



TRACKING HOUSEHOLD HEALTH EXPENDITURES IN DEVELOPING COUNTRIES THROUGH MAJOR POPULATION-BASED SURVEYS



June 2009

This publication was produced for review by the United States Agency for International Development. It was prepared by Ken Carlson and Douglas Glandon for the Health Systems 20/20 Project.



Mission

The Health Systems 20/20 **cooperative agreement**, funded by the U.S. Agency for International Development (USAID) for the period 2006-2011, helps USAID-supported countries address health system barriers to the use of life-saving priority health services. Health Systems 20/20 works to strengthen health systems through integrated approaches to improving financing, governance, and operations, and building sustainable capacity of local institutions.

June 2009

For additional copies of this report, please email info@healthsystems2020.org or visit our website at www.healthsystems2020.org

Cooperative Agreement No.: GHS-A-00-06-00010-00

Submitted to: Yogesh Rajkotia, CTO
Health Systems Division
Office of Health, Infectious Disease and Nutrition
Bureau for Global Health
United States Agency for International Development

Recommended Citation: Carlson, Ken, Douglas Glandon. June 2009. *Tracking Household Health Expenditures in Developing Countries through Major Population-based Surveys*. Bethesda, MD: Health Systems 20/20 project, Abt Associates Inc.

Cover photo: Christine Ortiz/Zambia



Abt Associates Inc. | 4550 Montgomery Avenue | Suite 800 North
| Bethesda, Maryland 20814 | P: 301.347.5000 | F: 301.913.9061
| www.healthsystems2020.org | www.abtassociates.com

In collaboration with:

| Aga Khan Foundation | Bitrán y Asociados | BRAC University | Broad Branch Associates
| Deloitte Consulting, LLP. | Forum One Communications | RTI International | Training
Resources Group | Tulane University School of Public Health and Tropical Medicine

TRACKING HOUSEHOLD HEALTH EXPENDITURES IN DEVELOPING COUNTRIES THROUGH MAJOR POPULATION-BASED SURVEYS

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government

CONTENTS

- Acronyms..... vii**
- Acknowledgments..... ix**
- Abstract..... xi**
- I. Background..... I**
 - 1.1 Purpose2
 - 1.2 Structure/Organization.....3
- 2. Rationale for Integrating Expenditure Questions into Major Household Surveys..... 5**
 - 2.1 Significant Savings.....5
 - 2.2 Analytic Richness6
 - 2.3 Trend Analysis.....6
- 3. Expenditure Questions for Select Household Surveys..... 7**
 - 3.1 AIDS Indicator Survey (AIS)..... 9
 - 3.1.1 Sampling..... 9
 - 3.1.2 Implementation Frequency 9
 - 3.1.3 Recommended Changes..... 9
 - 3.2 Demographic and Health Survey (DHS) 11
 - 3.2.1 Sampling..... 11
 - 3.2.2 Implementation Frequency 11
 - 3.2.3 Recommended Changes..... 11
 - 3.3 Malaria Indicator Survey (MIS)..... 13
 - 3.3.1 Sampling..... 13
 - 3.3.2 Implementation Frequency 13
 - 3.3.3 Recommended Changes..... 14
 - 3.4 Living Standards Measurement Study (LSMS) 15
 - 3.4.1 Sampling..... 15
 - 3.4.2 Implementation Frequency 15
 - 3.4.3 Recommended Changes..... 16
 - 3.5 World Health Survey (WHS) 17
 - 3.5.1 Sampling..... 17
 - 3.5.2 Implementation Frequency 17
 - 3.5.3 Recommended Changes..... 18

Annex A: Health Insurance Questions..... 21
Annex B: DHS Questions for Children Under Five 23
Annex C: Bibliography..... 25

LIST OF TABLES

Table I: Characteristics Of Major Health-Related Surveys..... 8

ACRONYMS

AIDS	Auto-Immune Deficiency Syndrome
AIS	AIDS Indicator Survey
CHW	Community Health Worker
DHS	Demographic & Health Surveys
HIS	Health Information Systems
HIV	Human Immunodeficiency Virus
IP	Inpatient
KAIS	Kenya AIDS Indicator Survey
LSMS	Living Standards Measurement Study
MIS	Malaria Indicator Survey
NASA	National AIDS Spending Assessment
NGO	Non-Governmental Organization
NHA	National Health Accounts
OOP	Out-of-pocket
OP	Outpatient
ORS	Oral Rehydration Salts
PEPFAR	U.S. President's Plan for Emergency AIDS Relief
PER	Public Expenditure Review
PRH	Office of Population and Reproductive Health
STD	Sexually-Transmitted Disease
STI	Sexually-Transmitted Infection
TB	Tuberculosis
UNGASS	United Nations General Assembly Special Session on HIV and AIDS
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
WHS	World Health Survey

ACKNOWLEDGMENTS

Special thanks go to Yogesh Rajkotia for his timely support and guidance; to Susna De, Slavea Chankova, Catherine Connor, and Wenjuan Wang for their suggestions and feedback during the preparation of this document and to Maria Claudia De Valdenebro for the design and production support.

ABSTRACT

Household health expenditure information is essential for creating effective health policy. Despite recent improvements in the collection and use of health information in the developing world, policymakers often have little data on household health expenditures, particularly out-of-pocket costs. As a result, governments, donors, and implementing partners conduct costly (in terms of financial and human resources) and time-consuming household surveys to obtain this information.

The purpose of this document is to present possible health expenditure questions (with a focus on out-of-pocket spending) that can be incorporated into major routine household surveys in order to regularly inform health policy tools, such as National Health Accounts, in developing countries. This document proposes health expenditure modules for: the AIDS Indicator Survey (AIS); the Demographic and Health Survey (DHS); the Malaria Indicator Survey (MIS); the Living Standards Measurement Study (LSMS); and the World Health Survey (WHS). It is hoped that country stakeholders (both public and donor) and resource tracking teams will use this document as a platform for negotiations to include much-needed health expenditure questions into these major population based surveys.

In the context of the current global financial crisis, it is more important than ever for the international community to be “walking the talk” of aid efficiency and coordination. Consolidating expenditure questions into existing household surveys will save millions of dollars while improving data quality and regularity in the critical area of health financing.

I. BACKGROUND

In the past two decades, the collection and dissemination of health information worldwide have improved significantly, leading to more informed decisions by individuals, providers of health services, funding organizations, and governments. Increasing technological capacity and decreasing costs have opened up new avenues for storing and retrieving data in more parts of the world than ever before. Yet despite these advances, “a huge gap remains between what public health professionals actually know and what they need to know to improve the health of the world’s population.”¹ One particularly striking deficit has been in the area of health financing. As noted by the World Bank in 1997 “high priority needs to be given to collecting information on public and private sources of revenues and expenditures for all geographic levels of the [health] system.”²

The substantial diversity of health systems in many countries – in terms of payers, insurers, providers, and beneficiary populations – means that countries often lack a clear estimate of how much is being spent, by whom, through which organization, and for what purpose in the health sector. Building and enhancing information systems that can track the flow of resources is a critical step toward measuring health system performance in terms of efficiency and equity. When combined with other key statistics such as service utilization, epidemiological data and other outcomes of interest in an integrated database, this information helps guide the creation of evidence-based health policy, more effective health programs and, ultimately, better and more equitable health outcomes.

Prior to the 1990s, governments in developing countries had very little data on how much people were paying out-of-pocket (OOP) for health services, which significantly limited their capacity to tailor health policy to patients’ ability to pay. As a result, governments, donors, and implementing partners began conducting household surveys to collect this critical data. The quality and availability of OOP expenditure data in developing countries has since improved substantially but is typically not collected regularly. Since household surveys are a huge and expensive undertaking in terms of financial and human resources as well as time, this report recommends incorporation of expenditure questions into existing household surveys. Over time, these questions may be included in routine government data collection processes, as in the Philippines, where household health expenditure data are collected every three years as part of the National Statistics Office’s Family Income and Expenditure Survey.³

¹ Health Metrics Network Framework and Standards for Country Health Information Systems, Second Edition. June 2008. Geneva: World Health Organization. Available from: http://www.who.int/healthmetrics/documents/hmn_framework200803.pdf

² Schieber G, Maeda A. A Curmudgeon’s Guide to Financing Health Care in Developing Countries. Conference. Innovations in Health Care Financing. Washington, DC: World Bank. March 10-11, 1997.

³ 1991-2000 Philippine National Health Accounts. National Statistical Coordination Board. Republic of the Philippines. December 2001.

I.1 PURPOSE

The purpose of this document is to present possible health expenditure questions, with a focus on out-of-pocket spending (defined as direct payments made by the household to the provider)⁴, that can be incorporated into major routine household surveys to regularly inform policy tools and analyses, such as the National Health Accounts Framework, in developing countries.

The expenditure questions presented in the next section have been tested in many countries and found to contribute to the quality, validity, and utility of a variety of health financing assessments that inform policy recommendations. The questions presented in this document are primarily intended to inform National Health Accounts, but they can also inform other health expenditure tools and frameworks, including Public Expenditure Reviews (PER), disease-specific assessments such as the National AIDS Spending Assessment (NASA), and other health budgeting tools.

National Health Accounts (NHA): The NHA methodology, which has been used in over eighty low- and middle-income countries, tracks the flow of health expenditures through the public and private sectors, all the way from funding sources to financial institutions, providers and specific health functions.⁵ NHA can help policymakers monitor the effectiveness of health policy, identify expenditure trends, project future health financial needs, and compare their experiences with those of other countries. National Health Accounts are considered a “sine qua non for effective policy-making.”⁶ NHA subaccounts break down this aggregate health expenditure information by specific health issues, including HIV/AIDS, tuberculosis, malaria, reproductive health, and child health.

Public Expenditure Reviews (PER): The World Bank conducts these reviews to analyze “...public-based (not always government) revenues and expenditures as expressions of public policy and public involvement in the economy. Social sectors—education, health and social protection—are prime instruments of such policy and involvement. Each of the sectors is wide-reaching, comprising both ‘private’ and ‘public.’”⁷ PERs illuminate the relationship between a country’s macroeconomic and sectoral issues, allowing the country government to better understand its development problems and identify potential solutions.

National AIDS Spending Assessments (NASA):⁸ These assessments report on a country’s financial commitments to address HIV/AIDS across all sectors, estimating the amount of resources needed as well as how closely current levels of resources come to meeting that need.

⁴ The full definition for out-of-pocket spending is: “The direct outlays of households, including gratuities and payments in-kind, made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or to the enhancement of the health status of individuals or population groups. Includes household payments to public services, non-profit institutions or nongovernmental organizations. Excludes payments made by enterprises which deliver medical and paramedical benefits, mandated by law or not, to their employees. Guide to producing national health accounts with special applications for low-income and middle-income countries. World Health Organization. 2003. Available from: http://www.who.int/nha/docs/English_PG.pdf

⁵ National Health Accounts. Health Systems 20/20. Available from:

<http://www.healthsystems2020.org/section/topics/finance/nha>.

⁶ Schieber G, Maeda A. A Curmudgeon’s Guide to Financing Health Care in Developing Countries. Conference. Innovations in Health Care Financing. Washington, DC: World Bank. 1997.

⁷ Preparing PERs for Human Development: Core Guidance. World Bank. Available from: <http://siteresources.worldbank.org/EXTPERGUIDE/Resources/PER-Complete.pdf>

⁸ National AIDS Spending Assessment. UNAIDS. Available from:

<http://www.unaids.org/en/KnowledgeCentre/HIVData/Tracking/Nasa.asp>

The intended audiences for this document include national governments, producers of these large household surveys (e.g. MEASURE DHS, World Health Organization, World Bank), the United States Agency for International Development (USAID), and other stakeholders who produce and use various health financing assessments, such as National Health Accounts (NHA), Public Expenditure Reviews (PER), National AIDS Spending Assessments (NASA), and other health budgeting tools.

It should be noted that the questions proposed in this document do not address the full range of possible health finance-related questions that may be asked of a household. As major household surveys often have space and time constraints for adding questions, the focus of the questions listed in this document is on out-of-pocket spending (payments directly to providers). The reasons for obtaining this information from household surveys rather than through provider records are that: 1) households may frequent traditional healers or the informal sector and this is a group difficult to sample, and; 2) provider information systems do not typically provide details on OOP spending by type of service in low-income countries.

In order to fully understand household spending on health, it is important to measure contributions to health insurance as well. This document presents some possible questions that can be added to gauge a household's contribution to insurance premiums, although these questions are listed as optional because this information could also be measured from insurance companies directly whereas the out-of-pocket spending is primarily obtained from household surveys.

I.2 STRUCTURE/ORGANIZATION

Section 2 of this document describes the need for incorporating household OOP health expenditures into routine household surveys. Section 3 outlines the expenditure items currently included in NHA estimates, provides a brief introduction to in several large household surveys, including the AIDS Indicator Survey (AIS), the Demographic and Health Survey (DHS), the Malaria Indicator Survey (MIS), the Living Standards Measurement Study (LSMS) and the World Health Survey (WHS), and recommends specific changes and additions to capture household OOP expenditure information. Annex A provides optional additional questions to capture household spending on health insurance. Annex B outlines recommended changes to the DHS that would allow it to capture sufficient health expenditure information to inform NHA estimations for children under five years of age (i.e. for child health subaccounts).

2. RATIONALE FOR INTEGRATING EXPENDITURE QUESTIONS INTO MAJOR HOUSEHOLD SURVEYS

In many developing countries, particularly in Africa, household out-of-pocket (OOP) spending constitutes a significant share (sometimes over 50%) of total health expenditures. With access to accurate, current data on OOP spending, governments can better understand and address the financial burden on the population to pay for health care. For example, in 2001-2002 when Kenya's NHA estimation revealed that over half of all health expenditures were paid for out-of-pocket by households, the Kenyan Ministry of Health used that information to obtain a 30% increase in its budget from the Ministry of Finance (its largest increase since 1963), which was necessary to effectively address current and projected health needs in the country.⁹

Despite the importance of this information for understanding financial resource flows, measuring financial inequities within a health system, and evidence-based policymaking, national out-of-pocket expenditure data is very difficult to find from existing data sources. Consequently, countries often conduct costly separate household expenditure and utilization surveys to capture this information.

In the context of the current global financial crisis, it is more important than ever for the international community to be “walking the talk” of aid efficiency and coordination. Consolidating expenditure questions into existing household surveys would save millions of dollars while improving data quality in the critical area of health financing.

The costs and duplication of effort from conducting separate surveys can be minimized greatly by integrating expenditure questions into other large scale and generally regular national household surveys. Large household surveys, such as the AIDS Indicator Survey (AIS), Demographic and Health Surveys (DHS), Malaria Indicator Survey (MIS), Living Standards Measurement Study (LSMS), World Health Survey (WHS), and others collect a variety of information about the demographic characteristics and health status of the country populations. Typically one or more of these surveys are conducted frequently and sometimes routinely in low income countries. Due to their large sample size and periodicity, these surveys offer an ideal opportunity to simultaneously gather expenditure information critical for guiding policy at multiple levels, including central, regional, and local government as well as NGOs, donors, and provider organizations. Adding health expenditure components to major health surveys offers major advantages, including cost savings, enhanced data analysis possibilities, and the ability to observe trends over time.

2.1 SIGNIFICANT SAVINGS

A free-standing household health expenditure survey (e.g. for an NHA estimation) can cost up to \$1,000,000. The major contributors to this cost are the field effort required to locate respondent

⁹ National Health Accounts Policy Impact Brief. Health Systems 20/20. Available from: <http://www.healthsystems2020.org/content/impact/detail/2078/>

households (in a nationwide representative manner, including remote rural areas), and the time spent in interviewing households that had no health expenditures since they had not been ill and had not used health services in the reference period for the survey. In addition to the financial burden, this duplication of effort places a substantial strain on a limited supply of skilled labor to administer the surveys and can produce respondent fatigue. Adding a few questions to an existing survey adds less than a minute to interview time for most household members. This is because the vast majority of interviewees will not have experienced a health need during the recall period and are screened out after the first two questions, which take less than a minute. Only those with actual illness and consumption of medical care are asked the more detailed questions. Consequently, the additional cost for the household survey is estimated to be in range of a few thousand dollars, which is a fraction of the hundreds of thousands of dollars typically required to conduct a separate household health expenditure survey.

For countries embarking upon expenditure reviews in health areas like HIV/AIDS and malaria, disease-specific surveys are required if data are not readily available. These can cost an additional \$200,000-\$500,000 per survey (e.g. for NHA subaccounts). Incorporating key expenditure questions into an existing household survey with a specific disease focus (such as surveys that use biomarkers for HIV or malaria) would eliminate the need for conducting separate disease-specific household expenditure surveys.

2.2 ANALYTIC RICHNESS

When health expenditure data are incorporated into established surveys, analysts can combine spending data with other respondent characteristics that the survey measures. The result is a database that supports more detailed analysis than can be done when the questions are answered by separate samples of respondents. For example, the Kenyan Ministry of Medical Services incorporated NHA questions in its most recent Kenya AIDS Indicator Survey (KAIS). Because utilization questions were linked to behavior and biomarker data, it was possible to analyze the data in a way that compared the utilization of people living with HIV to that of similarly situated people who were HIV negative. This analysis would have been impossible had the data been collected in two separate surveys. Similar examples could be imagined for most other surveys.

2.3 TREND ANALYSIS

Tracking expenditure information through large household surveys is important because, to the extent that the surveys are repeated periodically, expenditure trends can be observed over time. This trend information can be used to inform financial projections and to measure the impact of health sector reforms. With access to such health expenditure information regularly, governments, donors, NGOs, and providers are better equipped to identify and respond to health needs and make informed decisions regarding resource allocation, user fees, subsidies, waivers, risk pooling, and other health financing interventions.

3. EXPENDITURE QUESTIONS FOR SELECT HOUSEHOLD SURVEYS

There are a variety of health expenditure questions that would yield useful information if included in a household survey. However, given that there are limitations on the number of questions surveys can reasonably include, the authors focused on questions that are: tested; pertinent to health policy; will inform National Health Accounts; and that minimize the additional financial and labor costs associated with data collection (i.e. questions that are easy to administer and that do not add much to response time). Although NHA includes both household out-of-pocket spending (payments directly to providers) and contributions to insurance premiums, this paper focuses primarily on OOP spending questions, as information on insurance payments can also be obtained directly from insurance programs. These proposed questions specifically target the financing component of the World Health Organization's framework for health systems.¹⁰

The household spending aggregates in National Health Accounts (NHA) come primarily from four simple questions. In essence, the questions are:¹¹

- Have you been sick in the last four weeks?
- Did you get care?
- Where?
- How much did you spend?

Most people covered by the survey (more than 90%) answer “no” to the first two questions, ending this part of the interview. Consequently, the average interview time for 90% of household respondents is less than a minute for questions on health spending. A few additional questions cover use and spending on maintenance medication and inpatient services (both rare in most of the developing world). Including this set of questions in major household surveys would both benefit the host survey and provide health expenditure data might not otherwise be feasibly obtained.

The five major surveys highlighted in Table I cover closely related topics and have sample sizes suitable for estimating household health expenditures. In some of these surveys, questions closely approximating those used for National Health Accounts (NHA) are asked of some respondents. Simply extending these questions to all members of the household, and adding or changing a few details would improve health expenditure estimations. In others, a brief expenditure section would need to be added.

¹⁰ As defined by the World Health Organization, which lists 6 building blocks: Service Delivery; Governance/leadership; Information; Medical Products, Vaccines, and Technology; Financing; and Health Workforce

¹¹ Actual interview wording is more precise.

TABLE 1: CHARACTERISTICS OF MAJOR HEALTH-RELATED SURVEYS

	AIDS Indicator Survey (AIS)	Demographic & Health Survey (DHS)	Malaria Indicator Survey (MIS)	Living Standards Measurement Study (LSMS)	World Health Survey (WHS)
Frequency	Every 5 years; staggered with DHS	Every 5 years	Every 5 years	By request of host country	By request of host country
Typical Survey Locations	HIV/AIDS-endemic countries	Developing countries	Malaria-endemic countries	Developing countries	WHO Member States
Typical Sample Size	App. 3,000 households ¹²	Standard: 5,000-30,000 households ¹³ Interim: 2,000-3,000 households ¹⁴	App. 2,500-4,500 households; ¹⁵ Varies depending on malaria endemicity ¹⁶	App. 2,000-5,000 households ¹⁷	5,000-10,000 households ¹⁸
Target respondent population	Adults (15-49 years of age)	Women 15-49 years and their children under 5. In some countries, men 15-59 years are also included.	Women 15-49 years and children under 5 living within malaria endemic or epidemic-prone areas	No specific subgroup of individuals	Adults 18 years of age or older (one per household)
Recall period – outpatient care	4 weeks	2 weeks for children under 5; Outpatient care associated with last pregnancy (for women with a live birth in past 5 years)	2 weeks	4 weeks	Indefinite
Recall period – inpatient care	6 months	Inpatient care for last delivery (for women with a live birth in past 5 years)	n/a	12 months	Indefinite
What type of NHA can the addition of expenditure questions inform?	General NHA HIV/AIDS subaccounts Child Health subaccounts	General NHA Reproductive Health subaccounts Child Health subaccounts	General NHA Malaria subaccounts Child Health subaccounts	General NHA Child Health subaccounts	General NHA Child Health subaccounts

¹² AIS Methodology. DHS. Available from: <http://www.measuredhs.com/aboutsurveys/ais/methodology.cfm#2>

¹³ Demographic and Health Surveys. About the Data. Data Collection. Available from: http://www.measuredhs.com/accesssurveys/data_collection.cfm

¹⁴ DHS Overview. DHS. Available from: <http://www.measuredhs.com/aboutsurveys/dhs/start.cfm>

¹⁵ This estimate is based on samples from the four MIS studies that have been completed to date: Angola (2,599 households), Ethiopia (8,525 households), Senegal (3,063 households), and Zambia (4,525 households). Study reports available from the Roll Back Malaria MERG website: <http://www.rbm.who.int/merg.html>

¹⁶ Target population size depends on malaria endemicity. Guidelines for Sampling for the Malaria Indicator Survey. April 2005. Calverton, MD: ORC Macro. Available from: http://www.rollbackmalaria.org/partnership/wg/wg_monitoring/docs/mis2005/cc8.pdf

3.1 AIDS INDICATOR SURVEY (AIS)

The AIDS Indicator Survey (AIS) is intended to provide an international standard for the measurement of HIV/AIDS prevalence, along with programmatically useful information for major treatment and prevention efforts. It collects information about attitudes and behaviors, and asks respondents to provide a blood sample to be tested for HIV antibodies and CD4 cell counts. The AIS survey protocol was designed to meet the reporting requirements of several HIV/AIDS programs, including the President's Emergency Plan for AIDS Relief (PEPFAR) and the United Nations General Assembly Special Session (UNGASS) on HIV and AIDS, as well as to allow for cross-country and year-to-year comparisons. With the addition of the proposed expenditure questions below, the AIS will inform the general NHA, HIV/AIDS subaccounts, and Child Health subaccounts.

3.1.1 SAMPLING

The sampling methodology for the AIDS Indicator Survey is based on the general policy for that of the Demographic and Health Surveys (DHS). The DHS Sampling Manual is provided as a guide for sampling for the AIS survey. Probability sampling using a preexisting sampling frame, with a two-stage cluster sample selection, is recommended.

3.1.2 IMPLEMENTATION FREQUENCY

According to statisticians at ICF-Macro, whose MEASURE DHS project staff provide technical assistance on many AIDS Indicator Surveys, the AIS would be conducted every five years in countries where DHS is also done but staggered with implementation of DHS.

3.1.3 RECOMMENDED CHANGES

The survey includes many sensitive questions about sexual activity and sexually transmitted infections (STI). Because of the sensitivity of STI information, we suggest that expenditure questions precede these items. In the model survey instrument¹⁹ the best place to insert expenditure questions would be at the end of Section I of the individual questionnaire (after Q 122).

¹⁷ Grosh M, Muñoz J. A Manual for Planning and Implementing the Living Standards Measurement Study Survey. World Bank. 1996. Available from: <http://go.worldbank.org/T81ZN6GZE0>. LSMS sample sizes vary widely, ranging from 780 households (China, 1995/7) to 36,000 (Romania, 1994/5). LSMS Data Table. Living Standards Measurement Study. Available from: <http://go.worldbank.org/PDHZFQZ6L0>

¹⁸ This is the typical number of households in the initial sample, although this may vary depending on the population being surveyed. The target sample size for WHS is 5,000 individuals. World Health Survey. Sampling Guidelines for Participating Countries. Available from: <http://www.who.int/healthinfo/survey/whssamplingguidelines.pdf>

¹⁹ AIS Individual Questionnaire. MEASURE DHS. Available from: http://www.measuredhs.com/pubs/pdf/AISQ1/AIS_Individual_Questionnaire.pdf.

Was <NAME> sick or injured in the last 4 weeks?

[If yes] What sort of sickness/injury did <NAME> suffer?"

Fever/malaria
Diarrhea/abdominal pains
Pain in back, limbs or joints
Cough/breathing difficulties
Skin problems
Ear, nose or throat
Eye
Dental
Accident
Other

[for all respondents, whether sick or not] Did <NAME> visit or consult a health provider?

[for respondents who had a visit but were not sick] What were the MAIN reasons for <NAME> seeking care?

Physical check-up (prevention)
Immunizations (prevention)
Oral contraceptives
Condoms
Intrauterine device
Injections
Prenatal/antenatal care
Dental
Circumcision
Voluntary Counseling and Testing (VCT)
Other forms of Counseling
Physiotherapy
Other Services (specify)

What was the type of the health provider that <NAME> visited?

Government Hospital
Private hospital
Mission hospital
Government Health Centre
Mission health centre
Government Dispensary
Mission Dispensary
Nursing/Maternity Home
Private Clinic
NGO Clinic
Company / parastatal clinic
Community pharmacies (Bamako)
Chemist/pharmacy/shop
Traditional healer
Village health worker
Other (specify)

How much money did <name> spend on treatment/services received?

3.2 DEMOGRAPHIC AND HEALTH SURVEY (DHS)

Produced by MEASURE DHS, the Demographic and Health Surveys (DHS) are “nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition.²⁰ With the addition of the proposed expenditure questions below, the DHS will inform the general NHA, Reproductive Health subaccounts, and Child Health subaccounts.

3.2.1 SAMPLING

The sample size of the standard DHS surveys is typically between 5,000 and 30,000 households. Interim surveys, which are shorter and only collect information on core performance indicators, usually have sample sizes between 2,000 and 3,000 households.

3.2.2 IMPLEMENTATION FREQUENCY

Standard DHS surveys are typically conducted every 5 years. Interim surveys are conducted between the rounds of the standard surveys.

3.2.3 RECOMMENDED CHANGES

DHS currently collects data closely approximating the information needed to calculate the NHA for children less than five years of age. A detailed proposal for modifying these questions to meet NHA requirements is included in Annex B.

DHS includes adults and older children in a household roster, but collects minimal information about them. With a small expansion of this section of the household questionnaire, DHS could provide a complete substitute for the household survey usually conducted as part of the NHA. For each member of the household, add the following questions:

²⁰ DHS Overview. Demographic and Health Surveys. Available from: <http://www.measuredhs.com/aboutsurveys/dhs/start.cfm>

Questions to ADD

Type and number of Questions	Questions	Estimated % of respondents ²¹
I General question	Was <name> ill or injured in the last four weeks? (Y/N)	100%
I Outpatient screening question	Did <name> visit/consult a health provider (including Pharmacy/chemist & Traditional Healers) in the last four weeks without staying overnight in the facility? (Y/N)	100%
4 Outpatient questions	Did <name> have more than one visit in the last four weeks? (Interviewer: If <name> had more than one visit in the last four weeks, ask the following questions about each visit. Repeat for all other members of the household) What was the type of the health provider that <name> visited? (See Provider Codes table below) How much money did <name> spend on treatment/ services received?	14%
	What were the MAIN health reasons for <name> seeking care? (See Symptom Codes table below)	16%
I Inpatient screening question	Was any member of the household admitted to stay overnight at a medical facility during the last 6 months? If yes, ask the questions below for each admission.	100%
4 Inpatient questions	Did <name> have more than one visit in the last 6 months? (Y/N) (Interviewer: If <name> had more than one visit in the last 6 months, ask the following questions about each visit. Repeat for all other members of the household) What was the type of health provider that <name> visited? (See Provider Codes table below) How much money did <name> spend on treatment/ services received? What were the MAIN health reasons for <name> seeking care? (See Symptom Codes table below)	< 3%
I Prevention/health maintenance question	Apart from the health expenses from the medical visits you told me about, how much did all members of your household spend on health and health-related commodities in the last four weeks (e.g. routine medication, family planning commodities and services (condoms, pills, etc.), ORS, vitamin supplements (e.g. cod liver, oil, etc.)?	

PROVIDER CODES

Public Sector 1) Govt. Hospital 2) Govt. health center/clinic/post 3) Gov. dispensary 4) Public pharmacy/chemist 5) Govt. Nursing/maternity home 6) Govt. Community-based health worker (incl. TBA, CHW) 7) Other	Private not-for profit (NGO incl. faith-based) sector: 8) NGO hospital 9) NGO health center/clinic/post 10) Govt. Nursing/maternity home 11) NGO Community-based health worker 12) Community pharmacies (Bamako) 13) Other	Private for-profit sectors: 14) Private hospital 15) Private clinics 16) Private doctors/nurses/midwife 17) Company/parastatal clinic 18) Private pharmacy/shop/mobile vendor 19) Private laboratory 20) Traditional Healer 21) Other
--	--	---

²¹ This is the estimated percentage of people surveyed who would be asked these questions. Estimates are based on household surveys in Kenya in 2003 and 2007.

SYMPTOM CODES

1) Malaria or fever	8) Intestinal worms	16) Delivery
2) Diseases of Respiratory system including pneumonia	9) Accidents and injuries	17) Prenatal/antenatal care
3) Skin diseases (e.g. boils, lesions etc.)	10) STD (Syphilis etc)	18) Dental
4) TB	11) Eye infections	19) Circumcision
5) HIV/AIDS	12) Other (Specify)	20) VCT
6) Diabetes	13) Physical check-up (prevention)	21) Other forms of Counseling
7) Diarrhea	14) Immunizations (prevention)	22) Physiotherapy
	15) Family planning (prevention)	23) Other Services (specify)

3.3 MALARIA INDICATOR SURVEY (MIS)

Malaria Indicator Surveys (MIS) are based on a design described in “Guidelines for Sampling for the Malaria Indicator Survey”.²² The survey provides an internationally uniform way of tracking progress in malaria prevention and treatment. The MIS provides detailed information about access to prevention and treatment. It includes hemoglobin analysis of one drop of blood using a hand-held device to test for anemia. The original design of the MIS asks about health status and visits to health care providers for children under 5, but not for adults, and does not currently include questions about out of pocket spending. With the addition of the proposed questions below, data from this survey can be combined with data from a national household survey (if one has been conducted) to form household spending estimates for the general NHA, Malaria subaccounts, and Child Health Subaccounts.

3.3.1 SAMPLING

The MIS is designed to be conducted during a period of high malaria transmission, and in parts of the country with high malaria incidence. This increases precision in describing individual malaria cases, but presents some problems in using the results to construct a national annual spending estimate.

The target of most MIS survey questions is women between 15 and 49 years of age, and children under 5. Only children’s incidence of fever (presumed malaria) is recorded. To provide NHA malaria subaccount estimates, all members of the household will have to be screened for malaria-related care. In many regions of high malaria incidence, all fevers are presumptively treated as malaria, often by self-medication. Thus the intent of the screening is to find out whether the patient acted on the belief that the illness was malaria. For this purpose, self-reported diagnosis is the conceptually appropriate measure. (Because the MIS includes biomarker collection, the survey analysts can compare self-reports with biological data.) This screening of self-reported illness should add less than one minute per person to a typical household interview. Because only those respondents who had an illness, saw a provider, or spent out of their pockets would answer further questions, many households would require no additional interview time beyond the screening questions.

3.3.2 IMPLEMENTATION FREQUENCY

The MIS is typically conducted during the high malaria transmission season. This is essential if the MIS includes biomarker testing for malaria. As this is a new survey instrument, the timeline for

²² (2005). Malaria Indicator Survey. Available from: http://rbm.who.int/partnership/wg/wg_monitoring/docs/mis2005/cc8.pdf

implementation has not yet been determined. An interval of approximately every five years, as with the DHS and AIS surveys would be appropriate for most malaria interventions.

3.3.3 RECOMMENDED CHANGES

3.3.3.1 HOUSEHOLD QUESTIONNAIRE

These questions should be asked of all household members.

Before Q10 Add: Has <NAME> been ill with a fever at any time in the last 4 weeks?

Add: Did <NAME> consult a health provider or traditional healer for any reason in the last 4 weeks?" asked for all household members.²³

Add: "[If yes to previous question] – How many visits to a health provider or traditional healer did <NAME> make in the past 4 weeks?" Ask the subsequent questions for each visit up to 3.

Add: Where did you seek advice or treatment?

Government hospital

Government health center

Government health clinic

Other public facility

Private hospital/clinic

Pharmacy

Private doctor/dentist

Mobile clinic/black bagger/drug peddler (including street vendors)

Other private facility (including shops)

Traditional healer

Add "How much money did <NAME> spend on treatment/ services received?"

Add: "Was <NAME> admitted for an overnight stay in this facility?"²⁴

Q19 How long ago did your household obtain the mosquito net?²⁵

After Q19 Add 19a (if q19 is less than 12 months): How much did you pay in the last year for nets?

Add 19b: Where did you purchase the nets?²⁶

Government hospital

Government health center

²³ This captures preventive care as well as acute care. Since this is rare, it adds little to total interview time.

²⁴ This provides a 4-week recall period for inpatient care. Many NHA surveys use longer recall periods, but accuracy deteriorates with substantially. Longer recall periods improve precision, but make bias worse.

²⁵ See model MIS questionnaire, on which these additions are based:

http://www.searo.who.int/LinkFiles/Malaria_Indicator_Survey_MalariaSurvey-HouseholdQ.pdf

²⁶ Note: the list of possible providers differs from country to country. Since spending data from the MIS are to be combined with data from another household survey, response categories between the two surveys must be coordinated.

Government health clinic
Other public facility
Private hospital/clinic
Pharmacy
Private doctor/dentist
Mobile clinic/black bagger/drug peddler
Other private facility (including shops)
Traditional healer

3.4 LIVING STANDARDS MEASUREMENT STUDY (LSMS)

The Living Standards Measurement Study (LSMS) was established to improve the scope and quality of household data collection in developing countries for the purpose of increasing the use of this information to guide policy. The LSMS is also used to monitor the impact of government policies on living standards, with the additional aim of improving coordination between those who collect the data and those who use it to make policy.

The LSMS has been in use for more than 20 years, and has experienced many revisions. Other than the basic demographic questions and several other core questions, the specific items in the LSMS vary by country, based on the policy priorities of the government that requested that the LSMS be conducted. Methodologists designing the LSMS considered asking respondents to self-report illness. They initially rejected the question as a measure of living standards because poor respondents interpret this question differently from those with higher income. They found—and NHA surveys confirm—that even though low income is associated with objective measures of poor health, the poor are less likely to report an illness, perhaps because their threshold of illness is influenced by their access to care. With the addition of the proposed expenditure questions below, the LSMS will inform the general NHA and Child Health subaccounts.

3.4.1 SAMPLING

The LSMS typically includes between 2,000 to 5,000 households although occasionally uses larger sample sizes. Although the creators of the survey acknowledge that larger samples would reduce the sampling error, they determined that this benefit would be outweighed by the resulting increase in non-sampling errors and higher cost of having a larger survey.²⁷

3.4.2 IMPLEMENTATION FREQUENCY

According to the World Bank, ideally LSMS would be done in a country every 4-5 years. That said, there is no specific timetable for the LSMS studies, as they are “demand-driven” – that is, conducted at the

²⁷ Grosh M, Muñoz J. A Manual for Planning and Implementing the Living Standards Measurement Study Survey. World Bank. 1996. Available from: <http://go.worldbank.org/T81ZN6GZE0>. Also, see the LSMS Data Table of surveyed countries. World Bank. Available from: <http://go.worldbank.org/PDHFZQZ6L0>

request of the host country government (some countries have conducted one LSMS while others have conducted five studies, for instance).

3.4.3 RECOMMENDED CHANGES

We agree with the LSMS critique of self-reported illness considered in isolation as a measure of living standards. Nevertheless, we think it should be included in the LSMS because it allows much richer analysis of other parts of the data that are now collected by LSMS and that would be used in computing National Health Accounts. We find that some recent administrations of LSMS have included the question in this form.²⁸

The LSMS asks respondents to detail their visits to medical providers for outpatient and inpatient care, including their total number of visits by type of facility and the total out-of-pocket spending.²⁹ By adding one additional question (“*Has <NAME> been sick in the last four weeks?*”) this information could be used to study both untreated illness and preventive visits. The current LSMS questions are:

During the past 4 weeks, did you visit any public hospital to obtain outpatient health care?

How many times did you make outpatient visits to a public hospital during the past 4 weeks?

How much did you pay either in money or in kind for all costs associated with these outpatient visits to a public hospital during the past 4 weeks? Include any medicines prescribed during these visits even if purchased elsewhere.

The sequence of questions is then repeated for:

- Public health clinic
- Private hospital or private health clinic
- Private doctor
- Private nurse, paramedic, or trained midwife
- Traditional health practitioner

In the NHA, the health care providers are typically grouped in more detailed categories than these. For example, in many countries it is desirable to distinguish faith-based providers (such as mission hospitals) from other private sources. Additionally, the distinction between hospitals and clinics may be important for planning purposes. As the number of response categories grows, the LSMS format becomes unwieldy, since it adds several pages of questions, most of which are answered “No.”

Because changing the format of a question may disrupt a time series, LSMS authors should decide whether to restructure the question to the usual NHA format, first asking about whether visits occurred, and then asking for their location. If the current LSMS format must be retained, then the questionnaire could be modified to provide the detail needed for NHA by adding probes for more detailed location in the few questions where more than one provider class is mentioned. (For example, when the question wording refers to “Private hospital or private health clinic”, add questions asking:

²⁸ Generic LSMS-type survey instruments designed for use in the former Soviet Union. Available from: <http://siteresources.worldbank.org/INTLSMS/Resources/3358986-1195506442871/English.zip>

²⁹ In the World Bank prototype six categories of facility are enumerated. Grosh M, Glewwe P, eds. Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 years of the Living Standards Measurement Study. World Bank. 2000. Available from: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2000/08/19/000094946_00080305310288/Rendered/PDF/multi_page.pdf,. For National Health Account purposes, a slightly more detailed classification might sometimes be necessary.

“Was that a hospital or a clinic?” and, if appropriate, “Is the owner of the hospital or clinic a faith-based organization?”)

3.5 WORLD HEALTH SURVEY (WHS)

The purpose of this survey is to compile comprehensive baseline information on the health of populations and on the outcomes resulting from investments to improve health systems. The data collected in the WHS are intended to monitor how health systems function, evaluate their effectiveness toward specific goals, and provide policy-makers with accurate, reliable information that will help them make decisions that best address their country’s health needs.

The WHS is implemented in countries through consultation with policy-makers and health information system (HIS) personnel. The survey is intended to complement country efforts to fill gaps in data and provide regular, cost-effective reporting of health information. Each country can choose from a variety of survey modules or develop additional questions to meet their policy needs. WHS modules include: population health status; risk factors; health system responsiveness to people’s expectations; coverage, access, and utilization of key health services (e.g. immunization, treatment of childhood illness, STDs, and HIV/AIDS); and health care expenditures, including household out-of-pocket expenses. With the addition of the proposed expenditure questions below, the WHS will inform the general NHA and Child Health subaccounts.

3.5.1 SAMPLING

Depending on the needs of each country, sample size may vary between 1,000 and 10,000 respondents for each country survey. Typically, however, the target sample size will be over 5,000 households in order to end up with a sample of 5,000 individuals after accounting for non-response. A single individual respondent is randomly selected for each household. The first phase of the WHS implementation covered adult populations (i.e. older than 18 years of age) while a second phase is planned to focus on younger people.

3.5.2 IMPLEMENTATION FREQUENCY

It is unknown when the initial WHS projects will be replicated. However, the following statement is made on the WHO website:

“The first round of the World Health Survey will begin in 2002 and be completed by December 2002. WHO is inviting the Member States to participate. Every effort will be made to accommodate all applying countries. Governments (Ministers of Health) who are interested in conducting the survey in their country should contact WHO which will provide, as requested: standardized, pre-tested survey modules, technical support on survey implementation, assistance in analyzing the results, a forum for discussion on implications for policy, subsequent capacity building to undertake and analyze routine or intermittent surveys in conjunction with routine health information systems.”³⁰

³⁰ World Health Survey General Information. World Health Organization. Available from: <http://www.who.int/healthinfo/survey/info/en/index.html>

3.5.3 RECOMMENDED CHANGES

The World Health Survey consists of a household interview administered to the “most knowledgeable” person in the household, and an individual interview, administered to a randomly selected adult over the age of 18. The household interview asks for a detailed accounting of the household’s spending in the last four weeks, including seven questions on health care. In the boxes below we list the questions exactly as they are asked in the prototype questionnaire, with the reference numbers used there. We omit those that do not contribute to NHA estimates.

In the last 4 weeks, how much did your household spend on:

Q0807 Care that required staying overnight in a hospital or health facility

Q0808 Care by doctors, nurses, or trained midwives that did not require an overnight stay

Q0809 Care by traditional or alternative healers

Q0810 Dentists

Q0811 Medication or drugs

Q0812 Health care products such prescription glasses, hearing aids, prosthetic devices, etc.

Q0813 Diagnostic and laboratory tests such as X-rays or Blood tests

Q0814 Any other health care products or services that were not included above

Q0815 In the last 12 months, how many times did members of your household go to a hospital and stay overnight?

Q0816 In the last 12 months, how much did the household pay for all costs associated with overnight stays in a hospital?

These questions identify the amounts that would be used in National Health Accounts, but do not ask about where care was received (so do not identify the target sectors into which funds would flow from households).

More detailed information is collected in the individual interview (only the questions that are most relevant to health resource tracking are listed here). Questions about children’s illnesses are limited to the youngest child, and cover an indefinite recall period:

Q6550 When was the last time [NAME OF YOUNGEST CHILD] was sick with fever, diarrhea, or any other illness?

Q6562 During [NAME’S] last illness, did [NAME] receive any care or treatment for the illness?

Q6563 If Yes: Where did the child first receive care?

For the selected adult respondent, a 12 month recall period is used for dental and medical conditions due to accidents:

Q6750 During the last 12 months, did you have any problems with your mouth and/or teeth?

Q6800 In the past 12 months, have you been involved in a road traffic accident where you suffered from bodily injury?

Q6806 In the past 12 months, have you suffered bodily injury that limited your everyday activities, due to a fall, burn, poisoning, submersion in water, or by a firearm, sharp weapon or an act of violence from another person?

For all other conditions, various – sometimes indefinite – recall periods are used.

Q7000 When was the last time that either you as an adult, or a child of yours aged 12 years or less, needed health care?

Q7004 The last time you [your child] needed health care, did you get health care?

Q7016 When you last needed health care, where did you get care? (1. At a health care provider, excluding an overnight stay in hospital 2. At a hospital where you stayed overnight 3. At home)

Q7200 Over the last 5 years, was there ever a time you stayed overnight in a hospital or other type of long term care facility for your own health care?

Q7201 Over the last 5 years, was there ever a time that one of your children aged 12 years or less stayed overnight in a hospital?

Q7204 Over the last 12 months, did you receive any health care excluding any overnight stay in hospital?

Q7205 Over the last 12 months, was there ever a time you accompanied one of your children aged 12 years or less for health care excluding any overnight stay in hospital?

Q7309-Q7313 Thinking about your [child's] last visit, how much did you or your household pay for [itemized list]?

These questions come close to providing the information needed to calculate National Health Accounts, without quite providing the precision required for any of the components. The World Health Survey focuses primarily on the quality of health care experiences, and thus tolerates long or indefinite recall periods in order to increase the number of events described. These recall periods result in lost precision when we attempt to count the number of events, because respondents forget things that happened a long time ago, and have trouble remembering whether an event happened inside or outside the question's time frame. NHA recall periods are typically four weeks for outpatient care and 6 months for inpatient care, and even with these, recall is not perfect.

Moreover, the question structure excludes some household members (anyone between 12 and 18) and potentially counts others (children under five) twice.

The World Health Survey is a long interview, comprising a 57-page individual questionnaire and a 25-page household questionnaire. Nevertheless, it appears that the only way to count health care visits is to add an item to the household interview before Q0807:

Q0807X Please tell me the names of any people in the household who were sick or injured during the last four weeks

Q0807Y Please tell me the names of any people in the household who received the medical care during the last four weeks

For each named household member (identified by roster line number) the interviewer should ask all questions from Q0807 through Q0814. After question Q0814, insert:

Q0814A What was the type of health provider that [name] visited?

Q0814B Whom did [name] see?

Because of the length of the interview, it may not be practical to ask detailed questions about patients who had more than one visit in the last four weeks. Compromise instructions could be either:

- Check all that apply, or
- Refer to the most recent visit only.

Because multiple visits are rare, and usually involve returning to the original provider, this loss of precision has relatively little effect on the final estimates.

This approach sacrifices several potentially interesting questions for the sake of brevity. Free care is not measured (but contributes nothing to out-of-pocket spending). Moreover, we have not asked about untreated illness. Both of these topics can be addressed in other ways through other parts of the interview. To ask them again in the context of National Health Accounts information would risk respondent fatigue because of perceived redundancy. In this paper we have sought to avoid altering any questionnaire in a way that would disrupt the continuity of time comparisons based on repeated administrations of the questionnaire, and thus have not suggested replacing existing questions with others. In the case of the World Health Survey, some replacements might be appropriate depending on the context and intended use of the survey.

ANNEX A: HEALTH INSURANCE QUESTIONS

The questions in this annex address the amount that households contribute to health insurance.³¹ These questions, in combination with the out-of-pocket spending questions listed in the main document, can provide an estimate of the total contribution of a household to health care. Although it is important to measure contributions to health insurance in order to fully understand household spending on health, these questions are listed as optional because this information could also be collected from insurance companies directly whereas the out-of-pocket spending can only be obtained from household surveys.

The next questions are about health insurance. Include health insurance obtained through employment or purchased directly as well as government programs that provide medical care or help pay medical bills

[Are you/Is anyone in the family] covered by any kind of health insurance or some other kind of health care plan?

Yes

No

Refused

Don't Know

Are all members of the household covered?

Yes

No

Refused

Don't Know

[If only part of the family is covered] Record line numbers of covered members

What kind of health insurance or health care coverage [fill: do you/does <name>] have? INCLUDE those that pay for only one type of service (nursing home care, accidents, or dental care). EXCLUDE private plans that only provide extra cash while hospitalized. [Record all that apply]

Private Health Insurance

Government Program

[Include local name for community risk pooling organizations: "Harambee", "Mutuelle", etc.]

Single service plan (e.g., dental, vision, prescriptions)

No coverage of any type

Refused

³¹ These questions are adapted from the 2009 draft U.S. National Health Interview Survey. Available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Survey_Questionnaires/NHIS/2009/english/qfamily.pdf

Don't know

Which one of these categories best describes how this plan was obtained?

Through workplace

Purchased directly

Through a national or regional government

Other community program

Other (specify)

Refused

Don't know

How much [do you/does your family] currently spend for health insurance premiums for all your plans?

[Enter dollar amount for premium payments.]

[Enter time period for premium payments.]

Once a week

Once every 2 weeks

Once a month

Twice a month

Every 2 months

Quarterly (every 3 months)

Once a year

Twice a year

Refused

Don't know

ANNEX B: DHS QUESTIONS FOR CHILDREN UNDER FIVE

This section outlines recommended changes to the DHS that would allow it to capture sufficient health expenditure information to inform NHA estimations for children under five years of age (i.e. for child health subaccounts).³²

Change	Add item 546A “[In addition to the illness you just described] has <NAME> had any other illness or injury at any time during the last two weeks?”
Respondents	All children under the age of 5
Rationale	National Health Accounts are based on total spending. In addition, analysis of access to care is more powerful.
Change	[If yes to item 546A, add] “What sort of sickness/injury did <NAME> suffer?” Pain in back, limbs or joints Skin problems Ear, nose or throat Eye Dental Accident Other
Respondents	Children under 5 with additional illness. In the most recent Kenya household survey, this is 1.7% of children.
Rationale	This item converts a partial description of illness to a total description with minimal impact on respondent burden.
Change	Add item “What was the type of the health provider that <NAME> visited? (Including Chemists & Traditional Healers) [modify list as nationally appropriate]
Respondents	Children under 5 with health care visits. Typically, this is about 5% to 10% of children who had an additional illness (or only up to about 0.2% of all children).
Rationale	NHA tables are indexed by economic sector
Change	Add item “How much money did <name> spend on treatment/ services received?”
Respondents	Children under 5 with health care visits.
Rationale	Dependent variable for NHA

³² Demographic and Health Surveys. Model Woman’s Questionnaire with AIDS and Malaria Modules. Available from: <http://www.measuredhs.com/pubs/pdf/DHSQ5/DHS5-Woman's-QRE-22-Aug-2008.pdf>

ANNEX C: BIBLIOGRAPHY

AIDS Indicator Survey (AIS). MEASURE DHS. Available from:
<http://www.measuredhs.com/aboutsurveys/ais/start.cfm>

Demographic and Health Surveys (DHS). MEASURE DHS. Available from:
<http://www.measuredhs.com/aboutsurveys/dhs/start.cfm>

Designing Household Survey Questionnaires for Developing Countries. Available from: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2000/08/19/000094946_00080305310288/Rendered/PDF/multi_page.pdf

Grosh M, Muñoz J. A Manual for Planning and Implementing the Living Standards Measurement Study Survey. World Bank. 1996. Available from: <http://go.worldbank.org/T81ZN6GZE0>.

Guide to producing national health accounts with special applications for low-income and middle-income countries. World Health Organization. 2003. Available from:
http://www.who.int/nha/docs/English_PG.pdf

Guidelines for Sampling for the Malaria Indicator Survey. April 2005. Calverton, MD: ORC Macro. Available from:
http://www.rollbackmalaria.org/partnership/wg/wg_monitoring/docs/mis2005/cc8.pdf

Living Standards Measurement Study. World Bank. Available from:
<http://go.worldbank.org/IPLXWMCNJ0>

Malaria Indicator Survey (MIS). MEASURE DHS. Available from:
<http://www.measuredhs.com/aboutsurveys/mis/start.cfm>

National AIDS Spending Assessment (NASA). UNAIDS. Available from:
<http://www.unaids.org/en/KnowledgeCentre/HIVData/Tracking/Nasa.asp>

National Health Accounts. Health Systems 20/20. Available from:
<http://www.healthsystems2020.org/section/topics/finance/nha>

National Health Accounts Policy Impact Database. Health Systems 20/20. Available from:
<http://www.healthsystems2020.org/section/impact>

Philippine National Health Accounts (1991-2000). National Statistical Coordination Board. Republic of the Philippines. December 2001.

Preparing Public Expenditure Reviews (PERs) for Human Development. World Bank. Available from:
<http://siteresources.worldbank.org/EXTPERGUIDE/Resources/PER-Complete.pdf>

Roll Back Malaria Monitoring and Evaluation Reference Group. Available from:
<http://www.rollbackmalaria.org/mechanisms/merg.html>

Schieber G, Maeda A. A Curmudgeon's Guide to Financing Health Care in Developing Countries. Conference. Innovations in Health Care Financing. Washington, DC: World Bank. 1997.

A System of Health Accounts. Organisation for Economic Co-operation and Development (OECD). Available from: <http://www.oecd.org/health/sha>

U.S. National Health Interview Survey (2009). Available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Survey_Questionnaires/NHIS/2009/english/qfamily.pdf

World Health Survey. World Health Organization (WHO). Available from: <http://www.who.int/healthinfo/survey/en/index.html>