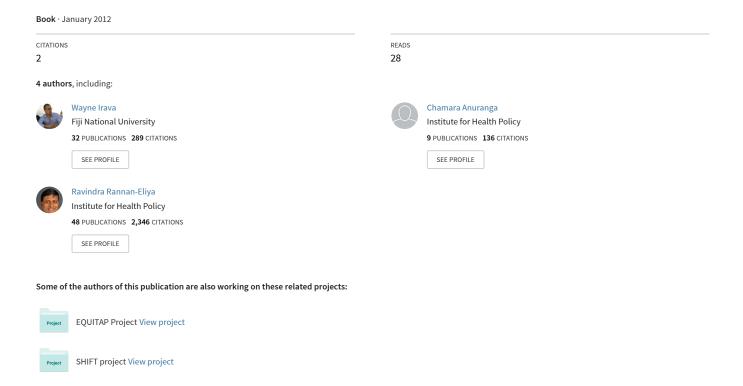
The impact of out-of-pocket expenditures on families and barriers to use maternal and child health services in Papua New Guinea; evidence from the Papua New Guinea household survey...



The Impact of Out-of-Pocket Expenditures on Families and Barriers to Use of Maternal and Child Health Services in Papua New Guinea

Evidence from the Papua New Guinea Household Survey 1996 and Household Income and Expenditure Survey 2009–2010

COUNTRY BRIEF







Summary

- Overall healthcare use is low in Papua New Guinea, with significant income-related inequalities in use, which is related to inequalities in access.
- Infants and children account for 6% and 16%, respectively of all healthcare visits, and they rely more on services at non-hospital public facilities (e.g., health centers and government aid posts) and public hospitals followed by church health facilities.
- Families report distance and transportation barriers as the main reason for not seeking medical treatment when their children are sick. The poor also identified the cost of treatment as the second major barrier to accessing medical care.
- The cost of visits is greatest at private hospitals, while visits to public facilities are comparatively cheaper, and non-hospital public facilities are cheaper to access for most people than public hospitals.
- Levels of catastrophic expenditures due to medical out-of-pocket spending are low in Papua New Guinea, but they are related to very low rates of healthcare use and limited availability of private services.
- Out-of-pocket healthcare spending is highly concentrated, with the richest 20% of Papua New Guineans accounting for 59% of all out-of-pocket healthcare spending.
- Addressing the physical barriers of access to functioning basic services and financial barriers outside the major urban centers would benefit poor mothers and children more than attempting to reduce current high levels of spending by the non-poor.

Background

The past three decades has seen little improvement in health indicators in Papua New Guinea (PNG). The country is not on track to achieve the health MDGs. Overall maternal and child health indicators are amongst the worst in the Asia-Pacific region, and the HIV/AIDS epidemic is one of the most serious.

Results from the 2006 Demographic and Health Survey (National Statistics Office 2009) underline the challenges. The infant mortality rate was 58 in 2006, little improved from the estimate of 69 made in the 1996 DHS. The UN estimated the maternal mortality rate as 230 in 2010, amongst the highest in the Asia-Pacific region (World Health Organization 2010). As reflected in the PNG National Health Plan (2011–2020), the strategic priorities of both the National Department of Health (NDoH) and its key development partners (AusAID, NZAID, UN agencies, World Bank, ADB) include the strengthening of primary healthcare services, the improvement of maternal and health outcomes, and tackling the challenge of HIV/AIDS (AusAID 2011, Government of Papua New Guinea 2010).

The Government of Papua New Guinea provides most health services in PNG, but church missions make a major contribution to rural service delivery. Mission services receive financial support from government, and coordinate closely with it. There is only limited for-profit private sector delivery. Concentrated in urban centers, it mostly provides outpatient care and medicines, but private services serving workers in the resource extraction industries may increase substantially in coming years.

A deterioration in health services coverage and performance since the 1990s has accompanied the poor performance in health outcomes. The DHS 2006 shows that for several critical service indicators, such as use of skilled birth attendance, or use of appropriate treatments for diarrhea, coverage fell or remained unchanged in the preceding decade. This decline took place despite real increases in government health

spending (Asian Development Bank 2007). Explanations include problems resulting from decentralization of services, and the associated fragmentation of public delivery and sector management. Financing flows to districts have been disrupted, and there are increasing funding gaps at facility level. User fees are widely prevalent and often critical for government facilities, but national planners lack reliable information on their levels or impact, hindering efforts to abolish user fees.

According to World Health Organization (WHO) estimates (WHO 2012), health financing in PNG is predominantly by the public sector (72%). Government spending was 2.6% of GDP in 2010, falling from 3.1% in 1996. This was higher than in Indonesia (1.3%), and comparable to other Pacific countries, such as Fiji (3.4%), but lower than in Vanuatu (4.8%) and the Solomon Islands (8.0%). The contribution by household out-of-pocket spending is small, estimated at only 16% of total financing. Beyond these aggregate WHO estimates, there is limited reliable data on financing flows in PNG's health sector, such as national health accounts, and discussion of the financial impacts of out-of-pocket healthcare spending on households has been limited by lack of detailed analyses.

Data Sources

This country brief presents findings from analysis of the Papua New Guinea Household Survey 1996 (PNGHS 1996) and Household Income and Expenditure Survey (HIES 2009–2010). The two surveys allow for an exploration of how healthcare utilization has changed over a 13-year period.

The PNGHS 1996 was a nationally representative survey of 1,200 households (6,986 individuals). It covered all provinces except Bougainville, where the then conflict prevented fieldwork. Similar inaccessibility and insecurity issues prevented data collection from certain localities in the HIES 2009–2010, although all provinces were surveyed.

In total, the HIES 2009–2010 covered 4,081 households (22,719 individuals). Both surveys collected data on household living standards, including healthcare spending and use. Their detailed household consumption module is used here to categorize the population into equal quintiles of consumption per adult-equivalent as a measure of relative living standards. The HIES 2009–2010 also collected information on health, such as individual level health status, utilization and expenditure on healthcare services.

Other than its small sample size, the 1996 survey suffers from several deficiencies that limit what analyses can be done of health spending, while the HIES 2009–2010 is more standardized and comparable with other regional surveys. Unlike the PNGHS 1996, the HIES 2009–2010 asked the number, cost and purpose of visits to healthcare providers, which permits more detailed analysis of healthcare utilization and out-of-pocket expenditures. The HIES 2009–2010 also included questions on health status and incidence of illness, which allows analysis of inequalities in rates of reported illness and in access in relation to the need for treatment. Other differences particularly in the healthcare use questions, mean that many indicators in the two surveys are not comparable.

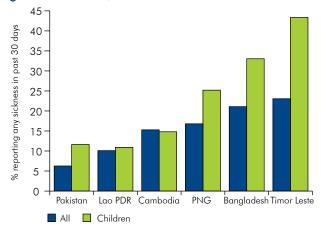
Perception of Illness and Treatment Seeking

The HIES 2009–2010 asked whether individuals were sick within the last 30 days. In total 29% overall and 37% of children below 5 years were reported sick. Compared to other lower-income countries, illness reporting in PNG is relatively high (Figure 1). However, self-reporting of illness is an unreliable measure of differences in health status within a population. Illness reporting increases with income and the gradient is steeper in children under five (Figure 2). Illness reporting is more likely for children in the richest quintile (44%) than for those in the poorest quintile (31%). This indicates that health awareness in the poor considerably lags that in richer families. Rates differ also by sector with individuals living in rural areas reporting more illness compared to the urban population.

In the HIES 2009–2010, medical treatment includes visits to government, private and church medical providers as well as chemists or drug shops. The overall rates of use of medical care by those reporting sickness in PNG (54% overall and 68% for children) are low compared to other regional countries, where typically 70%–90% of individuals reported as sick obtain medical treatment (Figure 3). Treatment seeking for children is higher, but still less than in many other countries.

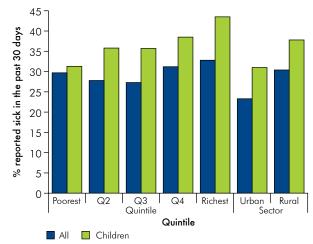
There are also inequalities across income groups in seeking medical treatment when sick. The poor suffer from a higher burden of maternal and child illness and death than the non-poor in PNG, according to the DHS 2006 (National Statistics Office 2009) and analyses of national census data (Bakker

Figure 1: Illness Reporting in Papua New Guinea, and Regional Countries, Recent Years



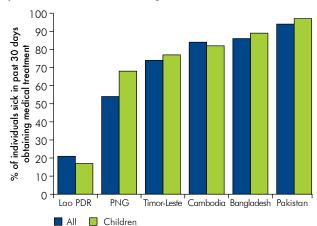
Lao PDR = Lao People's Democratic Republic, PNG = Papua New Guinea Source: Authors' analysis of HIES 2009–2010 data set and analyses of Asian Development Bank technical assistance project.

Figure 2: Illness Reporting in Papua New Guinea, by Socioeconomic Status and Sector, 2009-2010



Q = quintile Source: Authors' analysis of HIES 2009–2010 data set.

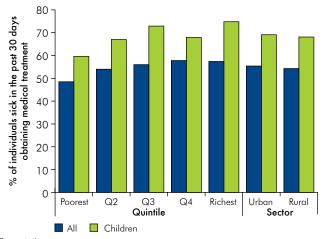
Figure 3: Use of Healthcare Services by Sick Individuals in Papua New Guinea and Regional Countries, Recent Years



PNG = Papua New Guinea, Lao PDR = Lao People's Democratic Republic Source: Authors' analysis of HIES 2009–2010 data set and analyses of Asian Development Bank technical assistance project.

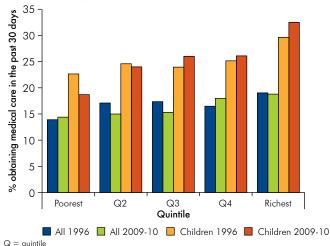
1986). The poor should be in greater need of medical care, but in practice they make less use and suffer from greater barriers to access. The HIES 2009–2010 data show that when sick, the poor are less likely to make use of healthcare services, overall and for their children (Figure 4).

Figure 4: Use of Healthcare Services by Sick Individuals in Papua New Guinea by Socioeconomic Status and Sector, 2009–2010



Q = quintile Source: Authors' analysis of HIES 2009–2010 data set.

Figure 5: Proportion of Individuals Obtaining Treatment in Papua New Guinea by Socioeconomic Status, 1996 and 2009-2010

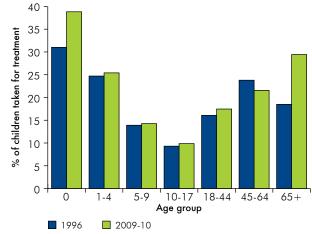


Source: Authors' analysis of PNGHS 1996 and HIES 2009–2010 data sets.

Although the 1996 survey did not collect data on healthcare use when sick, it is possible to compare patterns of overall utilization of healthcare services between the two study years. Similar to Figure 4, Figure 5 shows that the poor make less use of health services than the rich in both the 1996 and 2009–2010 surveys.

Overall healthcare utilization varies by age, with higher rates in infants and children than in young adults, and increasing in older adults with age (Figure 6). The proportion of infants who were taken for treatment in any given month in PNG increased since 1996, and in the recent survey over one fourth of

Figure 6: Proportion of Individuals Obtaining Treatment in Papua New Guinea, by Age Group, 1996 and 2009–2010

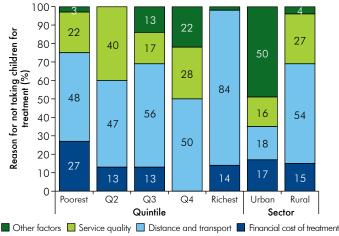


Source: Authors' analysis of HIES 2009-2010 data set.

children were taken for medical treatment in any given month, with no significant differences by sex in illness reporting and utilization. Infants and children accounted for 6% and 16% respectively of all healthcare visits in 2009–2010.

The HIES 2009–2010 asked respondents why they did not seek treatment at a health facility when sick. The commonest reasons for children were distance and transport, service quality, and the financial cost of the treatment. Most individuals who did not go to a health facility were treated at home (52% overall, 56% for children excluding those whose illness was not serious enough to obtain treatment). Transport and physical barriers to accessing health facilities (53%) were the main reason for not visiting a healthcare provider, particularly in rural areas. After physical barriers, the financial cost of treatment was the most important reason for the poorest families not to seek treatment for sick children (22%) indicating that financial barriers contribute to inequity in use (Figure 7). Quality of services was the next most important factor, but mostly for non-poor households.

Figure 7: Reasons for Not Seeking Treatment at Healthcare Facilities When Children Are Sick in Papua New Guinea by Socioeconomic Status, 2009–2010

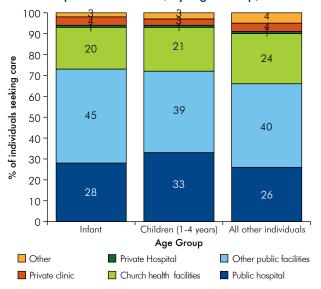


! = quintile

Utilization of Health Services

Most healthcare treatment is obtained from public providers (e.g., public hospitals, health centers and government aid posts), followed by church health facilities. Private clinics and hospitals account for only around 5% of all healthcare visits. The choice of healthcare providers for sick infants and children is similar to other age groups, indicating that preferences do not differ between children and adults (Figure 8).

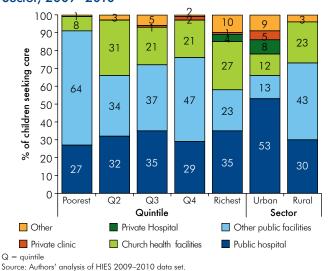
Figure 8: Choice of Healthcare Providers When Individuals Are III in Papua New Guinea, by Age Group, 2009–2010



Source: Authors' analysis of HIES 2009–2010 data set.

Figure 9 shows that the choice of healthcare provider used when children are ill varies by socioeconomic quintile in 2009–2010, with a higher proportion of the poorest families using non-hospital public facilities. Public providers are also primarily used by rural children when ill. While the use of public hospitals is

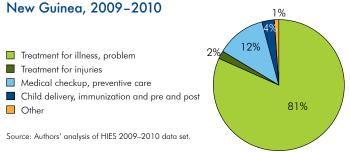
Figure 9: Choice of Healthcare Providers When Children Are III in Papua New Guinea, by Socioeconomic Status and Sector, 2009–2010



similar across income quintiles, utilization of non-hospital public facilities is pro-poor, demonstrated by higher rates of utilization in the poorest quintile. The richest and urban families make greater use of both public and private hospitals when children are ill than poorer and rural families. In addition, the use of private hospitals is concentrated amongst children from the wealthiest households. Overall, wealthier families make more varied use of healthcare facilities, reflecting the greater choice available to them than those in poorer quintiles.

The HIES 2009–2010 asked respondents to identify up to three purposes for their visits to healthcare facilities. Maternal and child health, including family planning, prenatal care and deliveries, were the main purpose in 4% of all visits (Figure 10). Preventive care utilization accounts for 12% of total visits to health facilities.

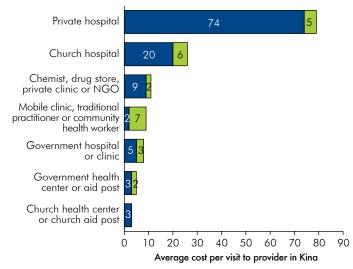
Figure 10: Purpose of Visits to Health Facilities in Papua



Costs of Healthcare Providers

Figure 11 shows the average cost for a child's visit to a healthcare provider. Private hospitals are the most expensive with the cost being over fourteen times greater than at government hospitals or clinics, although average transport costs are similar. Overall, the cost of treatment at public facilities is comparatively cheaper and low transportation costs to these facilities is indicative of better physical accessibility, particularly in rural communities.

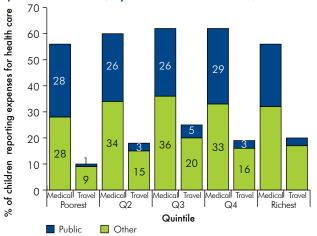
Figure 11: Average Cost for Child's Visit to Healthcare Provider in Papua New Guinea, 2009–2010



Source: Authors' analysis of HIES 2009-2010 data set.

The likelihood of incurring costs for treatment at government facilities and the pattern of expenses are similar across income quintiles (Figure 12), suggesting that the healthcare system is not effective in shielding poor families from financial costs.

Figure 12: Expense Reporting for Children's Medical Care in Papua New Guinea, by Socioeconomic Status, 2009–2010



Source: Authors' analysis of HIES 2009–2010 data set.

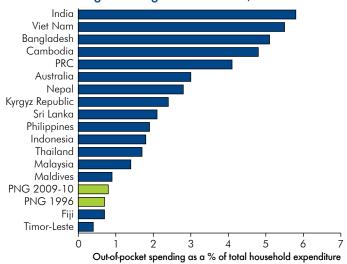
Out-of-Pocket Spending on Healthcare

Out-of-pocket payments deter households from seeking care and can cause considerable hardship. According to the two surveys, annual out-of-pocket medical spending was Kina 5 per capita in 1996¹ (0.7% of total household expenditures) and Kina 36 per capita² in 2009–10 (0.8% of total household expenditures). Despite the increase in the Kina value, medical expenses changed little as a share of total household expenditures. The share is low by regional standards. It is most comparable to countries, such as Timor-Leste, with low levels of healthcare use in which there is both limited availability of public services in rural areas, and almost no private provision (Figure 13).

Both surveys differentiate between spending on medical fees (including for dental and traditional providers) and on medicines (modern and traditional). Spending on medicines accounted for 24% of total healthcare spending in 1996. By 2009–2010 expenditure on medicines increased to 33% of total healthcare spending. These are low in comparison to other developing countries such as Bangladesh and Pakistan, both as a share of healthcare spending and as a share of total household budgets. This is unlikely to be because the supply of medicines is good at public facilities. Rather, it is likely linked to limited availability of private medicine retailers in rural areas.

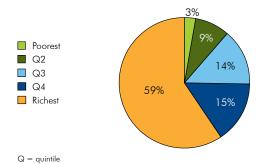
When examined by income level, healthcare spending is significantly concentrated in the richest households and in the National Capital District (NCD), with spending per capita in the richest quintile of individuals being 10 times larger than spending by those in the poorest quintile, and the richest 20% of Papua New Guineans accounting for 59% of all out-of-pocket healthcare spending (Figure 14).

Figure 13: Share of Out-of-Pocket Medical Expenditure in Household Budgets in Regional Countries, Recent Years



PRC = People's Republic of China, PNG = Papua New Guinea Source: Authors' analysis of PNGHS 1996 and HIES 2009–2010 data sets, van Doorslaer et al. (2007), analyses of Asian Development Bank technical assistance project, and unpublished estimates from the Eautiap research network.

Figure 14: Out-of-Pocket Health Expenditure by Socioeconomic Status, 2009–2010



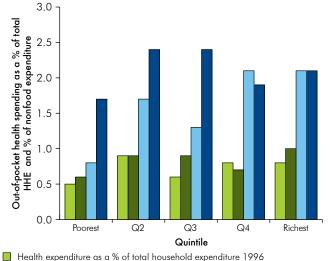
Overall, richer households allocate more of their spending to healthcare than poorer ones. This increase with income is dominated by medical fees, with richer households more likely to make use of private providers and of government hospitals that impose user charges. However, the 2009–2010 data show that health expenditure, both as a percentage of total household expenditure and as a percentage of household nonfood expenditure, increased most in middle income families, reflecting their increased use of paid health services (Figure 15).

These results must be interpreted with caution. They do not mean that richer households face greater financial hardships in accessing healthcare, since their overall healthcare use is higher than in the non-poor. Instead it may be that lack of access to any formal medical services is the major barrier for poorer and rural households. Moreover, the poor may find it difficult to allocate money for health when it is needed, while the non-poor can more easily mitigate unexpected health expenditures.

Exchange rate 1 USD = 1.3 Kina annual average-1996.

² Exchange rate 1 USD = 2.8 King annual average 2009

Figure 15: Share of Out-of-Pocket Medical Spending in Household Budgets and Nonfood Expenditure by Socioeconomic Status in Papua New Guinea, 1996 and 2009-2010



- Health expenditure as a % of total household expenditure 2009-10
- Health expenditure as a % of total household nonfood expenditure 1996
- Health expenditure as a % of total household nonfood expenditure 2009-10

HHE = household expenditure, Q = quintile Source: Authors' analysis of PNGHS 1996 and HIES 2009–2010 data sets.

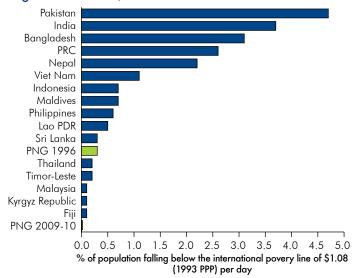
Financial Impacts of Out-of-Pocket **Expenditures**

PNG's healthcare system relies mostly on government financing, so we would expect only a small impact on households from out-of-pocket payments. There are two broad measures that we can use to assess the financial impact of out-of-pocket spending. One is to measure how many households are pushed below the poverty line by such spending (impoverishing impact), and the second is how many households have to devote a large share of their resources for medical treatment expenses (catastrophic impact). Previous studies in the Asia-Pacific region show that heavy reliance on out-of-pocket spending in health systems results in high levels of medical impoverishment and catastrophic spending (van Doorslaer et al. 2006, van Doorslaer et al. 2007).

The HIES 2009–2010 shows that the incidence of impoverishing and catastrophic expenditures in PNG is much lower than in other regional countries, such as Indonesia, Philippines and the People's Republic of China. In 1996, 0.3% of Papua New Guineans were pushed below the one dollar international poverty line³ as a result of medical spending and the HIES 2009–2010 indicates that this percentage further decreased (Figure 16).

Correspondingly, the rates of catastrophic expenditures in PNG are low by regional comparisons. During 1996, in any given month 0.7% of Papua New Guineans had to allocate more than 10% of their total household budget, and only 0.1% had to allocate more than 10% of their monthly nonfood expenditures to medical treatment costs.

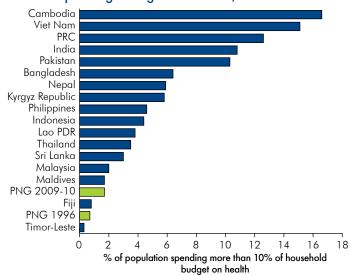
Figure 16: Incidence of Impoverishment Resulting from Out-of-Pocket Medical Spending by Households in Regional Countries, Recent Years



PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic, PNG = Papua New Guinea Source: Authors' analysis of PNGHS 1996 and HIES 2009–2010 data set, analyses of Asian Development Bank technical assistance project, and unpublished estimated from the Equitap re-

The frequency of catastrophic health expenditures increased in 2009–2010 with 1.7% of Papua New Guineans allocating more than 10% of their total household budget to medical treatment costs. Nevertheless, this is still much lower than in other regional countries (Figure 17).

Figure 17: Incidence of Catastrophic Out-of-Pocket Medical Spending in Region Countries, Recent Years



Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, PNG = Papua New Guinea Source: Authors' analysis of PNGHS 1996 and HIES 2009–2010 data set, van Doorslaer et al. (2007), analyses of Asian Development Bank technical assistance project, and unpublished estimated from the Equitap research network

The relatively low financial impact of out-of-pocket medical spending in PNG does not imply that the health system achieves good financial risk protection. The primary reason for the low level of catastrophic expenditures is the low rates of healthcare use, as a result of significant other access barriers.

³ The 'international one dollar poverty line' is equivalent to a consumption level of 1.08 international (1993 PPP) dollars per day, or 0.82 Kina in 1996 and 2.24 Kina in 2010.

Conclusions

Analysis of these two surveys reveals significant inequalities in healthcare use and access, with the poor having worse access, especially to hospital services. Out-of-pocket medical spending is not high in PNG, so does not lead to a high incidence of financial impoverishment. This is not a positive finding as it is associated with low levels of healthcare use and lack of provider alternatives in rural areas for households to spend on. The limited out-of-pocket spending is highly concentrated in the richest households, indicating that measures to improve risk-pooling of such expenditures will have minimal benefit for the poor unless they improve physical access to services for the poor.

Improving maternal, neonatal and child health (MNCH) access and outcomes in PNG should focus on strengthening the functioning of the service delivery network in rural areas, and making access to higher-level and inpatient services, such as at hospitals, more equitable. This should reduce physical barriers by improving the distribution of these facilities beyond urban centers, as well as reducing the financial barrier of user charges. In this light, the current strategy of building community health posts with inpatient facilities for childbirth in rural areas would help to reduce physical access barriers to this type of care. In addition, the recent decision by NDoH to eliminate user charges at higher level government facilities should reduce barriers further and must be welcomed, but it would need to be supported by improved funding for facilities in rural areas.

References

Asian Development Bank (ADB) et al. 2007. Strategic Directions for Human Development in Papua New Guinea. Washington, DC.

AusAID. 2011. Papua New Guinea Health Delivery Strategy – 2011–2015: What development outcomes will Australia contribute to? Canberra.

Bakker, M.L. 1986. The Mortality situation in Papua New Guinea: levels, differentials, patterns, and trends. Port Moresby, PNG: National Statistical Office.

Government of Papua New Guinea. 2010. National Health Plan 2011–2020: Vol. 1 Policies and Strategies. Port Moresby, Papua New Guinea: National Department of Health.

National Statistics Office (NSO). 2010. Papua New Guinea Household Income and Expenditure Survey (HIES) 2009–2010. Port Moresby.

National Statistical Office (NSO). 2009. Demographic and Health Survey: 2006 National Report. Port Moresby, Papua New Guinea: National Statistical Office.

van Doorslaer E. et al. 2007. Catastrophic Payments for Health Care in Asia. Health Economics.16(11). pp. 1,159–1,184.

van Doorslaer E, et al. 2006. Effect of Payments for Health Care on Poverty Estimates in 11 Countries in Asia: An Analysis of Household Survey Data. Lancet. 368 (9544). pp. 1,357–1,364.

Unisearch PNG and Institute of National Affairs. 1996. Papua New Guinea Household Survey 1996. Port Moresby.

World Health Organization (WHO) et al. 2010. Trends in Maternal Mortality: 1990 to 2010. Geneva.

World Health Organization (WHO). 2012. Estimates for NHA Data. http://apps.who.int/nha/database/DataExploerRegime.aspx.

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ADB RETA 6515 Country Brief Series

Poor maternal, neonatal, and child health adversely affects women, families, and economies across the Asia and Pacific region. This burden of illness must be reduced if the Millennium Development Goals (particularly 4 [reduce child mortality] and 5 [improve maternal health]) are to be achieved and improvements made in the health and economic well-being of households and nations. Progress in this regard will require an increased supply of effective healthcare services, as well as demand for such services. This series of country briefs provides evidence from national household surveys on the financial burdens imposed on the poor by private expenditures on public and private healthcare services. Countries can use this information in building awareness within health systems and policy bodies of financial constraints on healthcare, and in designing demand-side interventions to increase the use of maternal, neonatal, and child health services. Summaries of the analysis of household data from Bangladesh, Cambodia, the Lao People's Democratic Republic, Pakistan, Papua New Guinea, and Timor-Leste, and a summary overview, are included in the series.

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Australia is taking a leading role in global and regional action to address maternal and child health. A key part of this is to strengthen the evidence for increased financial support and the most effective investments that governments and donors can make to meet Millennium Development Goals 4 and 5. Australia supported this technical assistance project as a part of this commitment.

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