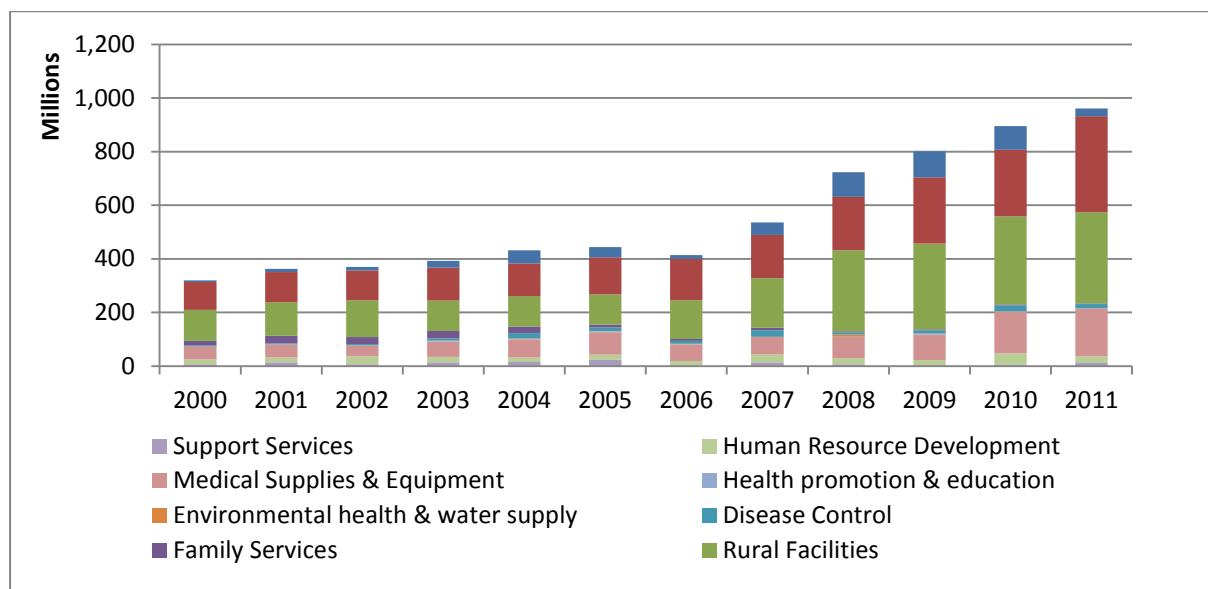
#### *2.54 Provincial Health Authorities*

**The 2007 Provincial Health Authority Act (PHAA) enables the provincial government to establish Provincial Health Authorities (PHA) to be responsible for both primary and secondary health care in the provinces.** This legislation is supposed to streamline the provision of health services at the provincial level and bring together the provincial health departments, hospitals, district health services under one management board. However, this legislation is not compulsory. To date, three provinces (Eastern Highlands, Western Highlands and Milne Bay) are in implementation phases. Despite some setbacks, boards were appointed by the National Executive Council (NEC) for the respective provinces and sworn into office through a ministerial order in 2011 for Western Highlands and Milne Bay, while Eastern Highlands' PHA was established in June 2012. Each PHA is headed by a Chief Executive Officer. An additional four provinces have signed partnership agreement.

**Many of the necessary enabling tools (for example, operational and trust accounts, chart of accounts) and documents (such as the PHA board and management operation manuals) are now in place, but bottlenecks at the central agency level continue to impede implementation.** In addition, the voluntary nature of the legislation is also causing some setbacks. Provincial governments which are still appropriated with the necessary funds are reluctant to release delegated powers to the PHA. The 2013 Independent Review of PHAs recommended the need for Treasury to approve the release of Health Function Grants directly to a PHA and not PA. The release of funds is currently dependent on the relationship between individuals and cannot be enforced by law.

**Rural facilities account for the largest share of government health spending—an average of 32.4 percent over the period (Figure 2-5).** Urban facilities receive the second largest share of government health spending (an average of 28.7 percent over the period). The percentage share of general administration in government health spending has increased over time from 2.7 percent in 2000 to 17.3 percent in 2011 (averaging 10.3 percent over the period).

**Figure 2-5: Total GoPNG Health Expenditure (K, millions) by Program (Excluding NACS)(2000-11)**

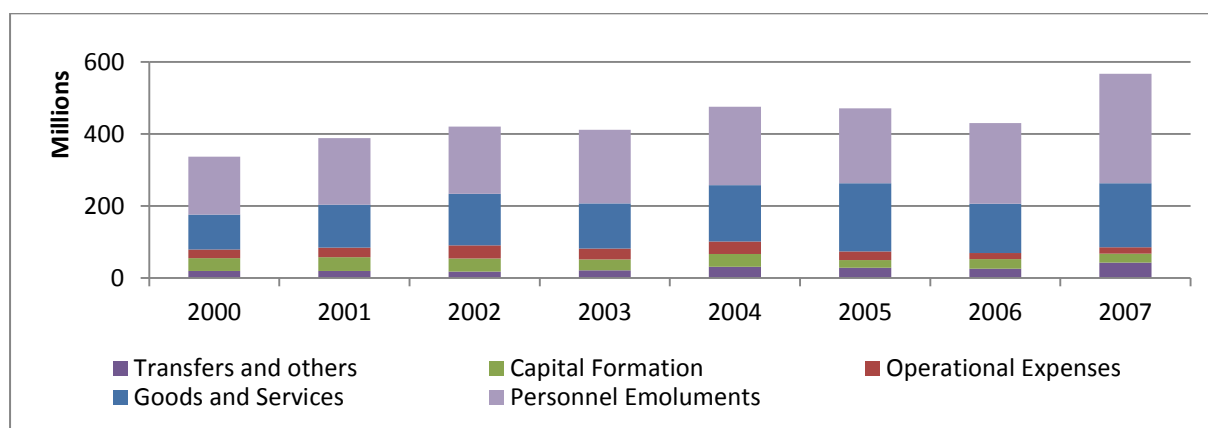


Source: NDoH Public Sector Health Reports.

Note: Total health expenditure refers to expenditure by NDoH (recurrent and development), Hospital Management Services, Church Health Services, payroll and spending at the provincial level through health function grants and internal revenue.

**In 2007 over 53 percent of total expenditure was expended on personnel emoluments (salaries, wages and allowances) (Figure 2-6).** In 2000, expenditure on personnel emoluments accounted for 47 percent. Expenditure on goods and services has risen at a similar rate over the period and in 2007 accounted for 31 percent of total expenditure.

**Figure 2-6: Total Health Expenditure (K, millions) by Item (Excluding NACS)(2000-07)**



Source: NDoH Public Health Reports.

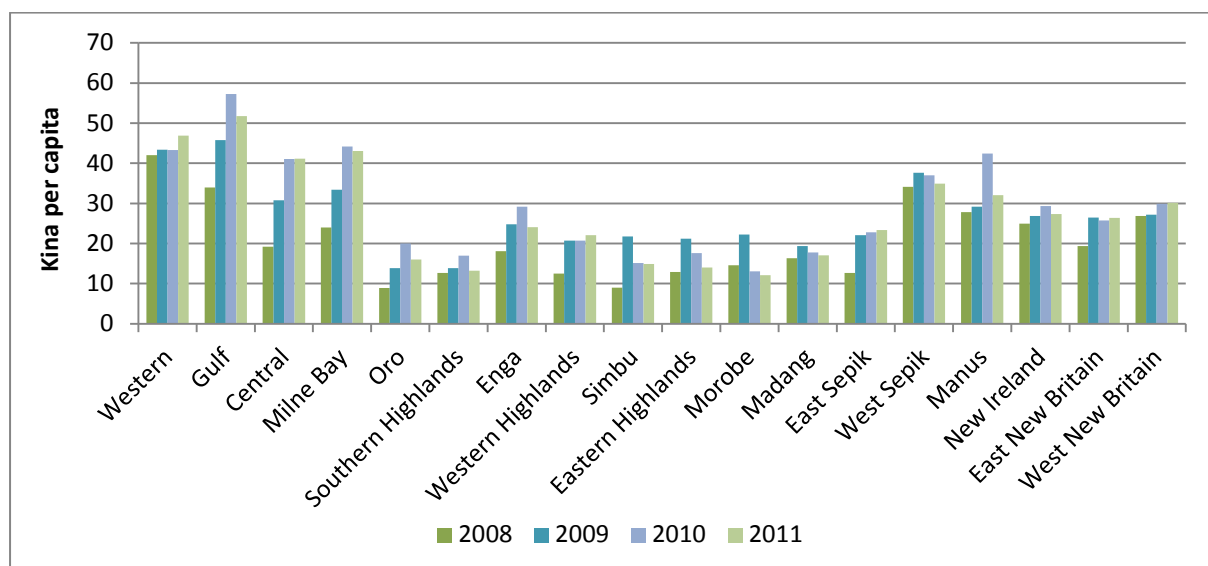
Note: Total health expenditure refers to expenditure by NDoH (recurrent and development), Hospital Management Services, Church Health Services, development partners through the health SWAP, payroll and spending at the provincial



level through health function grants and internal revenue. Personnel emoluments does not include additional funds appropriated under Division 207 for payment of awards.

**On a per capita basis, the geographic distribution of health spending may reflect the unit costs of service delivery and not just actual need for services.** For instance, the distribution of per capita spending is favourable for provinces such as Western and Gulf compared to Southern Highlands, Oro etc (**Figure 2-7**). Recent data indicate that Southern Highlands, Oro and other provinces of the Highlands and Momase regions present comparatively more serious health challenges than provinces in other regions, in terms of health outcomes and service-delivery needs. Yet these receive a much lower share of total health expenditure on a per capita basis than would be expected. However, health services are particularly isolated in Western and Gulf provinces, resulting in high cost of service delivery compared to Highlands provinces which are densely populated (42.5% of population) and with Highlands Highway road access for many areas). In addition, in Western province there is a significant gap between the minimum cost of services and actual allocation and expenditures even though Western is a resource rich provinces. Thus, the per capita geographic allocation represents far more than the distribution of outcomes itself.

**Figure 2-7: Health Expenditure per capita by Province (2008-11)**

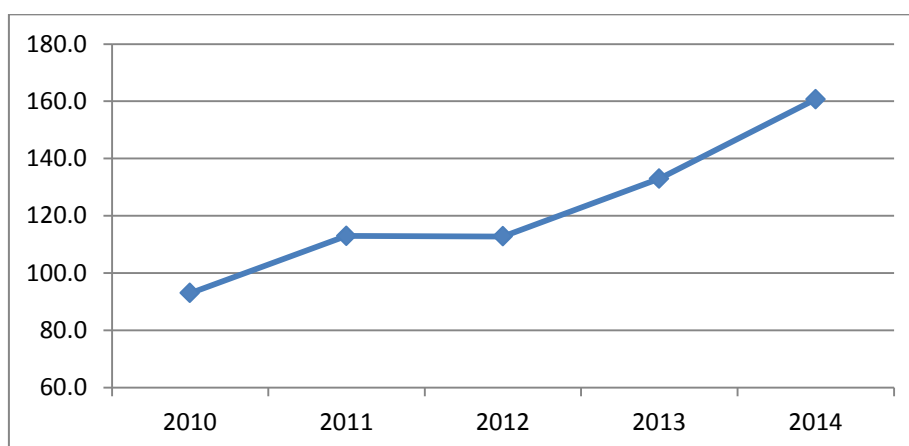


Source: NDoH Public Health Reports; Author’s calculations.

Note: Health expenditure at provincial level includes church health services, internal revenue (700 series), and health function grants (200 series). It excludes payroll expenditure.

**The procurement costs of drugs and medical supplies have almost doubled from 2010 to 2014 (Figure 2-8).** The dramatic increase in 2013-2014 reflects two key changes. One is the inclusion of K15 million worth of ART supplies since 2012. The other is GOPNG taking over the procurement and distribution of 100 per cent medical supply kits (‘push’) from 2014 onwards. In addition, increasing demands for pharmaceuticals in disease management will continue to increase spending in this area. With the double disease burden (both infectious disease and noncommunicable disease) in PNG, it is expected that the pharmaceutical costs will continue to increase at double digit rates in the coming years.

**Figure 2-8: PNG Government Procurement Costs of Drugs and Medical Supplies  
(K, millions)(2010–14)**



Source: author's calculation based on data obtained from NDoH.

### 2.56 OOP payments

**OOP payments do not represent a significant burden for households in PNG (Table 2-8).** The proportion of the population that did not seek care because costs were too high varied from about 2.1% in the Islands region to just under 10% in the Highlands. Distance to health facilities (physical barriers to access) and the perception that the condition was not serious enough (informational or knowledge related barriers to access) were more important deterrants to seeking care than financial barriers to access in the Household Income and Expenditure Survey in 2010.

**Table 2-8: Reasons for Not Seeking Medical Treatment**

| Region    | Reason For Not Seeking Treatment |                 |                              |               |       |
|-----------|----------------------------------|-----------------|------------------------------|---------------|-------|
|           | Not Serious Enough               | Treated at Home | Health Facility Too Far Away | Too Expensive | Other |
| Highlands | 32.9                             | 26.6            | 20.1                         | 9.8           | 10.6  |
| Momase    | 15.0                             | 37.6            | 22.3                         | 6.6           | 18.5  |
| Southern  | 28.3                             | 37.2            | 17.4                         | 2.3           | 14.8  |
| Islands   | 23.2                             | 57.0            | 13.4                         | 2.1           | 4.3   |

Source: GoPNG 2010b.

## 2.6 Why Examine Financing Options?

**In light of the current system there is merit in re-examining financing options in PNG for a number of reasons.** Firstly, current demographic trends indicate that the population will continue to grow in the short to medium term.<sup>11</sup> Meeting the demand of the growing population is likely to put considerable pressure on existing levels of health inputs which, in per capita terms, are already low (as shown in Table 2-2). Population growth is, however, not likely to be a problem as long as the growth rate of the real economy exceeds that of the population, the share of revenue and grants in GDP does not fall and other public expenditure programs do not reduce the share of the budget

<sup>11</sup> As per the latest census PNG's population growth is estimated to be 2.83 percent.

allocated to health. Secondly, underlying the failure of health service delivery are inadequate allocations to priority areas, and inequitable and inefficient expenditure patterns.

**Despite overall increases in real government expenditures since independence in 1975, real per capita expenditures on health, education and infrastructure have, in fact, declined during this period.** Resource revenue inflows have had a weak impact on government expenditures in key service delivery areas. It is estimated that, on average, 2.5 percent of resource revenues have been allocated for health and education. In addition, the low level of revenues that were allocated to health has not been mobilised effectively to improve service delivery due to poor public sector financial management and the fragmentation of the financing system caused by decentralisation. Even by conservative cost estimates, provincial health budgets are as low as 20 percent of the cost of essential service delivery. Funding is not necessarily the major constraint, however, as some of the poorest rates of service delivery are in those provinces with the largest revenues from oil and gas—but with weak internal prioritisation and management of available revenues.

**Finally, faced with critical health system challenges on the one hand and, on the other hand, improved medium-term prospects for economic growth and revenues, the Government of PNG has acknowledged the need to reform and strengthen the health financing system.** Important reforms are already in place to address weaknesses in the current system of health financing and delivery. Streamlining the allocation of resources from the centre to peripheral service delivery providers is core to these reforms, which include the introduction of alternative financing modalities such as DFF and FBB and the establishment of PHAs.

**The level and distribution of health financing will have to be improved in order to expand coverage to the whole population, address barriers to access and arrest the continued downward trend in health outcomes.** A key question is whether the current health financing system combined with the ongoing reforms can achieve this, or whether new financing mechanisms are needed. The next sections of this paper seek to answer this question.

## Chapter 3: General Revenue Financing

**The current health system is financed mostly by government general revenues and contributions from development partners.** Government revenues are raised through taxation (94 percent of total central government revenue) and income (6 percent of total central government revenue<sup>12</sup>) from the export of primary commodities—mining and petroleum products. Health services are provided on a universal basis to the population and financed directly through general revenues, as are church health facilities. Anecdotal evidence suggests user fees are minimal. In this manner, risks are pooled across the population. Public financing and provision are integrated in the current system.

**In a health system such as PNG's that is financed largely from general revenue sources, the availability of fiscal space for health is a critical factor.** Fiscal space for health refers to the ability of the government to increase spending in the sector, without jeopardising the government's long-term solvency or crowding out expenditures in other sectors such as education or transport that are needed to achieve other development objectives. This section will focus on ways to improve fiscal space for health in PNG.

### 3.1 Assessing Fiscal Space for Health in PNG

**Assessing available fiscal space involves examining the different options by which sources of government financing for health could be increased.** These options include economic growth and conducive fiscal conditions, the potential for reprioritising health within the government budget, the availability of external donor resources and/or additional revenue-generating sources.

#### 3.1.1 *Are economic growth prospects favourable?*

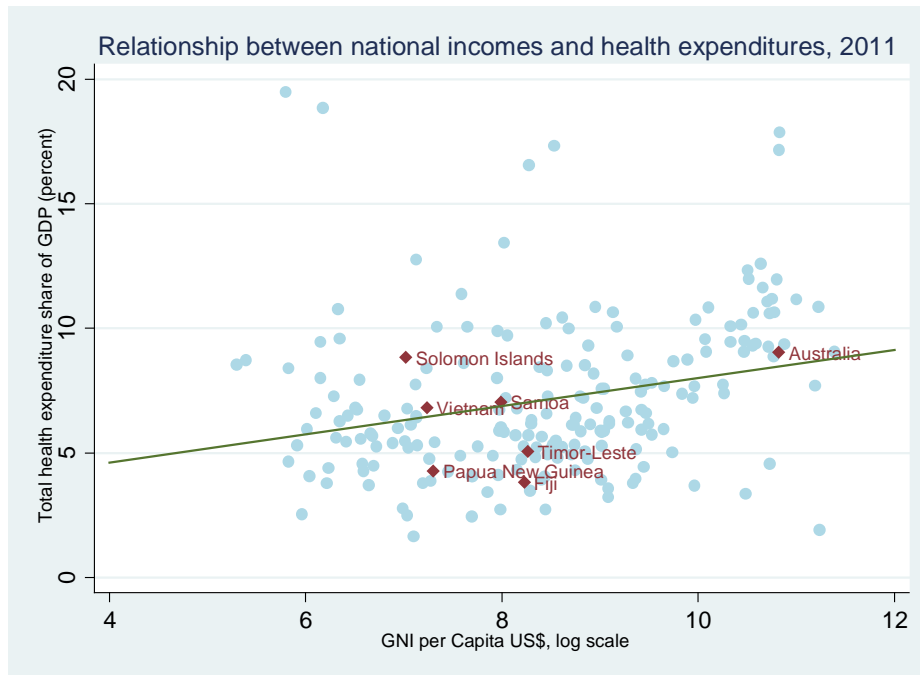
**Economic growth is one of the primary drivers of fiscal space for health.** Income growth is a key determinant of the revenue generation capacity of government, as well as public preferences for allocating a greater share of government resources to health. PNG is currently below the global trend line of health expenditure as a share of GDP (Figure 3-1).

**In the short term, economic growth prospects in PNG are not conducive to significantly expanding fiscal space for health.** Papua New Guinea's economy has slowed from the very strong growth rates of recent years, as construction of the LNG facility nears completion and export prices weaken, weighing on domestic activity. The depreciating Kina is cushioning PNG's economy from weaker export prices and slowing domestic demand by supporting farmers' and exporters' incomes and improving PNG's competitiveness. In 2014 and 2015 the start of LNG exports will significantly raise the level of GDP, although the impact on gross national income, the current account and government revenues will be far more modest, especially in the immediate future. The baseline outlook remains for nonresource GDP to record limited growth over the coming years (World Bank 2013).

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<sup>12</sup> Average percentage of total revenue from 2007 to 2016 (projected)—Government of Papua New Guinea Budget Books; Author's calculations.

**Figure 3-1: Relationship Between National Incomes and Health Expenditures (2011)**



Source: World Bank 2010.

**In the medium to long term, there exists some scope for economic growth to generate significant additional fiscal space for health, particularly with the commencement of LNG production in 2015 and a number of additional mining and petroleum projects that are under active consideration.**<sup>13</sup> A marked slowdown in economic growth is, however, expected until 2017-18 in line with the winding down of the construction phase of the LNG project. This wind down is expected to be most profound in sectors that have led growth over the past two years, including construction, transport, storage, manufacturing, communication and wholesale and retail trade.

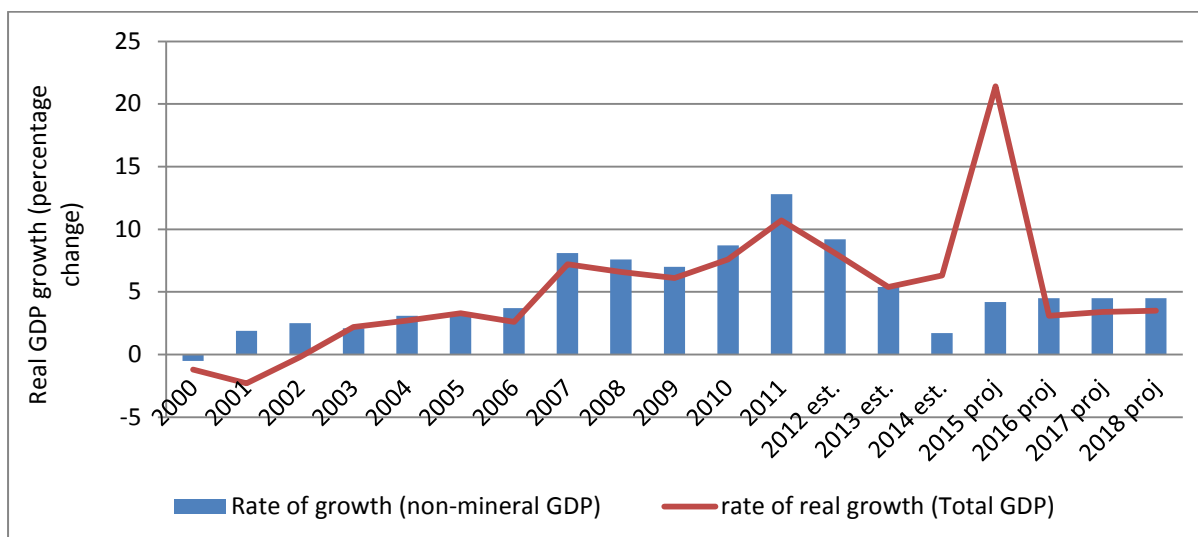
**For the first few years of production, revenue from the LNG project is only expected to replace the loss of revenue from the maturing mines and oil fields.** Should the additional extractive projects under consideration proceed, however, current GDP and revenue forecasts could be significantly boosted. Medium-term growth prospects will, however, depend critically on potential disruptions to the global economy's recovery; the strength of commodity prices; any disruptions to the progress of the LNG project; and existing agricultural, mining and petroleum projects.

**Under the economic growth scenario presented in Figure 3-2, GoPNG health spending as a share of GDP will be relatively flat if historical trends in allocations to the health sector are maintained.** The elasticity of PNG health spending (exclusive of donor spending) with respect to GDP was estimated to be 1.5 during the period 2001-2010. If this elasticity remains constant, PNG health spending as a share of GDP is expected to remain relatively flat through to 2016.

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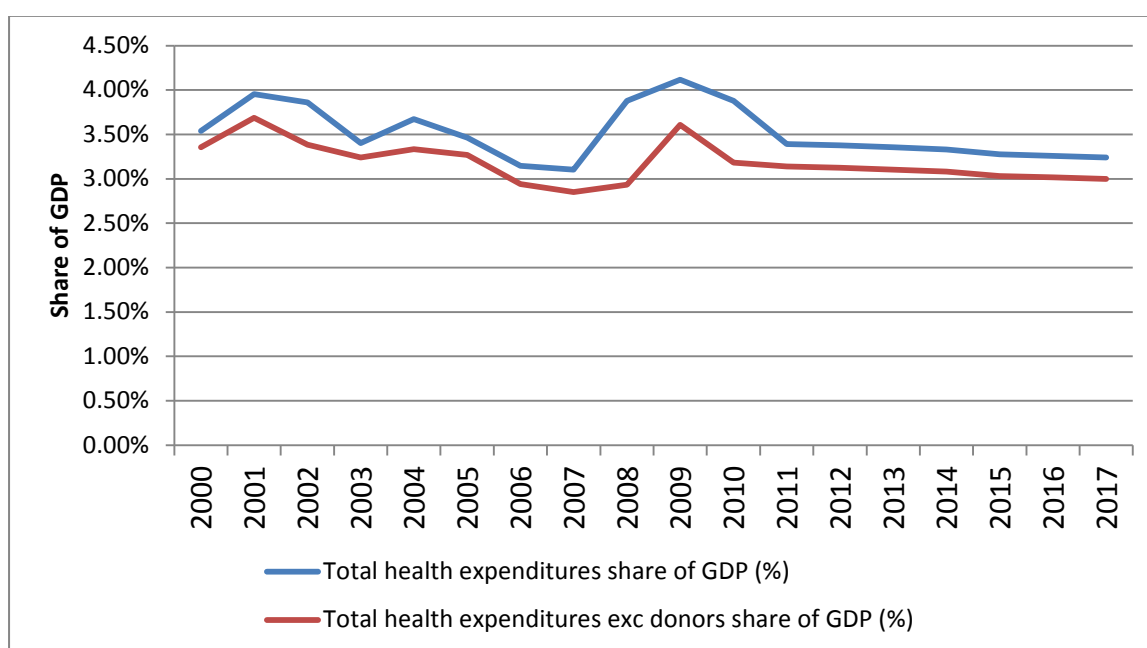
<sup>13</sup> These projects include: Woodlark gold mine (mining lease application); Hessen Bay (mining lease application); Frieda River (feasibility); Yandera (Feasibility); Wafi-Golpu (pre-feasibility); Mt Kare (Advanced exploration); and Imwauna (Advanced Exploration) which is the second LNG project. There are also currently 71 petroleum prospecting licenses across PNG (PNG Chamber of Mines and Petroleum <http://pngchamberminpet.com.pg/>)

**Figure 3-2: Economic Outlook 2000-18**



Source: IMF Article IV.

**Figure 3-3: Past Trends and Projections in Government Spending on Health**

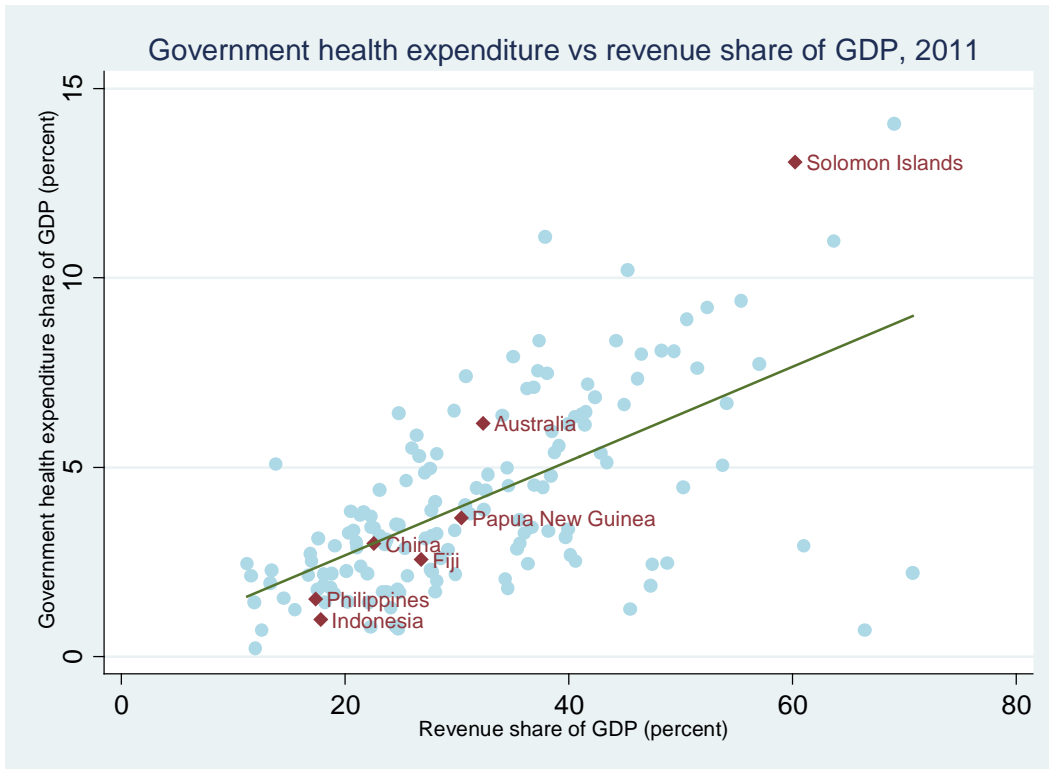


Source: Author's calculations based on data obtained from GoPNG and IMF.

### 3.12 Are overall fiscal conditions conducive?

**Higher general government revenues are critical for expanding fiscal space for health.** Overall government spending, including health spending, is related to the revenue generating capabilities of the country. There is a close correlation between the government budget as a share of GDP and revenues as a share of GDP (figure 3-4). Revenue generation capacity is typically constrained by low levels of per capita income, as well as limited overall resources, large informal sectors and poorly developed administrative structures. Even in the absence of economic growth, there is scope for revenue generation to improve if economic reforms lead to a strengthening of the tax base and tax administration.

**Figure 3-4: Government Health Expenditure vs Revenue Share of GDP (2011)**



Source: WHO 2011a; IMF 2012.

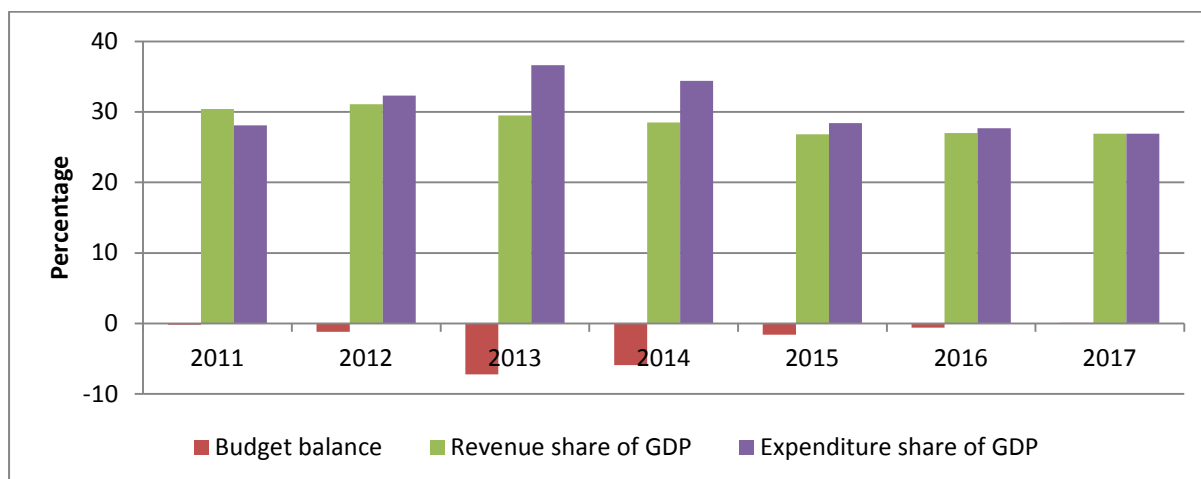
Note: The government health expenditure share of GDP is calculated from two data resources (IMF's World Economic Outlook database and WHO). The revenue share of GDP is from the World Economic Outlook database.

**In the short to medium term, total government revenue as a share of GDP is projected to fall slightly from around 29 percent in 2013 to 27 percent in 2017 (Figure 3-5)(MTFS 2013-2017).**<sup>14</sup> This represents a significant fall from 2012, when total government revenue was estimated to be 31 percent of GDP. According to the MTFS 2013-2017, these revenue projections indicate a declining share of revenue as a proportion of GDP that is available to finance development compared to the previous MTFS (GoPNG 2014). This will leave little additional fiscal space for health. The decline in the total revenue share of GDP is predicted to be driven by the significant fall in the resources sector's contribution to GDP (DoT 2012).

**Over the medium term, budgetary financing gaps are expected to emerge.** Coupled with declining revenue as a share of GDP, the 2013 budget assumes a modest increase in spending relative to 2012. To return to a balanced budget over the medium term, expenditure will need to slow from 36.6 percent share of GDP in 2013 to 26.9 percent share of GDP in 2017 (Figure 3-5).

<sup>14</sup> Medium Term Fiscal Strategy for 2013-2017.

**Figure 3-5: Projected Medium-Term GoPNG Expenditure and Revenue**



Source: DoT 2012

**In the medium to longer term, there is scope for a combination of reforms aimed at improving revenue collection and strengthening financial management to potentially generate additional fiscal space for health.** Revenue reforms could include building the capacity of the Internal Revenue Commission (IRC) and Customs to: (i) enforce the compliance, effectiveness and efficiency of tax collection;<sup>15</sup> (ii) review current resource tax arrangements; (iii) review and update nontax fees and charges; and (iv) improve the integrity of the tax base.

**The past use of special tax arrangements (for example LNG project concessions) for extractive projects, whilst viewed as a one-off to attract investment, has limited potential revenue and created an uneven playing field for businesses to operate.** Reforms to strengthen public financial management by improving cash management, budget formulation and accounting and audit functions such as ongoing capacity building in DoF and DoT, whilst not generating additional revenue directly could also improve the efficiency of public spending more generally.

**Additional revenue could also be sought through completion of the state-owned enterprise dividend policy.** As a shareholder, the state is entitled to dividend flows from its investments and public enterprises and commercial investments need to be provided with an indication of the government's expectations about dividend flows. Without clear rules and regulations, private companies have not been inclined to pay dividends. In 2012 nearly two-thirds of total dividends came from one investment—the government's 18.3 percent share in Ok Tedi Mining Limited. Moreover, improved transparency and use of funds raised by agencies (for example the Department of Labour and Industrial Relations and PNG Forestry Authority) is another way in which additional revenue could be raised over the medium term.

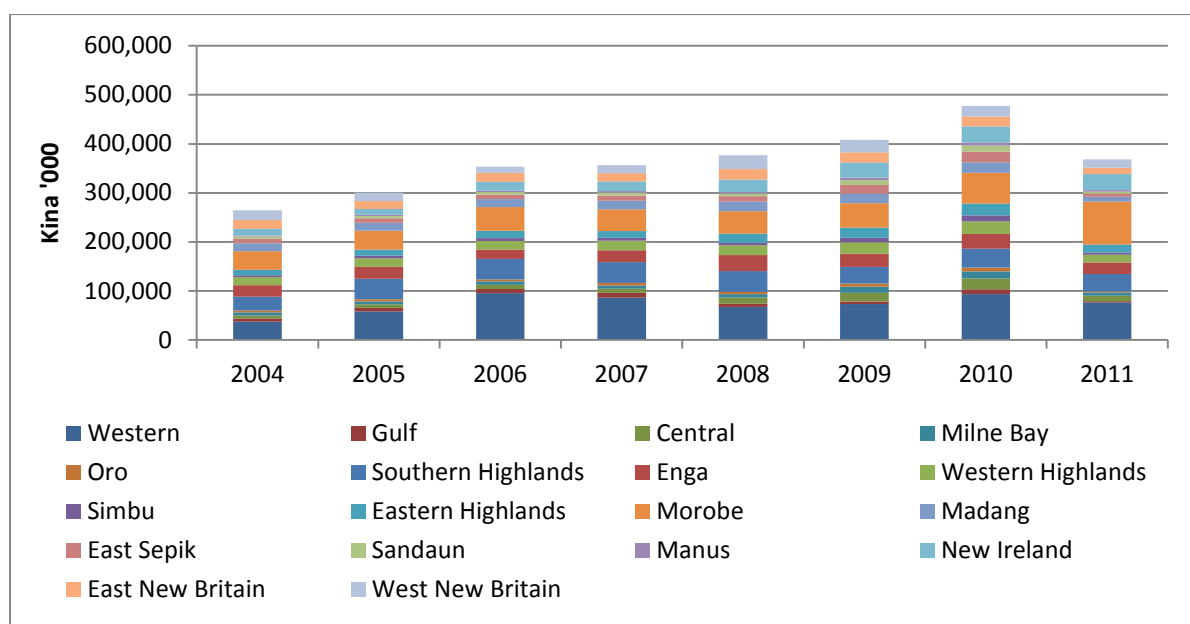
**At the provincial level revenue is generated through national government grants, GST distribution, mining and petroleum royalties and dividends (where relevant) and own source revenue such as fines.** Provincial internal revenue has grown over time (figure 3-6) and, excluding national government grants, much of the increase has been due to increased GST receipts and royalties and dividends in mineral-rich provinces (Western and Enga).

<sup>15</sup> For instance, continued support of an ongoing GoPNG project to modernise and replace the ageing tax collection system and funding of additional personnel to boost capacity in both agencies.



Despite an increased resource envelope, however, there is still a fiscal gap between what provinces have relative to what they need. Provinces such as Western, New Ireland, West New Britain, Morobe and Enga with a high ratio of internal revenue have enough money to meet their needs. Southern Highlands, Central, East New Britain, Western Highlands, Madang, Gulf and Eastern Highlands can meet 50-100 percent of their needs. In contrast, Simbu, Oro, East Sepik, Milne Bay, Manus and Sandaun have less than 50 percent of the necessary fiscal capacity to meet their needs.<sup>16</sup> Over the next two years (2013-2015) indicative projections (NEFC 2012) suggest a mixed picture—with some provinces having enough fiscal capacity to meet their needs, whilst others will not.

Figure 3-6: Provinces' Internal Revenue (2004-11)



Source: NEFC 2010, 2011, 2012, 2013

Whether improved revenue generating capacity will necessarily benefit the health sector or not depends on the priority accorded to health in the government budget.

### 3.13 Is there scope for reprioritising health spending?

In 2010 governments worldwide spent an average of 10.6 percent of their budget on health (Figure 3-7). During the period 2000-11, GoPNG allocated, on average, 10 percent of its budget to health,<sup>17</sup> which provides only a limited scope for further reprioritising of health spending. Furthermore, analysis of recent GoPNG budget processes carried out for this report indicates that the level of demand for government resources is high. For instance, for the 2012 development budget, DNPM received submissions from line departments, authorities and provincial governments totalling K 12.4 billion against a ceiling of K 2.4 billion.

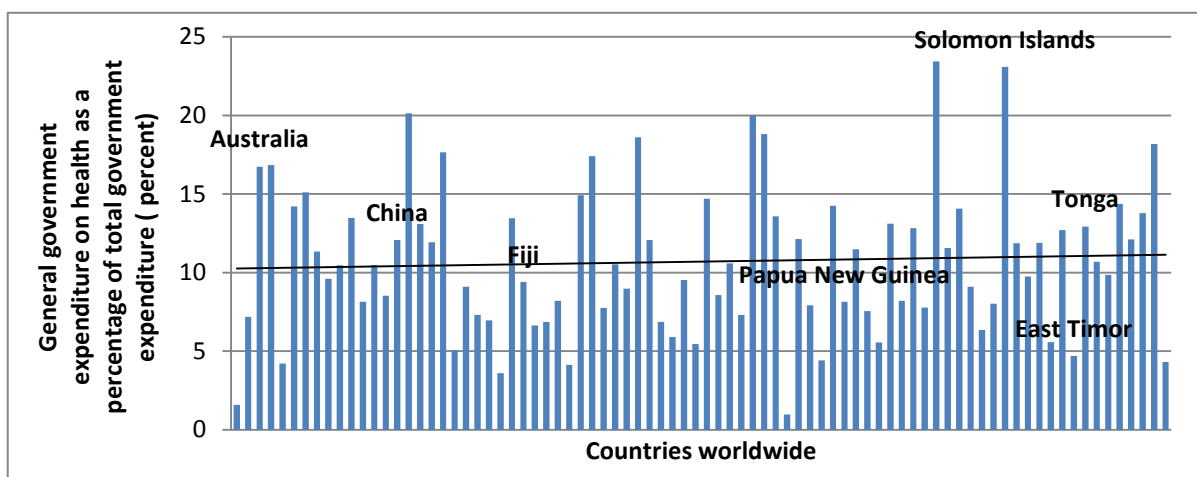
Moreover, whilst total expenditure has grown in recent years, so have the number of agencies requiring funding, particularly 'authorities' that have greater discretion on the level of remuneration for employees. In addition to provinces, the number of GoPNG-funded entities rose

<sup>16</sup> 'Needs' are not health-specific but encompass all major sectors under the government's MPAs.

<sup>17</sup> This excludes expenditure on HIV and AIDS through NACS and research through the Institute of Medical Research.

from 30 statutory authorities and 42 departments in 2001 (a total of 72 entities) to 38 statutory authorities and 52 departments in 2011 (90 entities). In recent years GoPNG has increased the level of ‘fixed commitments’ to be funded through the budget, reducing the amount of discretionary spending for policy makers. ‘Fixed commitments’ include programs such as the DSIP and PSIP; payment to landowners under the Umbrella Benefit Sharing Agreement and loan counterpart payments.

**Figure 3-7: General Government Health Expenditure as Percentage of Total Government Expenditure (2010)**



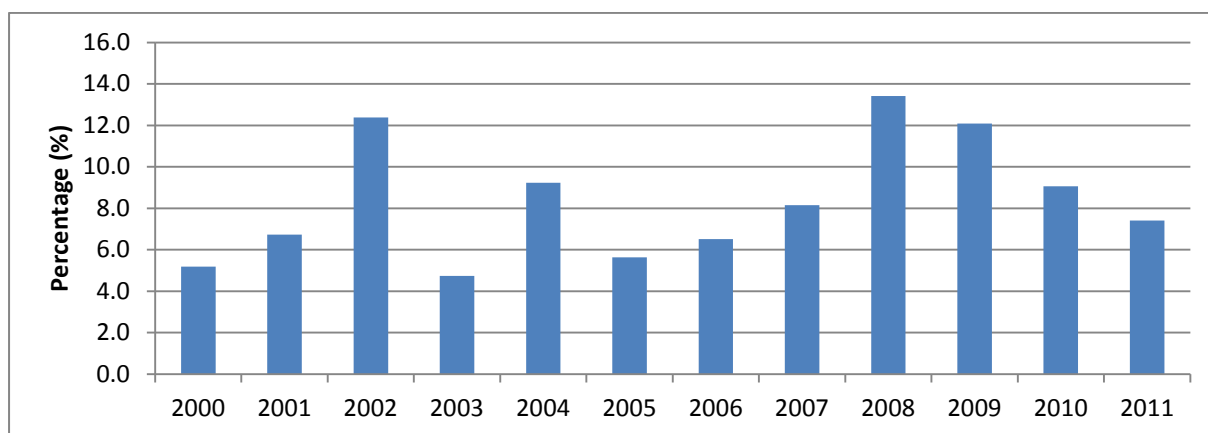
Source: WHO 2011a.

Notes: The horizontal line represents the global average of the health share of the government budget.

### 3.14 Can external resources generate additional fiscal space?

**Another way to generate fiscal space for health is for governments to seek additional health-specific foreign aid and grants from international donors.** Donor resources are already a significant source of fiscal space for health (Figure 3-8) and are likely to remain important in the short to medium term.

**Figure 3-8: External Resources Share of Total Health Spending (2000-11)**



Source: NDoH Public Sector Health Reports.

### 3.15 *Can user fees generate additional fiscal space for health?*

**The imposition of user fees is one potential form of revenue to finance the health sector.** On the one hand, user fees have been advocated for their cost-recovery potential at the facility level, promotion of appropriate referral routes and ability to encourage a sense of community ownership (DPLGA 2009). Efforts to restrict access to higher-level referral services through user fees, without improving primary care services can, however, be detrimental to equity as it would increase financial barriers to access for the poor more than the rich.

**Recent empirical work on the impact of payments for health care has, however, provided compelling evidence that reliance on user fees, and OOP payments more generally, can lead to large inequities in service delivery (Wagstaff et. al. 1999).** As such, the potential for user fees to generate additional revenues for health needs to be weighed against the impoverishing effects of OOP payments and the challenges of implementing a user fee policy and the exemption schemes associated with it.

**Before 2014, user fees were being charged by public hospitals, health facilities and church-run health services.** The Public Hospitals (Charges) and Dental (Charges) Act 1995 is the necessary enabling act which grants power to public hospitals to charge fees. Fees for medical services and exemptions are set out in the Public Hospitals (Charges) Regulations and are used to supplement their recurrent budget expenditure. Hospital Boards are permitted, under the Public Hospitals Act 1994 to operate two bank accounts—one for normal operational funds granted by the government through the recurrent budget, and one to retain monies raised through collection of patient fees as well as other means such as through charitable donations. The level of fees documented in the schedule, despite rising costs, has not been revised since 1999 until recently.

**There is no legislation guiding or empowering the charging of fees at district hospitals and below, although anecdotal evidence suggests that it is taking place.** This is contrary to the functions and powers set out in the National Health Administration Act and the Organic Law on Provincial Government and Local-level Governments (the Organic Law). Despite this, health facilities report the need to charge user fees because they have no access, or insufficient access, to other forms of funding. Church-run health services are also noted to be charging user fees. This is, however, in line with the Christian Health Services of PNG Act that also enables church-run facilities to “collect, receive and disburse monies for the objects of the service”.

**NDoH has limited data on the amount charged and collected by public hospitals or facilities.** Table 3-1 shows the summary of user fees collected from public hospitals. Between K 300,000-K 500,000 is collected in user fees for each hospital each year. Payment for services at the facility level may in some cases also be in-kind. These figures exclude the fees or other revenues collected from sources such as private patients, staff housing, administration, donations, and staff mess which are not part of the patient-related fees for treatment. They are like nonpatient related services fees and within the discretionary powers of the facilities management to decide whether to charge or not.

**Table 3-1: Summary Hospital User Fee Revenue Data (2009-12)(Kina)**

| No | Hospital         | 2009   | 2010             | 2011             | 2012             |
|----|------------------|--|------------------|------------------|------------------|
| 1  | Daru             | Trust Account Closed                                   |                  |                  |                  |
| 2  | Kerema           | 26,751   | 28,922           | 41,559           | 32,411*          |
| 3  | PMGH             | 1,250,000  | 1,250,000        | 1,250,000        | 1,300,000        |
| 4  | Alotau           | 298,851  | 316,261          | 307,031          | 307,381*         |
| 5  | Popondetta       | 93,179   | 96,970           | 89,299           | 91,000           |
| 6  | Mendi            | 391,720  | 567,297          | 559,200          | 506,072*         |
| 7  | Mount Hagen      | 283,624  | 567,303          | 360,007          | 403,645*         |
| 8  | Wabag            | 150,044  | 163,685          | 117,881          | 168,566          |
| 9  | Goroka           | 299,304  | 314,361          | 262,509          | 262,509          |
| 10 | Angau            | 343,004  | 250,793          | 281,802          | 281,802          |
| 11 | Madang [Modilon] | 269,974  | 248,599          | 255,428          | 400,067          |
| 12 | Boram            | 258,936  | 157,711          | 111,532          | 176,060*         |
| 13 | Vanimo           | 69,052   | 90,181           | 105,139          | 105,139*         |
| 14 | Lorengau         | 33,568   | 38,203           | 31,773           | 34,515*          |
| 15 | Kavieng          | 225,389  | 231,790          | 186,338          | 214,506*         |
| 16 | Kimbe            | 157,571  | 442,595          | 112,264          | 237,477*         |
| 17 | Nonga            | 111,302  | 127,285          | 149,161          | 129,249*         |
| 18 | Buka             | 190,163  | 232,320          | 191,740          | 204,741*         |
| 19 | Laloki           | Laloki psychiatric hospital does not collect user fees |                  |                  |                  |
| 20 | Kudjip [Jiwaka]  | -  | -                | -                | -                |
| 21 | Tari [Hela]      | -  | -                | -                | -                |
|    | <b>TOTAL</b>     | <b>4,452,432</b>                                       | <b>5,124,276</b> | <b>4,412,663</b> | <b>4,855,140</b> |

Source: NDOH

Note: \*2012 figure is not provided so this is the average for the last three years 2009-11.

**In 1997, NEC in its Decision No. 94/97 approved the temporary suspension of user charges at all public health institutions and reduced hospital charges by 50 percent in drought-affected provinces.** This took effect on 1 January 1998, but was lifted by NEC in Decision No. 115/99 on 26 May 1999. Without funds from the Hospitals' Trust Accounts, it was not possible for hospitals to operate due to the resultant cash shortages and delays in the release of funds from DoF.

**In 2012, the newly elected O'Neil/Dion Government, through its "Platform for Action", made a policy commitment to provide free primary health care and subsidised specialist health care" for the population.** An appropriation of K 20 million was provided in the 2013 Budget (Division 241) to compensate health facilities for the lost revenue from the abolition of user fees—an estimate of K 300,000 to K 500,000 per hospital. This policy becomes operational in 2014.

**The launch and implementation of this policy implies that user fees will be removed at the primary level and significantly reduced at the secondary and tertiary levels.** This policy shows the commitment of the government to remove financial barriers for the population to access primary and secondary health services. It will, however, lead to financing gaps at the facility level where these fees had the greatest impact by meeting shortfalls in funding created by delays in central and provincial government transfers.

**Eliminating user fees is not straightforward as political will and alternative sources of funds need to be sought to avoid a decline in the quality and quantity of services provided.** At present, for a

number of facilities, it is the only source of revenue. Although additional funding is allocated to facilities to compensate for the loss from user fees, it may not reach the facilities on time. The K20 million allocation for 2013 was reportedly only disbursed in September 2013.

3.16 *Can sin taxes generate additional fiscal space for health additional four provinces have signed partnership agreement?*

**The health sector is unique in the sense that there are possible ways in which fiscal space can be generated by earmarked taxation on alcohol and cigarette consumption.** Sin taxes—levies on alcohol and tobacco—have the added value of raising revenues while lowering health care costs, improving health status, and adding to labour productivity.

**Thailand is an example of a country that has successfully implemented an earmarked tax that directly funds health promotion activities.** In 2001, Thailand instituted the Thai Health Promotion Foundation (ThaiHealth). Funding for ThaiHealth comes directly from a 2 percent earmarked tax on tobacco and alcohol consumption leading to estimated annual revenue of US\$50 million (WHO 2006). Thailand has also steadily increased cigarette taxation over the years—from 55 percent in 1993 to 75 percent in 2001—leading to a decline in consumption rates but increases in government revenue from tobacco taxes. Similarly, Zimbabwe introduced an additional 3 percent levy on personal income and corporate taxes to fund AIDS-related interventions (McIntyre 2007).

*Tobacco*

**PNG is a signatory to the WHO’s Framework Convention for Tobacco Control.** The treaty obliges GoPNG to put in place smoking control and abatement measures, including assistance for smokers to quit. The incidence of smoking in PNG is high by international standards. Over 60 percent of adult males between the ages of 15-64 smoke (Table 3-2). Taxes on tobacco are, however, relatively low in PNG, amounting to 47 percent of the price of cigarettes.<sup>18</sup> In contrast, of the 15 European Union members prior to 2004, taxes on the price of cigarettes averaged 58 percent. Excise taxes on tobacco and alcohol currently account for 6 percent of government revenue (Table 3-3).

**Table 3-2: Tobacco Use (Ages 15-64) as at 1 November, 2010<sup>44</sup>**

| Gender       | Any Smoked Tobacco |             |
|--------------|--------------------|-------------|
|              | Current            | Daily       |
| Male         | 60.3               | 59.9        |
| Female       | 27.0               | 26.6        |
| <b>Total</b> | <b>44.0</b>        | <b>43.7</b> |

Source: Papua New Guinea STEPS Survey 2007-2008<sup>19</sup>

Note: Population assumed to be 6.8 million.

<sup>18</sup>This is comprised of 26 percent specific excise, 9 percent GST and 12 percent import duty. Taxes calculated on the most popular brand of cigarettes (Pall Mall). The price of a 20 pack of cigarettes at 2008 prices was K 11.26 (WHO 2011b).

<sup>19</sup> Available at [http://www.who.int/chp/steps/PapuaNewGuinea\\_2007-08\\_STEPS\\_FactSheet.pdf](http://www.who.int/chp/steps/PapuaNewGuinea_2007-08_STEPS_FactSheet.pdf).

**Table 3-3: Excise Duty Revenue from Tobacco and Alcohol**

| Year | Amount (Kina)  | Percentage of Total Revenue |
|------|----------------|-----------------------------|
| 2010 | 404,668,902.79 | 6.3                         |
| 2011 | 509,816,242.18 | 6.4                         |
| 2012 | 497,635,496.96 | 6.1                         |

Source: Customs Authority 2012. Note: Data for 2012 is to November 2012.

**Inflation over the past few years has reduced the real value of excise rates.** In response GoPNG increased excise duty on tobacco products by 15 percent in 2012. This increase restored the real excise rates to 2008 levels. GoPNG is expected to further increase the excise duty on tobacco product. The rationale for this is twofold: (i) to impose higher excise duties on smokers to help cover their higher health costs; and (ii) to allow the government to provide free primary health care to individuals and seek to recover costs incurred by those who consume tobacco products (PWC 2012). This increase in excise has to be offset by concerns that cigarette and alcohol taxation is often regressive and may result in evasion and the development of an underground market.

**Studies have suggested that a 10 percent rise in the price of cigarettes could lower consumption by 3.5-6.1 percent and increase government revenues from cigarette taxation by 6.7-9.0 percent (Achadi et. al. 2005).** Smokers in PNG will be responsive to these price changes and some studies estimate price elasticity to be -0.4 percent. If this is the case then a 10 percent increase in the price of tobacco will lead to a 4 percent decline in the number of smokers. The policy change is also expected to increase tax revenue by K 10 million in 2013 (DoT 2012). At present this approach is a revenue-generating mechanism rather than an earmarked tax.

#### Alcohol

**Alcohol in PNG is subject to the Goods and Services Tax of 10 percent at the point of sale in addition to a duty rate of K 55 per lal<sup>20</sup> (Customs Authority 2012<sup>21</sup>).** This duty rate of K 55 per lal is envisaged to remain unchanged from 2006 until 2018. It is also interesting to note that this rate is the same for beer made from malt (Section 22.03), fermented beverages (Section 22.06) and spirits (Section 22.08), despite differing alcohol contents. Given the consumption pattern in PNG (Table 3-4) there may be scope to raise extra revenue by either increasing real rates over time, or by adjusting rates to reflect current consumption patterns. GoPNG investigated the concept of earmarked taxation 15 years ago, however, a lack of will stalled progress in progressing the idea.

**Table 3-4: Alcohol Consumption in PNG**

| Recorded Consumption | Unrecorded Consumption | Total Consumption <sup>1</sup> | Beer <sup>2</sup> | Wine <sup>2</sup> | Spirits <sup>2</sup> | Other <sup>2</sup> |
|----------------------|------------------------|--------------------------------|-------------------|-------------------|----------------------|--------------------|
| 1.49                 | 2.00                   | 3.49                           | 0.57              | 0.02              | 0.90                 | 0.00               |

Source: WHO 2011b.

Note: <sup>1</sup> Total (recorded + unrecorded) adult per capita consumption, 2005, (15+ years; in litres of pure alcohol).

<sup>2</sup> Recorded adult per capita consumption by product type 2005 (15+ years; in litres of pure alcohol).

<sup>20</sup> lal refers to litres of contained alcohol

<sup>21</sup> PAPUA NEW GUINEA Import and Export Customs Tariff (2012 edition); it can be found on:

[http://www.customs.gov.pg/06\\_legislation\\_and\\_publications/1\\_legislation/09\\_Import\\_Export\\_Tariff\\_2012\\_Version.pdf](http://www.customs.gov.pg/06_legislation_and_publications/1_legislation/09_Import_Export_Tariff_2012_Version.pdf). Downloaded 19<sup>th</sup> June 2014

It should be noted, however, that sin taxes that are earmarked for use only in a particular sector, such as health, can be inflexible and distortionary to overall fiscal policy. Although earmarked taxes generate fiscal space, they can displace existing general revenue funding making the net impact on overall resources for health minimal. The amount of revenue generated is also often offset by an equivalent reduction in the general tax-funded proportion of the budget allocated to the health sector. Opposition to the introduction of earmarked taxes may also be faced, as central agencies are fearful of ‘opening the floodgates to other sectors’.

### 3.17 Can compulsory third party motor insurance generate additional fiscal space for health?

**Compulsory third party motor insurance is an alternative way in which funds can be raised to finance the health sector.** This was noted at the National Health Conference in which Resolution 7 states that: “The National Health Conference notes the financial burden experienced by hospitals in PNG and calls on the NDoH to investigate the possibility of securing a portion of third party insurance to meet the growing trauma admissions at hospitals from motor vehicle accidents and give consideration to facilitating an allocation direct to hospitals for procuring equipment replacement”.

**Third party motor insurance is compulsory for all drivers in PNG under the Motor Vehicles (Third Party) Insurance Act.** It is collected and administered by Motor Vehicle Insurance Limited (MVIL). Funds for the scheme are collected from the premium that all motorists pay when they first register their vehicle for the road and again at each annual renewal. The cover includes “Any form of injury caused by motor vehicle” and “Death caused by motor vehicle” (MVIL 2013). Premium rates are regulated and range from K 135.30 for a trailer to K 1,593.90 for a Public Motor Vehicle.

**MVIL is 100 percent government owned and, as a shareholder, the state is entitled to dividend flows from its investments.** The amount of dividends paid by MVIL to the Independent Public Business Corporation (IPBC) will take into account the recapitalisation requirements for each business and ability to generate sustainable profits. Appropriate flows from the public enterprises and IPBC will then proceed to consolidated revenue for budget prioritisation as per the IPBC Act. In recent years it has become clear that IPBC has not been paying dividends into consolidated revenue, however, the target is now for K 50 million to be paid annually. Moreover, as detailed in Table 3-5, securing a portion of third party insurance for health is likely to prove difficult. Dividend flows, despite being governed by an Act of Parliament, are currently limited and further discussion and improved accountability between GoPNG stakeholders would be needed to pursue this idea further.

**Table 3-5: GBT Dividends Received by IPBC from MVIL and Projections (K, millions)**

| 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------|------|------|------|------|------|------|------|------|------|------|
| 3    | 10   | -    | 12   | -    | -    | -    | -    | -    | 20   | 12   |

Source: DoT 2012.

### 3.18 Can gaming generate additional fiscal space for health?

**Another revenue generating initiative for consideration is earmarking the revenue generated from gaming.** Table 3-6 illustrates the break-up of sales revenue from poker machines. In 2011 gaming generated K 111.3 million of betting tax for consolidated revenue (1.8 percent of total taxes on

income and profits). Betting tax is estimated to have provided 2.4 percent of total taxes on income and profits (K 146.5 million) in 2013.

**Table 3-6: Sales Revenue From Poker Machines**

| Recipient of Poker Machine Sales Revenue | Proportion of Sales Revenue |
|--|-----------------------------|
| Betting Tax to IRC                       | 46%                         |
| Site Owners                              | 25%                         |
| Community Benefit Fund                   | 14%                         |
| Machine Operators                        | 10%                         |
| NGCB                                     | 5%                          |

Source: DoT 2012.

**The National Gaming Control Board (NGCB), established in 1995 as a result of the Gaming Machine Act (1993), is the regulator of the industry.** In line with growth of the gaming industry from 1995-2005, the NGCB is estimated to have received over K 900 million,<sup>22</sup> raised through a share of sales revenues, licensing fees and site fees for operators. A portion of sales revenue must also go toward the Community Benefit Fund—used to predominantly to finance sporting events and the National Sports Foundation.

**In recent years the NGCB has come under scrutiny for not contributing to the Community Benefit Fund or the PNG Sports Foundation.** GoPNG in its Budget Papers calls for the Auditor General to “examine the accounts of the NGCB and community benefit trust account and make recommendations to ensure compliance with relevant legislation and the trust deed” (GoPNG, 2014). Improvements in the governance and accountability arrangements surrounding the NGCB would have to be considered prior to any further investigation into the earmarking of betting taxes for health.

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<sup>22</sup> In the decade (1995-2005) since its inception, K 928.624 million is estimated to have flowed through to NGCB. <http://www.pngblogs.com/2012/03/gaming-regulator-under-cloud.html>. March 29<sup>th</sup> 2012 “Gaming regulator under cloud”



## Chapter 4: Social Health Insurance (SHI)

The introduction of SHI represents an alternative way of generating resources for the health sector. Working people and their employers, including the self-employed, typically pay contributions; the funds are pooled and then used to finance a package of services that is available to the insureds and their dependents.

SHI systems have evolved considerably around the world. For instance, governments have extended coverage to those who cannot pay, such as the poor and unemployed, subsidising their contributions through general revenues. In many cases, informal workers have been able to enrol by paying flat contributions, which are subsidised by the government in many cases. The case studies presented in Box 4-1 provide illustrative examples of SHI schemes in Southeast Asia and Colombia.

### Box 4-1: SHI Schemes: Case Studies

In **Indonesia**, the two social insurance schemes for formal sector workers, *Askes* and *Jamsostek*, are financed by contributions made by employees and employers (22 percent) and by the state (78 percent). The wage contribution rate is 2 percent for the public sector and 3-6 percent for the private sector.

In the **Philippines**, the National Health Insurance Program is financed through equal contributions from employers and employees at the rate of 2.5 percent of earnings. The self-employed can enrol by paying the premium in full. Premiums for the poor are paid by the state.

In **Thailand**, the Civil Servants' Medical Benefit Scheme is noncontributory. Contributions from employers, employees and the government for the social security scheme covering formal private sector employees are set at 1.5 percent of the employee's wages. The universal scheme covers the remainder of the population and is financed almost entirely by subsidies from government general revenue.

In **Colombia**, two insurance schemes were created in 1993 to target different populations. First, a compulsory contributory regime includes all formal sector employees and independent workers who are able to pay. Their families are also included. This was largely financed from payroll taxes. Second, a subsidised regime targeted the poor by subsidising their insurance premiums using dedicated public resources and cross-subsidies from the 'contributory regime'. The benefit package for the subsidised regime was initially limited to essential clinical services, a few surgeries plus the treatment of catastrophic diseases, but has gradually been made more generous as more resources became available. By 2004, the subsidised regime benefit package covered a wider range of inpatient care, but was still smaller than that of the contributory regime.

Source: Langenbrunner and Somanathan (2011); Flores et. al. (2006).

**PNG could introduce SHI for formal workers through the utilisation of payroll tax contributions.** A payroll tax is similar to an excise tax on employment and is paid by both employers and employees. It is imposed on wages and salaries in addition to income taxes. NASFUND, Nambawan Super and Comrade Trustee Services Limited already collect social security contributions from formal sector workers (private sector, public sector and defence employees). These funds could be a mechanism for collecting and/or scaling up SHI contributions as well.

**All employers employing 15 or more employees, and employees who are resident in PNG and receive pay<sup>23</sup> from an employer, must enrol in a scheme.** Employees who are involved in primary production and employed by an employer who is in the business of growing or processing cocoa,

<sup>23</sup> Pay refers to remuneration of any kind including gross salary, wages, leave entitlements and commissions.

copra, oil palm, rubber, tea or coffee are, however, exempted employees. The mandatory contribution rate, as a proportion of the employee's wage, is 6 percent for employees and 8.4 percent for employers.<sup>24</sup> Members of the Comrade Trustee Fund are required to contribute 6 percent of their salary to the fund. The state assumes all residual pension liability after allowing for member contributions, investment income and expenses of administering the fund.

**If SHI for public sector employees was added on top of the existing schemes, the contribution rate would have to be increased to include health insurance contributions.** The SHI contributions would then be pooled and used to purchase services for the formal sector workers and their dependents. NASFUND is currently offering medical and life insurance through "NASCARE" to private sector workers. NASCARE has a current membership of approximately 500 and, for an annual premium of K 850, provides life and medical cover for its members.<sup>25</sup> There is no provision for health insurance for public sector workers through Nambawan Super at present. Senior civil servants, CEOs and doctors are, however, provided with private health insurance as part of their total salary package.

#### **4.1 Can SHI be Successfully Introduced and Expanded in PNG?**

**Cross-country comparisons have helped identify several enabling conditions needed to ensure the sustainability of payroll tax-based systems (Carrin and James 2005).** These are: (i) a large formal labour market; (ii) a growing economy; (iii) an administrative capacity for collection; (iv) good regulatory and oversight structures. The report will discuss in detail the technical enabling conditions in the context of PNG. Political willingness is another important factor.

##### *4.11 Is the country's labour market supportive?*

**Successful introduction of SHI financing in PNG will, in part, depend on the feasibility of expanding coverage to the entire population, including the informal sector, and how the increase in contribution rates will affect labour and capital markets.** Expanding SHI coverage to the informal sector will be challenging in almost all contexts. The population in the formal sector is relatively easy to enrol and collect contributions from due to the availability of employment earnings records. The population in the informal sector is typically not affiliated with any organisation through from which to enrol and collect premiums. They are also poorer and less able to afford premiums.

**PNG's population is predominantly in the informal sector—according to the 2000 Census, 67.5 percent of economically active citizens aged 10 years or over were in subsistence and self-employment, while 10.4 percent were in formal wage employment.** Whilst NASCARE and Eda Supa have attempted to include individuals who are currently outside the superannuation net by virtue of their informal status, the uptake of superannuation and associated health products has been limited.<sup>26</sup>

**In contrast, countries that have chosen payroll taxes as the primary source of funding in Europe, Central Asia and Latin America benefitted from having a large percentage of the working-age population employed in the formal sector (Ensor and Thompson 1998).** Moreover, Eatsern and

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<sup>24</sup> Mandatory and allowable voluntary contribution rates are detailed in the Internal Revenue Commission Tax Act of PNG.

<sup>25</sup> Pacific MMI is the provider of medical cover and Kwila Insurance is the provider of life cover. Insurance can only be taken out by existing members of NASFUND Contributors Savings & Loan Society (NCSL).

<sup>26</sup> Uptake of Eda Supa, a voluntary superannuation savings account under NASFUND, is eligible for individuals who are self-employed, operating a small business, working in a small establishment with less than 15 employees, farming in cash crops or recipients of landowner royalties.

Central European countries where payroll taxes are the predominant source of financing have a tradition of large state enterprises and civil service institutions with a large pool of formal sector employers that enables a reliable source of payroll contributions.

#### *4.12 Are the country's macroeconomic conditions supportive?*

**Macroeconomic conditions are important to consider because they determine whether it is realistic fiscally to finance the expansion of coverage to the informal sector using general revenues.** A country's ability to mobilise general revenues is largely determined by its economic performance. Macroeconomic conditions are also important because of implications for how a potentially new payroll tax will affect labour and capital markets.

**The most effective way to scale up SHI coverage is for the government to use general revenues to subsidise premium payments for the population in the informal sector.** The few countries that have followed this model have employed substantial general tax revenues to fund the social insurance schemes and extended insurance coverage on a mostly noncontributory basis. In addition to the need to increase taxation to extend insurance coverage, it should also be noted the significant length of time required to extend insurance coverage to the population in the informal sector. For instance, it took Costa Rica 29 years from the enactment of legislation for SHI to be extended to effective coverage of 85 percent of the population.

**In PNG, significant additional health spending would be needed to expand SHI to the 80 percent or more of the population that is in the informal sector.** Moreover, the establishment of SHI involves relatively high start-up costs, which will also have to be financed through general revenues. A review over the period 1960-2006 of OECD countries that adopted SHI in preference to revenue financing illustrates increases in per capita health spending by 3-4 percent of GDP, and for the most part SHI adoption was shown to make no significant impact on amenable mortality (Wagstaff 2009). In addition to this finding, as discussed in Chapter 3.12, there is limited scope to substantially increase government expenditure in the short to medium term. The introduction of SHI may not also necessarily mobilise additional resources for health. Should DoT choose to reallocate resources away from the health sector because SHI is perceived to be a source of revenue in and of itself, this may offset any positive impact that SHI may have.

**Payroll taxes can also have a negative effect on future economic growth, which in turn is critical for expanding the revenue base.** A review of labour markets in OECD countries found that adopting SHI in preference to revenue financing led to a reduction in the formal sector share of employment by 8-10 percent and a reduction in total employment by as much as 6 percent (Wagstaff 2009). The direct evidence of payroll taxes decreasing labour inputs in transition economies, however, is less clear cut. What is clear, however, is that high payroll taxes discourage firms and workers from coming into the formal economy (Langenbrunner and Somanathan 2011).

#### *4.13 Is there adequate administrative and technical capacity?*

**Effective collection and pooling of SHI revenues requires a high degree of administrative and technical capacity within the country.** Administrative capacity refers to the organisational infrastructure needed to register members, distribute membership cards and collect contributions. Technical capacity refers to the skill-set needed to operate a health insurance program, including bookkeeping, banking and actuarial skills, as well as information systems for monitoring performance (Carrin and James 2004).

**PNG does not yet have large-scale social security programs and associated administrative and technical capacity.** In a recent report on the upscaling of social protection in PNG,<sup>27</sup> Baulch et al (2008) concluded that the low social protection index of 0.6 percent compared to other countries in the Asia Pacific region confirms the heavy dependence at present on the traditional 'wantok' system and church-based assistance programs compared to state-owned social security systems. The capacity needed to design and implement SHI is limited at present. It is recommended that the necessary educational qualifications and other skills—for example actuaries—are introduced first and SHI implementation postponed until such skilled personnel exist.

#### 4.14 *Is there adequate regulatory capacity?*

**Regulatory capacity to pass and enforce SHI laws is important to ensure the long-term financial sustainability of SHI programs.** Mandatory enrolment is desirable in order to have a broad funding base, however, in settings where regulatory capacity is weak and the government is unable to enforce mandatory enrolment, adverse selection becomes a problem. Individuals with low expected health care costs do not enrol, while those with higher expected health care costs do. Costs rise relative to the SHI funding base, threatening the long-term financial sustainability of SHI. Nonenrolment of formal sector workers in insurance schemes and evasion of payments among those who are enrolled also means that SHI is no more efficient than the collection of tax revenue.

**Evasion exists even in countries where enrolment is mandatory, because workers and employers can take advantage of lax enforcement and not enrol in the scheme at all.** In Indonesia, 86 percent of those eligible for coverage in the national scheme have taken advantage of an opt-out clause in the legislation (Hsiao and Shaw 2007). Evidence from urban China further shows that only 24 percent of private sector employees and 50 percent of state-owned enterprise employees were enrolled in the urban health insurance scheme in 2004 (Wu 2004).

**It may be argued that, rather than pay taxes, individuals prefer to pay a social insurance premium that is virtually earmarked for health because they may not trust the government to allocate the tax revenues for health care.** The very governance issues that make citizens suspicious of the way their government allocates resources mean, however, that the government may also be a weak regulator of an SHI scheme (Wagstaff 2007). In PNG, the necessary regulatory capacity has not been developed yet and sufficient suspicion around the allocation of resources already exists amongst the general population. The presence of a significant private insurance market often provides the basis for developing such regulatory capacity. The small size of the private insurance market in PNG precludes this.

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<sup>27</sup> The GoPNG Social Protection Report (Department for Community Development 2011) provides an overview of existing social protection programs for vulnerable groups.

## Chapter 5: Private and Community-based Insurance

### 5.1 Private Health Insurance

**Private health insurance (PHI) includes all for-profit insurance plans that involve voluntary membership, and are provided on an individual basis or through organised employee groups.** PHI is rarely ever the primary source of financing for health care. In most countries, its main purpose is to provide complementary or supplementary coverage alongside public schemes. Voluntary private health insurance can however provide an opportunity for better-off inhabitants to opt out of the public system, alleviating demand pressures on the public system; however there is little evidence of this strategy in practice.

**At present, PHI accounts for a small share of total financing in PNG.** There are five providers currently offering health insurance plans, catering mostly for expatriates and the high income bracket. In some cases PHI is only offered to clients who have existing insurance packages - it cannot be taken out as a separate product, with preference given to corporate clients. Whilst administrative costs are relatively low due to a low uptake of policies, PHI is seen as non-profitable due to high claims expenditure. The standard package covers general medical and repatriation expenses and, with the exception of one firm, payment of expense is on a reimbursement basis only.

#### 5.11 *Can PHI help scale up insurance coverage?*

**PNG does not have many of the prerequisites that are needed for the development of a viable PHI market.** In the absence of many of these prerequisites for PHI to develop, this form of financing is unlikely to make a significant contribution to scaling up insurance coverage.

**Firstly, in most countries, large OOP shares of total spending create the demand for supplementary voluntary insurance.** OOP payments for health care in PNG are quite minimal. Those with sufficient funds will also seek treatment overseas (Singapore and Australia), rather than in-country.

**Secondly, the existence of a viable financial market is also critical for the development of private insurance entities because the reserves from premiums collected must be invested to ensure profits over resource outlays.** This profit is critical for the sustainability of private entities (Gottrett and Schieber 2006). The World Bank's Country Policy and Institutional Assessment report notes that capital markets continue to be underdeveloped in PNG, with a large section of the population in rural areas not having access to financial services (World Bank 2011).

**A third prerequisite for the development of PHI is a large middle class and high-quality private health services to cater for the middle class.** With over 85 percent of the population living in rural areas and engaged in subsistence agriculture, and service provision dominated by the public sector this prerequisite has not been met either.

**Lastly, strong regulatory oversight and management skills are needed to ensure that all parties involved in PHI carry out their fiduciary responsibilities.** The administrative and regulatory costs associated with establishing and maintaining the voluntary health insurance market can be quite substantial (Gottrett and Schieber 2006). PHI is regulated by the Office of the Insurance Commissioner under the Insurance Act (1995). Regulatory capacity at the Office of the Insurance Commissioner is currently limited with nine staff; the office is also reliant on funding through the insurance industry levy. Within the companies providing PHI, there are no in-house actuaries.

## 5.2 Community Health Insurance

**Community-based health insurance (CBHI) can be defined broadly as nonprofit insurance plans that involve voluntary membership and are controlled by the community.** CBHI typically operates in settings where OOP payments for health care are large, and where the population lacks any major form of insurance. There are three common features to CBHI: (i) affiliation is based on community membership and the community is strongly involved in managing the system; (ii) the beneficiaries are usually individuals who have been excluded from other insurance schemes; and (iii) members share a common set of social values, which are reflected in rules governing the management of the scheme (Jakab and Krishnan 2004).

**International experience shows that CBHI schemes make fairly modest contributions to overall coverage, and only serve to complete or fill the gaps of other health financing options (Carrin 2003).** CBHI cannot be relied upon to provide medical coverage to the entire population, but can help meet the needs of specific categories of people such as informal workers in a particular industry, or the inhabitants of a village. Within PNG there are a number of CBHI schemes in place (Box 5-1), often formed around an affiliation to a denomination of the Christian faith. They are, however, localised and are estimated to represent a relatively small part of financing in the health sector.

### Box 5-1: Tinsley District Hospital: Case Study

The Board of the Baptist Union of PNG, a faith-based organisation, is responsible for the management of the Tinsley District Hospital in the Mul-Baiyer district, Western Highlands Province. In addition to financial support from AusAID through the Australian Baptists and the Church Medical Services, health care is supported through CBHI. For a fee of K 20 p.a. for men and K 30 p.a. for mothers and children combined, members of the Tinsley community are issued with a clinic book and are able to access a range of services as required. Tinsley Rural Hospital currently serves an estimated community of 30,000.

*Source:* Discussion with the CEO of Western Highlands PHA (Baptist Union of PNG 2012).

#### 5.21 Can CBHI help scale up insurance coverage?

**Seeking to achieve universal coverage through incremental CBHI-driven extensions of insurance coverage is not a reliable strategy.** If numerous insurance schemes develop with their own distinct approaches to setting the benefit package and contribution rates, integrating these heterogeneous schemes could be problematic. Members of different CBHI schemes may resist changes to their program. Whilst CBHI schemes should not be discouraged, scaling up their involvement will not be sufficient to improve the current level and spread of health financing in PNG.

## Chapter 6: An Assessment of the Health Financing Options

This chapter will assess the financing mechanisms described in Chapters 0 to 0 against four criteria: (i) the extent to which the financing mechanism is sustainable and feasible; (ii) the degree of risk pooling and financial protection it provides; (iii) the extent to which it will improve efficiencies in how health care is financed and delivered; and (iv) the extent to which it will improve equity in financing and the delivery of health care. It is important to note that there are trade-offs between these health system goals. For instance, greater efficiency may be achieved at the expense of equity-related goals. It is also important to note that, although the financing mechanisms are compared with one another as distinctive financing mechanisms, in practice most systems use a combination of these mechanisms.

### 6.1 Sustainability and Feasibility

In this report, sustainability is defined as the ability of the financing mechanism to maintain the revenue base in the long term and mobilise additional resources commensurate with its health needs, while feasibility is defined as the level of support from stakeholders and the administrative, technical and regulatory capacity of the state to operate that financing mechanism. Resources need to be mobilised in a sustainable manner without jeopardising the government's long-term solvency or negatively impacting on the country's labour and capital markets.

It is clear that the most feasible and sustainable option in the current context is general revenue financing (Table 6-1). Without significant improvements in the capacity of stakeholders to administer and regulate health insurance, however, it is not a particularly viable option to significantly increase financing in PNG.

**Table 6-1: Sustainability and Feasibility of Health Financing Mechanisms**

| Form of Financing | Sustainability   | Feasibility   |
|-------------------|--|---|
| General Revenue   | <ul style="list-style-type: none"> <li>• Largest revenue base relative to all other financing mechanisms.</li> <li>• Unlikely to see large increases to health sector over the medium term.</li> </ul>                         | <ul style="list-style-type: none"> <li>• No additional costs as uses existing tax collection systems.</li> <li>• Regulatory and technical capacity requirements are minimal.</li> </ul> |
| SHI               | <ul style="list-style-type: none"> <li>• Large informal sector is a major constraint to SHI.</li> <li>• Need to raise general revenue to cover informal sector and potential negative labour market effects.</li> </ul>        | <ul style="list-style-type: none"> <li>• Significant requirements in terms of administrative, technical and regulatory capacity. Capacity in-country is currently limited.</li> </ul>   |
| PHI               | <ul style="list-style-type: none"> <li>• Long-term solvency of PHI schemes threatened by voluntary enrolment and adverse selection.</li> </ul>   | <ul style="list-style-type: none"> <li>• Small size of formal sector and weak financial market limits feasibility in PNG.</li> </ul>  |
| CBHI              | <ul style="list-style-type: none"> <li>• Small size of pool means that even one large risk could lead to failure of the CBHI fund.</li> <li>• Long-term solvency of CBHI schemes threatened by voluntary enrolment.</li> </ul> | <ul style="list-style-type: none"> <li>• Management skills needed to operate CBHI tend to be limited in small schemes, undermining long-term viability of the schemes.</li> </ul>       |

## 6.2 Risk Pooling and Financial Protection

**General revenue has the greatest ability to pool risk effectively and to ensure financial protection.** This implies a need for cross-subsidies within the health system, both in terms of income (from the wealthy to the poor), and of the risk of illness (from healthy or low-risk individuals to the ill or high-risk individuals).

**Table 6-2: Risk Pooling and Financial Protection of Health Financing Mechanisms**

| Form of Financing | Risk Pooling   | Financial Protection   |
|-------------------|--|--|
| General Revenue   | <ul style="list-style-type: none"> <li>Spreads expenditure across all taxpayers so highest degree of risk pooling. This is particularly true in PNG as user fees are small.</li> </ul> | <ul style="list-style-type: none"> <li>Significant barriers that limit access to good quality health services.</li> </ul>  |
| SHI               | <ul style="list-style-type: none"> <li>Mandatory enrolment can achieve high degree of risk pooling, but only if informal sector is also covered.</li> </ul>                            | <ul style="list-style-type: none"> <li>If benefit package is not comprehensive and high-cost items not included, SHI will provide even less financial protection than at present.</li> </ul> |
| PHI               | <ul style="list-style-type: none"> <li>Multiple risk pools and fragmentation of risk.</li> </ul>   | <ul style="list-style-type: none"> <li>High-risk individuals have little or no coverage and therefore little financial protection.</li> </ul>  |
| CBHI              | <ul style="list-style-type: none"> <li>Small size of CBHI and schemes and low resource base limits its potential of expanding the size of the risk pool.</li> </ul>                    | <ul style="list-style-type: none"> <li>Limited scope for financial protection.</li> </ul>  |

## 6.3 Efficiency in Financing and Delivery of Health Services

**In an assessment of health financing options, it is important to consider whether the new system will lead to greater efficiency in how revenues are collected (financing), and in how resources are allocated across inputs and services (delivery).** The collection and pooling of revenues implies administrative and regulatory costs—borne by the population through taxes or insurance payments. Minimising these costs would improve efficiency. Similarly, there are technical and allocative efficiencies associated with how the funds are allocated across inputs and services.

**Whilst there are potential efficiency gains to be realised in the current general revenue financing system, it is comparatively more efficient than the alternative modes of financing (Table 6-3).**



**Table 6-3: Efficiency in Financing and Delivery of Services Under Different Health Financing Mechanisms**

| Form of Financing | Efficiency in Financing Health Care   | Efficiency in the Delivery of Services   |
|-------------------|---|--|
| General Revenue   | <ul style="list-style-type: none"> <li>Fewer administration costs compared to other mechanisms.</li> </ul>      | <ul style="list-style-type: none"> <li>Potential for efficiency savings in the current system.</li> <li>Reduce inefficiencies to mobilise additional resources.</li> </ul>         |
| SHI               | <ul style="list-style-type: none"> <li>Distortionary effects of SHI contributions on labour markets.</li> </ul> | <ul style="list-style-type: none"> <li>Potential to use financial incentives to improve provider performance.</li> </ul>   |
| PHI               | <ul style="list-style-type: none"> <li>High administrative costs.</li> </ul>                                    | <ul style="list-style-type: none"> <li>Few pressures for cost control due to multiple health insurance schemes purchasing from limited number of service providers.</li> </ul>     |
| CBHI              | <ul style="list-style-type: none"> <li>High administrative costs.</li> </ul>                                    | <ul style="list-style-type: none"> <li>Potential for improving efficiency by purchasing cheaper and better quality services from providers participating in the scheme.</li> </ul> |

#### 6.4 Equity in the Financing and Delivery of Health Services

A fourth set of criteria relate to whether the financing mechanism will enhance equity in financing and access to services. Health financing is *progressive* if the poor pay proportionately less than their share of income, and *regressive* if they pay proportionately more relative to their share of income. Moreover, the way in which contributions are pooled and services purchased has implications for equity in the use of services. Table 6-4 compares the equity performance of different financing schemes.

**Table 6-4: Equity in Financing and Delivery of Services Under Different Health Financing Mechanisms**

| Form of Financing | Equity in Financing Health Care  | Equity in the Delivery of Services   |
|-------------------|--|--|
| General Revenue   | <ul style="list-style-type: none"> <li>Taxation, especially direct taxation, is generally the most progressive form of health care financing.</li> </ul>   | <ul style="list-style-type: none"> <li>Current pattern of service delivery is quite pro-poor due to universal coverage and minimal user fees.</li> </ul>   |
| SHI               | <ul style="list-style-type: none"> <li>Progressive when limited to the formal sector.</li> <li>Regressive or proportional when the main source of financing premiums is a fixed percentage of earnings.</li> </ul> | <ul style="list-style-type: none"> <li>Where coverage is incomplete, for example formal sector, inequities in service delivery exist.</li> <li>Where coverage is universal but shallow, inequities also exist.</li> </ul>  |
| PHI               | <ul style="list-style-type: none"> <li>Progressive because payments are concentrated among upper income groups.</li> </ul>   | <ul style="list-style-type: none"> <li>Fails to reach the poor because they cannot afford to enrol.</li> <li>Fragmentation of risk pools and limited opportunities to cross-subsidise associated with large inequities in coverage and financial protection.</li> </ul>      |
| CBHI              | <ul style="list-style-type: none"> <li>Usually regressive because payments are defined as flat-rate contributions, and concentrated among lower-income groups.</li> </ul>  | <ul style="list-style-type: none"> <li>Fails to reach the very poor because they cannot afford to enrol.</li> <li>Fragmentation of risk pools and limited opportunities to cross-subsidise associated with large inequities in coverage and financial protection.</li> </ul> |

## Chapter 7: Mobilising Resources Through Efficiency Savings

**Efficiency gains provide significant scope for generating additional fiscal space for health.** Efficiency is typically defined as the maximising of outputs from inputs. Many low- and middle-income countries have been able to expand service provision with only modest increases in spending through efficiency gains. For instance, Uganda tripled service delivery during 1955-69, only half of which was financed through increased spending, whilst the rest was financed through efficiency gains (Langenbrunner and Somanathan 2011). Even a 2 percent annual increase in efficiency implies a doubling of service delivery every twenty years (Rannan-Eliya 2008).

**There are two types of efficiency to consider in the health sector: technical efficiency and allocative efficiency.** Allocative efficiency is achieved when the most appropriate mix of outputs is achieved through given inputs: that is, by ‘doing the right things’. For instance, primary and preventative care services remain underfunded in many countries even though these interventions are more cost-effective at achieving the desired health outcome goals. Technical efficiency is achieved when the health system maximises outputs and outcomes for a given level of inputs (staff and equipment). Examples of technical inefficiency include the failure of procurement systems to purchase medicines at the lowest available prices or an inefficient mix of medicines and personnel being used to provide a service.

**This section presents potential areas for technical and allocative efficiency improvements in the health sector in PNG.** In Chapter 3 it was shown that in the short to medium term, with total government revenues as a share of GDP expected to fall, there would be little additional fiscal space to allocate to health. In the medium to long term, assuming revenue and GDP prospects improve with the expansion of the LNG industry, PNG may well increase public health spending. However, as discussed in this chapter, the health sector is characterized by a range of inefficiencies that are significant drain on public sector resources. In essence, the public health sector is a “leaky bucket”. In this context, increasing public spending on health in PNG is unlikely to substantially improve health outcomes until inefficiencies in the management, financing and delivery of health care are addressed. This chapter provides several recommendations in this area.

### 7.1 Allocate More Resources to Primary Health Care Vis-à-vis Tertiary Care

**One way in which allocative efficiency could be improved in PNG is to review the mix of services that are currently financed publicly.** Hospital services (tertiary care) are less cost-effective than primary health care services for meeting current health sector needs such as communicable diseases and maternal and child health. Hospital services currently account, however, for a disproportionately large share of total health spending. As illustrated in Figure 2-5 “Urban facilities”<sup>28</sup> accounted for about a third of total spending in 2011.

**Underfunding of primary health care is a major cause of this type of inefficiency.** For instance, recent projections by the NEFC indicate that 15 out of 18 provinces will have insufficient funds to fulfil their health MPA responsibilities in 2013. In 2014 and 2015, it is further projected that eight provinces out of 18 will continue to have a funding gap (NEFC 2012). The National Health Plan 2011-2020 seeks to “strengthen primary health care for all, and to improve service delivery to the rural

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<sup>28</sup> “Urban facilities” include: support to curative health services, hospital management services, specialist curative services, national orthotic and prosthetic service, national oncology services (Cancer Unit), mental services, oral health services, NCD health service, health management support, hospital engineering and bio-medical maintenance.

majority and urban disadvantaged". Whilst the amount expended on "Rural facilities" has grown in recent years, particularly since introduction of the Review of Intergovernmental Financing Arrangements, much work still has to be done.

**Underfunding of critical primary health services is as much due to a lack of prioritization as it is to a lack of funds.** For instance, Western Province, a resource rich province does not allocate sufficient funding for health, let alone primary health care. This is a case of under-investment of internal revenues for health.

**Church Health Services (CHS) account for a large proportion of primary care use in PNG are relatively underfunded** (Church Health Services Report, 2013). CHS account for 47 per cent of all health care utilization in PNG, a large proportion of which occurs in rural and remote areas. The CHS Review in 2013 found that relative to their workload, CHS are comparatively underfinanced and understaffed.

**As long as primary health care remains underfunded and of poor quality, the population will continue to bypass primary health care services in favour of higher-level care at hospitals, leading to the current pattern of utilisation and expenditures.** Shifting the allocation of public sector resources away from tertiary level care and towards primary health care could lead to significant efficiency gains. It will also improve equity by bringing services closer to the population, and reducing transport costs related to seeking health care.

**Increases in health function grant (HFG) funding to provinces to support rural health service delivery in recent years hold promise for strengthening primary health care** (World Bank 2013). They include expenditures to provinces to support and enable key front line service delivery activities such as facility operations, patrols, medical supply distribution, emergency patient transfer, rural water supply and facility supervision. World Bank (2013)<sup>29</sup> showed that during 2009-2010, a large number of provinces spent between 50-100 percent of what was estimated necessary for rural health facility operations, and outreach spending also increased.

**HFGs may not live up to their potential if core funding from the national level is not timely, consistent and accessible to the facility staff who need it the most.** World Bank 2013 also showed that in 2009 and 2010, a good majority of provinces did not receive the level of funding (40 %) needed to commence their service delivery responsibilities by February of that same year. Moreover, in many instances, facility funds are retailed and managed at the provincial level, begging the question of whether this is an effective arrangement for facilities. Problems in data coding also meant that it was not always obvious whether the HFGs were indeed used for their desired purpose.

## **7.2 Improve the Mix and Productivity of Inputs**

**There is a clear need to identify and correct inefficiencies in the mix of inputs, with personnel emoluments accounting for nearly 60 percent of total health expenditure.**<sup>30</sup> This percentage has grown over time, with the salary scale and incentives for each cadre of health professional supported by a strong union presence. Furthermore, DoT (2012), in the 2013 Budget papers, notes

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<sup>29</sup> World Bank (2013): "Below the glassfloor. Analytical Review of Expenditure by Provincial Administration on Rural Health from Health Function Grants and Provincial Internal Revenue".

<sup>30</sup> This percentage is exclusive of expenditure for health sector workers under Division 207 (treasury and finance miscellaneous).

that: “the Health Department is currently paying for accommodation for its executive management at head office but accommodation allowances are already included within their contracts”. This exacerbates the situation.

**A similar situation is also occurring at the provincial level where health function grant expenditure is, in some cases, being used on salaries and wages, contrary to their stipulations.** High and increasing rental prices over the past ten years have also consumed an increasing level of GoPNG’s health budget: rental payments for NDoH have increased by over 200 percent from 2000 to 2011. As a result of this situation, the share of the budget that remains for drugs, medical supplies and equipment is reduced. A critical relook at the mix of input costs could realise potential efficiency gains.

**Another source of inefficiency is the poor productivity of inputs.** For instance, failure to make adequate provisions in the budget for the maintenance of buildings and equipment is unsustainable and costly in the long term. One solution for GoPNG is to make all capital expenditure have an associated and phased-in maintenance cost component over time. This option may be strengthened should GoPNG proceed with the intention of an ‘integrated budget’, unifying the recurrent and development budgets.

### **7.3 Leverage the Resources Allocated to Vertical Programs (HIV and AIDS) to Strengthen Service Delivery**

**The direction of disproportionate funds, government and donor, through vertical, disease-specific programs is another potential source of inefficiency.** PNH has a geographically and socially concentrated epidemic and a general prevalence rate of 0.49 per cent. This has attracted significant donor funding and other development partner resources. and HIV expenditure is approximately 15-20% of Australia’s annual \$110m portfolio. Until 2012, HIV was managed as a separate program. Acknowledging the inefficiencies associated with managing a disease-specific program such as this, HIV was integrated into the Health program in 2012.

**Earmarking a significantly large portion of government and donor resources to disease-specific programs reduces the share available for overall health systems strengthening and also distorts the relationship between sectoral priorities and expenditures.** Given the magnitude of resources devoted to vertical, disease-specific programs, efficiency gains can be achieved by leveraging off those resources to deliver broader primary health care services and strengthen the underlying health system.

**It is encouraging to see that the government has decided to critically look at the roles and responsibilities of NACS.** The 2013 Budget papers stated: “NACS - the Council and Secretariat are not performing their co-ordination function and have no effective programs. The Department of Health is to arrange for an urgent review of the AIDS Council Secretariat with a view to having the NACS incorporated in the Department of Health by mid-2013 and arranging for amendment of the legislation setting up the National AIDS Council as necessary.” (DoT 2012). At the time of writing, however, discussion was underway to move mental services out of NDoH and establish it as a separate authority. Whilst increasing prominence for this area of health, questions around the efficient use of resources should also be considered.

## 7.4 Continue Reforms in Medical Supplies Procurement

**Continuing improvements in the procurement and distribution of medical supplies in PNG is another potential source of efficiency gain for the health sector<sup>31</sup>.** Inadequate public spending on medicines in PNG has been an important factor limiting the supply of medicines in public health facilities.<sup>32</sup> A WHO study (2007) that surveyed five Pacific Islands countries, found PNG to have the lowest per capita expenditure on pharmaceuticals. More specifically, it found per capita public pharmaceutical expenditure in PNG to be around two-and-a-half times less than Samoa and over three times less than Tonga and Fiji.

**Although PNG has significantly increased its annual medical supplies (drugs and equipment) budget from K 59 million in 2007 to K 161.6 million (or about K 27 per capita) in 2011, it is still lower than what is needed by its health facilities<sup>33</sup>.** Development partners heavily supplemented this activity in the past. In 2013-2014, GoPNG took over the procurement and distribution of the medical supply kits. Ensuring a sufficient supply of medicine will lead to allocative efficiency as stock-outs in public health facilities do not impose financial stress on the patients but often also leads to perverse consequences. For example, a study in Nigeria (Ikoh et. al. 2009) found that stock-outs in public health facilities lead to a relapse of illnesses as a result of nonadherence to treatment regimes and exposure to fake, expired, and adulterated drugs.

**There are significant efficiency gains, however, that can be realised through reform of the procurement and distribution of medical supplies (drugs and equipment).** That there have been problems with virtually every aspect of procurement and distribution functions of NDoH is well-known and well-documented. As widely reported in the media, the tender process for the medical supply kits for 2014 resulted in the bid being awarded to the third lowest bidder at an annual additional cost of K23 million (K69 million over 3 years). The main reasons for these problems are wide ranging: from leadership to institutional framework; from lack of administrative infrastructure to other capacity constraints; from leakages of funds and medical supplies to regressive behaviour of some officials and staff towards a positive change.

**The leakage of funds and supplies from the system, for which there is some evidence, does not just deprive the sector of the much needed funds in a resource-scarce environment but also interferes with the timely procurement and distribution of quality drugs to facilities, and thereby undermines the core service-delivery function.** Making the medical supply procurement and distribution services efficient and accountable is one of the stated priority areas in the National Health Plan 2011-15.<sup>34</sup> Once an improved system is designed, the real efficiency gains depend on how well the system is operated. In the PNG context, much of the scope of real efficiencies gains lies in improving the functioning of the system.

**Efficiency gains are to be had from the design of procurement and distribution systems as well as from ensuring that procurement and distribution activities are effectively planned and**

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<sup>31</sup> 2013 Medical Supply Reform Impact Evaluation

<sup>32</sup> Even though pharmaceutical spending in low- and middle-income countries accounts for a much higher share (ranging between 24 percent and 66 percent) of its total health spending than in say OECD countries (in which pharmaceutical spending on average accounted for about 17 percent of the total in 2010), this spending per capita is substantially lower in low- and middle-income countries than in OECD countries.

<sup>33</sup> This is based on the NDoH 2013 Budget Submission reviewed for this report.

<sup>34</sup> Key Results Area (KRA) 3.3 to improve the medical procurement and distribution services. Medical supplies is also dealt with in KRA 1.1, which aims to increase access to quality health services for the rural majority and the urban disadvantaged through improving the reliability of medical supplies distribution and management.

**implemented.** The systems design issue deals with the design of all three important flows: financial, physical and informational. Design of these flow mechanisms will entail decisions such as the extent to which procurement function is split between national and provincial units, and different (primary and secondary) distribution levels. These decisions, in turn, will determine the system-wide costs of procurement, warehousing and transportation. Given the country characteristics of PNG (market size, imported supplies, low capacity at provincial level, and special logistical challenges), a significant degree of centralised procurement seems to be a better choice as limited scale and capacity (both of procurement and quality assurance) of provincial entities will adversely affect this function. It seems appropriate, however, to decentralise procurement in cases of emergency and for a limited range of commonly used (easily procurable) drugs.

**Alongside continuing reform in the procurement and distribution of medical supplies, adoption of some of the following initiatives in PNG could also help improve efficiencies:**

- **Leveraging differential pricing** for government to increase access through private distribution channels;
- **Leveraging the responsiveness and agility of private procurement** (price and quality monitoring become critical);
- **Long-term framework contracting;**
- **Pooled procurement** to obtain better prices and delivery terms and reduce the costs of supplier selection and tendering; and
- **Bringing certainty into budgets and financial flows.**
- **Introduction of mSupply to improve forecasting and procurement**

**The decision to establish an independent health procurement authority is likely to greatly improve medical procurement.** The decision to establish this authority was taken in 2013 and confirmed in January 2014. Like the PHAs, this is a major structural reform that will address underlying incentives for inefficiency and interferences in the procurement process.

## **7.5 Utilise Alternative Forms of Delivery**

**One potential efficiency gain for the health sector in PNG is to utilise alternative forms of financing such as DFF or FBB.** As discussed in Chapter 2.52, DFF has been piloted in one province. As noted by the Independent Annual Sector Review Group, DFF could also be facilitated by including health facilities in the budget, revising the Chart of Accounts at the provincial level (see section below) and assisting facilities to open bank accounts and allowing them to roll-over funds deposited into facility accounts (AusAID and NDOH, 2012). Should this approach be taken, training and support in financial management and reporting should also be provided to the responsible personnel.

**An alternative form of delivery which could also be considered by NDoH to provide services is greater use of the contracting-out model.** Contracting is an arrangement in which the government enters into a legal partnership with a private provider for the delivery of goods and/or services to the government or to a designated third party on behalf of the government, and where provision/production takes place outside public facilities. Contracting private providers to deliver distinct services enables governments to harness the high quality, reputation, and efficiency of the private sector while strengthening public sector offerings and improving access to services. For example, contracting with private providers fills gaps in service coverage, especially in areas populated by predominantly underserved populations and where government provision is inadequate. The contracting-out model can be successful (Box 7-1). In PNG the contracting-out model is currently being used by Marie Stopes and NDoH for the delivery of family planning in seven districts across PNG. There could be scope, subject to successful implementation and monitoring, for this alternative mode of delivery to be scaled up.

### Box 7-1: Contracting Out of Maternal Services in Bangladesh: Case Study

The Urban Primary Health Care Project (UPHCP) is a public-private partnership funded by the Asian Development Bank and other donors, which aims to deliver essential health and reproductive health services to people living in urban areas, especially the poor. The UPHCP first started in 1998 with a second phase commencing in 2005. The project currently covers all of the six city corporations of Bangladesh (Barisal, Dhaka, Rajshahi, Chittagong, Khulna and Sylhet) and five municipalities (Bogra, Comilla, Madhabdi, Savar and Sirajganj). Marie Stopes Bangladesh (MSB) is one of 12 Service Delivery Organisations (SDOs) contracted by the Government of Bangladesh to deliver primary health care including family planning and reproductive health services under the UPHCP. The government benefits by improving service quality and increasing its capacity to meet demand for family planning and reproductive health services. MSB decided to bid for this contract to support national health goals and to strengthen MSB's organisational capacity, linkages, and relationships.

The UPHCP enables MSB to provide more and better services to clients living in urban areas, especially the poor. At the time of this writing, project donors, SDOs and the government were considering how to strengthen the UPHCP ahead of its third phase of implementation. The UPHCP's reach is to be expanded, and the model adapted to delegate more power to SDOs so they can operate more freely. The donor is also planning to act as a mediator between SDOs and the government, with more accountability for SDOs as a result.

Source: USAID 2012.

## 7.6 Implement Improvements in Planning and Budgeting, Including Reducing Fragmentation across GoPNG

**Strengthening planning and budgeting, including reducing fragmentation across GoPNG, is key to addressing inefficiencies in the current system.** Substantial efficiency gains are to be achieved by strengthening budget planning and expenditure management, and linking them to the National Health Plan.

**One factor is comprehensive budget management, which integrates the development and recurrent budgets from GoPNG and external resources.** Spending units need to receive the funds allocated to them in a predictable manner so that they are able to spend them in a timely fashion. Funds are often received too late in the financial year for them to be fully utilised. The 2014 PNG budget is presented as a unified recurrent and development budget, which represents a huge improvement.

**The second factor is strengthening planning and budgeting processes, including accountabilities and reporting arrangements.** For instance, the Public Sector Health Reports, and NDoH's associated budget, is currently structured around ten programs. The Medium Term Expenditure Framework is structured around service levels and the National Health Plan and AAPs are structured around seven KRAs. Whilst serving distinct purposes, these budgeting and planning tools do not clearly interrelate. It is encouraging to hear that work is underway to restructure the budget for 2014 onwards for seven programs in line with the KRAs. For accountability purposes, it is critical to have a unique link between organisational units, program structure and the plan. In addition, the timing of the annual sector performance review, providing valuable monitoring information for decision makers is not currently synchronised with the budget calendar. Close alignment of timing, and training on the use of the information could improve budgetary decisions.

**At the provincial level, the standardisation of program and activity expenditure codes in the PNG Government Accounting System (PGAS) Chart of Accounts will enable improvements in financial**

**reporting.** The NEFC, in collaboration with DoT and DoF, has developed and piloted a framework for standardisation of program and activity codes, across all provincial governments and between the 200 series (national grants) and 700 series expenditures (own source revenue). As a result of this work, the proposed approach may be taken up in the upgrade of the PGAS system which is currently underway. Budget planning and expenditure management could also be strengthened by ensuring that regular financial reports on the release and performance of both the government and donor budget are provided to operational units (particularly where there is a proximity issue); and ensuring that the HSIP at the provincial level is aligned to the provincial AAPs and budget.

**The third factor is ensuring greater clarity of roles and responsibilities.** As illustrated in Figure 2-4, the multiple actors currently engaged in financing of the health sector in PNG have created a high degree of fragmentation and inefficiencies in the planning and budgeting processes. For instance, as discussed in the Independent Annual Sector Review Report, raising the awareness of members of parliament and LLG members at both the provincial and district level of health priorities and AAPs through regular briefings by the PHAs and DHOs could not only include demand-side accountability, but could prevent potential wastage of funds through the DSIP program.

## **7.7 Improve Geographical Targeting of the MDG Health ‘Hotspots’**

**Improving the geographic targeting of expenditure would ensure that the distribution of resources is aligned with needs.** Work conducted by NEFC on the equalisation grant has made significant progress in this regard, however, additional support by donors and central government to enable ‘poorly performing’ provinces to fully expend appropriated funds effectively and draw-down HSIP funds would help address current imbalances.



## Chapter 8: Conclusion

**Health outcomes in PNG have deteriorated in recent decades, giving rise to a sense of crisis in the health sector.** The current system, whilst providing high levels of financial protection and relatively equitable access to health services, is characterised by low health inputs per capita, low health service contact rates and significant inequities in health care use across provinces and educational groups. This paper was motivated by the need to examine ways of financing future investments in the health sector—to address the decline in health outcomes; to meet current demographic trends; address inefficiencies and inequities; and investigate scope in light of strong medium-term prospects for economic growth and revenues.

**In the medium to long term, there exists some scope for economic growth to generate significant additional fiscal space for health, particularly with the commencement of LNG production in 2015 and a number of additional extractive projects that are under active consideration.** Based on past trends, GoPNG's health spending as a share of GDP is likely to remain relatively flat. Government revenue as a share of GDP is, however, projected to fall over the medium term, and should GoPNG's revenue base not improve, budgetary financing gaps are expected to emerge until 2017. As such, significant increases in health expenditure from general revenue are unlikely.

**In the current context, the introduction of comprehensive SHI is also not feasible or sustainable.** Any SHI mechanism would have to be accompanied by a large increase in government revenue-financed subsidies to cover the informal sector. Administrative and technical capacity to run a comprehensive SHI scheme is currently limited and, whilst there has been renewed political commitment to the idea through the Alotau Accord, there is also limited regulatory capacity in-country.

**PHI and CBHI remain limited and, in the current context, are likely to continue to account for only a small share of total financing in PNG.** A limited middle-class, underdeveloped financial market and weak regulatory oversight and management skills suggest voluntary insurance schemes will remain limited in the medium to long term.

**PNG can, however, generate additional resources for health through efficiency savings.** Efficiency savings can be achieved through: (i) allocating more resources to primary care vis-à-vis tertiary care; (ii) improving the mix and productivity of inputs; (iii) leveraging the resources allocated to vertical programs; (iv) continuing improvement in procurement reform; and (v) implementing improvements in planning and budgeting. Forms of delivery, including DFF, will not only generate additional resources for health but will improve the sustainability of financing in the longer term.

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