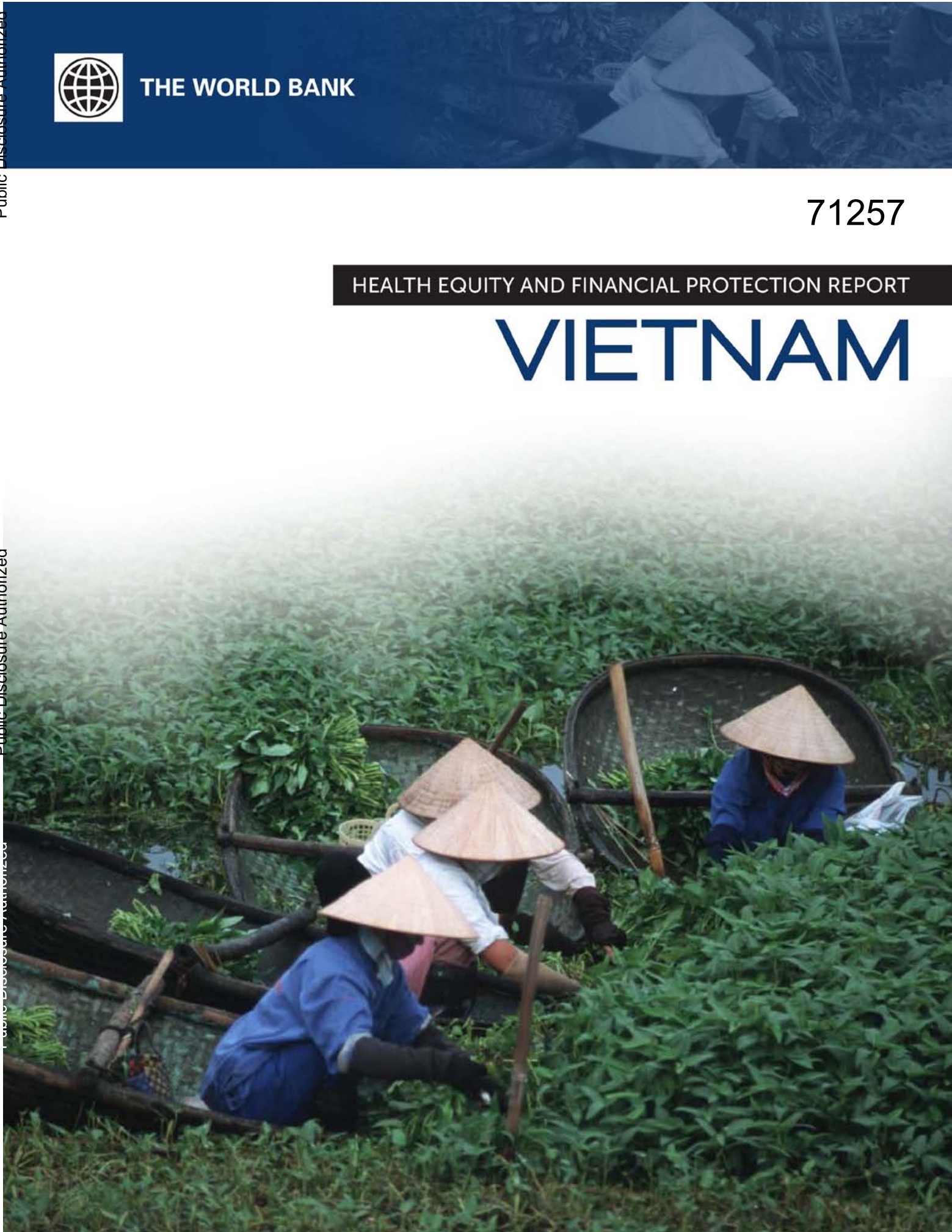**THE WORLD BANK**

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HEALTH EQUITY AND FINANCIAL PROTECTION REPORT

VIETNAM

About the Health Equity and Financial Protection Reports

The Health Equity and Financial Protection reports are short country-specific volumes that provide a picture of equity and financial protection in the health sectors of low- and middle-income countries. Topics covered include: inequalities in health outcomes, health behavior and health care utilization; benefit incidence analysis; financial protection; and the progressivity of health care financing. Data are drawn from the Demographic and Health Surveys, World Health Surveys, Multiple Indicator Cluster Surveys, Living Standards and Measurement Surveys, as well as other household surveys, and use a common set of health indicators for all countries in the series. All analyses are conducted using the health modules of the ADePT software. Also available are Health Equity and Financial Protection datasheets that summarize key measures of equity and financial protection.

The most recent versions of the Health Equity and Financial Protection reports and datasheets can be downloaded at **www.worldbank.org/povertyandhealth**.

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Acknowledgements

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List of Abbreviations and Acronyms

ARI	Acute respiratory infection
BIA	Benefit-incidence analysis
CHC	Commune health centers
CPI	Consumer price index
DHS	Demographic and Health Survey
EAP	East Asia and Pacific
GDP	Gross domestic product
GHE	Government health expenditures
GNI	Gross national income
MCH	Maternal and child health
MICS	Multiple Indicator Cluster Survey
NHA	National Health Accounts
NHS	National Health Survey
PIT	Personal income tax
PPP	Purchasing power parity
SHI	Social health insurance
UHI	Universal health insurance
VAT	Value added tax
VCT	Voluntary counseling and testing
VHLSS	Vietnam Household and Living Standards Survey
VLSS	Vietnam Living Standards Survey
VND	Vietnamese Dong
VSS	Vietnam Social Security
WDI	World Development Indicators
WHO	World Health Organization
WHS	World Health Survey

HEALTH EQUITY AND FINANCIAL PROTECTION IN VIETNAM

Contents

Executive Summary

This report analyses equity and financial protection in the health sector of Vietnam. In particular, it examines inequalities in health outcomes, health behavior and health care utilization; benefit incidence analysis; financial protection; and the progressivity of health care financing. Data are drawn from the 1992-93 and 1997-98 Vietnam Living Standards Survey, the 2002, 2004, 2006, and 2008 Vietnam Household and Living Standards Survey, the 2002 Vietnam Demographic and Health Survey, the 2002 Vietnam World Health Survey, the 2006 Vietnam Multiple Indicator Cluster Survey and the 2006 Vietnam National Health Accounts. All analyses are conducted using original survey data and employ the health modules of the ADePT software.

Is ill health concentrated among the poor?

Yes. In general, ill health is concentrated among the poor in Vietnam. This includes some selected indicators of *child health*, such as child and infant mortality, diarrhea, fever, and incidence of malaria. Diarrhea appears to be slightly more prevalent among the better-off. Results for acute respiratory infection (ARI) suggest the poor may bear a larger burden of disease, but this result is not statistically significant. With respect to measures of *adult health*, some conditions are concentrated among the poor (such as tuberculosis, measures of difficulty with work and household activities, and poor self-assessed health status) whereas arthritis is more common among the better-off. Results for obesity among non-pregnant women, road and non-traffic accidents, angina, asthma, depression and diabetes are not statistically significant. With respect to *risky health behaviors*, the results are mixed. It is the wealthy who are more likely to have arthritis, while the poor are more likely to smoke and drink excessively, and have insufficient intake of fruit and vegetables.

Do the poor use health services less than the rich?

Yes, for almost all types of utilization. Of the selected maternal and child health (MCH) interventions, childhood immunization, antenatal care take-up, and skilled birth attendance are more concentrated among the better-off part of the population, while the poor are slightly more likely to use contraception. Among adult preventives services, the wealthy are more likely to make use of voluntary counseling and testing for HIV, and are also more likely to have undergone a mammogram or pap smear. Although the 2002-03 WHS results indicate that the utilization of adult curative care is spread fairly evenly across the wealth distribution, the 2006 VHLSS suggests that the wealthy are much more likely to utilize many types of outpatient and inpatient health services. In fact, the wealthy have a higher average number of inpatient and outpatient visits, are more likely to visit both public and private hospitals, and are overall more likely to have had any public or private of any kind. The utilization of public health centers, however, is more concentrated among the poor.

Is the distribution of government spending on health pro-rich or pro-poor?

Decidedly pro-rich. Although government spending on outpatient commune health centers (CHCs) is found to be significantly pro-poor, total government subsidies to CHCs account for only a small fraction

of total government health expenditure. Government spending on hospital services, both outpatient and inpatient, as well as outpatient polyclinics, appear to be pro-rich with most results or all results statistically significant (depending on the methodological assumption used for the analysis). This result holds for all of the three methods, but when the third (alternative) assumption of proportional cost is invoked, the disproportionate government spending becomes even more pro-rich – a result that is driven in part by the fact that the upper quintiles bear the largest share of the fee burden for most types of care. Overall, the total subsidies devoted to health care in Vietnam significantly benefit the better-off, regardless of the assumptions used for the analysis.

What is the effect of out-of-pocket payments on household financial well-being?

Moderate. From 1993-94 to 2008, the per centage of households that spent more than 10 per cent of total household consumption on out-of-pocket health payments has remained fairly stable, declining slightly from 19.2 to 18.7 per cent. According to the alternative nonfood measure, in 1993-4, about 48 per cent of households spent more than 10 per cent of *nonfood* consumption on out-of-pocket payments and 8.3 per cent spent more than 40 per cent, but these figure had fallen pretty substantially by 2008, to 35.9 per cent and 6.1 per cent respectively. Within this period, catastrophic expenditure seemed to decline across the 1990s, but increase slightly the 2000s. Catastrophic payments are found to be highly concentrated among the wealthy when using the total household expenditure measure, but concentrated among the poor when using the discretionary spending (non-food) thresholds. Health spending contributes to impoverishment, with the size of the effect growing over time. The most recent data (2008) show that out-of-pocket payments are responsible for an increase in the poverty rate equivalent to 10 per cent when using the US$2.00 a day measure and 27 per cent when using the US$1.25 a day measure. Also, out-of-pocket payments increase the depth of poverty (the poverty gap) by as much as 15 per cent and 24 per cent at the US$2.00 and US$1.25 poverty lines respectively. The incomplete coverage of formal social health insurance is likely one factor behind this lack of financial protection; the social health insurance scheme covered around half the population in 2008.

Is health financing progressive or regressive?

Mildly progressive. Overall, health care financing in Vietnam in 2006 was fairly progressive, i.e. the better-off spent a larger fraction of their consumption on health care than the poor. The financing sources that contribute to the overall progressivity of health care finance are general taxation, which finances 27 per cent of domestic spending on health, and out-of-pocket payments, which finance 55 per cent of spending. The most progressive source of health finance is actually SHI contributions, which is unsurprising given that they are paid largely by formal sector workers who are among the better-off; however, SHI contributions finance just 13 per cent of health spending. Voluntary insurance is mildly regressive, but this finances an even smaller share of total health spending.

1   Vietnam's health system

This section provides a brief overview of Vietnam's health system, focusing on features that are likely to be especially salient for equity and financial protection.

1.1   Equity and financial protection as policy goals

Vietnam's government is strongly committed to improving financial protection in health (by expanding health insurance coverage) and improving equity. The following quote illustrates this commitment:

> "*Vietnam has strongly emphasized the importance of equity in health with a series of pro-poor health policies, seeking to achieve small gaps in health outcomes between the poor and better off…. [M]easures to strengthen the health system continue to be implemented. The social health insurance program now covers nearly half of the population, and the goal is universal coverage. Since 2002, the Government has allocated a large budget each year to the so called Health Care Fund for the Poor, to buy health insurance cards for the poor and selected ethnic minorities. The near-poor are also to be subsidized to the tune of 50% of the voluntary health insurance premium.*"

> Dr. Nguyen Hoang Long (Deputy Director of the Ministry of Health's Department of Planning and Finance), in Foreword to Lieberman and Wagstaff (2009)

1.2   Health financing system

Health expenditure[1]

Vietnam spends 7.2 per cent (2009) of its gross domestic product (GDP) on health. While *total* health spending is broadly in line with expectations according to the cross-country relationship between GDP per capita and health spending, Vietnam's *government* health spending is considerably less than 'expected' (Lieberman and Wagstaff 2009). This reflects a relatively small share of government expenditure allocated to the health sector (8.9 per cent) rather than a small share of government spending in GDP (31.3 per cent). The latter is considered to be broadly sustainable from a fiscal perspective. Government health expenditure, on a per capita basis, was equivalent to US$31 (current) and US$82 (PPP-adjusted) in 2009. Moreover, government expenditure on health constitutes only 38.7 per cent of total health expenditure, while 55.3 per cent is from out-of-pocket spending. In other words, the majority source of all health expenditures in Vietnam is from out-of-pocket payments. Other sources of health expenditure include non-profit institutions, private insurance payments, and external sources.

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[1] Data are from 2009 and available from the WHO National Health Accounts database, accessed May 2011. http://www.who.int/nha/country/vnm/en/

Table 1.1: Health expenditure data, 2009

Indicator	
Health expenditure as share of GDP	7.2%
Total government expenditure as share of GDP	31.3%
Government expenditure on health as share of total government expenditure	8.9%
Government expenditure on health, per capita	US$31 (current), US$82 (PPP-adjusted)
Government expenditure on health as share of total health expenditure	38.7%
Out-of-pocket expenditure on health as share of total health expenditure	55.3%

Source: WHO National Health Accounts database (2009)

Decentralization and centralization

Vietnam has a high degree of fiscal decentralization. Most government spending is financed by revenues raised at the provincial level or below, but a sizeable share of a province's spending is financed through government transfers. The transfer allocation formula substantially favors poorer provinces. In addition, the central government operates poverty-alleviation programs that target poor areas and is used, *inter alia,* for health facility refurbishment and reconstruction.

Revenue-raising/sources of funds

General revenues account for 26 per cent of total health spending (Figure 1.1). Most is spent on supply-side subsidies supporting health facilities, especially urban hospitals. Some, however, is used to subsidize Vietnam's social health insurance (SHI) scheme. SHI contributions – from civil servants and formal-sector workers (and their employers) – for whom SHI enrollment is compulsory finance 12 per cent of total health spending. Private insurance premiums (often insurance for school children purchased from a competitor to the government's SHI agency) account for just 2 per cent of total health spending. The remainder (just over half) of health spending in Vietnam is financed from out-of-pocket payments, down from two thirds in 2004 but similar to the 2007 figure. In 2006, payments to public providers accounted for around half of out-of-pocket spending, one quarter of out-of-pocket spending was for drugs, and the remainder (17 per cent) was for expenditure on private providers, mostly private clinics.

Figure 1.1: Health care financing mix, 1998-2009
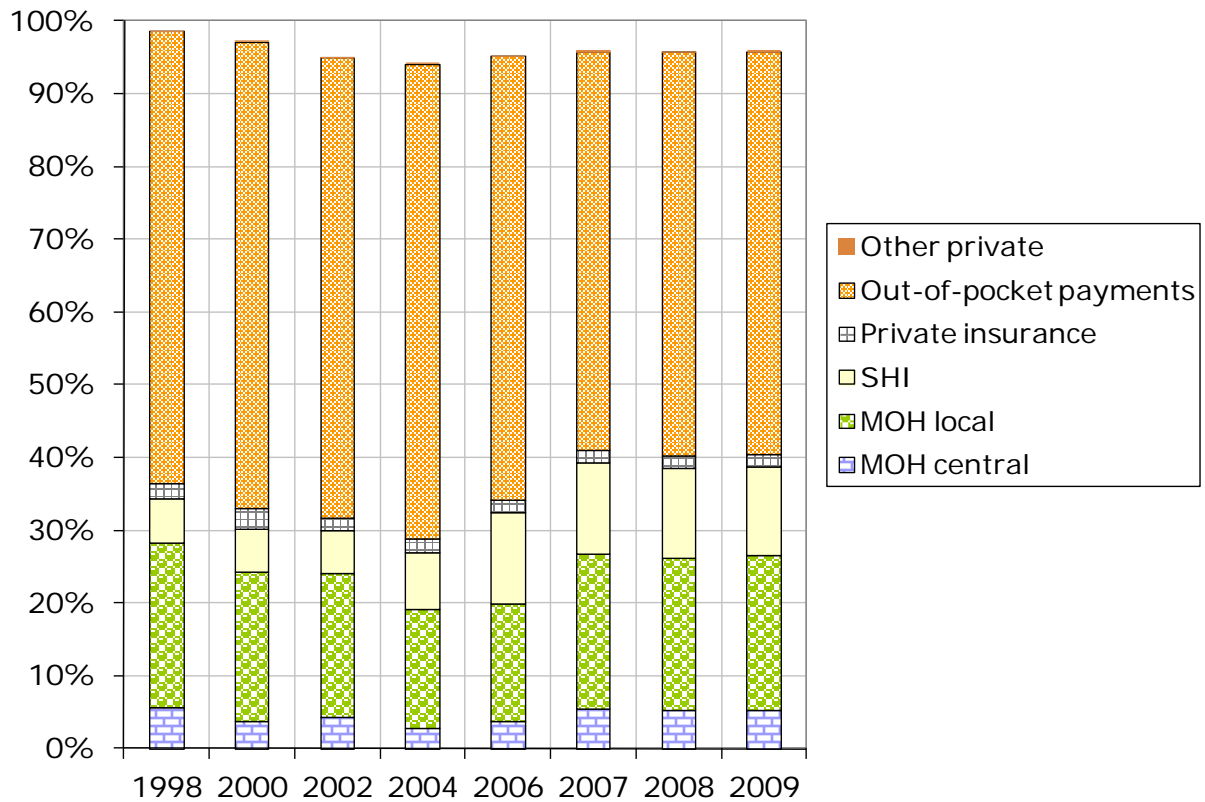
Figure 1.2: Composition of out-of-pocket health spending
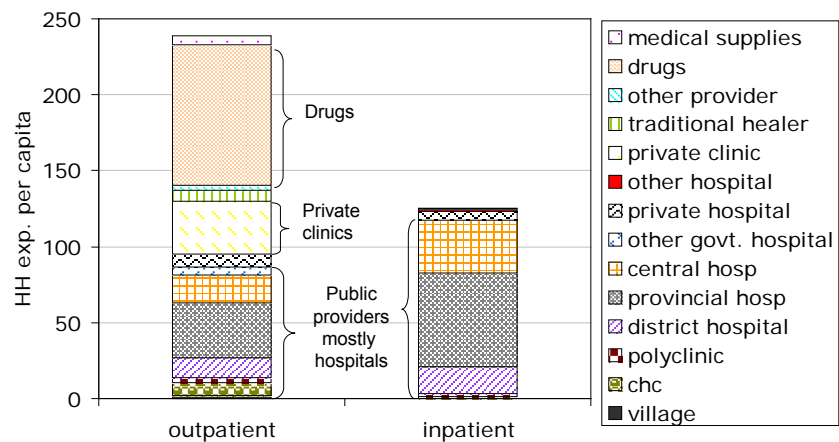
<u>Risk-pooling</u>

In 1989 the government of Vietnam introduced user fees in government facilities. However, these do not – and have never – covered the full cost of services. Nonetheless, concerned that user fees would deter the poor from using care that they need and cause financial hardship to those who do use services, the government introduced a free 'health card' or 'health certificate' for the poor and other vulnerable groups. In principle, the card/certificate was supposed to entitle the holder to free (or subsidized) health care, but in practice the schemes are believed to have worked less well than hoped.

In 1993 the government launched its SHI program which aimed to cover most or all of the enrollee's out-of-pocket payments at government facilities. Enrollment is mandatory for formal-sector workers with the employee and employer splitting the contribution. Enrollment, however, is less than 100 per cent among formal-sector workers. Some groups have their SHI coverage financed out of general revenues: these include retired civil servants, war veterans, members of Parliament, Communist Party officials, war heroes and, since 2003, the poor and other disadvantaged groups designated under so-called Decision 139, also known as "Health Care for the Poor". In 2009, the government also agreed to partially subsidize contributions by the near-poor by 50 per cent, but enrollment among this group remains relatively low. Other groups—e.g. students and families of the compulsorily insured—*can* enroll in SHI but few do. The government is committed to a goal of universal health insurance (UHI), although it no longer aspires to achieving this goal by 2010. This is to be achieved by making enrollment mandatory, with full or partial subsidies retained for those whose enrollment is currently subsidized.

Insurance coverage expansion has increased over the years (Figure 1.3); recently, it has risen especially rapidly with the launch of the Health Care for the Poor program. There has been steady growth among formal-sector workers and schoolchildren, and a dramatic increase in recent years among the poor. However, even now—nearly 15 years after the launch of SHI—the majority of the population is still uncovered. Voluntary enrollment among the non-student population has stayed low and shows no signs of growing.

Figure 1.3: Trends in insurance coverage

There are substantial numbers of people in each target group who have no coverage—not even a health card (see Figure 1.4). The groups who are relatively easy to identify for tax-financed support are already largely covered, while those who are relatively easy to coerce into contributing tend to be contributing. Non-coverage is most pronounced among the harder-to-identify and harder-to-coerce groups. The pace of expansion seen in recent years will not continue, and the expansion of coverage is likely to return to its former slow pace.

Figure 1.4: Insurance enrollment numbers by target group
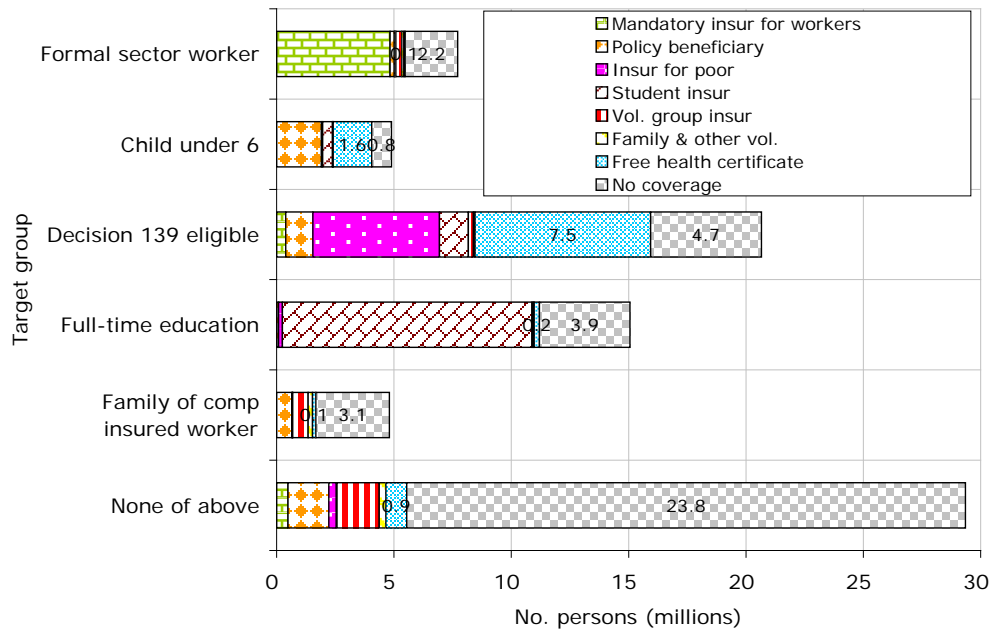
Source: Lieberman and Wagstaff (2009).

1.3 Health care delivery system

Provider organization

The public sector still operates the pyramid structure developed after independence—commune health centers (CHCs), inter-commune "polyclinics", district hospitals, provincial hospitals, and national hospitals. CHCs are widespread (on average they serve just 7,000 people); their users are disproportionately poor and they are underused. Hospitals, by contrast, are heavily used. These utilization patterns reflect the (accurate) perception that the quality of care is lower in CHCs, and the fact that the price differential allowed under the official price schedule is relatively small.

The private sector appears to have grown in recent years, with drug vendors and general practitioner clinics being the largest groups of registered private providers. Research suggests that many private providers are not registered, however, and that at least in one province there may be twice as many private providers as public providers (Lieberman and Wagstaff 2009).

Payment mechanisms and provider autonomy

Public providers have been granted increased autonomy since the early 2000's under a government-wide service delivery autonomization program known as Decree 10, subsequently replaced by Decree 43. This allows providers considerable discretion over staff hiring and allows them to distribute a substantial portion of their "profits" to staff through bonuses. Provider payment methods remain a mix of budget (still dominated by bed norms) and fee-for-service, with prices fixed by the government in

1995. There has been very little experimentation with prospective payments. Concerns have been expressed that hospital autonomization coupled with the use of FFS may have adverse effects on equity and financial protection, with hospitals serving affluent areas delivering more services and attracting staff from less affluent areas.

Resource availability and utilization[2]

Vietnam had 6.3 (public sector) physicians per 10,000 persons in 2002. This compares unfavorably with the average for East Asia and Pacific (EAP) of 9.41, but it is higher than the average for Sub-Saharan Africa of 3.2 physicians. Vietnam also has far more hospital beds per 10,000 persons than other low income countries and, in fact, compares has a ratio similar to that of upper middle income countries, and higher than the average for East Asia and Pacific[3]. Despite this Vietnam's inpatient admission rate is not much different from that of developed countries, achieved through a shorter length of stay and a higher bed-occupancy rate (in excess of 100 per cent)[4]. By contrast, Vietnam's outpatient visit rate is much lower than the comparator territories, pointing to a health system that is heavily biased toward inpatient care. It is likely—but there are, it seems, no data to confirm this—that in Vietnam many inpatient admissions could have been avoided, at least in part, through high-quality outpatient care—something that Vietnam currently lacks.

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[2] Data for Vietnam and for countries in the region are from (Lieberman and Wagstaff 2009). Data on hospital beds from World Health Organization (WHO) and on physicians from World Development Indicators (WDI) 2010, available in HS20/20 Health Systems Database.

[3] The East Asia and Pacific classification refers to only low and middle income countries within that region, as per the World Bank classification; low income refers to all countries with a 2008 gross national income (GNI) per capita of less or equal to US$975, lower middle income have a 2008 GNI per capita of US$976 - $3,855, upper middle income have a 2008 GNI per capita of US$3,856 - $11905 and high income have a 2008 GNI per capita of US$11,906 or more.

[4] Vietnam's high bed-occupancy rate may reflect the fact that the beds recorded in the Ministry's data are 'planned' beds—the figure used in budget allocations—since the bed-occupancy rate that emerges from the hospital inventory database is around 90 per cent. Still, even this is high by international standards, and in the hospital inventory there are many hospitals with rates in excess of 100%.

2   Inequalities in health

Most policymakers regard large inequalities in health outcomes between poor and rich as undesirable. This section reports inequalities in child and adult health outcomes, as well as in health behaviors.

2.1   Data availability

Vietnam fielded multipurpose household surveys in 1992/93, 1997/98, 2002, 2004, 2006 and 2008. The 1992/93 and 1997/98 surveys were known as the Vietnam Living Standards Survey (VLSS) with later surveys known as the Vietnam Household and Living Standards Survey (VHLSS).   There was a Demographic and Health Survey (DHS) in 1997 and 2002, a Multiple Indicator Cluster Survey (MICS) in 2006, a World Health Survey (WHS) in 2002-03, and a National Health Survey (not used in this analysis) in 2002. This section uses data from the WHS, DHS and MICs surveys. Both the DHS and MICS excluded consumption or income measures, but with both types of survey, one can construct an "asset index" using principal components analysis (see Filmer and Pritchett 2001). The WHS contains information on both consumption and assets, but this section uses the asset information for consistency. To facilitate international comparisons, the tables below focus on data from the DHS, MICS, and WHS.

2.2   Inequalities in health

The tables in this section show how health outcomes vary across asset (wealth) quintiles. The tables show the mean values of the indicator for each quintile, as well as for the sample as a whole. Also shown are the concentration indices, which capture the direction and degree of inequality. A negative value indicates that the indicator takes higher values among the poor, while a positive index indicates that the indicator takes higher values among the better-off. The larger the index in absolute size, the more inequality there is.

Table 2.1 shows that, according to the 2002 DHS, infant and under-five mortality, diarrhea, and fever are worse among the poor. The 2006 MICS confirms that diarrhea and fever are more concentrated among poorer households, although not all results are statistically significant at all levels. No anthropometric data are available in the 2002 DHS or the 2006 MICS. Furthermore, according to the 2002-03 WHS, malaria is worse among poor children and inequalities in rates of acute respiratory infection (ARI) are not significant for either MICS or DHS data.

Table 2.2 shows that, according to the 2002-03 WHS, tuberculosis in Vietnam is more common among the poor, as is difficulty with work and household activities and poor self-assessed health. Rates of diagnosed angina, by contrast, are higher among the better-off, though this likely reflects pro-rich inequalities in health care-seeking behavior and/or inequalities in the quality of care delivered. Obesity among non-pregnant women, non-road and road traffic accidents and rates of diagnosed angina, asthma, depression, and diabetes are not significant at any level.

Table 2.1: Inequalities in child health

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Infant mortality rate[1]	43.5	29.6	21.0	15.6	15.4	26.9	-0.254***
Under-five mortality rate[1]	56.4	43.9	27.1	27.2	21.4	37.4	-0.208***
Diarrhea[1]	18.6%	12.0%	12.0%	7.4%	3.8%	1.4%	-0.257***
Diarrhea[2]	9.2%	6.8%	6.7%	6.1%	4.3%	6.8%	-0.141***
Acute respiratory infection[1]	23.8%	21.4%	19.6%	17.1%	14.1%	19.6%	-0.110
Acute respiratory infection[2]	15.9%	18.0%	21.7%	19.1%	12.2%	17.3%	-0.001
Fever[1]	31.2%	25.5%	28.2%	29.7%	18.1%	26.7%	-0.070**
Fever[2]	15.8%	16.5%	17.9%	18.5%	12.1%	16.2%	-0.007
Malaria[3]	3.9%	1.4%	0.0%	0.0%	0.0%	1.4%	-0.709***

Source: Authors' estimates using ADePT and data from the 2002 Vietnam DHS[1], the 2006 Vietnam MICS[2] and the 2002-03 Vietnam WHS[3].

Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

Table 2.2: Inequalities in adult health

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Tuberculosis[2]	1.6%	1.4%	3.0%	1.3%	0.8%	1.6%	-0.122*
HIV positive	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Obesity among non-pregnant women[1]	0.0%	0.0%	0.4%	0.3%	0.5%	0.3%	0.478
Road traffic accident[2]	1.9%	1.7%	1.5%	2.6%	2.4%	2.1%	0.091
Non-road traffic accident[2]	1.5%	1.1%	1.6%	0.4%	1.2%	1.1%	-0.080
Angina[2]	3.1%	6.0%	3.2%	5.0%	4.3%	4.2%	0.036
Arthritis[2]	4.9%	8.2%	6.2%	7.1%	10.4%	7.4%	0.112***
Asthma[2]	1.5%	1.6%	1.1%	0.9%	1.0%	1.2%	-0.106
Depression[2]	0.2%	0.0%	0.3%	0.2%	0.0%	0.2%	-0.233
Diabetes[2]	0.5%	0.4%	0.1%	0.3%	0.3%	0.3%	-0.040
Difficulty with work and household activities[2]	2.9%	3.8%	3.1%	2.9%	1.4%	2.8%	-0.106***
Poor self-assessed health status[2]	9.8%	10.6%	6.3%	5.2%	3.7%	6.6%	-0.213**

Source: Authors' estimates using ADePT and data from the 2002 Vietnam DHS[1] and the 2002-03 Vietnam WHS[2].

Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

Table 2.3 shows inequalities in health behaviors that place individuals at risk for developing poor health. The prevalence of smoking among all respondents (men and women) is higher among the poor, as well as an insufficient intake of fruit and vegetables and heavy drinking. The wealthy are more likely to have insufficient physical activity, while results for smoking and concurrent partnerships (both among women) are not statistically significant.

Table 2.3: Inequalities in health behaviors

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Smoking (all)	35.1%	27.2%	23.1%	22.9%	23.7%	25.8%	-0.083***
Smoking (women)	2.8%	3.2%	1.6%	1.5%	1.6%	2.0%	-0.202
Insufficient intake of fruit and vegetables	83.3%	88.6%	85.6%	85.0%	77.7%	83.5%	-0.016***
Insufficient physical activity	3.4%	2.7%	7.2%	8.8%	6.8%	5.8%	0.187***
Drinking	18.8%	16.5%	12.3%	10.1%	9.7%	12.8%	-0.140***
Concurrent partnerships	0.6%	0.2%	0.6%	0.8%	0.4%	0.5%	0.010

Source: Authors' estimates using ADePT and data from the 2002-3 Vietnam WHS.
Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

In sum, the tables in this section indicate that generally ill health and risky behaviors are concentrated among the poor in Vietnam. All child health indicators suggest worse outcomes for the poor, while the adult health outcomes are more mixed, but this could be attributable to inequalities in the delivery and uptake of health care for the poor households. Finally, the poor generally exhibit risky health behaviors more so than those who are better-off.

3   Inequalities in health care utilization

In many countries, for a variety of possible reasons, health care utilization tends to be distributed very unequally across income groups, even after taking into account differences in medical needs. This section reports on inequalities in utilization of health care in Vietnam for different types of care, and for different types of health care provider.

3.1   Data availability

The multipurpose VLSS and VHLSS surveys contain extensive information on health utilization: the 2002, 2004, 2006 and 2008 VHLSS surveys include detailed information for all household members on outpatient and inpatient utilization over the last 12 months. The 1997 and 2002 DHS surveys contain information on coverage of key maternal and child health (MCH) interventions, as does the 2006 MICS. The 2002-03 WHS also contains some utilization information. The 2002 NHS contains very rich utilization information on utilization, but is a one-off survey. This section uses data from the 2006 VHLSS, the 2006 MICS, the 2002 DHS and the 2002-03 WHS. The DHS and MICS surveys lack consumption and income measures, but one can construct an "asset index" using principal components analysis to rank households from poorest to richest (see Filmer and Pritchett 2001). For variables drawn from the DHS, MICS and WHS, households are ranked by their score on the asset index, and for variables drawn from the 2006 VHLSS, households are ranked by per capita consumption.

3.2   Inequalities in health care utilization

The tables in this section show how health care utilization varies across consumption or asset quintiles. The tables show the mean values of the indicator for each quintile, as well as for the sample as a whole. Also shown are the concentration indices, which capture the direction and degree of inequality. A negative value indicates that utilization is higher among the poor, while a positive index indicates higher utilization rates among the better-off. The larger the index in absolute size, the more inequality in utilization there is.

Table 3.1 shows coverage of key MCH interventions and treatment of childhood illness using data from the 2002 Vietnam DHS and the 2006 Vietnam MICS. Around 78 per cent of children in Vietnam are fully immunized, while 25 per cent of expectant women receive at least 4 skilled antenatal care visits and 78 per cent of women deliver their baby assisted by a skilled attendant (immunization according to MICS, the latter two according to DHS). Rates of all three interventions are higher among the better-off and use of a modern method of contraception is more prevalent for wealthy women. Inequalities in medical treatment of ARI are not statistically significant.

Table 3.1: Inequalities in maternal and child health interventions

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Full immunization[1]	44.7%	60.7%	71.3%	76.9%	92.2%	66.8%	0.136
Full immunization[2]	44.0%	74.3%	90.4%	82.1%	95.9%	77.8%	0.120***
Medical treatment of ARI[1]	66.2%	77.9%	67.5%	67.4%	80.1%	71.3%	0.021
Skilled antenatal care (4+ visits)[1]	10.1%	15.2%	16.5%	28.7%	61.9%	25.1%	0.377***
Skilled birth attendance[1]	50.1%	73.1%	84.9%	92.5%	99.1%	77.5%	0.132***
Contraceptive prevalence[2]	69.9%	65.3%	64.3%	60.7%	59.8%	64.0%	-0.032***

Source: Authors' estimates using ADePT and data from the 2002 Vietnam DHS[1] and the 2006 Vietnam MICS[2].
Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

Table 3.2 shows inequalities in preventive care among adults. It shows a relatively high rate of uptake of voluntary counseling and testing (VCT) among the population as a whole (89.2 per cent). Rates of breast cancer and cervical cancer screening among women are also very low: only 2.2 and 9.9 per cent of women received either form of preventive care, respectively. All types of prevention are more common among the better-off. Rates of screening for TB appear to be very low (1.0 per cent), but the results are not statistically significant.

Table 3.2: Inequalities in adult preventive care

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
TB screening[2]	0.7%	0.8%	1.4%	0.8%	1.2%	1.0%	0.078
Voluntary counseling and testing for HIV[1]	74.6%	91.9%	83.0%	87.8%	92.9%	89.2%	0.026***
Cervical cancer screening[2]	4.8%	11.4%	8.6%	9.4%	14.1%	9.9%	0.128**
Breast cancer screening[2]	0.0%	3.1%	2.5%	1.2%	3.7%	2.2%	0.284*

Source: Authors' estimates using ADePT and data from the 2006 Vietnam MICS[1] and the 2002-03 Vietnam WHS[2].
Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

Table 3.3 shows the inequalities in adult curative care in Vietnam, according to the 2002-03 WHS and the inequalities in adult curative care according to the more recent 2006 VHLSS survey (see Table A2, Annex A for more detailed information). Any health care utilization (inpatient and outpatient) and outpatient utilization are higher among the better-off. Inpatient utilization, however, was not shown to be disproportionately used by the wealthy due to lack of significance.

Table 3.3: Inequalities in adult curative care

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Inpatient or outpatient (12 months) [1]	46.5%	52.5%	52.9%	48.0%	55.7%	51.2%	0.026**
Inpatient (12 months) [1]	9.3%	6.3%	7.2%	7.5%	9.5%	8.1%	0.000
Inpatient (5 years) [1]	15.7%	13.3%	17.5%	14.8%	18.3%	16.2%	0.019
Outpatient (12 months) [1]	42.0%	51.0%	52.7%	42.6%	53.6%	48.4%	0.030**
By facility type:							
Total outpatient visits [2]	76.9%	111.8%	116.8%	142.8%	169.8%	123.6%	0.150***
Total inpatient admissions [2]	7.0%	7.8%	8.5%	9.4%	10.2%	8.6%	0.079***

Source: Authors' estimates using ADePT and data from the [1] 2002-03 Vietnam WHS and the [2] 2006 VHLSS.
Note: The utilization data (for facility type) refers to last 12 months in all cases.* CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

In sum, the tables in this section indicate that the utilization of health care in Vietnam is concentrated among the better-off, increasing the poor's risk for ill health. Most selected MCH interventions (see Table 3.1) have significant *and* positive concentration indices, signifying that utilization of many MCH interventions is higher among the better-off. Among adult preventives services, all indicators show higher utilization is concentrated among the better-off. Overall, both the 2002-03 Vietnam WHS and the 2006 VLSS show that the use of adult curative care, both outpatient and inpatient, is concentrated among the wealthy.

4 Benefit incidence of government spending

Policymakers typically take the view that government health expenditure (GHE) ought not to disproportionately benefit the better-off, and if anything ought to favor the poor more than the better-off. Benefit-incidence analysis (BIA) shows whether and how far GHE disproportionately benefits the poor. This section reports BIA results for Vietnam, using three different methods for allocating GHE to households, namely the constant unit cost assumption, the constant unit subsidy assumption, and the proportional unit cost assumption. The first is arguably the least plausible of the three, since it implies that higher fees do not translate into more costly care. But it does have the attraction of not needing to be modified if part of (general) GHE goes on demand-side subsidies through, for example, a subsidized health insurance program. Where the results presented below are obtained using the constant-unit-subsidy and proportional-unit-cost assumptions, it is assumed implicitly that supply- and demand-side subsidies have the same distributional impact.

4.1 Data availability

The multipurpose VLSS and VHLSS surveys contain extensive microdata on health utilization by type of provider and type of service, along with fees paid by patients to providers for these services. The 2002, 2004, 2006 and 2008 VHLSS surveys include detailed information for all household members on outpatient and inpatient utilization (including the total number of visits) and out-of-pocket spending over the last 12 months. The 2002 National Health Survey also contains very rich utilization information on utilization and out-of-pocket spending, but was a once-off survey. The tables below focus on the most recent data, i.e. from the 2006 VHLSS.

A BIA also needs information on GHE (i.e. subsidies) by level of service. Vietnam undertook a very in-depth National Health Accounts (NHA) exercise from 2000 to 2006.[5] Data on government spending (i.e. subsidies) on public facilities are from 2005, the closest year to the 2006 VHLSS[6]. The government spending figures reflect spending by health ministry and central level, and health departments at the provincial, and district levels, as well as spending by the social health insurance agency, Vietnam Social Security. Unfortunately, the table does not break down government spending exactly by provider type and also assumes that spending on 'traditional medicine' is all at the hospital level. Government spending on inpatient care is taken from the figures labeled 'inpatient treatment' and 'outpatient treatment' under the 'traditional medicine' heading, i.e. items HD 1.1.1 and HD 1.1.2 respectively in the NHA. Spending at CHC and polyclinic level is taken from the heading 'primary health care and school health care' under 'health prevention and public health', i.e. item HD 1.2.4. This is the only item in the NHA where spending at the commune level is recorded, but it is possible that some of the polyclinic spending is recorded at a higher level. It was assumed that 75 per cent of the 'primary health care and school health care' was incurred in health facilities, and the rest in schools.

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[5] See http://www.wpro.who.int/NR/rdonlyres/69A8189E-92ED-4883-ABEC-B90CBE894522/0/National_Health_Account.pdf.

[6] The data used in this analysis are taken from Table 2 of the NHA, p135.

4.2 Inequalities in benefit incidence

The tables in this section show the distribution across consumption quintiles of utilization for government facilities, fees paid to these facilities, and estimated subsidies to the health sector. The latter depend on the assumptions made to allocate subsidies to households; results are presented for three sets of assumptions. The tables show the shares of fees or shares of subsidies that go to each quintile. Also shown are the concentration indices, which capture the direction and degree of inequality. A negative value indicates that the variable in question is higher among the poor, while a positive index indicates higher values among the better-off. The larger the index in absolute size, the more inequality in the indicator there is.

Table 4.1 shows the utilization of three types of public facility with hospital care broken down into outpatient and inpatient services. It can be seen in the sixth line of the table that the most frequently used type of service is outpatient visits in general hospitals with 0.385 visits per year per person on average. On the other hand, with an average of 0.041 outpatient visits per year per person, polyclinics are the least frequently used, which is even below the average of inpatient admissions in general hospitals (0.074).

There is a striking contrast between the distributions of outpatient visits in CHC's and use of general hospital services. The former steadily decreases with income (from an average number of 0.383 visits for the first quintile to 0.180 for the last) whereas the latter clearly increases for both inpatient and outpatient care. As for use of outpatient services in polyclinics, its relation to income is less well-defined. It can however still be noted that use is considerably greater for the last two quintiles. These patterns are reflected in their respective concentration indices. The concentration index of outpatient visits in CHC's is noticeably negative (-0.117), indicating that use of this type of service is higher among the poor. By contrast, the concentration index of outpatient visits in general hospitals (0.305) is positive and large, indicating that richer individuals use this service a lot more than the poor.

Table 4.1: Inequalities in use of publicly financed facilities

	Outpatient commune health center	Outpatient polyclinic	Outpatient general hospital	Inpatient general hospital
Lowest quintile	38.3%	3.4%	15.8%	4.9%
2	32.1%	3.5%	24.5%	6.4%
3	32.1%	2.8%	30.5%	7.6%
4	30.6%	5.0%	48.6%	8.6%
Highest quintile	18.0%	5.6%	73.0%	9.6%
Total	30.2%	4.1%	38.5%	7.4%
Concentration index	-0.117***	0.115**	0.305***	0.135***

Source: Authors' estimates using ADePT and 2006 VHLSS.
Note: The utilization data refer to the last 12 months in all cases.
 * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

On average, Vietnamese spend D 107,000[7] on hospital admissions. It is important to bear in mind that this average is computed using the whole population and not only patients. Given that, in general, only a

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[7] US$1 is equivalent to approximately 21,000 Vietnamese Dong (VND) (February 2011).

small fraction of the population uses inpatient care, the average fee paid by the patients for this type of care is much greater. The whole population also pays D 71,300 on average for outpatient visits in general hospitals, and relatively little for outpatient visits in CHC's (D 7,300) and polyclinics (D 2,800) (results not shown).

Table 4.2 reveals that there is a striking difference between the distributions of fees paid for outpatient care in CHC's and for the other health services analyzed. The former does not exhibit any well-defined pattern, but it is nonetheless clear that the richest quintile contributes considerably less than the others (13.4 per cent). By contrast, contribution to all other health services steadily increases with income. It may for instance be noted that the richest quintile pays almost 20 times more in fees than the first quintile for hospital outpatient care. A clear increase in fees with consumption is also found for outpatient visits in polyclinics, but from a policy perspective this gradient matters a bit less considering the relatively lower fees involved.

Table 4.2: Distribution in fees paid

	Outpatient commune health center	Outpatient polyclinic	Outpatient general hospital	Inpatient general hospital
Lowest quintile	20.4	6.2	3.3	3.9
2	19.3	6.1	7.6	8.7
3	22.4	12.0	10.8	13.2
4	24.4	18.9	21.6	25.3
Highest quintile	13.4	56.7	56.7	48.9
Total (LCU)	100.0	100.0	100.0	100.0
Concentration index	-0.031	0.480***	0.517***	0.461***

Source: Authors' estimates using ADePT and 2006 VHLSS.
* CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

Table 4.3 shows the incidence of government spending on health. The first two lines of the table show how aggregate government spending on health varies across the four types of service. The table contains three sets of estimates of the distribution of subsidies across consumption quintiles. The first set is based on the constant unit-cost assumption, i.e. each hospital outpatient visit (for example) is assumed to cost the same, an amount equal to total costs incurred in delivering this type of service (i.e. subsidies plus user fees) divided by the number of units of utilization. This approach can lead to negative imputed subsidies, since the amount someone pays in fees could exceed the unit cost. In 3, as in much of the literature, negative imputed subsidies have been set to zero. The second set of results are based on the assumption that the unit subsidy is constant, equal to total subsidies for the service in question divided by the number of units of utilization of that service. The third set of results assumes that higher fees for a particular type of care indicate a more costly type of care received, i.e. it is assumed that unit costs and fees are proportional to one another.

The first two lines of Table 4.3 indicate that around half of government health spending goes on outpatient visits at hospital level. The bulk of the rest goes on inpatient care at the hospital level. The share spent on outpatient care at CHC's and polyclinics is tiny. The first set of results, based on the constant unit-cost assumption, show government spending overall as pro-rich. On average the poorest quintile receives 13.6 per cent of government health spending while the richest quintile receives 26.7

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per cent. This inequality stems largely from the strongly pro-rich distribution of subsidies to hospital outpatient care. Outpatient care at CHC level is pro-poor but very little of government health spending goes on it. Inpatient care is also pro-rich but very mildly so under the constant unit cost assumption. When unit subsidies (rather than unit costs) are assumed to be constant (the second set of results), CHC outpatient care appears less pro-poor while subsidies on the other types of service appear more pro-rich. Subsidies overall appear more pro-rich as well. The pro-rich bias of government health spending increases still further when unit costs are assumed to be proportional to the amount spent out-of-pocket.

In sum, the results indicate that, whichever of the three methods is used, GHE in Vietnam actually disproportionately benefits the better-off, not the poor. This stems to a large degree from the fact that around half of GHE goes to hospital outpatient services, and these are disproportionately used by the better-off. Also important, however, is that much of the rest of GHE goes on hospital inpatient care, the use of which is also higher among the better-off, though less conspicuously so than in the case of hospital outpatient care.

Table 4.3: Inequality in the incidence of government health spending

	Outpatient CHC	Outpatient polyclinics	Outpatient general hospital	Inpatient general hospital	Total subsidies
Total subsidies (million Vietnamese Dong)	162,481	21,898	3,971,381	3,276,459	7,432,219
Share of total subsidy	2.2%	0.3%	53.4%	44.1%	
Constant unit cost assumption					
Lowest quintile	27.8	19.8	9.9	17.4	13.6
2	21.5	20.4	14.1	20.0	16.9
3	19.4	13.9	16.8	22.1	19.2
4	17.8	23.5	26.2	20.9	23.6
Highest quintile	13.4	22.4	33.0	19.7	26.7
Total	100.0	100.0	100.0	100.0	100.0
Concentration index	-0.141***	0.034	0.247***	0.022	0.139***
Constant unit subsidy assumption					
Lowest quintile	25.3	16.8	8.2	13.2	10.8
2	21.3	17.3	12.7	17.1	14.9
3	21.2	13.6	15.9	20.4	18.0
4	20.3	24.7	25.3	23.3	24.3
Highest quintile	11.9	27.5	37.9	26.0	32.1
Total	100.0	100.0	100.0	100.0	100.0
Concentration index	-0.117***	0.115**	0.305***	0.135***	0.220***
Proportional cost assumption					
Lowest quintile	20.4	6.2	3.3	3.9	3.9
2	19.3	6.1	7.6	8.7	8.3
3	22.4	12.0	10.8	13.2	12.1
4	24.4	18.9	21.6	25.3	23.3
Highest quintile	13.4	56.7	56.7	48.9	52.3
Total	100.0	100.0	100.0	100.0	100.0
Concentration index	-0.031	0.480***	0.517***	0.461***	0.480***

Source: Author's calculations using ADePT.

Note: With the constant cost assumption imposed, grossed-up survey data for fees have been used rather than NHA data on fees, and negative imputed subsidies have been set to zero.

* CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

5   Financial protection in health

Countries finance their health care through a mix of out-of-pocket payments, private and social insurance, general revenues, and international development assistance. Therefore, health systems are not just about improving health but also about ensuring that people are protected from the financial consequences of illness and death, or at least from the financial consequences of having to obtain medical care. This section presents data on two alternative measures of financial protection: one that asks whether out-of-pocket spending is 'catastrophic' and the other that asks if it is 'impoverishing'. Neither captures the income losses associated with illness, and both therefore underestimate the full financial impact of ill health on households. The section also explains the institutional arrangements used in Vietnam to provide financial protection in the health sector, and presents data on levels of inequalities in coverage.

5.1   Data availability

The multipurpose VLSS and VHSS have aimed to capture household consumption and out-of-pocket health spending. The 1997/98 VLSS and all the VHLSS surveys have also inquired about health insurance coverage, as well as other financial protection schemes, notably the 'health card' and 'health certificate' schemes. Other surveys of relevance are the 2002 National Health Survey (NHS) and the 2002-03 World Health Survey (WHS), both of which inquired about household health expenditures and insurance coverage; however, the NHS did not inquire about total household expenditure or consumption and, so, cannot be used to analyze financial protection.

Box 5.1: Health Insurance coverage

Table 12 shows SHI coverage in 2008, by scheme and by consumption quintile. The latter distribution is summarized in the concentration index, a positive value of which indicates higher coverage rates among the rich and a negative value of which indicates higher coverage rates among the poor.

Enrollment in the formal-sector worker scheme was low in 2008 (8 per cent of the population, just one percentage point higher than in 2006) and heavily concentrated among the better-off. A slightly smaller number of people are covered as "policy beneficiaries" and include, among other categories, those over 90, relatives of military; in 2008, enrollment for this category was somewhat concentrated among the worse off. The scheme for the poor enrolled around 9 per cent of the population in 2008, up on 7 per cent in 2006; as expected, these are mostly among the lower quintiles. Around 15 per cent of the population is enrolled as a student (16 per cent in 2006), either through the government SHI scheme or through one of the other student schemes; students with health insurance are predominantly from better-off households. Voluntary insurance continues to be very low in Vietnam (around 5 per cent). Around 5 per cent of the population in 2008 (down from 11 per cent in 2006) was still covered through the predecessor of the "health insurance for the poor" program. These people may actually be covered through the formal insurance scheme for the poor, but misreported in the survey. These people are disproportionately poor, though some certificates are evident even in the top quintile. Finally, approximately 7 per cent of the population was enrolled through the under-six program. Around 44 per cent of the population had some type of insurance in 2008 (down from 51 per cent in 2006), with slightly higher coverage among the better-off.

Table 12: Inequalities in health insurance coverage

	Lowest quintile	Q2	Q3	Q4	Highest quintile	Total	Concentration index
Formal-sector worker	0.014	0.026	0.050	0.089	0.207	0.077	0.487***
Policy beneficiary	0.084	0.044	0.042	0.043	0.042	0.051	-0.145***
Scheme for the poor	0.267	0.106	0.054	0.032	0.008	0.093	-0.537***
Student	0.064	0.148	0.161	0.183	0.182	0.147	0.154***
Voluntary (other)	0.014	0.036	0.056	0.073	0.078	0.051	0.269***
Health card or certificate	0.137	0.055	0.027	0.019	0.014	0.050	-0.470***
Child under 6	0.083	0.071	0.068	0.055	0.052	0.066	-0.102***
Any insurance	0.328	0.501	0.520	0.477	0.379	0.441	0.017***

Source: Authors' estimates using ADePT and 2008 VHLSS.
Note: * CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

5.2 Catastrophic out-of-pocket payments

This subsection provides information on 'catastrophic' health payments. Catastrophic payments are defined as health care payments in excess of a predetermined percentage of their total household or nonfood spending.

The columns of Table 5.1 give different thresholds above which health payment "budget shares" might be deemed catastrophic. The first line of the table displays the catastrophic payment "headcount", i.e. the proportion of households with a health payment budget share greater than the given threshold. The second line relates the catastrophic payment headcount to the household consumption distribution, and shows the concentration index of the incidence of catastrophic payments. A positive value of the concentration index indicates a greater tendency for the better-off to have out-of-pocket spending in excess of the payment threshold, whereas a negative value indicates that the worse off are more likely to have out-of-pocket spending exceeding the threshold.

The information in Table 5.1 on catastrophic payments is for the 2002-03 WHS and four years' worth of VHLSS data. The table shows that, for the WHS data, when the threshold is raised from 5 to 40 per cent of total household expenditure, the estimate of the incidence of catastrophic payments fall from 30.3 to 2.9 per cent. However, using nonfood expenditure, the estimate of the incidence of catastrophic payments falls from 46.2 to 13.5 per cent. In the VLHSS data, the incidence of catastrophic payments (at higher thresholds) is smaller than in the WHS, and the incidence of catastrophic spending falls more sharply as the threshold is raised. The trend in catastrophic spending was downwards during the 1990s, but if anything there was a slight upward trend in the 2000s, with a downward trend over the entire period under analysis.

Table 5.1 also shows that the concentration index for catastrophic spending is positive for the WHS data, whatever the total household or nonfood spending threshold, implying that catastrophic payments are more common among the better-off. Exactly the opposite emerges, however, in the VHLSS data in all years for nonfood spending: catastrophic payments are more likely among the poor, except at the highest threshold. According to the VHLSS data, there appears to have been—at least until recently—a reduction in the concentration of catastrophic spending among the poor at the 10 per cent threshold.

Table 5.1: Incidence of catastrophic out-of-pocket spending

	Threshold share of total household consumption				
	5%	10%	15%	25%	40%
1993-94, VLSS					
Headcount	38.7%	19.2%	9.8%	3.8%	0.4%
Concentration index	-0.014	0.006	0.019	0.026	0.320***
1997-98, VLSS					
Headcount	34.5%	15.0%	8.3%	2.7%	0.6%
Concentration index	-0.032***	0.020	0.099***	0.271***	0.611***
2002-03, WHS					
Headcount	30.3%	17.9%	12.2%	6.2%	2.9%
Concentration index	0.106***	0.163***	0.221***	0.362***	0.575***
2002, VHLSS					
Headcount	27.2%	13.0%	7.7%	3.0%	0.8%
Concentration index	0.003	0.085***	0.154***	0.281***	0.503***
2004, VHLSS					
Headcount	34.6%	17.5%	10.4%	4.4%	1.5%
Concentration index	0.025***	0.077***	0.149***	0.290***	0.471***
2006, VHLSS					
Headcount	30.0%	15.1%	8.8%	4.0%	1.2%
Concentration index	0.034***	0.087***	0.148***	0.289***	0.508***
2008, VHLSS					
Headcount	34.9%	18.7%	11.4%	5.0%	1.8%
Concentration index	0.003	0.069***	0.099***	0.226***	0.411***
	Threshold share of nonfood consumption				
	5%	10%	15%	25%	40%
1993-94, VLSS					
Headcount	67.8%	47.7%	34.5%	19.2%	8.3%
Concentration index	-0.06***	-0.09***	-0.09***	-0.12***	-0.11***
1997-98, VLSS					
Headcount	64.2%	43.2%	29.8%	14.8%	5.5%
Concentration index	-0.097***	-0.132***	-0.133***	-0.117***	-0.024
2002-03, WHS					
Headcount	46.2%	38.6%	31.9%	21.0%	13.5%
Concentration index	0.057***	0.046***	0.041***	0.045**	0.072**
2002, VHLSS					
Headcount	54.0%	32.0%	21.1%	10.9%	4.5%

Concentration index	-0.112***	-0.121***	-0.102***	-0.059***	0.030
2004, VHLSS					
Headcount	56.8%	36.0%	25.1%	13.3%	5.4%
Concentration index	-0.065***	-0.078***	-0.072***	-0.018	0.101***
2006, VHLSS					
Headcount	52.2%	31.8%	21.3%	11.5%	5.0%
Concentration index	-0.058***	-0.061***	-0.058***	-0.009	0.081***
2008, VHLSS					
Headcount	57.4%	35.9%	25.1%	13.7%	6.1%
Concentration index	-0.074***	-0.084***	-0.054***	-0.028	0.026

Source: Authors' estimates using ADePT.

Note: Recall periods for WHS and VHLSS health expenditure data differ: WHS data refer to the last 4 weeks, VHLSS inpatient expenses are from the last 12 months, while other spending is from the last 4 weeks and then annualized.

* CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

5.3   Impoverishing out-of-pocket payments

This subsection presents poverty measures corresponding to household consumption gross and net of out-of-pocket health spending. A comparison of the two shows the scale of impoverishment due to health payments. The idea is that a health problem necessitating out-of-pocket medical spending 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. Adding out-of-pocket spending to the household's nonmedical consumption ('consumption including – or gross of – health payments') gives us a sense of what its standard of living would have been *without* the health problem. Its nonmedical spending ('consumption excluding health payments') gives us a sense of what its standard of living looks like *with* the health problem. The assumption here is that out-of-pocket spending is involuntary and caused by health "shocks"; health spending is assumed to be financed by reducing current consumption.

The first line of Table 5.2 shows the poverty "headcount" which represents the proportion of individuals living below the poverty line. Two poverty lines are used: the lower line corresponds to US$1.25 a day at purchasing power parities (PPP); the upper line corresponds to US$2 a day. The poverty gap gives the total shortfall from the poverty line, averaged across the entire population; it is expressed in dollars a day. The mean positive poverty gap is a measure of the intensity of poverty: it indicates the average shortfall from the poverty line among those in poverty; it is also measured in dollars a day. Table 5.2 reports results for the 2002-03 WHS and four years' worth of the VHLSS. When out-of-pocket payments are counted as part of a household's consumption, 34 per cent of the population in 2002 (according to the WHS) was poor using a US$1.25 a day poverty line. If we take out-of-pocket payments out from the household's consumption, recognizing that this expenditure is involuntary and simply enables a household to cope with a health problem, the poverty rate goes up to 38 per cent; this is the true poverty rate. Thus about four per cent of the population would not have been poor if the resources they were forced to devote to health care had been available to spend on other things. Out-of-pocket spending on health raises the per-capita poverty gap rises by $0.02, equivalent to or a 16 per cent increase. The mean positive poverty gap also increases by $0.02, only a four per cent increase. The rise

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in the poverty gap is thus mainly due to more households being brought into poverty through out-of-pocket spending on health, and not because of a deepening of the poverty of the already poor. When using a poverty line of US$2.00 a day, the increase in the percentage of those impoverished is similar, but the percentage increase in depth of poverty is smaller.

The latest data available, from the 2008 VLHSS, show that out-of-pocket payments are responsible for an increase in the poverty rate of 27 per cent when using the US$1.25 a day measure and 10 per cent when using the US$2.00 a day measure. The poverty gap increased as a result of out-of-pocket payments by $0.02 per capita at the US$1.25 a day poverty line (a 23 per cent increase), and by $0.03 per capita at the US$2.00 a day poverty line (a 16 per cent increase).

Table 5.2 suggests that there has been an increase in impoverishment due to out-of-pocket spending on health since 2002. This is true whether measured in terms of the additional people in poverty, or in terms of the poverty gap. Put another way, if out-of-pocket spending on health had been eliminated and Vietnamese households had spent the money on things directly contributing to their welfare, poverty in Vietnam would have fallen somewhat faster than it has.

Table 5.2: Impoverishment through out-of-pocket health spending

	Consumption including health payments	Consumption excluding health payments	Change	Percentage change
Poverty line at US$1.25 per capita per day				
1993-94, VLSS				
Percentage in poverty / Poverty headcount	74.1%	77.1%	3.0 pp	4%
Average shortfall from the poverty line	$0.38	$0.42	$0.04	10.2%
Average shortfall from the poverty line, among the poor	$0.51	$0.54	$0.03	5.6%
1997-98, VLSS				
Percentage in poverty	47.5%	52.1%	4.6 pp	9.7%
Average shortfall from the poverty line	$0.17	$0.20	$0.03	16.3%
Average shortfall from the poverty line, among the poor	$0.36	$0.38	$0.02	6.0%
2002, VHLSS				
Percentage in poverty	40.2%	44.6%	4.3 pp	11%
Average shortfall from the poverty line	$0.14	$0.16	$0.02	14.5%
Average shortfall from the poverty line, among the poor	$0.34	$0.35	$0.01	4.0%
2002-03, WHS				
Percentage in poverty	34.9%	39.6%	4.7 pp	13.5%
Average shortfall from the poverty line	$0.13	$0.15	$0.02	16.2%

Average shortfall from the poverty line, among the poor	$0.36	$0.37	$0.01	2.4%
2004, VHLSS				
Percentage in poverty	29.8%	34.4%	4.6 pp	15.4%
Average shortfall from the poverty line	$0.10	$0.12	$0.02	14.5%
Average shortfall from the poverty line, among the poor	$0.34	$0.35	$0.01	4.0%
2006, VHLSS				
Percentage in poverty	22.0%	25.4%	3.4 pp	15%
Average shortfall from the poverty line	$0.07	$0.08	$0.01	18.2%
Average shortfall from the poverty line, among the poor	$0.34	$0.35	$0.01	3.3%
2008, VHLSS				
Percentage in poverty	19.8	25.1	5.3 pp	27%
Average shortfall from the poverty line	$0.07	$0.08	$0.02	22.6%
Average shortfall from the poverty line, among the poor	$0.33	$0.33	-$0.01	-1.9%
Poverty line at US$2.00 per capita per day				
1993-94, VLSS				
Percentage in poverty / Poverty headcount	91.1%	92.4%	1.4 pp	1.5%
Average shortfall from the poverty line	$1.01	$1.07	$0.05	5.3%
Average shortfall from the poverty line, among the poor	$1.11	$1.15	$0.04	3.8%
1997-98, VLSS				
Percentage in poverty	76.1%	78.6%	2.5 pp	3.3%
Average shortfall from the poverty line	$0.65	$0.70	$0.05	8.4%
Average shortfall from the poverty line, among the poor	$0.85	$0.89	$0.04	4.9%
2002, VHLSS				
Percentage in poverty	69.7%	72.3%	2.7 pp	3.9%
Average shortfall from the poverty line	$0.57	$0.61	$0.05	8.3%
Average shortfall from the poverty line, among the poor	$0.81	$0.85	$0.03	4.3%
2002-03, WHS				
Percentage in poverty	65.2%	69.3%	4.1 pp	6.3%
Average shortfall from the poverty line	$0.52	$0.58	$0.06	11.0%
Average shortfall from the poverty line, among the poor	$0.78	$0.81	$0.03	4.3%
2004, VHLSS				
Percentage in poverty	59.9%	64.0%	4.1 pp	6.8%
Average shortfall from the poverty line	$0.45	$0.50	$0.05	11.9%

Average shortfall from the poverty line, among the poor	$0.75	$0.79	$0.04	4.7%
2006, VHLSS				
Percentage in poverty	50.7%	54.6%	3.9 pp	7.6%
Average shortfall from the poverty line	$0.34	$0.39	$0.04	12.1%
Average shortfall from the poverty line, among the poor	$0.68	$0.71	$0.03	4.2%
2008, VHLSS				
Percentage in poverty	51.7%	56.9%	5.2 pp	10.0%
Average shortfall from the poverty line	$0.35	$0.40	$0.05	15.5%
Average shortfall from the poverty line, among the poor	$0.67	$0.71	$0.03	4.9%

Source: Authors' estimates using ADePT and WHS and VHLSS data.
Note: Poverty lines are at 2005 purchasing power parities, adjusted to current prices using Vietnam's CPI. WHS figures are for a 4-week period and are in VND. The VHLSS data are for a 12-month period and are in thousands of VND.

Figure 5.1 shows the effect of out-of-pocket payments on poverty via a "Pen's parade". Households are lined up in ascending order of their consumption including out-of-pocket payments. The vertical "paint drips" show the extent to which out-of-pocket payments divert a household's spending away from items such as food, education, clothing, etc. The length of the paint drip, therefore, shows how far health spending compromises a household's living standards. In this case, out-of-pocket payments are largest at higher values of total consumption, but it is the households in the middle and lower half of the distribution that are brought below the poverty line by health payments. The chart also shows that many already-impoverished households are experiencing a deepening of poverty as a result of their health spending.

Figure 5.1: The impoverishing effect of out-of-pocket spending
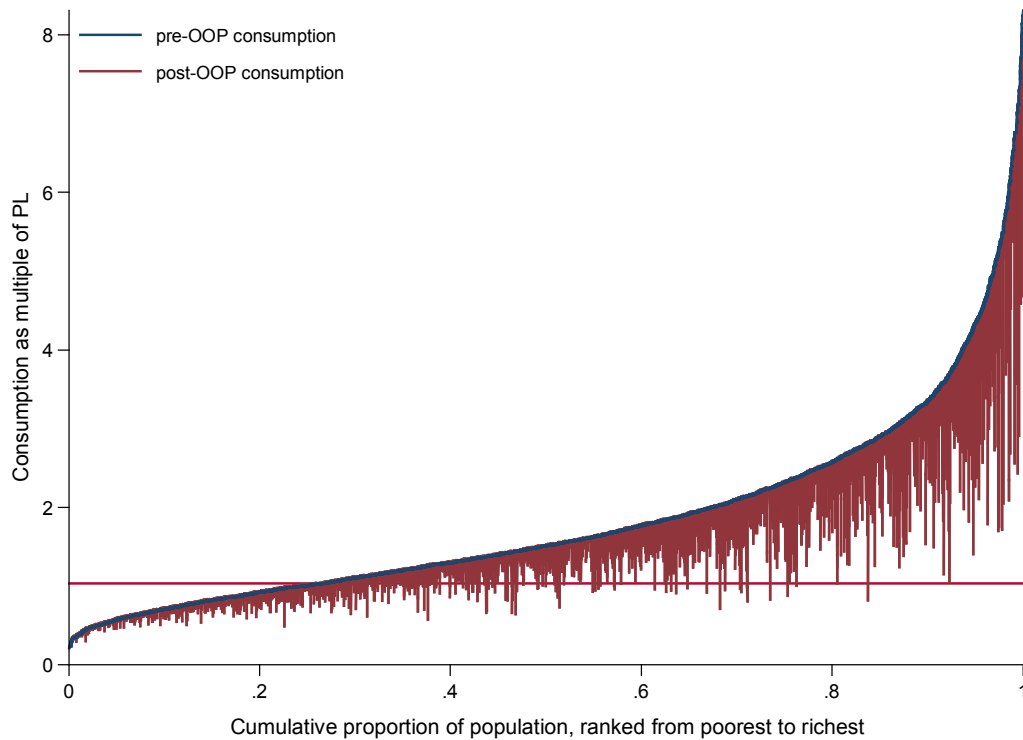
Source: Authors' estimates using ADePT and 2006 VHLSS data.
Note: Poverty line at 2005 purchasing power parities, adjusted to current prices using Vietnam's CPI.

In sum, this section showed that while health insurance coverage in Vietnam has increased over time, especially among the poor, there are still large sections of the population that lack it. The burden of out-of-pocket payments remains substantial, but there has been a large decline in the incidence of catastrophic payments over time. Most of this decline occurred during the 1990s, though, with a slight increase in the 2000s. Out-of-pocket payments also contributed to an increase in the incidence of poverty, and a deepening of poverty among the already-poor.

6 Progressivity of health finance

There is a general consensus that payments for health care ought to be at least proportional to households' ability to pay, if not progressive (meaning a poor household contributes a smaller share of its resources than a rich one). The overall progressivity of a health financing system depends on the progressivity of each source of finance, and the share of health spending financed through each source. A system that relies exclusively on out-of-pocket payments is often argued to be likely to be regressive, since out-of-pocket spending often absorbs a larger share of a poor household's resources than of a rich household's resources. This is not always the case, however; when it is not, it is likely that the poor are under-using health care, something that can be assessed by the distribution of health utilization.

6.1 Data availability

The VHLSS captures (in addition to household consumption and out-of-pocket health spending) spending on voluntary health insurance premiums. The 2006 survey has unusually detailed information on insurance coverage. This, combined with information on the sector of employment status and employer, allows one to estimate mandatory insurance contributions among those actually enrolled in the SHI program. Like most household surveys, the VHLSS does not record tax payments; however, the World Bank (2007) reports the estimated taxes paid by different consumption quintiles for the 2006 VHLSS data. Data on NHA shares are obtained from the WHO's NHA website.

6.2 Progressivity of health care financing

The first five rows of Table 6.1 show each quintile's average consumption and financing share with households ranked in ascending order of gross consumption (i.e. consumption including health care payments). Health care payments are considered progressive if the poorest quintile's share in total household consumption exceeds its share in total payments, while the opposite is true of the richest quintile. Payments are regressive if the poorest quintile's share in total consumption is less than its share in total payments (while again the opposite is true of the richest quintile). This exercise can be done for total health care payments, as well as for each source separately. Table 1.1 also shows the NHA shares—the percentage of total health financing coming from each source. The next line shows the Gini coefficient, which measures the degree of inequality in gross consumption—the higher the number, the more unequal the distribution of consumption. The line below that shows the concentration index, a measure of how unequally distributed health care payments are across consumption quintiles: a positive value indicates that payments are concentrated among the better-off quintiles, while a negative index would indicate a concentration of payments among the poorer quintiles. The next line shows the Kakwani index, defined as the concentration index less the Gini coefficient. A positive value indicates that payments are more concentrated among the better-off than consumption is and is a sign that payments are progressive. A negative Kakwani index indicates that payments are regressive. Finally, the table indicates the size of the "redistributive effect" associated with health care payments. This is the change in consumption inequality brought about by health care payments. A positive number indicates that there was less inequality in consumption after payments than before, which is the case if payments are progressive. The more progressive they are, and the larger the fraction of (gross) consumption accounted for health care payments, the bigger will be the amount of "redistributive effect".

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Table 6.1 shows that health care finance in Vietnam in 2006 was mildly progressive, i.e. the better-off spent a larger fraction of their consumption on health care than the poor. The progressivity stems from the progressiveness of general taxation, which finances 27 per cent of spending, but also the progressiveness of out-of-pocket payments, which finance 55 per cent of spending[8]. Taxation is somewhat more progressive than out-of-pocket spending.

Table 6.1: Progressivity of health financing

	Consumption	Taxes	SHI	Voluntary Insurance	Out-of-pocket spending	Total payments
Lowest quintile	7.4	4.3	0.5	4.8	5.3	4.4
2	11.4	8.8	3.1	12.6	9.8	8.7
3	15.5	13.5	8.2	18.4	14.9	13.7
4	21.9	22.5	19.2	26.8	23.2	22.5
Highest quintile	43.8	50.9	69.0	37.5	46.8	50.8
NHA shares		26.6	12.7	1.6	54.8	95.7
Gini coefficient	0.360***					
Concentration index		0.428***	0.658***	0.343***	0.414***	0.426***
Kakwani index		0.068†	0.298***	-0.017	0.054***	0.066†

Source: Distribution of consumption, SHI contributions, voluntary insurance premiums, and out-of-pocket payments estimated by authors using ADePT and data from the 2006 VHLSS. Distribution of taxes by quintile were taken from Table 5.1 in World Bank (2007). The distribution of total payments was calculated as a weighted average of payments from the different sources using NHA shares as weights. The standard errors for the concentration indices for taxes and total payments were calculated using the grouped data method from the quintile shares for total payments. Standard errors for the Kakwani index for taxes and total payments were not computed because of use of grouped data.
Note: * Significant at 10%, **Significant at 5%, ***Significant at 1%. † Standard error not computed.

In short, this section finds that taxes in Vietnam are mildly progressive, SHI contributions are substantially progressive, and out-of-pocket payments are mildly progressive. Overall, health care finance in Vietnam emerges as mildly progressive.

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[8] Annex A shows that the progressivity of general taxation derives largely from the progressivity of indirect taxes: VAT and excise taxes, are both less progressive than personal income taxes, but account for 37% of revenues while personal income taxes account for just 3%. Other big taxes are the corporate income tax and trade taxes which account for 51% and have been assumed here to be distributed as VAT.

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8 Annexes

8.1 Additional graphs and tables

Table A1: Tax progressivity assumptions

	% revenue share	Concentration index	Comment
VAT	30%	0.4158	
Excise taxes	7%	0.4510	
PIT	3%	0.6728	
CIT	37%	0.4158	Assumed to be distributed as VAT
Property tax	2%	0.6728	Assumed to be distributed as PIT
Natural resource taxes	7%	0.4158	Assumed to be distributed as VAT
Trade taxes	14%	0.4158	Assumed to be distributed as VAT
Total		0.4312	

Source: Revenue shares from Fig 5.2 in World Bank (2007). Concentration indices are computed from the grouped data reported in Table 5.1 in World Bank (2007).

Table A2 shows inequalities in adult curative care according to the more recent 2006 VHLSS survey. On average, in 2006, there were 1.2 outpatient visits per person per year in Vietnam. Most were to public facilities (largely general hospitals and commune health centers or CHCs), but private providers were also frequently visited (typically largely formal providers rather than traditional healers). CHC outpatient visits are disproportionately concentrated among the poor (as are visits to village clinics, traditional healers and—to a lesser extent—polyclinics). Overall, outpatient visits are more common among the better-off than among the poor. Nearly 10 per cent of individuals record an inpatient admission in a year. Nine-tenths of them occur in a general hospital (CHCs provide the rest). Private-sector inpatient admissions are negligible. The better-off are more frequently admitted as inpatients and the poor are more frequently admitted to CHCs.

Table A2: Inequalities in adult curative care, by facility type

	Outpatient visits					Inpatient admissions		
	Total	Health center	Hospital	All public	Private	Total	Hospital	Private
Lowest quintile	76.9%	39.9%	15.9%	55.8%	16.2%	7.0%	4.8%	0.0%
2	111.8%	37.9%	25.4%	63.3%	38.2%	7.8%	6.3%	0.1%
3	116.8%	35.3%	29.5%	64.8%	42.5%	8.5%	7.1%	0.1%
4	142.8%	35.7%	47.8%	83.4%	50.4%	9.4%	8.3%	0.1%
Highest quintile	169.8%	23.8%	71.4%	95.2%	66.2%	10.2%	8.9%	0.7%
Total	123.6%	34.5%	38.0%	72.5%	42.7%	8.6%	7.1%	0.2%
Concentration index	0.150***	-0.083***	0.297***	0.116***	0.222***	0.079***	0.124***	0.567***

Source: Authors' estimates using ADePT and 2006 VHLSS.
Note: The utilization data refer to last 12 months in all cases.
* CI is significant at 10%, **CI is significant at 5%, ***CI is significant at 1%.

8.2 Measurement of indicators

INDICATOR	MEASUREMENT	DATA
CHILD HEALTH		
Infant mortality rate	Number of deaths among children under 12 months of age per 1,000 live births (Note: mortality rate calculated using the true cohort life table approach; the DHS reports use of the synthetic cohort life table approach)	DHS
Under-five mortality rate	Number of deaths among children under 5 years of age per 1,000 live births (Note: mortality rate calculated using the true cohort life table approach; the DHS reports use of the synthetic cohort life table approach)	DHS
Stunting	% of children with a height-for-age z-score <-2 standard deviations from the reference median (Note: z-score calculated using WHO 2006 Child Growth Standards)	DHS, MICS
Underweight	% of children with a weight-for-age z-score <-2 standard deviations from the reference median (Note: z-score calculated using WHO 2006 Child Growth Standards)	DHS, MICS
Diarrhea	% of children with diarrhea (past two weeks)	DHS, MICS
Diarrhea	% of children with diarrhea (past two weeks; youngest child)	WHS
Acute respiratory infection	% of children with an episode of coughing and rapid breathing (past two weeks)	DHS, MICS
Acute respiratory infection	% of children with an episode of coughing and rapid breathing (past two weeks; youngest child)	WHS
Fever	% of children with fever (past two weeks)	DHS, MICS
Fever	% of children with fever (past two weeks; youngest child)	WHS
Malaria	% of children with an episode of malaria (past year; youngest child)	WHS
ADULT HEALTH		
Tuberculosis	% of adults who reported tuberculosis symptoms (past year)	WHS
HIV positive	% of adults aged 15 to 49 whose blood tests are positive for HIV 1 or HIV 2	DHS
Obesity among non-pregnant women	% of women aged 15 to 49 with a BMI above 30	DHS
Obesity among all women	% of women aged 18 to 49 with a BMI above 30	WHS
Road traffic accident	% of adults involved in a road traffic accident with bodily injury (past year)	WHS
Non-road traffic accident	% of adults who suffered bodily injury that limited everyday activities, due to a fall, burn, poisoning, submersion in water, or by an act of violence (past year)	WHS
Angina	% of adults ever diagnosed with angina or angina pectoris	WHS
Arthritis	% of adults ever diagnosed with arthritis	WHS
Asthma	% of adults ever diagnosed with asthma	WHS
Depression	% of adults ever diagnosed with depression	WHS
Diabetes	% of adults ever diagnosed with diabetes	WHS
Difficulty with work and household activities	% of adults who have severe or extreme difficulties with work or household activities (past 30 days) (Note: This indicator was created from an ordinal variable with five categories)	WHS
Poor self-assessed health status	% of adults who rate own health as bad or very bad (Note: This indicator was created from an ordinal variable with five categories)	WHS
RISK FACTORS		
Smoking (all)	% of adults who smoke any tobacco products such as cigarettes, cigars or pipes	WHS
Smoking (women)	% of women aged 15 to 49 who smoke cigarettes, pipe or other tobacco	DHS

Smoking (women)	% of women aged 18 to 49 who smoke cigarettes, pipe or other tobacco	WHS
Insufficient intake of fruit and vegetables	% of adults who have insufficient intake of fruit/vegetables (less than 5 servings)	WHS
Insufficient physical activity	% of adults who spend < 150 minutes on walking/ moderate activity/vigorous activity (past week)	WHS
Drinking	% of adults who consume ≥5 standard drinks on at least one day (past week)	WHS
Concurrent partnerships	% of women aged 15 to 49 who had sexual intercourse with more than one partner (past year)	DHS, MICS
Concurrent partnerships	% of women aged 18 to 49 who had sexual intercourse with more than one partner (past year)	WHS
Condom usage (more than one partner)	% of women aged 15 to 49 who had more than one partner in the past year and used a condom during last sexual intercourse	DHS, MICS
Condom usage (more than one partner)	% of women aged 18 to 49 who had more than one partner in the past year and used a condom during last sexual intercourse	WHS
Mosquito net use by children	% of children who slept under an (ever) insecticide treated bed net (ITN) (past night)	DHS, MICS
Mosquito net use by pregnant women	% of pregnant women aged 15 to 49 who slept under an (ever) insecticide treated bed net (ITN) (past night)	DHS
MATERNAL AND CHILD HEALTH INTERVENTIONS		
Full immunization	% of children aged 12-23 months who received BCG, measles, and three doses of polio and DPT, either verified by card or by recall of respondent	DHS, MICS
Treatment of diarrhea	% of children with diarrhea given oral rehydration salts (ORS) or home-made solution	DHS, MICS
Medical treatment of ARI	% of children with a cough and rapid breathing who sought medical treatment for acute respiratory infection (past 2 weeks)	DHS, MICS
Skilled antenatal care (4+ visits)	% of mothers aged 15 to 49 who received at least 4 antenatal care visits from any skilled personnel (Note: type of skilled personnel varies by country including doctor, nurse, midwife, auxiliary midwife, feldsher, clinical officer, health surveillance attendant, medical assistant)	DHS
Skilled birth attendance	% of mothers aged 15 to 49 that were attended by any skilled personnel at child's birth (Note: type of skilled personnel varies by country including doctor, nurse, midwife, auxiliary midwife, feldsher, clinical officer, health surveillance attendant, medical assistant)	DHS
Contraceptive prevalence	% of women aged 15 to 49 who currently use a modern method of contraception	DHS, MICS
ADULT PREVENTIVE CARE		
TB screening	% of adults who were tested for tuberculosis (past year)	WHS
Voluntary Counseling and Testing for HIV	% of women aged 18 to 49 who were tested for HIV and were told the results of the test	WHS, MICS
Cervical cancer screening	% of women aged 18 to 69 who received a pap smear during last pelvic examination (past 3 years)	WHS
Breast cancer screening	% of women aged 40 to 69 who received a mammogram (past 3 years)	WHS
ADULT CURATIVE CARE		
Inpatient or outpatient (12 months)	% of adults who used any inpatient or outpatient health care (past year)	WHS
Inpatient (12 months)	% of adults who used any inpatient health care (past year)	WHS
Inpatient (5 years)	% of adults who used any inpatient health care (past 5 years)	WHS
Outpatient (12 months)	% of adults who used any outpatient health care (past year; conditional on having not used any inpatient care past 5 years)	WHS

Note: Unless otherwise noted, all children are under the age of 5 and all adults are aged 18 and older

8.3 Methodological notes

Sections 2 and 3: Inequalities in health and health care utilization

The selection and measurement of health outcome indicators used in Section 2 and 3 on inequalities in health and health care utilization was based on (i) a comparison of indicators used in major health publications and databases, (ii) the advice of World Bank Health Specialists on recommended monitoring and measurement practice in their respective fields, and (iii) how measurable those indicators would be in the available data sources. The following major reports/databases were consulted as a guide to indicator measurement: World Bank Development Indicators, the World Bank's HNPStats database, WHO's World Health Survey country reports, and the World Bank's report series on "Socio-economic differences in health, nutrition and population" (Gwatkin et al. 2007).

The data sources for this section include the Demographic and Health Surveys (DHS), World Health Surveys (WHS), Multiple Indicator Cluster Surveys (MICS) and multipurpose household surveys (such as the World Bank Living Standard and Measurement Surveys). Where the selected indicators are available in more than one of these surveys, all measures are reported.

In all analyses of inequality in this section, i.e. quintile analysis and calculation of concentration indices, households are ranked by an asset index computed using principal components analysis. In order to avoid presenting estimates biased by insufficient power, indicators were removed from the tables if the sample size in any quintile was less than the following thresholds: 250 per quintile for infant and child mortality estimates and 25 per quintile for all other indicators. This follows the practice of Gwatkin et al. (2007). In addition, the statistical significance of all concentration indices is reported.

Section 4: Benefit-incidence analysis

The section on benefit incidence analysis uses three different methods for allocating government health expenditure to households, invoking three different assumptions that are described in detail in Wagstaff (2011). The first, the constant unit cost assumption, treats the sum of individual fees and government subsidies as constant, and thus any fees paid when using public services results in a reduction in the government subsidy received. The second, the constant unit subsidy assumption, allocates the same subsidy to each unit of service used, irrespective of the fees paid. Finally, the third, the proportional unit cost assumption, makes the cost of care proportional to the fees paid, which implies that the government subsidy received increases as the fees paid increases. In calculating the distribution of fees, service utilization and government subsidies, households are ranked by per capita consumption. The quintile distributions and concentration indices are reported, including measures of statistical significance.

The data sources for this section include the WHS and multipurpose household surveys that are used to obtain information on service utilization at difference levels of care and fees paid by patients. Data on government subsidies at each level of service are obtained from National Health Accounts reports, specifically from one or more of the following tables depending on the level of detail provided: financing

source by financing agent, financing agent by provider, and provider by function, other detailed country expenditure reviews or directly from budget offices.

The limitations of the analysis depend on the data source. One limitation of using the WHS is that we only observe whether or not the individual had an inpatient and outpatient visit, but not the actual number of visits or length of stay. We also observe outpatient visits only for people who did not use inpatient care. The implications of these limitations are being investigated.

Section 5: Financial protection

Section 5 examines health insurance coverage, catastrophic health care payments and impoverishment due to out-of-pocket expenditures. In this section, households are ranked by consumption. The analysis of catastrophic health care payments follows the popular approach elaborated upon O'Donnell et al. (2008) which defines health spending as "catastrophic" if it exceeds some fraction or threshold of total expenditure, or of total nonfood expenditure, in a given period. As O'Donnell et al. (2008) note, the threshold of 10 per cent for total expenditure and 40% for nonfood expenditure are commonly used in the literature. In addition to measures of incidence, distribution-sensitive measures of catastrophic payments are calculated, specifically the concentration index, and statistical significance is reported. The analysis of impoverishing expenditure uses the poverty lines of US$1.25 and US$2.00 per capita per day at 2005 purchasing power parity (PPP) (with PPP values obtained from the World Development Indicators database) and, in some cases, national poverty lines.

Data sources for the analysis of financial protection include the WHS, as well as multipurpose household surveys. Survey data on health insurance coverage is difficult to obtain for most countries.

Section 6: Progressivity of health care finance

This section examines the progressivity of different sources of healthcare financing/payments, including out of pocket payments, health insurance contributions, direct taxation and indirect taxation. The Kakwani index, defined as the concentration index minus the Gini coefficient, indicates whether payments are more/less concentrated among the better-off than consumption is and, thus, is a sign of whether payments are progressive/regressive.

The main data source needed for the analysis of progressivity of health care financing is a multipurpose household survey, preferably with a very detailed consumption module. In addition, knowledge of the local context is typically needed to make informed assumptions, such as information on income tax brackets, VAT tax rates and exemptions, excise taxes, and taxes that are earmarked for health. Where the data do not contain information on direct taxes, this value was calculated by applying official tax brackets to individual reported income. However, in low-income countries characterized by high degrees of informality and limited tax collection capacity, this approach may overestimate direct payments. Where the data do not contain information on value added tax (VAT), this is derived from household consumption using official VAT rates and exemption categories, obtained from government websites and various literature. Other important assumptions about the distribution of the burden of taxation that are particular to each country are described in Annex A of the corresponding report.

ABOUT THE HEALTH EQUITY AND FINANCIAL PROTECTION REPORTS

The Health Equity and Financial Protection reports are short country-specific volumes that provide a picture of equity and financial protection in the health sectors of low- and middle-income countries. Topics covered include: inequalities in health outcomes, health behavior and health care utilization; benefit incidence analysis; financial protection; and the progressivity of health care financing. Data are drawn from the Demographic and Health Surveys, World Health Surveys, Multiple Indicator Cluster Surveys, Living Standards and Measurement Surveys, as well as other household surveys, and use a common set of health indicators for all countries in the series. All analyses are conducted using the health modules of the ADePT software. Also available are Health Equity and Financial Protection datasheets that summarize key measures of equity and financial protection.

The most recent versions of the Health Equity and Financial Protection reports and datasheets can be downloaded at www.worldbank.org/povertyandhealth.

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