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A SNAPSHOT OF HEALTH EQUITY IN PAPUA NEW GUINEA:

An analysis of the 2010 Household Income and Expenditure Survey

Wayne Irava, Katie Barker, Aparnaa Somanathan and Xiaohui Hou

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Health, Nutrition and Population (HNP) Discussion Paper

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Health, Nutrition and Population (HNP) Discussion Paper

A Snapshot of Health Equity in Papua New Guinea: An analysis of the 2010 Household Income and Expenditure Survey

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Abstract: This paper highlights challenges that the government of Papua New Guinea faces in delivering equitable health care. It analyses findings from the 2010 household survey, including sickness reporting, health service utilization and out of pocket expenditure — concluding that the poorest quintile is most vulnerable to illness, yet has the lowest utilization rates of healthcare facilities. The lack of healthcare workers and the distance to facilities are among the most dominant reasons cited for not utilizing healthcare facilities in the poorest quintile while out-of-pocket payments have minimal catastrophic impact, yet have still been found to be a barrier to utilization. The paper also sets out policy implications of these findings, including the need for the government to focus on, and prioritize, strengthening the health services delivery to achieve Universal Health Coverage.

Keywords: Papua New Guinea, health equity, health services utilization, out-of-pocket payments.

Disclaimer: The findings, interpretations and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

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PREFACE

The health equity analyses in this report seek to provide evidence about the utilization of health services. The analyses look into people's responsiveness to illness and health services, as well as the accessibility of services. Out-of-pocket (OOP) spending on health looks at the costs incurred to the population for the use of health services. The objective is to explore whether OOP has catastrophic or impoverishment effects on the population. Results arising from these analyses will certainly be useful (we hope) for health policy makers, and vital for any calls for reformation of the health system.

The healthy equity analyses methods adopted here mirror the methodological approach presented in the World Bank report "Analyzing Health equity Using Household Survey Data" by Adam Wagstaff and colleagues (2008). In this report the analysis focuses primarily on health care utilization, out-of-pocket expenditures for health, and their catastrophic or impoverishment impacts.

The 2010 Papua New Guinea (PNG) Household Income and Expenditure Survey (HIES) data is ideal for Health Equity Analysis for several reasons. The HIES (i) is the most recent dataset that contains a national representative sample, (ii) contains information related to health utilization, expenditure and consumption, and (iii) includes both government and non-government healthcare facilities. The HIES data is thus the most comprehensive and useful source for estimating utilization and spending on health services.

EXECUTIVE SUMMARY

Background

The country of Papua New Guinea faces a number of formidable obstacles to achieving equitable healthcare for the entire population. There are geographical access constraints as a result of the partially rugged terrain and a predominately rural population (87.5 percent). There is a critical shortage of health care workers in PNG, especially in the rural areas. This issue is compounded by the condition of the current health workforce, which is inadequately trained, aging and demotivated due to poor working conditions. Access to quality infrastructure, medicine and to medical supplies is limited. Health providers involved in the delivery of healthcare services range from government owned facilities, church health services and to a lesser extent, privately managed hospitals and clinics. The coordination between this range of healthcare providers is poor and service delivery is complex.

Purpose of Analysis

This paper analyses the findings of the 2010 Household Income and Expenditure Survey. It highlights a baseline that can be used to evaluate current programs and more in-depth health equity analysis in the future. Whilst the findings in this brief are not new, they serve as a reminder of the barriers to health care utilization and reinforce the key issues that impact access to PNG's health system. The purpose is thus to generate and solidify evidence related to health equity, highlight its implications, and assist with policy guidance.

Key Findings:

- Ill health is more concentrated among the poor. Across quintiles, the poorest 20 percent of the population had a higher percentage of illness.
- The survey showed that the poorest households were less likely to seek treatment than richer households when having reported some health discomfort. The predominant reasons given were: (i) health facilities were too far, (ii) health workers were not present and (iii) healthcare was too expensive.
- Like other Pacific Island countries, PNG has relatively low out-of-pocket (OOP) expenditure for health. This is especially true when compared with many of the Asian countries.

Policy Implications

1. The government of PNG has established Free Primary Health Care and Subsidized Secondary Care. The PNG government should focus on, and prioritize strengthening the health services delivery system, which implies having a health workforce that can support an affordable, efficient, well-run health system that meets priority health needs. An effective health system requires good governance, sound systems of procurement, sufficient supply of medicines, and well-functioning health technologies and information systems. Overall, the priority should be to use available funds more efficiently and equitably.
2. Access to quality health facilities and healthcare workers needs to be continually improved and monitored. This improvement must include an increase in the number of trained health workers. Provision needs to be made for ongoing professional learning, including interpersonal and teamwork skills. Health workers must have access to suitable working environments and appropriate resources (that is, medicines, medical supplies and up-to-date protocols).
3. The utilization of healthcare facilities needs to be monitored and improved, especially amongst the poorest quintiles. Funding must be commensurate with need. Initiatives geared toward the most

vulnerable that are not increasing utilization, that is, mobile clinics or patrol visits need to be reviewed and amended. Though increased resources were allocated to these initiatives, the on-time receipt of funding by the front line services remains an issue. The cost and distribution of medicine needs to be improved and monitored.

4. OOP payments need to be continuously improved and monitored. The impact of a potentially tighter fiscal space on health care spending and the effect that it has on OOP payments, especially in the poorer quintiles, needs to be monitored. Whilst OOP payments have minimal catastrophic impact, the healthcare expenses have been shown to be a barrier to healthcare utilization, especially amongst the poorest. Therefore, it still affects the equity of the health system.

INTRODUCTION

The country of Papua New Guinea faces a number of formidable obstacles to achieving equitable healthcare for the entire population. All aspects of health care access in PNG — including geographical access, qualified health care workers, infrastructure, medicine and medical supplies — favour the richest quintiles. The PNG government is striving to change this reality, but has not been successful to date.

Of all the island nations in the Pacific Basin, the health system of PNG is perhaps the most complicated. This complexity arises from a number of factors but certainly significant is the fact that PNG (relative to other Pacific Island countries) has a large, predominately rural population with a myriad of cultures, scattered over a large diverse and rugged terrain. This makes health service delivery to the population a challenging task.

In addition to geographic constraints, PNG has a critical shortage of health care workers. This issue is compounded by the condition of the current health workforce, which is inadequately trained, aging and demotivated due to poor working conditions.

Health providers involved in the delivery of healthcare services range from government owned facilities, privately managed hospitals and clinics, and large church-based institutions many of which are heavily subsidized by the government. This is in contrast to most Pacific Island countries, where the delivery of health services is largely a government owned and managed system. The significant involvement of private and church-based health providers adds to the complexity of the management and monitoring of PNG's health system.

The National Department of Health (NDoH) — the PNG government's arm that governs the country's health system —acknowledged in their 2011 annual report that these challenges (together with inadequate financial resources) continue to deny the majority of the population their right to quality healthcare. The same report presents falling and plateaued health indicators and calls for reforms and new approaches. The report specifically calls for the development of a health system that is responsive, effective and affordable, acceptable and accessible to everyone in the country.

The health equity analysis methods adopted here mirror the methodological approach presented in the World Bank report "Analyzing Health Equity Using Household Survey Data" by Adam Wagstaff and colleagues (2008). In this report, the analysis focuses primarily on health care utilization, out-of-pocket expenditures for health, and their catastrophic or impoverishment impacts.

The 2010 PNG HIES data is ideal for health equity analysis for several reasons. The HIES (i) is the most recent dataset that contains a national representative sample, (ii) contains information related to health care utilization, expenditure and consumption, and (iii) includes both government and non-government healthcare facilities. The HIES data is thus the most comprehensive and useful source for estimating utilization and spending on health services.

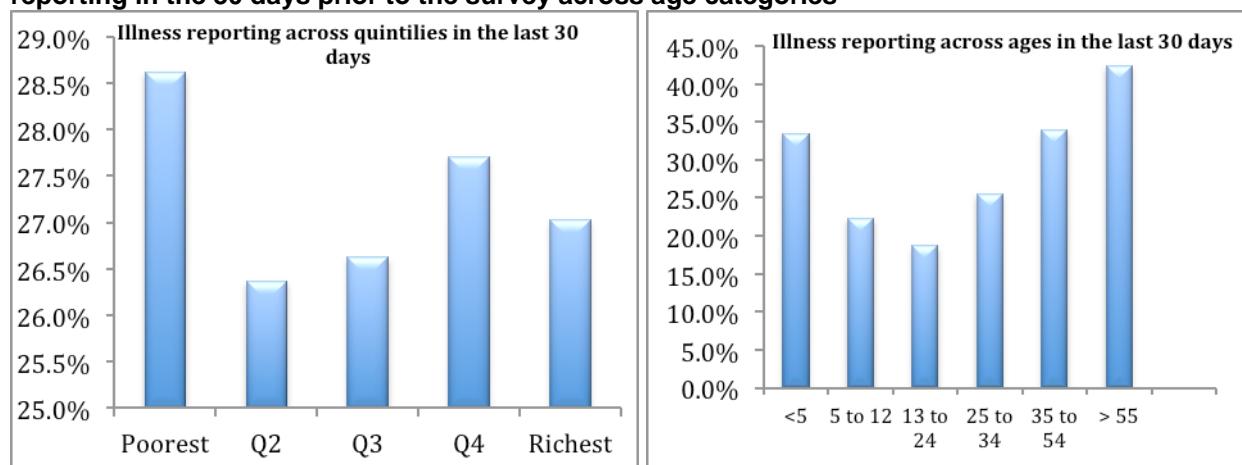
The health equity analyses in this report seek to provide evidence about the utilization of health services; validating the necessity for change. The PNG population's responses to illness and utilization of health services, as well as the accessibility of services are examined. The section on out-of-pocket (OOP) spending on health looks at the costs incurred to the population for the use of health services. The objective is to explore whether OOP has catastrophic or impoverishing effects on the population. Results arising from these analyses will certainly be useful for health policy makers as a vital guide for reforming the health system.

SICKNESS REPORTING AND HEALTH SERVICES UTILIZATION

Health equity is the *absence of systemic disparities in health between groups with different levels of underlying social advantages/disadvantagesⁱ*. Better understanding of health equity issues can improve the distribution of resources based on need. In PNG, the poorest quintile of the population has a higher percentage of illness.

Figure 1a shows that approximately 27 percent of the population reported having some health problem in the 30 days prior to the survey. Across quintiles, the poorest 20 percent of the population had a higher percentage of illness reporting. The incidence of self-reported illness is higher in the fourth and fifth quintiles compared to the second and third quintiles. This may be because the better-off were better able to identify the symptoms and not necessarily confirmation that the second and third quintiles have better health. Across age categories, children and the elderly reported the highest percentage of health complaints (Figure 1b).

Figure 1: A. Illness reporting in the 30 days prior to the survey across quintiles; B. Illness reporting in the 30 days prior to the survey across age categories



While the poorest were the most likely to experience illness they were less likely to seek treatment than richer households. Across different age groups, treatment was most likely to be sought for children younger than 5 years old. Those over 55 years old were among the least likely to seek treatment despite being found to be the most vulnerable group. This could be attributed to constraints such as a diminished ability to travel to health facilities, inability to afford OOP payments, or a preference for traditional medicines.

Similar to the overall trends, treatment was much more likely to be sought for children from rich households than children from poorer households (Figure 2). This is not an indicator of higher illness prevalence in wealthier households. In fact, children in the poorest quintile are the most vulnerable to illness, however they have limited access to health services.

Figure 2: Percentage of children who sought treatment for their health complaint, by quintile.

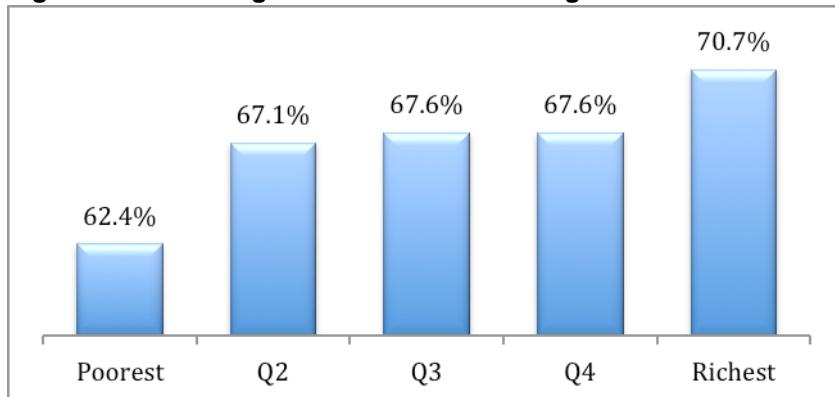
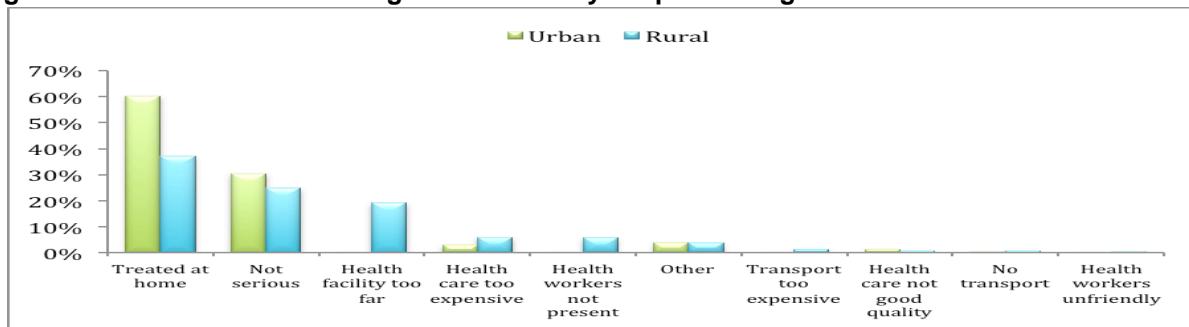


Figure 2 illustrates the reality that health services utilization is not a direct reflection of need. The figures below explore causes and compare perceived barriers to health care in urban versus rural areas and in the poorest versus richest segments of the population. In addition to highlighting access issues it also shows behaviour patterns that should be considered when developing policies and programs.

In order to further understand the underlying reasons why health services utilization is not a direct reflection of need, as discussed above, more in depth analyses were conducted to compare perceived barriers to health care in urban versus rural areas across the wealth quintiles.

On average, 45 percent of those who reported some health discomfort did not seek treatment. The survey was ambiguous in this question. In urban areas, 60 percent of those who had some discomfort, and 40 percent in rural areas reported the main reason for not seeking treatment as “being treated at home” (Figure 3). It is not clear what treatment was given at home, whether it was a home-based remedy or a visit from a medical professional. This first scenario is possible given the patrol program offered in the rural areas (although quite infrequent) and the ability of the rich to afford a private medical provider visit in the urban areas. However, it also raises some behavioral or cultural issues quite common in the Pacific region, where there is a tendency to try home-based remedies and only visit a medical facility for critical situations.

Figure 3: Reasons for not visiting a health facility despite having some health discomfort.



It is alarming that 20 percent of the rural population reported that the “health facility is too far” and close to 10 percent of the rural population reported that “health care is too expensive” and that “health workers are not present” as the main reasons for not seeking care. This implies that access to health facilities in rural areas and the presence of health workers are ongoing challenges facing the PNG health system.

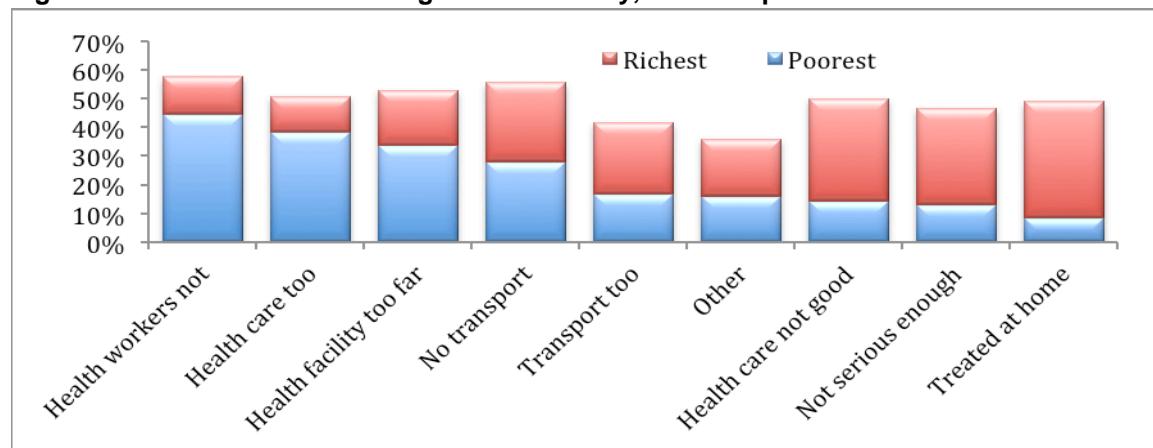
When comparing across the quintiles, the poorest are more disadvantaged in terms of access to care for both financial and non-financial reasons. Figure 4 highlights the inequity of the poorest quintile in comparison to the richest 20 percent for the reasons: (i) health facilities are too far, (ii) health workers are not present and (iii) healthcare is too expensive.

The reason "healthcare workers are not present" is not surprising given that PNG faces a critical shortage of health workers. PNG currently has 6 health workers per 10,000 people, which is well below the 23 health workers recommended by WHO to achieve the MDGs.ⁱⁱ In addition to the low number of health workers, the current workforce has been found to be inadequately trained, aging and demotivated by poor working conditions, including pay and infrastructure. This contributes to concerns of "health care is not good quality" (Figure 3 and 4) and "health workers are unfriendly" (Figure 3). Shortage of staff, poor conditions, and insufficiently trained staff are felt most acutely in the poorer or rural areas.

The fact that "health facilities are too far" highlights the challenges of health services delivery in a country like PNG. Only 12.5 percent of PNG's population lives in urban centres.ⁱⁱⁱ The geographic terrain and a predominantly rural and scattered population make ease of physical/ geographical access to health services a challenging deliverable.

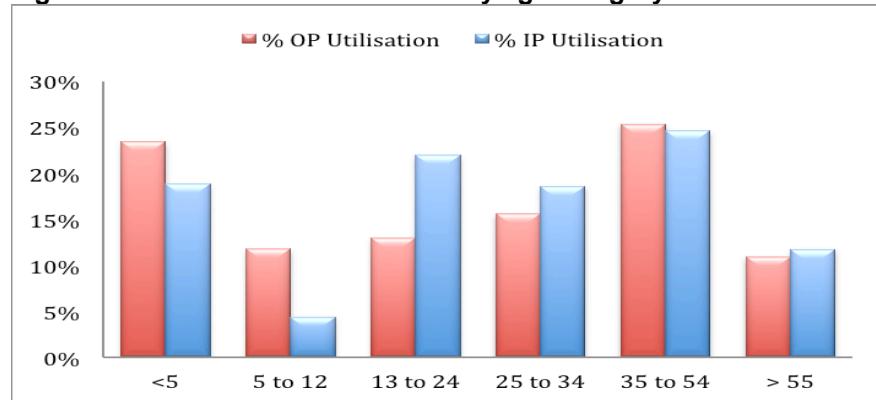
Interestingly, the 20 percent richest segment of the population was also dissatisfied with the quality of the health care services. Although this reason was less reported amongst the 20 percent poorest segment, it is a serious issue as well.

Figure 4: Reasons for not visiting a health facility, between poorest and richest



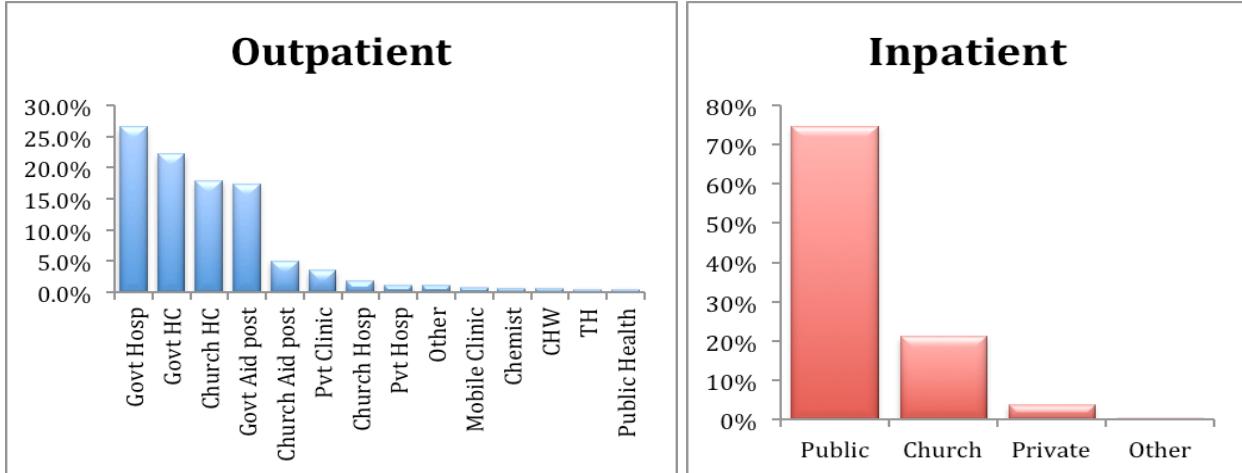
While elderly people are more prone to illnesses, their outpatient and inpatient utilization is quite low compared to other age groups. Figure 5 shows outpatient and inpatient utilization across six age categories. Approximately 15 percent of the population visited an outpatient health facility in the 30 days prior to their date of survey interview. The outpatient visit percentage was highest in the age category 36-55, and was followed by the age category less than 5. In the case of inpatient utilization, 4 percent of the population reported that they were hospitalized in the last 12 months.

Figure 5: Health services utilization by age category



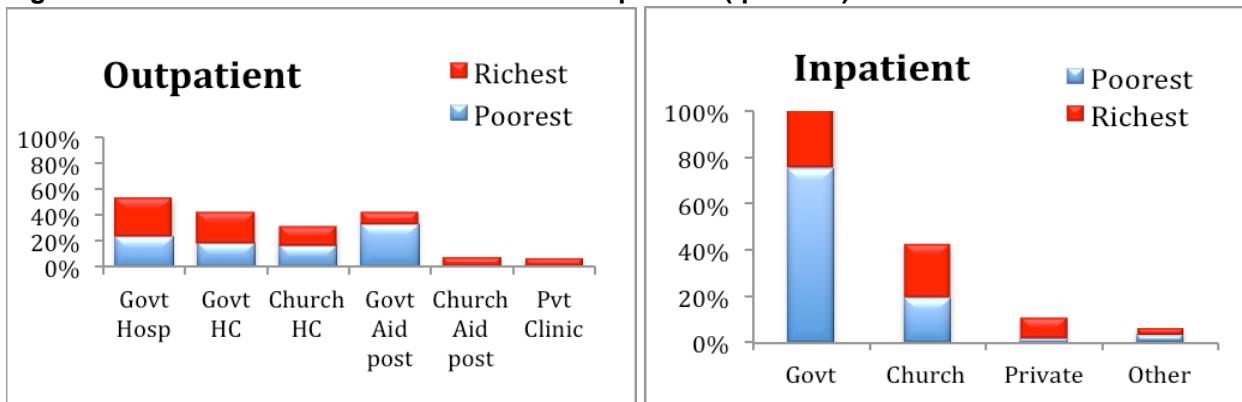
Government-run health facilities were the most utilized for both inpatients and outpatients. Church managed facilities are also prominent in outpatient services. Facilities such as mobile clinics, community health worker and public health posts showed very little use — these were the facilities designed to meet the health needs of the population in remote villages and communities. The utilization of these services should potentially be quite high given that most of the PNG population is located in rural or remote localities. The private (for profit) hospitals and clinics show some utilization however it is minimal in comparison to public and church managed facilities.

Figure 6: Percentage utilization of health services by facility type



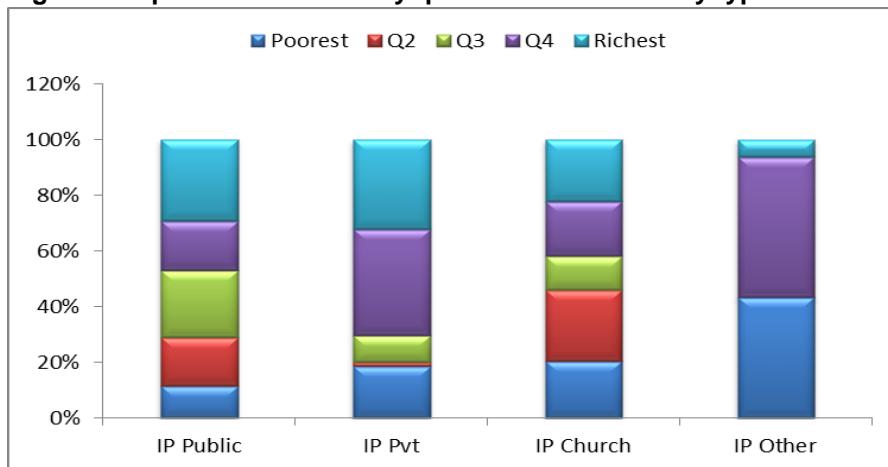
Between the richest and the poorest, outpatient utilization was greater amongst the poorest only in government aid posts. In terms of inpatient utilization, the richest used public, private and church facilities more than the poorest.

Figure 7: Utilization between the richest and the poorest (quintiles)



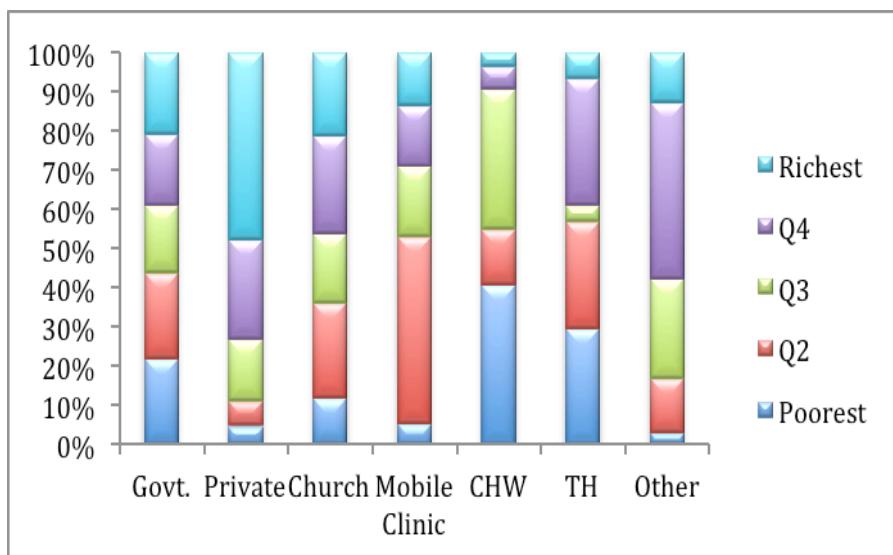
Inpatient utilization by quintiles and facility type show that utilization by the richest is more concentrated in public and private facilities while utilization by the poorest is concentrated in the church and other inpatient facilities.

Figure 8: Inpatient utilization by quintiles across facility type



Outpatient utilization by quintiles and facility type show that private facilities are more utilized by the rich, while the poor opt to utilize community health workers and traditional healers. Utilization of government run facilities is relatively equal across quintiles.

Figure 9: Outpatient utilization by quintiles across facility type



OUT-OF-POCKET HEALTH EXPENDITURE, CATASTROPHIC HEALTH EXPENDITURE AND IMPOVERTISHMENT IMPACTS

PNG has relatively low out-of-pocket (OOP) expenditure for health by international standards. OOP, as a percentage of total household expenditure, accounts for only 0.5 percent. This percentage is higher in urban areas as opposed to rural areas (see Figure 10). OOP is also pro-rich. The richest quintiles spend more out-of-pocket (Figure 11). The richest 20 percent of the population account for 59 percent of total OOP. Seventy five percent of OOP is accounted for by the richest 40 percent of the population. The poorest 20 percent only account for 4 percent of total OOP. However, the economic burden is greater for the poor since the rich have a higher capacity to pay.

Figure 10: OOP as a percentage of total household expenditure

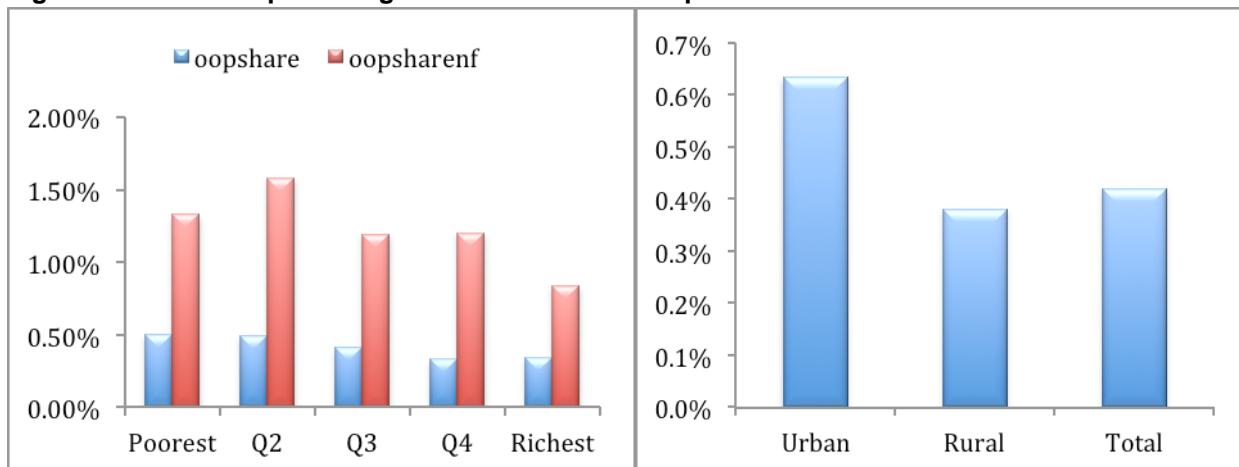
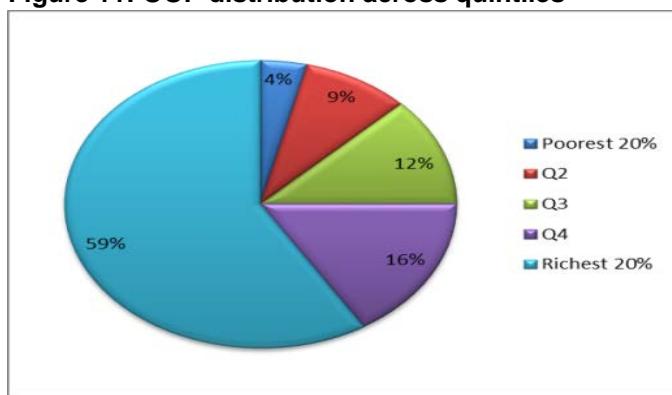
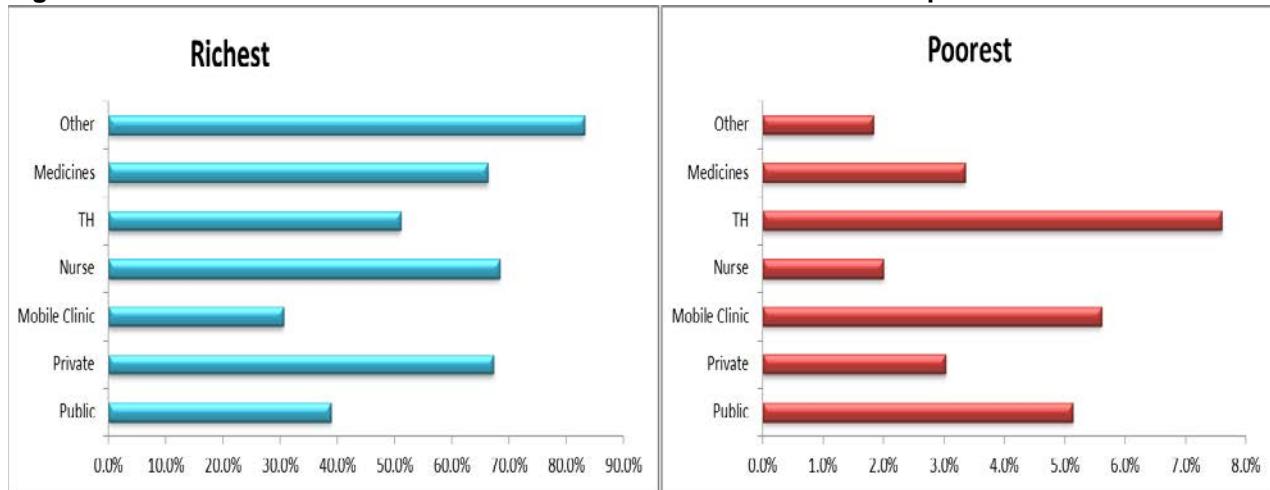


Figure 11: OOP distribution across quintiles



OOP payments are slightly more in urban areas than in rural areas. Reasons for this could include increased access to private facilities (for treatment or to procure medicines) and greater economic power. When comparing OOP spending between the richest 20 percent and poorest 20 percent (see Figure 12), the poorer population tends to spend most of OOP on traditional healers and the public facilities. Amongst the richest quintile, OOP is concentrated in the following categories: Other, Nurse, Private and Medicines.

Figure 12: OOP distribution across facilities between the richest and the poorest



The catastrophic impact of OOP in health is relatively small in PNG. OOP spending on health is considered catastrophic when a household's financial contributions to the health system exceed 40 percent of income remaining after subsistence needs have been met^{iv} - that is, expenses are high relative to the resources available to the household and thus disrupts the household's normal living standards^v. OOP took up no more than 30 percent of total consumption in any household in PNG and only 0.02 percent of households spent more than 20 percent of their total consumption on OOP, and 0.23 percent of households spent more than 10 percent of their budgets (Table 1).

Table 1: Percentage of households by OOP as a share of consumption

| OOP as a % of household consumption | % households (denominator consumption) | - total | % households (denominator: non-food consumption) |
|-------------------------------------|--|---------|--|
| <0.01% | 89.55 | | 75.30 |
| 0.01-4.99% | 9.12 | | 18.96 |
| 5-9.99% | 1.1 | | 3.88 |
| 10-19.99% | 0.21 | | 1.21 |
| 20-29.99% | 0.02 | | 0.35 |
| 30-39.99% | 0 | | 0.21 |
| 40-49.99% | 0 | | 0.06 |
| 50-59.99% | 0 | | 0.03 |
| > 60% | 0 | | 0 |
| Total | 100% | | 100% |

Consequently, the impoverishing impact of OOP spending in health is small. Table 2 presents poverty measures corresponding to household consumption gross and net of OOPs. A comparison of the two shows the scale of impoverishment due to health payments. The idea is that a health problem necessitating OOPs may be serious enough to push a household from being above the poverty line before the health problem to being below the poverty line after the health problem. The first column, the poverty headcount, which excludes the health payment (consumption excluding health payments) – or pre-OOP payment poverty headcount, gives us a sense of what the standard of living looks like *without* the health problem; the second column, the poverty headcount by adding OOPs to the household's nonmedical consumption (consumption including – or gross of – health payments) – post-OOP payment poverty headcount (%), gives us a sense of what the standard of living would have been *without* the health problem. The assumption here is that OOPs are involuntary and caused by health “shocks”; health spending is assumed to be financed by reducing current consumption. The difference between the pre-OOP payment poverty headcount (%) and post-OOP payment headcount (%) is the poverty impact. The

poverty impact with regards to OOP is minimal in PNG (Table 2). The results are similar when using different international poverty line of PPP \$1.08/day, \$1.25/day and \$2/day and compared with other countries (Figure 14).

Table 2: Poverty impact of OOP

| <i>Poverty Line (\$)</i> | <i>Pre-OOP payment poverty headcount (%)</i> | <i>Post-OOP payment poverty headcount (%)</i> | <i>Poverty Impact (%)</i> |
|--------------------------|--|---|---------------------------|
| 1.08/day PPP | 17.39 | 17.49 | 0.10 |
| 1.25/day PPP | 16.25 | 16.29 | 0.04 |
| 2.00/day PPP | 30.42 | 30.49 | 0.08 |
| 2.15/day PPP | 45.91 | 46.16 | 0.25 |

SUMMARY

Ill health is more concentrated among the poor in PNG. Across quintiles, the poorest 20 percent of the population have a higher percentage of illness. The poor use health services less than the rich. The survey showed that the poorest were less likely than wealthier households to seek treatment when having reported some health discomfort. The predominant reasons included: (i) health facilities were too far, (ii) health workers were not present, and (iii) healthcare was too expensive. There was also a high percentage of the rich who chose not to utilize health facilities, citing a preference for being treated at home and concerns with the quality of services provided. Between the richest and the poorest, outpatient utilization was greater amongst the poorest only in government aid posts. In terms of inpatient utilization, the richest used public, private and church facilities more than the poorest.

The effect of out-of-pocket payments on household financial well-being is minor. Like other Pacific Island countries, PNG has relatively low OOP expenditure for health. Especially when compared with many of the Asian countries. The two poorest quintiles of the population spend a higher proportion of their consumption on health when compared to the richer population. Health expenditure was cited as the main reason for not utilizing health facilities by the poorest and remains a barrier to achieving an equitable health system.

Policy implications

1. The government of PNG is moving toward Universal Health Coverage, along with many other developing countries. The goal is to ensure that all people obtain the health services they need without suffering financial hardship when paying for them. The government of PNG has recently established "Free Primary Health Care and Subsidized Secondary Care." Now, the government should focus on, and prioritize strengthening health services delivery, which implies having a healthcare workforce that can support an affordable, efficient, well-run health system that meets priority health needs. An effective health system requires good governance, a sound systems of procurement, sufficient supply of medicines, current health technologies and well-functioning health information systems. Overall, the priority should be to use available funds more efficiently and equitably.
2. Access to quality health facilities and healthcare workers needs to be continually improved and monitored. This improvement must include an increase in the number of trained health workers. Provision must be made for ongoing professional learning, including interpersonal and teamwork skills. Health workers must have access to suitable working environments and appropriate resources (that is, medicines, medical supplies and up-to-date protocols). These improvements will nurture the health worker- patient relationship by improving the attitudes of the workforce and the confidence patients have in the health workers' skills. Attention must be paid to engaging and retaining health workers in rural areas.
3. The utilization of healthcare facilities needs to be monitored and improved, especially amongst the poorest quintiles. Funding must be commensurate with need. Initiatives geared toward the most vulnerable that are not increasing utilization, i.e. mobile clinics or patrol visits need to be reviewed and amended. Though increased resources were allocated to these initiatives, the on-time receipt of funding by the front line services remains an issue. The cost and distribution of medicine needs to be improved and monitored.
4. OOP payments need to be continuously improved and monitored. The impact of a potentially tighter fiscal space on health care spending and the effect that it has on OOP payments, especially in the poorer quintiles, needs to be monitored. Whilst OOP payments have minimal catastrophic impact, healthcare expenses have still been shown to be a barrier to healthcare utilization, especially amongst the poorest. Therefore, healthcare expenses still affect the equity of the health system.

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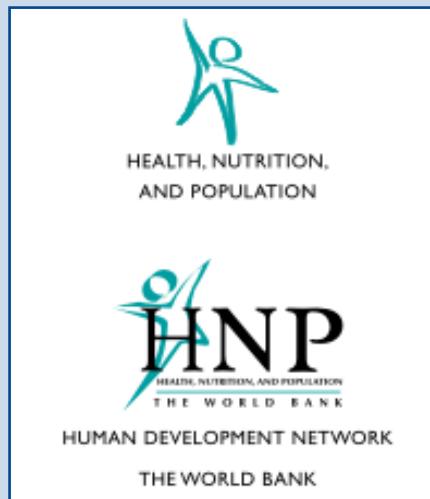
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