Progressivity of health care financing and incidence of service benefits in Ghana

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The National Health Insurance (NHI) scheme was introduced in Ghana in 2004 as a pro-poor financing strategy aimed at removing financial barriers to health care and protecting all citizens from catastrophic health expenditures, which currently arise due to user fees and other direct payments. A comprehensive assessment of the financing and benefit incidence of health services in Ghana was undertaken. These analyses drew on secondary data from the Ghana Living Standards Survey (2005/2006) and from an additional household survey which collected data in 2008 in six districts covering the three main ecological zones of Ghana. Findings show that Ghana’s health care financing system is progressive, driven largely by the progressivity of taxes. The national health insurance levy (which is part of VAT) is mildly progressive while NHI contributions by the informal sector are regressive. The distribution of total benefits from both public and private health services is pro-rich. However, public sector district-level hospital inpatient care is pro-poor and benefits of primary-level health care services are relatively evenly distributed. For Ghana to attain an equitable health system and fully achieve universal coverage, it must ensure that the poor, most of whom are not currently covered by the NHI, are financially protected, and it must address the many access barriers to health care.

Keywords Health care financing, financing incidence, benefit incidence, progressivity, health care benefits, Ghana

KEY MESSAGES

- The current Ghanaian health care financing system is progressive, but the benefits from health services are pro-rich.
- Out-of-pocket payments are the most regressive component of the health financing system, yet still account for the single largest share of health care financing.
- National health insurance scheme contributions from those outside the formal employment sector are very regressive.
- A number of access constraints contribute to inequities in the distribution of health service benefits.
- If Ghana is to achieve universal coverage, it is essential to reduce out-of-pocket payments, to identify ways of providing financial protection for those outside the formal sector within the national health insurance framework, and to address actively the many access barriers to health services.
Introduction

Health care financing continues to be a challenge in many developing countries. In Ghana, out-of-pocket (OOP) payments accounted for 45% of total health care financing in 2005/6 (Akazili et al. 2009). In the absence of effective exemption mechanisms, poorer households suffer as a result of having to pay user fees which are a major component of OOP payments. This has prompted interest in investigating alternative health care financing systems such as tax-based financing, social health insurance and community-based health insurance. The World Health Organization (WHO) has recognized this need and in its 2005 World Health Assembly resolution WHA58.33 it called on all member states to ‘plan the transition to universal coverage of their citizens’. It is also recognized that the achievement of the Millennium Development Goals (MDGs), particularly the health-related goals, requires sustainable and equitable long-term health system financing and service delivery strategies to improve access to health care, offer greater financial protection and potentially achieve universal coverage. The National Health Insurance (NHI) scheme was introduced in Ghana in 2004 as a pro-poor financing strategy aimed at removing financial barriers to health care and protecting all citizens from catastrophic health expenditures, which arise from user fees and other direct payments.

Few people would question that universal coverage is a desirable policy goal for the health system. However, the insufficiency of resources needed to finance health care in a way that will provide universal financial protection and access to needed health care in developing countries, including Ghana, remains a major challenge. Universal coverage requires that the health system provides all citizens with adequate health care at an affordable cost. Achieving such coverage requires that health care be financed according to ability-to-pay and that services are accessible according to need.

To improve equity in the current Ghanaian health system and promote the goal of achieving universal coverage set by government and other stakeholders, there is a need to measure not only the degree of progressivity of existing health care financing mechanisms but also to ascertain who benefits from health care delivery relative to need for such care in Ghana. This will help establish the relative funding burden on the poor compared with the rich as well as the distribution of benefits from both public and private health services in the country. This information will therefore provide insights as to how to restructure the health care system to promote equity and progress towards universal coverage.

Methods

Data sources for health care financing and benefit incidence measurement

The study draws on secondary data in the form of a 2005/2006 national household survey (the fifth Ghana Living Standards Survey—GLSS 5). The sample size for GLSS 5 was 8687 households, covering a total of 36,488 individuals, representing 0.17% of the total population of Ghana.

Data on actual tax revenue was obtained from the Ministry of Finance to triangulate with estimates of the revenue from different taxes based on the GLSS 5 data. To complement the GLSS data, a primary household survey, as part of a study to develop strategies for health insurance for equity in less developed countries (SHIELD) was conducted between July and October 2008 in a sample of six districts, two each from the three geographical zones of the country. This focused on contributions to the NHI and direct health care payments. The SHIELD survey (with a sample size of 2986 households and covering a total 14,050 individuals) collected data on household expenditure on health care, household socio-economic status, health care utilization, factors affecting health care payments and the impact of OOP payments on the ability of lower income groups to access prompt and equitable care for major health problems. The SHIELD data were weighted to approximate a national perspective.

The SHIELD household survey was also the source of data on health service utilization. To estimate utilization, household survey respondents were asked if they had used any health service at all in the past one month (i.e. not restricting it to if one has been ill or injured as in some surveys). Respondents were asked the number of times they used each health service, for preventive and curative care, using a comprehensive list of different types of providers, both public and private.

For inpatient care, the number of admissions within the past year was recorded. The name of the health facility used was also requested to disaggregate data into the level of care and public or private sectors. Public providers included hospitals and primary care facilities such as clinics and health centres, whilst private providers included hospitals, clinics, chemical sellers, pharmacists, traditional birth attendants, drug peddlers and traditional healers among others. Data to calculate unit costs, total expenditure and utilization were obtained from the Ministry of Health/Ghana Health Service.

Measuring socio-economic status

Financing and benefit incidence analyses measure the distribution of the burden of funding health care and of the benefits from using health care across different socio-economic groups. A key question is how best to measure socio-economic status. For financing incidence studies, either household income or consumption expenditure must be used (O’Donnell et al. 2008a). Both measures have their advantages and disadvantages. Of particular importance is that organized labour markets are limited in low-income countries, and income variability associated with informal work activities makes income an unreliable estimate of socio-economic status. Although consumption expenditure also has its drawbacks, it is a better measure than income in developing countries with a large informal sector, as consumption expenditure is smoothed over time and so better reflects long-term average well-being (Younger 1996).

The socio-economic measure in this study is based on households’ reported expenditure and consumption of food, housing and other non-food items. It includes consumption from sources other than purchases from the market. This was translated into per adult equivalent household consumption, using the following formula:

\[ AEi = (Ai + aK)^q \]
where \( A \) is the number of adults in the household, \( K \) is the number of children (0–14), \( \alpha \) is the ‘cost of children’ (given a value of 0.5 in this study), and \( \theta \) determines the degree of economies of scale (given a value of 0.75 in this study) (values based on Deaton and Zaidi 2002).

### Assessing progressivity of health care financing

The taxes identified and measured in this study include direct taxes (income tax and corporate tax), and indirect taxes [Value Added Tax (VAT), National Health Insurance levy (NHIL), fuel levy and import duty]. These taxes make up over 95% of the total tax revenue collected in Ghana. In this study, we assume that the incidence of direct tax (mainly personal income tax in Ghana) falls on the legal tax payer and indirect taxes (import, fuel levy, VAT) fall on the consumer. We assumed an equal share (50%) of the burden of corporate tax for consumers and shareholders in this study (Younger 1996; Martinez-Vazquez and Cisse 2004). In order to calculate the incidence of different financing mechanisms (i.e. health care funding payments as a percentage of household expenditure), each tax payment per household was estimated from relevant sections of the GLSS and triangulated with actual revenue from this tax as reported by the Ministry of Finance (Borghi et al. 2009; Akazili 2010). The triangulation strategy adopted here was to distribute the tax agency (Ministry of Finance) aggregates of revenue over the reported payments in the survey.

Apart from tax, health care in Ghana is also financed by OOP payments and health insurance contributions made up of premiums from the informal sector (paid directly to District Health Insurance Schemes) and payroll deductions (by the Social Security and National Insurance Trust) paid to the National Health Insurance which then transfers them to the appropriate District Health Insurance Schemes. Thus, the NHI combines annual premiums from informal sector workers (a flat amount which is generally not differentiated due to the difficulty of identifying the socio-economic status of households) and the 2.5% payroll deduction from formal sector workers’ social security contributions. It is worth noting that all formal sector workers’ contributions are compulsorily deducted and paid to NHI whilst informal sector premium contributions are effectively voluntary, despite the NHI Act requiring all citizens to belong to the NHI. NHI contributions were estimated from the SHIELD survey and triangulated with data from the NHI Fund. The burden of OOP payments is assumed to directly fall on the consumer of the service. These were estimated from the GLSS and were triangulated with the most recent National Health Account (NHA) estimates of OOP payments.

The distribution of health care payments as a percentage of household consumption expenditure, or progressivity of health care payments, is assessed by calculating the Kakwani Index, which is the difference between the concentration coefficient of health care payments and the Gini coefficient of household expenditure. The value of this index ranges from -2 to 1 (Kakwani 1977). A positive Kakwani index indicates that the health care financing system is progressive, or regressive if it is negative. A Kakwani index of zero indicates proportionality of health care payments (Wagstaff 2000; Cissé et al. 2007). The Kakwani Index was calculated for each source of finance and an overall Kakwani Index for health care financing was calculated by weighting each source by its share of total health care funding (based on the GLSS estimates triangulated with other information sources).

### Estimating benefits of health service use

We calculate benefit incidence by multiplying the utilization rate of each type of service for each socio-economic group by the unit cost of that service. Unit cost was calculated by dividing total expenditure by utilization of patient day equivalents at each level of care in the case of hospitals and total visits in the case of facilities only providing outpatient care. Data on service expenditure for each category of provider was obtained from the Ghana Ministry of Health. Unfortunately, it was not possible to obtain separate estimates of expenditure on inpatient care and outpatient services. For this reason, we had to combine inpatient days and outpatient visits into patient day equivalents, using a ratio estimating the cost of an outpatient visit relative to the cost of an inpatient day. In the literature, the ratio has often been based on the assumption that an outpatient visit is equivalent to a third of an inpatient day (Adam et al. 2006). However, Lombard et al. (1991) have indicated that this rule of thumb is inadequate and that the ratio can vary across levels of care. Recently, Ataguba (forthcoming) conducted a regression analysis similar to that of Lombard et al. (1991) on data on health care utilization and expenditure in all public hospitals at different levels in South Africa, controlling for the relative size of each hospital. They found that the cost of an outpatient visit relative to an inpatient day was equivalent to 0.37 at the district hospital, 0.42 at the regional hospital and 0.56 at the tertiary hospital level (McIntyre and Ataguba 2011). As data were not available to undertake a similar statistical analysis in Ghana, these ratios were used for district, regional and teaching hospitals, respectively, in this analysis in preference to assuming an arbitrary ratio of one-third for all hospital levels. However, the ratios were applied to data on total expenditure and total utilization at each hospital level obtained from the Ghana Ministry of Health.

Unit costs for each type of private sector service were assumed to be equivalent to out-of-pocket payments made by those without insurance cover.

Utilization data from the SHIELD household survey was adjusted for seasonal variations using routine information collected from facilities on the number of visits per month over a full calendar year. Seasonally adjusted annual utilization rates for the specified health facility or service were obtained using the following seasonality index (McIntyre and Ataguba 2011):

\[
SI_{jk} = \left( \sum_{i=1}^{12} U_{ik} \right)/\left( U_{jk} \right) \text{ for each } k \text{ and } U_{jk} > 0
\]

Where: \( SI_{jk} \) is the seasonality index for month \( j \), \( U_{jk} \) is the total visits to a specified facility \( k \) in month \( i \), and \( U_{jk} \) is the total visits to facility \( k \) in month \( j \), i.e. the month of interest.

The seasonality index was calculated as average utilization during July to September 2007 (the months in which the survey data were collected) relative to the average over an entire year. Each measure of utilization was multiplied by the seasonality index.
Benefit incidence is presented as each quintile’s percentage share of total benefits and by calculating the concentration index (O’Donnell et al. 2008a; Davoodi et al. 2010).

Estimating need for health care
We used self-assessed health status as a proxy measure of need by asking the question ‘How would you rate your health in general?’ This was recorded on a four-point scale: ‘very good’, ‘good’, ‘average’ and ‘poor’. These multiple response categories were dichotomized; those who responded ‘very good’ and ‘good’ were categorized as ‘good health’ and the responses ‘average’ and ‘poor’ were categorized as ‘poor health’. Need was then measured as the percentage of individuals who rated themselves as having poor health by socio-economic group. Although self-assessed health status is regarded as a ‘crude’ measure of need for health care in a population, it is frequently used as a measure of health need in a population (Marmot et al. 1991; Idler and Benjamini 1997; Mullanpalo et al. 1997; Kennedy et al. 1998; Shi and Starfield 2000). However, given that some readers may have a concern about self-assessed health status being the primary indicator of need for health care, reference is also made to the socio-economic distribution of measures of ill-health from other recent household surveys, particularly the Demographic and Health Survey.

Results
The burden of health care financing
Table 1 illustrates the incidence of the various health care financing mechanisms in Ghana. The results show that personal income tax is clearly progressive and that the burden of corporate tax falls on the rich (having a positive Kakwani index of 0.075). VAT, as is the national health insurance levy (earmarked VAT of 2.5% for health insurance), was also found to be progressive (Kakwani index of 0.026). Unlike personal income tax, corporate tax and VAT, the fuel levy is regressive (Kakwani index of -0.064). Import duty is another important tax, contributing about 17% of total taxes in the 2005/2006 financial year. Import duty was also found to be progressive, with a Kakwani index of 0.105.

OOP payments are the single largest source of finance in the Ghanaian health system. OOP payments are a regressive financing mechanism in Ghana, with a Kakwani index of -0.093. The incidence of total NHI contributions (those by the formal and informal sectors) is progressive. This is strongly influenced by the progressivity of formal sector contributions, whereas contributions by the informal sector were regressive (with a Kakwani index of -0.408).

Figure 1 shows that the progressivity of general tax, the NHI levy and NHI contributions is partially offset by the regressivity of OOP payments.

Benefit incidence of health services
(public and private)
The distribution of total benefits from using health care in Ghana is pro-rich. The richest quintile gained almost double (24%) the benefits gained by the poorest (13%). The two richest quintiles accounted for almost half of total health care benefits, whilst the two poorest quintiles gained less than 30% of total public and private health care benefits (see Figure 2).

The distribution of benefits is pro-rich in both the public and private sectors, but particularly in the private sector (see Figure 3).

When benefits are disaggregated by type of care, total public and private sector benefits for both inpatient and outpatient care were pro-rich. Table 2 summarizes the concentration indices and dominance tests for different types of public and private sector care. The only services that have a negative

<p>| Table 1 Progressivity of different health care financing mechanisms (adult equivalent household consumption) |
|----------------------------------|--|---|---|---|</p>
<table>
<thead>
<tr>
<th>Funding source</th>
<th>Weight (% share of total health care funding)</th>
<th>Concentration index</th>
<th>Kakwani Index</th>
<th>Dominance test against Lorenz curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal income tax</td>
<td>5.2%</td>
<td>0.680*</td>
<td>0.233*</td>
<td>–</td>
</tr>
<tr>
<td>Corporate income tax</td>
<td>6.6%</td>
<td>0.522*</td>
<td>0.075</td>
<td>n-d</td>
</tr>
<tr>
<td>Direct tax</td>
<td>11.8</td>
<td>0.625*</td>
<td>0.178*</td>
<td>–</td>
</tr>
<tr>
<td>Value Added Tax</td>
<td>11.7%</td>
<td>0.473*</td>
<td>0.026</td>
<td>–</td>
</tr>
<tr>
<td>Import duty</td>
<td>8.0%</td>
<td>0.552*</td>
<td>0.105*</td>
<td>n-d</td>
</tr>
<tr>
<td>Fuel levy</td>
<td>8.5%</td>
<td>0.383*</td>
<td>–0.064</td>
<td>+</td>
</tr>
<tr>
<td>Indirect tax</td>
<td>28.2%</td>
<td>0.481*</td>
<td>0.034</td>
<td>–</td>
</tr>
<tr>
<td>National Health Insurance Levy</td>
<td>13%</td>
<td>0.473</td>
<td>0.026</td>
<td>–</td>
</tr>
<tr>
<td>National Health Insurance</td>
<td>2%</td>
<td>0.567*</td>
<td>0.120*</td>
<td>–</td>
</tr>
<tr>
<td>Out-of-pocket payment</td>
<td>45%</td>
<td>0.354*</td>
<td>–0.093</td>
<td>n-d</td>
</tr>
<tr>
<td>Total health financing</td>
<td>100%</td>
<td>0.495*</td>
<td>0.048</td>
<td>–</td>
</tr>
</tbody>
</table>

Notes: Dominance test (– indicates the Lorenz curve dominates the concentration curve; + indicates concentration curve dominates 45-degree line/Lorenz curve and n-d indicates non dominance).

*P < 0.05.

†The assumption is that corporate tax is distributed equally (50/50) across households (based on reported consumption of manufactured goods) and shareholders (based on receipt of dividends).
**Figure 1** Distribution of total health care financing incidence in Ghana (adult equivalent household consumption)

**Figure 2** Total benefits from health service use by socio-economic status

**Figure 3** Percentage distribution of benefits in the public and private sectors across socio-economic groups
concentration index (and are thus pro-poor) are inpatient care at the district hospital level and self-treatment (where medicines were purchased from pharmacies or chemical sellers or where home remedies were used). Overall, both public and private health services have positive concentration indices and the 45 degree line dominates.

Comparison of the system-wide benefits with need

Figure 4 compares each socio-economic group’s benefits from the use of health services (public and private) with their relative need for care. The poorest quintile disproportionately rated themselves as having a relatively greater need of health care (i.e. over 23% rated themselves as being in poor health) but gained less than 13% of total health care benefits. Conversely, the richest quintile accrues over 24% of health care benefits but only accounts for 16% of health care need. The distribution of other indicators of need across socio-economic groups reflects a pattern similar to that of the self-assessed health status. For example, the 2008 Demographic and Health Survey indicated that the under-5 mortality rate was 103 per 100,000 live births for the poorest quintile, yet only 60 per 100,000 live births for the richest quintile. The percentage of children classified as malnourished was nearly 14% for the poorest quintile but only 5% for the richest quintile.

Discussion

The principle of universal coverage is built around ensuring both financial protection and access to needed care for all members of society; these elements constitute necessary conditions for health system equity (WHO 2008). As Ghana has made a commitment to move towards universal coverage, it is timely to assess the extent to which Ghana is achieving this goal, where every Ghanaian not only gets financial protection but also has access to needed health care.

Given that general tax revenue is a crucial funding source, not only for the health sector but for other social sectors as well, the finding that all forms of taxation except fuel levies (particularly for kerosene which is mostly consumed by the poor) are progressive is welcome news for policy makers who are concerned about equity. It is particularly important that VAT, which contributes both to general tax revenue and the NHI levy, is progressive. VAT is generally regressive in high- and middle-income countries. When VAT was first introduced in Ghana, there was strong opposition from the public, and it was withdrawn and reintroduced after a wide range of essential goods and services, mostly consumed or patronized by low-income earners, were exempted from VAT. The progressivity of overall tax in Ghana (with a Kakwani index of 0.079) is driven largely by the progressivity of direct taxes, as is the case in Hong Kong and many Asian countries and other countries such as Madagascar (Younger et al. 1999; O’Donnell et al. 2008b; Yu et al. 2008).

Younger (1996) previously estimated tax incidence in Ghana, using the 1988 GLSS to analyse tax incidence using concentration and Lorenz curves. Most of the direct and indirect tax incidence estimates in the Younger study were comparable with the current study. However, while we found VAT to be progressive, Younger found what was then sales tax to be proportional. This is not too surprising because certain items largely consumed by lower income groups that were taxed under the sales tax are now VAT exempt.

The incidence of the other form of health care pre-payment funding, NHI contributions, is also progressive. However, it is important to note that NHI contributions by those in the

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>Outpatient services</th>
<th></th>
<th>Inpatient services</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration Index</td>
<td>Dominance test</td>
<td>Concentration Index</td>
<td>Dominance test</td>
</tr>
<tr>
<td>Public sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic/health centres</td>
<td>0.0580</td>
<td>Dom 1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>District hospital</td>
<td>0.1056</td>
<td>Dom 1</td>
<td>–0.0108</td>
<td>n-Dom</td>
</tr>
<tr>
<td>Regional/teaching hospital</td>
<td>0.2099</td>
<td>Dom 1</td>
<td>0.1570</td>
<td>Dom 2</td>
</tr>
<tr>
<td>All public sector hospitals</td>
<td>0.1316</td>
<td>Dom 1</td>
<td>0.0784</td>
<td>Dom 1</td>
</tr>
<tr>
<td>Total public facilities</td>
<td>0.1166</td>
<td>Dom 1</td>
<td>0.0784</td>
<td>Dom 1</td>
</tr>
<tr>
<td>Private sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private hospital/clinic</td>
<td>0.2369</td>
<td>Dom 1</td>
<td>0.4186</td>
<td>Dom 1</td>
</tr>
<tr>
<td>Self-treatment (pharmacies/chemical sellers and other home remedies)</td>
<td>–0.0324</td>
<td>n-Dom</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Traditional healer visit</td>
<td>0.3239</td>
<td>Dom 1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total private facilities</td>
<td>0.1807</td>
<td>Dom 1</td>
<td>0.4086</td>
<td>Dom 1</td>
</tr>
<tr>
<td>Total (public and private)</td>
<td>0.1554</td>
<td>Dom 1</td>
<td>0.1183</td>
<td>Dom 1</td>
</tr>
</tbody>
</table>

Notes: 1Dom 1: The 45-degree line dominates the concentration curve. 2Dom 2: Non dominance or curves crossing. n-Dom: The concentration curve dominates the 45-degree line.
informal sector are regressive. This is largely due to the fact that district schemes generally charge flat rate contributions to informal sector NHI members, despite the legal requirement (Act 650) that informal sector contributions be graduated according to income. This in turn is due to the difficulty of accurately determining income levels of those in the informal sector. Because formal sector workers’ contributions are progressive and account for more than five times the contribution revenue from the informal sector, the incidence of total NHI contributions is progressive. In terms of funding of the NHI, the NHI levy accounts for about 75% of the total fund while premiums from the informal sector account for about 5%. The NHI is a fast growing financing scheme and its contribution to health sector funding has risen from 5% in 2005 to over 20% in 2008, although this includes not only the premium contributions but also the revenue from the NHI levy (i.e. tax funding).

A key challenge facing the Ghanaian health system is that OOP payments remain the single largest component of health care financing. OOP payments are likely to be regressive (with a Kakwani index of $-0.093$), although this was not statistically significant ($P$-value $= 0.463$). User fees, which are a major component of OOP payments, play a significant role in the regressivity of OOP payments in Ghana. Ghana is renowned for fully complying with and implementing the World Bank and IMF policies of the 1980s and 1990s, of cost-sharing in health care financing, to the extent that the country at one stage managed to achieve a 15% cost recovery level at public health facilities (Garshong et al. 2002). In addition to user fees, people, especially the poor, also make substantial direct payments to private health care providers, including traditional and spiritual healers. These payments are often not captured in formal health care expenditure data but were collected in the 2005/2006 GLSS survey which enabled a comprehensive and accurate analysis of the incidence of OOP payments. The finding on the regressivity of OOP payment reinforces the call by WHO that countries should expand pre-payment mechanisms in their health care financing arrangements (WHO 2005).

Within this context, Ghana has taken a giant step forward in rolling out the national health insurance scheme. However, NHI contributions could become regressive overall if informal sector contributions begin to account for a significant proportion of the total NHI contribution. This could happen if more people in the informal sector enrol and/or there are increases in premium levels for those in the informal sector. Ghana is faced with a conundrum; it needs to extend coverage to informal sector workers if it is to achieve financial protection, particularly if it is to protect its citizens from the potentially impoverishing effects of out-of-pocket payments (Ataguba et al. 2009). However, extending coverage on a contributory basis can make the NHI component of health care financing less progressive, particularly given that it is lower income groups who are currently not covered by the NHI (Akazili 2010). The potential for increased allocations to the health sector from general tax revenue, which is strongly progressive, to facilitate coverage of the informal sector is one option that is currently receiving consideration by the Ghanaian government.

As Ghana seeks to move towards universal coverage, it is of importance that every Ghanaian, irrespective of social standing, not only gets financial protection but also has access to needed health care. A key objective of the NHI, which was introduced in 2004, is to ensure equitable access to health services for all Ghanaians (MOH 2002; MOH 2004; Agyepong et al. 2008). However, the main focus of this new financing policy has been on ensuring financial protection. The other key component of universal coverage, which is access to needed health care, appears not to have received comparable attention. This is borne out by the fact that the benefit incidence from using health services in Ghana is pro-rich at all levels of care, with the exception of public inpatient care at the district hospital level. Benefits from public clinics and health centres are the least pro-rich. Generally, outpatient care is more pro-rich (inequitable) than inpatient care in the case of public hospitals, while inpatient care is more pro-rich (inequitable) than outpatient care in the case of private hospitals. Poorer groups receive a smaller share of health service benefits than their share of health care need.

Benefit incidence studies have so far not considered how service benefits are related to need. Goddard and Smith (2001) noted that many studies on equity or inequity have paid only scant attention to the concept of need and several assumptions are usually made, one of which is that ‘levels of need are the same in each group being studied, meaning that no explicit

Figure 4 Comparing system-wide benefits with need
consideration of need is necessary’ (Goddard and Smith 2001: 1130). O’Donnell et al. (2008a) pointed out that ‘the poor tend to suffer higher rates of mortality and morbidity than do the better off’, however ‘they often use health services less, despite having higher levels of need’. It is therefore important that the share of each group’s benefit is compared with their relative need for health care services to see if benefits are appropriate given the distribution of the burden of ill-health (McIntyre and Ataguba 2011; Ataguba and McIntyre 2012).

Generally, there have been some improvements in the share of benefits from public sector services to the poor based on a comparison of the results with the only previously conducted benefit incidence analysis of health care in Ghana (Demery et al. 1995). Comparing benefits in 2008, when the data for this study were collected, and those of Demery et al.’s study which used 1992 figures, there has been a narrowing of the inequality in the benefits of publicly provided services to Ghanaians. For example, whilst Demery found that the poorest 20% secured only 10% of the benefits of public sector primary care in 1992, the present study found that the benefits of the poorest quintile had increased to almost 18% for public sector primary care services. At that same health service level, in 1992 the richest secured 31% of the benefits as against 22% in the current study.

The public subsidy benefits for inpatient care in Demery et al.’s study were only 13% for the poorest quintile but this has increased to 15% in the current study, whilst the richest quintile’s benefits have decreased by about half since 1992. Despite the improvements in the distribution of benefits, the differentials in the distribution of benefits across socio-economic groups remain a concern, particularly when viewed relative to the distribution of health care needs across these groups.

More needs to be done to ensure an equitable distribution of health service benefits for Ghanaians. In particular, it is critical to deal with the full range of access constraints that impact on the distribution of benefits.

Geographical access is a major challenge, particularly for rural populations. A previous study in Ghana found that distance to health facilities and the area of residence of clients are key in determining health care access and use (Thiede et al. 2007). Travelling to health facilities, especially hospitals, has both direct and indirect cost implications for community members. These costs are increased by the lack of public transport in some areas and by poor roads. These constitute barriers to access to those who live considerable distances away from the nearest hospital (Heller 1982; Castro-Leal et al. 1999; Mensah et al. 2009).

Findings from this study show that benefits are more evenly distributed at the lower levels of care and are pro-poor at the district hospital level for inpatient care. This finding is consistent with other studies where the poor–rich differences are much larger for higher levels of care than for primary care (Pannarunothai et al. 1997; Lanjouw et al. 2001; Pearson 2002; Gupta et al. 2003; Mahal 2003; Tangcharoensathien et al. 2007; Davoodi et al. 2010). This can be attributed to the closeness of primary care facilities and district hospitals to poorer communities and their more widespread distribution in the country.

In Ghana the Community-based Health Planning Services (CHPS) is a key strategy to make services close-to-client. However, the expansion of CHPS has been slow. Besides, only preventive services provided in the CHPS compounds are free. Clients have to pay out-of-pocket for curative care as with any other public health facility and OOP payments have been shown to impede health service use.

In contrast, the pro-rich nature of hospital care, particularly regional and teaching hospitals, is as a result of their location in urban areas, creating greater access for richer groups (Meessen et al. 2006; O’Donnell 2007). The phenomenon of the pro-rich nature of most hospitals has been cited by other analysts (Filmer et al. 2002; Gupta et al. 2003; O’Donnell et al. 2005; Davoodi et al. 2010; McIntyre and Ataguba 2011). Hospital care is often focused on specialized services that are more expensive and not aimed at the common ailments of the poor (Davoodi et al. 2010).

Another access barrier is the inadequate availability of staff and equipment in primary health care facilities in Ghana, leading to frequent referrals, which constitute a barrier to use (Witter et al. 2007). Many referrals could be avoided if primary care facilities were better able to meet the needs of the communities they serve, as many health problems can be managed at the primary care level. In addition, male clients sometimes perceive primary health care facilities as tailored to serve mainly pregnant women and children and they therefore bypass these facilities.

Opening hours, long queues and long waiting hours in health care facilities have been found to also act as access barriers (Gilson 2007; O’Donnell 2007; Peters et al. 2008; WHO 2008; McIntyre et al. 2009; Chuma et al. 2010). Apart from these, poor staff attitudes towards clients are disproportionately experienced by the poor (Aitken et al. 2004; Freedman et al. 2005; Gilson and Schneider 2007).

Conclusion
The study findings demonstrate that payments for health care in Ghana are progressive, but benefits from the use of health care are generally pro-rich. A key challenge for Ghana from a financial protection perspective is to reduce the current levels of out-of-pocket funding through improved pre-payment financing. With the introduction of the NHI, the lack of financial protection is most acutely experienced by those in the informal sector who are yet to be covered by the NHI. The government’s plan to initiate a one-time payment (Witter 2009; WHO/TDR 2010) may draw in those without insurance cover and afford many more people the benefit of financial protection.

Equally importantly, greater attention needs to be paid to ensuring access to needed health services for all. Currently in Ghana, those with the greatest need for health services are generally those who face the most daunting service access challenges. Efforts to tackle the full range of access barriers deserve greater policy priority.

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Conflict of interest
None declared.

Endnotes
1 GLSS is 5-yearly national household survey, collected by the Ghana Statistical Service, which collects data related to a range of household living standards issues.
2 The NHIL is an additional 2.5% of VAT.
3 The Gini index measures the extent to which the distribution of income among individuals or households deviates from a perfectly equal distribution. A Gini index of zero measures perfect equality, while an index of 100 implies perfect inequality.

References

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