

**FACILITATOR'S NOTES ON:  
“National Health Accounts and their use in informing health sector reform”**

**1. Objectives of case study:**

- To “demystify” the process of National Health Accounts (NHA) data collection and matrix compilation;
- To provide insights into data sources for NHA and to highlight potential problems with some data sources;
- To develop skills in extrapolating certain expenditure estimates and in compiling NHA matrices;
- To highlight potential areas of double-counting when compiling NHA matrices;
- To develop skills in analysing NHA data to assess health system performance to inform health sector reform initiatives;
- To illustrate how non-financial data can assist in obtaining a more comprehensive health system analysis.

**2. Key issues to cover before using case study:**

It is useful to provide a bit of background information on National Health Accounts (NHAs) before using this case study. This does not need to be particularly long or detailed, but should as a minimum cover the following information:

- What are NHAs – what information do they include and what are they used for; and
- The distinction between health care funding ‘sources’, ‘financing intermediaries’ and ‘uses’ (and the different categories of presenting ‘uses’ information, such as provider categories, line items, geographic areas, etc.)

**3. Overview of case study:**

This case study takes approximately 2 hours to complete. Calculators should be made available to participants. They should work in small groups, consisting of between 2 to 5 people – the size of the group can be based on the total number of participants and the available seating arrangements.

There are three components or phases to this case study:

1. Participants are provided with expenditure data and they are required to compile a financing intermediaries to providers matrix;
2. Participants are then required to discuss and analyse these results;
3. Participants are provided with additional, non-financial data and requested to discuss and analyse this information.

One can either have a plenary discussion at the end of all three components of the case study, or a plenary discussion after each stage (discussing the calculations after the first stage and discussing the analysis conducted in each of the second and third stages).

**4. Phase 1**

Participants should be handed the first 5 pages of the case study, i.e. the cover sheet, the three pages with financing and expenditure data and the **blank** financing intermediary to provider matrix. Allow participants to read through the 3 pages of background information and ask if there are any queries about the information provided. Queries that are most frequently raised, and issues that you may wish to clarify at the outset, include:

- Ensure that all participants understand the distinction between financing intermediaries and sources of finance (stress that they need to identify who 'controls' the money or who actually pays money over to providers);
- Indicate that total expenditure information is provided for the Ministry of Health, i.e. expenditure on personnel, drugs etc. are included in the relevant provider categories (e.g. academic and tertiary hospitals);
- Point out that the Workmen's Compensation Fund is completely different and separate from private health insurance;

As you are walking around the different groups, you may need to check that participants have understood the format of the out-of-pocket payment data, i.e. that it is **per capita** data which they need to extrapolate up to the entire population. As different groups work at different speeds, it is helpful to hand each group copies of the answer sheet (see last page of these facilitator's notes) when they have completed the matrix so that they can check whether their calculations are correct and to work out for themselves where they may have gone wrong.

Key points of discussion relating to the calculations include:

- Potential double-counting errors. This may occur in two places, namely in relation to the transfer payment from the Ministry of Health to local government health departments, and household's health insurance scheme contributions (which are estimated in the household survey information section, but are already incorporated in the health insurance expenditure data).
- Ensuring that financing intermediaries have been appropriately identified. For example, some may not have included the Ministry of Health's contribution to local government health departments in the local government column. The same problem may occur with Workmen's Compensation (some put it under 'firms' expenditure instead of Workmen's Compensation).

The first phase of the case study can also be used to have some discussion of the potential sources of NHA data.

## 5. Phase 2

Once everyone is happy with the calculations, groups can begin discussing the issues raised at the end of the first part of the case study. You should explain the final column in the 'model answer' matrix. While the second last column indicates the percentage contribution of each provider category to **total** health care expenditure, the final column presents an analysis within each of the public and private sectors. The lighter shaded cells indicate the percentage contribution of each category of public provider to expenditure within the public health sector, while the darker shaded cells indicate the percentage contribution of each category of private provider to expenditure within the private health sector.

### Discussion of the distribution of expenditure between financing intermediaries

Key issues include:

- The very low contribution of donors, indicating that this country is not heavily dependent on donor funding.
- Private insurance schemes are the single largest category of financing intermediary, and thus that these schemes have considerable influence over the health system in this country.
- Households contribute considerable resources directly out-of-pocket to health care providers. Out-of-pocket payments are an extremely regressive form of financing and this raises equity concerns about health care financing in this country.
- Over 60% of health care resources in this country are controlled by private financing intermediaries, indicating that the private health sector is substantial in this country.
- Within the public sector, the Ministry of Health is the single largest financing intermediary and thus has control over the vast majority of health funds in this sector. This suggests a highly centralised public health sector.

#### Discussion of the distribution of expenditure between provider categories

Key issues include:

- The public sector is biased towards hospital-based curative care, with 39% of public sector expenditure going to academic and tertiary hospitals and 38% going to other public sector hospitals.
- Public sector primary care or basic health services only account for 13% of total public sector health care expenditure. UNICEF and UNDP recommend that 20% of public health care expenditure should be devoted to basic health services.
- Medicines are the biggest expenditure item in the private sector, accounting for over a third of private sector health care expenditure. Privately-sold medicine is the single largest category of health care expenditure in the overall health system.
- Another third of private health care expenditure is devoted to private practitioners (specialists, GPs and dentists).
- Administration costs in the private sector exceed that in the public sector.

#### Discussion of additional data required to fully interpret the financial data

It is very difficult to assess efficiency and equity issues in the absence of non-financial data. For example, it cannot be said that the distribution of resources between the public and private sectors is inequitable, unless it is known what percentage of the population has access to and uses each sector. Participants are likely to suggest that two of the most important pieces of non-financial data are:

- Population coverage by the public and private health sectors; and
- Utilisation data (in order to assess efficiency issues).

Other types of non-financial data that may be useful include human resource data and indicators of need for health services (such as mortality and socio-economic data).

#### Discussion of data gaps and possible inaccuracies in the data

One of the major gaps in this set of NHA data is financing and expenditure for complementary medical practitioners (e.g. homeopaths, chiropractors etc.) and traditional healers. As it appears that these categories of private providers are not covered by private health insurance schemes (because the schemes do not report expenditure on these providers), this may result in a substantial underestimate of out-of-pocket household expenditure.

Any data collected through sample surveys may be inaccurate. In this case study, this particularly applies to data on health care expenditure by local government

health departments, by firms on workplace health services and by households. Household surveys are renowned for underestimating health care expenditure, particularly if a long recall period is used (e.g. 'how much money have you spent on health services in the last year' compared with asking about expenditure in the last month or the last two weeks). You can illustrate this by highlighting that the household survey provides a massive underestimate of households' health insurance contributions. Even though employers may make some contributions on behalf of their employees, the household survey suggests that \$3,921 million was contributed to health insurance, whereas total health insurance expenditure is \$12,987 million (i.e. only 30% of health insurance contributions were captured in the household survey). You could have a discussion of ways of improving out-of-pocket expenditure estimates through data triangulation, for example by also getting information directly from the major health care providers who receive out-of-pocket payments from patients.

## 6. Phase 3

Hand out the final 2 pages of this case study, requesting participants to read through it and discuss the issues raised at the end of this section.

### Discussion of usefulness of additional data

Key issues include:

- Health care expenditure accounts for 8.5% of GDP. This is a relatively high proportion of GDP to devote to health care in a middle-income country. As can be seen from Table 3, this country has a relatively high IMR (of 62 per 1,000 live births) suggesting that it may not be getting value for money.
- The public-private mix is highly skewed. While 60% of expenditure occurs in the private sector, and the vast majority of most categories of health personnel, with the exception of nurses, work in the private sector (Figure 1), less than a quarter of the population has routine access to private sector care.
- Within the public sector, there is clearly a heavy emphasis on the highest levels of care. Not only is nearly 40% of public sector health care expenditure devoted to academic and tertiary hospitals, over 60% of generalist doctors and more than half of all pharmacists work in these facilities (Table 1). There is relatively limited access to doctors at the primary care level. This suggests that there may be allocative inefficiency in the public health sector.
- Concerns about allocative efficiency are strengthened by the information presented in Table 2. While slightly more than a quarter of all outpatient visits occur at academic hospitals, nearly a half of all expenditure on public sector outpatient care is attributable to these facilities. Although it may be acceptable to spend nearly \$120 per outpatient visit at an academic hospital when specialist care is needed, it is unlikely that 18% of all outpatients need to be seen at this level of care. For every patient treated in an academic hospital's outpatient department, 4 patients could be treated in clinics. (Note: some participants may ask why the expenditure data for the different categories of hospitals and clinics in Table 2 differ from that in the matrix. Table 2 only refers to expenditure on **outpatient** services while the matrix refers to expenditure on both inpatient and outpatient care in hospitals. Similarly, the matrix category of public basic health services includes not only clinic services but also non-facility based basic health services such as environmental and school health services).
- Table 3 highlights the inequitable distribution of public sector health care resources (financial, human and facilities) between geographic areas. The

provinces with the highest IMR and poverty rates tend to have the lowest levels of public sector health care resources.

- Overall, the additional data provided, especially the non-financial data, enables participants to undertake a much more extensive analysis of this country's health system, particularly in relation to equity and efficiency. This highlights the importance of not simply focussing on financial data in a NHA study.

#### Discussion of key challenges facing the health sector

From the above analysis, the key challenges include:

- A relatively high level of overall health care expenditure, suggesting that the key challenge is not that of lack of resources, but rather using existing resources more efficiently and equitably;
- Major disparities in the resourcing of the public and private health sectors, relative to the population dependent on each sector;
- Very high levels of medicine expenditure in the private health sector, suggesting that the price of medicines and/or prescribing and dispensing practices of private providers require review;
- A likely maldistribution of resources within the public sector between levels of care, with a need to reduce expenditure at the higher levels and increase expenditure on primary care services; and
- Massive disparities in the distribution of health care resources between geographic areas, implying the need to redistribute resources in favour of relatively poorly-resourced provinces with high levels of mortality and poverty.

### **7. Concluding remarks**

In concluding this case study, it is useful to highlight three key issues:

- NHA is not something that one needs a team of highly paid 'experts' to do. Instead, health managers and/or researchers who are committed to gathering the appropriate health care financing and expenditure data can conduct a NHA and use the information it contains.
- NHA is not just a data collection exercise. It can provide extremely valuable information to critically evaluate a health system and to inform health policy development, particularly where financial data is supplemented with a range of non-financial data.
- While this case study has focussed on collecting and analysing national level data, the same principles and methods can be used to compile and analyse health care financing and expenditure data at a decentralised level of the health system (e.g. at a provincial, regional or district level).

PROVIDERS	FINANCING INTERMEDIARIES									TOTAL	% of total	% of sector total
	Ministry of Health	Ministry of Education	Ministries for Security Forces	Local Government	Donors	Private Insurance	Workmen's Compensation Fund	Firms	Households (Out-of-pocket)			
Public sector administration	843									843	2.8%	6.7%
Public academic & tertiary hospitals	4,636					320	31		6	4,993	16.6%	39.4%
Other public hospitals	3,897		466			130	101		191	4,785	15.9%	37.7%
Public basic health services	821		117	563	68				93	1,662	5.5%	13.1%
Education and training		330			63					393	1.3%	3.1%
Private administration						1,709				1,709	5.7%	9.9%
Private hospitals						2,602	437		80	3,119	10.4%	18.0%
Private GPs and dentists						2,906			1,302	4,208	14.0%	24.3%
Private specialists						1,890				1,890	6.3%	10.9%
Privately sold medicines						3,430			2,512	5,942	19.8%	34.3%
Workplace hospitals								340		340	1.1%	2.0%
Workplace clinics								132		132	0.4%	0.8%
<b>TOTAL</b>	<b>10,197</b>	<b>330</b>	<b>583</b>	<b>563</b>	<b>131</b>	<b>12,987</b>	<b>569</b>	<b>472</b>	<b>4,184</b>	<b>30,016</b>		
<b>% of total</b>	<b>34.0%</b>	<b>1.1%</b>	<b>1.9%</b>	<b>1.9%</b>	<b>0.4%</b>	<b>43.3%</b>	<b>1.9%</b>	<b>1.6%</b>	<b>13.9%</b>			