

**CONCEPTUAL AND METHODOLOGICAL ISSUES IN
THE CONSTRUCTION OF REPRODUCTIVE HEALTH
ACCOUNTS IN AFRICA***

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ACRONYMS

AIDS	Acquired Immuno-Deficiency Syndrome
BCG	Tuberculosis vaccine
DHS	Demographic and Health Survey
DPT	Diphtheria, Pertussis and Tetanus vaccine
DT	Diphtheria and Tetanus
F	Functions
FA	Financing Agents
FP	Family Planning
FS	Financing Sources
FWV	Family Welfare Visitor
HA	Health Accounts
HF	Financing Agents
HIV	Human Immunodeficiency Virus
HMO	Health Maintenance Organizations
HNP	Health, Nutrition and Population
HRC	Health-Related Categories
ICD	International Classification of Diseases
ICHA-FS	International Classification for Health Accounts – classification scheme financing sources
ICHA-HC	International Classification for Health Accounts – functional classification of health care
ICHA-HF	International Classification for Health Accounts – classification scheme for financing agents
ICHA-HP	International Classification for Health Accounts – classification scheme for providers
ICPD	International Conference on Population and Development
IEC	Information Education and Communication
IPPF	International Planned Parenthood Federation
IUD	Intra-Uterine Device
MCH	Mother and Child Health
NGO	Non-Governmental Organization
NHA	National Health Account
OECD	Organization for Economic Co-operation and Development
OPV	Oral Polio Vaccine
P (Health)	Providers
PAI	Population Action International
PHRplus	Partners for Health Reform <i>plus</i>
RCH	Reproductive and Child Health
RF	Resource Flows
RFB	Regional Finance Bureaus
RHA	Reproductive Health Account

RTI	Reproductive Tract Infection
SIDALAC	Regional AIDS initiative for Latin America and the Caribbean
SNA	System of National Accounts
STD	Sexually Transmitted Diseases
SWAp	Sector-Wide Approach
TT	Tetanus Toxoid
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
USAID	US Agency for International Development
WHO	World Health Organization

1. INTRODUCTION

1.1 The Problem

A number of global initiatives have brought the issues of reproductive health (RH) to the front burner of international attention and discourse in the last decade or so. The International Conference on Population and Development (ICPD) held in Cairo 1994, for example, pushed the issue of reproductive health onto the agenda of global health priorities. Globally and in many countries, problems related to pregnancy and delivery, as well as sexually transmitted diseases; sexual rights and practices of various subgroups within a population have always been of concern due to the large amount of mortality, morbidity and suffering related to it. Thus, poor reproductive health accounts for 36% of women's total disease burden (Murray and Lopez, 1996). Besides, there are an estimated 76 million unwanted pregnancies in developing countries per year of which 19 million end in unsafe abortion causing the death of 68,000 women, and worldwide, we have about 40 million adults and children living with HIV/AIDS, of which there are about 5 million newly infected persons per year and 3 million AIDS deaths per year. All these confirm the high global burden of reproductive health problems (Singh *et al.*, 2004; WHO, 2004; UNAIDS, 2004).

Secondly, inclusion of a maternal mortality reduction target of 75 percent by 2015 in the Millennium Development Goals (MDGs) has made countries to set ambitious plans for enhancing RH services such as service expansion, improving service quality, and adapting services to meet user needs more appropriately. Not unexpected, such ambitious plans will always require additional resources. However, in spite of these ambitious initiatives and their daunting resource requirements, policymakers in most middle- and low-income countries and in particular, Africa; lack critical information about current national spending on RH care. Among such financing issues where critical information is lacking are: how much is spent, the sources of financing, the patterns of resource flows, and how the expenditures link to RH outcomes. This lack of information limits the ability of policymakers to develop appropriate, sustainable policies that will lead their countries to achieve relevant MDG targets.

A better understanding of the ways in which health services are financed is a major element in understanding why the available resources are not translated into better health outcomes and in identifying measures which can improve this. However, the concern for health financing goes beyond the issue of raising funds, it includes issues of fund allocation as well as the behaviour of providers and consumers. It considers such key issues as (DFID, 2000):

- What is total spending on health?
- Who is spending it?
- What is it being spent on?
- What are the sources of this expenditure?
- How does this compare to other countries in the region?
- What are the main trends?
- How efficiently are the funds being allocated and spent?
- What can we do to improve the financing of health services by:
 - Increasing the level of resources available?

- Using and allocating existing resources more efficiently?

- Are public subsidies being effectively targeted to poor and vulnerable groups?

The Health Accounts (HA) framework can provide answers to these questions and/or give insights into how these concerns can be addressed. This report seeks to apply the HA framework to address issues relating to the financing of RH in Africa with a view to improving RH outcomes, in the final analysis.

1.2 Objectives of the Study

The general objective of the study is to develop a framework for estimating reproductive health accounts in Africa. The specific objectives are to:

- Provide a state-of-the art review of the theoretical and empirical literature in HA generally and RHA in particular;
- Review in detail methodological approaches for HA, generally and RHA, in particular;
- Review topical issues of concern in RHA estimation; and
- Develop a framework suggesting possible approaches for implementing RHA estimation in sub-Saharan African countries.

1.3 Organization of the report:

This report is organized in six sections. This introductory section is followed by Section 2, which discusses the conceptual and definitional issues in health accounts as well as reproductive health. Section 3 reviews relevant literature in HA estimation and costing of RH. Section 4 analyzes some important considerations in Reproductive Health Accounts (RHA) estimation; while section 5 describes the suggested framework for RHA estimation in Africa. In this section also we provide an illustrative and indicative empirical example of the estimation and interpretation of HA in an African country. We conclude in section 6. This paper adopts a utilitarian approach. It attempts to be self-contained, as much as possible. We therefore have; as part of the report a number of annexes deemed useful in RHA estimation in Africa. Such annexes contain, for example relevant information on classification in HA and costing experiences in RH, and the like.

2 CONCEPTUAL AND DEFINITIONAL ISSUES IN HEALTH ACCOUNTS AND REPRODUCTIVE HEALTH

2.1 Health Accounts Concepts

Resource tracking is a necessary part of health system development. The financial information about who pays, how much and for what, that is generated by the source tracking is most effectively organized in the National Health Accounts (NHA) framework. The NHA framework captures the *total* health expenditure in a country by all stakeholders in the health sector over a period, usually, one year. It is based on a feasible and useful definition of the boundaries of the healthcare sector and it analyses health expenditures based on a flow of funds framework linking various actors and stakeholders (Berman, 1997).

Health expenditure¹ is defined *by purpose*. It consists of all spending on activities whose *primary purpose* is to *restore, improve and maintain* health of the nation and individuals (WHO, 2003). This definition applies regardless of the type of the institution or entity providing or paying for the health activity. For example, prior to the use of NHA, spending by the Ministry of Education (MOE) on medical training and teaching hospitals was excluded from health expenditure estimates. Similarly, under the NHA definition, not all activities conducted by the Ministry of Health fit within the health expenditure definition. For example, where a Ministry of Health (MOH) funds the operation of orphanages, *without* the primary purpose of restoring, improving and maintaining health; then this is deemed as non-health expenditure².

The NHA framework first identifies the different *actors* (or stakeholders) in the health system, their relevant *activities*, and the financial *transactions* between the actors in carrying out their designated activities. The classification of actors, activities and transactions in meaningful categories that share common characteristics is at the heart of the HA methodology. The stakeholders involved in health financing *mobilize, allocate and utilize* funds. Entities mobilizing and providing health funds are called *financing sources*, while those channeling the funds to pay for, or purchase the activities in the HA boundary, are known as *financing agents*. Those receiving money in exchange for, or in anticipation of producing the activities in the HA boundary are called *providers or uses*.

Financing Sources include government (at all levels), households, firms and donor agencies (domestic and foreign). *Financing Agents* include Ministry of Health (and equivalents at lower levels of government); other Ministries and Agencies which have significant health expenditure(e.g. Defence, Police, Women affairs, Prisons etc.); Health Insurance Companies; out-of pocket expenditure of households; Non-governmental organizations; Health units of firms. *Providers or uses* include public and private health facilities, chemists/pharmacies, traditional care providers, health research/training institutions; and administration/management of health care.

NHA estimates are usually presented in a matrix (tabular) format showing flow of funds between stakeholders. Examples of NHA matrices are:

- Sources by Financing Agents
- Financing Agents by Providers
- Financing Agents by Functions
- Financing Agents by Location
- Providers by Functions

¹ The expenditure referred to here is **actual** expenditure. It is not budget allocation or *unspent* budget release, neither is it **implicit** cost of health which includes opportunity cost.

² A Ministry of Education expenditure on school feeding whose primary objective is to encourage students to stay in school is non-health expenditure. But if the primary objective of the programme is improvement of nutrition and hence the health of students, by definition, it is health expenditure. If the programme has dual objectives, one of them must be primary and the other secondary.

The NHA framework allows for further stratification of funding flows by disease-specific areas (malaria, HIV/AIDS, for example) and intervention clusters (reproductive health, child health care, etc.). These stratifications involve additional expenditure reviews referred to as NHA *sub-analyses*. Such sub-analyses, particularly when done on a routine basis, and due in part to their specific policy themes, move one step closer to linking spending patterns to actual results. RHA is a sub-account or satellite account of the NHA. In RHA; actors, activities and transactions are limited to those that are involved in reproductive health. The approach of situating the RHA within the context of an NHA places a country's spending on reproductive health within the context of overall health spending.

2.1.1 Boundary Issues in Health Accounts

A. Defining the National Boundary

In measuring national health expenditures, NHA does not use the geographical borders of a country but rather looks at the health transactions of that country's citizens and residents. Therefore, it includes expenditure on health care by citizens and residents who are temporarily abroad and excludes spending on health care by foreign nationals within the country. Spending by international organizations on health and health-related goods and services for the residents of the recipient country are also considered national health expenditure.

B Defining the Time Boundary

NHA covers a period of usually one year. However, the "accrual" method to define the time the expenditure is *recognized*; that is, expenditures are recorded for the time period in which the activity takes place and not when the actual payment is made. For example, if a hospital stay occurs during the final month of fiscal year 2002 but payment is made in fiscal year 2003, the expenditure is recorded for fiscal year 2002.

2.1.2 Dimensions of NHA

PHR Plus(2003) asserts that one or more of the following characteristics make NHA very distinct from other expenditure reviews:

- a rigorous classification of the types and purposes of all expenditures and of all the actors in the health system;
- a complete accounting of all spending for health, regardless of the origin, destination, or object of the expenditure;
- a rigorous approach to collecting, cataloguing, and estimating all those flows of money related to health expenditure; and
- a structure intended for ongoing analysis (as opposed to a one-time study).

When constructed properly, a nation's HA complement other reporting systems to provide a more complete picture of the performance of the health system. Because of the similarity between measurement concepts underlying the NHA and the system of national accounts used to estimate a country's gross domestic product (GDP), health accounts can be used to illuminate the interrelationship between health spending and the total output of the economy. Because of the way in which financing is displayed, health accounts can

help in understanding the roles of government, industry, households, and external organizations (such as the Red Cross and Red Crescent) in the purchase of health care. Because of their reliance on standardized classifications of providers and functions, NHA illustrates the linkages between financing and delivery and outcomes of health services and goods. Two important dimensions of NHA in the health system policy are its use as a link between the various sub-sectors of the health system including its use as a barometer of health system assessment; and input for evaluating the stewardship role of government in the health system.

A *NHA in the context of health systems and health system performance measurement*

All nations have health systems, which have been described as “all the activities whose primary purpose is to promote, restore or maintain health” (Pass et al., 1991). Whether arrived at by conscious creation or by evolution, health systems exist to produce some benefit for societies and their citizens. A health system mobilizes and channels resources into institutions and uses them for individual or social consumption. This consumption of goods and services produces a flow of benefits to the population, which results in some new level or stock of health.

The performance of a health system reflects a number of facets of its operation. There is the effect of the system on the health of the population. There is the extent to which financing and risk pooling mechanisms afford financial protection from the economic burden of illness and prevent impoverishment resulting from catastrophic expenses for health care. There are other dimensions as well, for example the responsiveness of health systems to the people they serve in aspects such as respect of *personal* dignity and privacy. Health system performance must be assessed not only in terms of the level of benefits achieved but also by their distribution in societies. If a nation’s health system can be thought of as society’s response to its citizens’ desire to achieve certain benefits or outcomes and to distribute these benefits fairly, health system performance refers to how well the system achieves those goals. The NHA framework enhances all these.

B *National health accounts as an input to stewardship for improving health system performance*

Governments and others can use HA in several ways. In addition to a picture of the financial state of the health system, HA can provide information relevant to designing better health system policies. Experience in the countries that have developed and used HA has been that the accounts are very helpful in answering questions such as those discussed briefly below (WHO, 2003).

How are resources mobilized and managed for the health system? Health accounts help provide the basis for assessing the adequacy of financial resources available to the health system, and for thinking about strategies to increase the resources available. They indicate the types of social structures in the public and private sectors that have been created to raise, organize and pool funds, and to pay for the production of health goods and services.

Who pays and how much is paid for health care? Knowledge about who finances health care and how large the financial burden is relative to their means illuminates the nature of financial protection and the fairness of the financial burden. Knowing who contributes to health spending is also valuable information in designing policies and interventions. For example, many countries are decentralizing their public finances and relying more on provincial and municipal funding for social services. Health accounts can show how well and how fairly those arrangements pool risks across the population. They can also clarify how institutions that pay for or purchase health care compensate providers and with what effect.

Who provides goods and services, and what resources do they use? Answers to these questions describe the allocation of expenditures to different types of providers and to the production factors used in the system. These are dimensions of economic planning and of the analysis of economic efficiency, both of which are important focuses of decision-making.

How are health care funds distributed across the different services, interventions and activities that the health system produces? Health accounts show what is produced and what is spent on the different products. The commitment of resources to health functions is a valuable measure of the actual priorities of a health system. Such information indicates whether or not an allocation always reflects actual priorities. For example, health accounts reveal the share of spending claimed by collective public health interventions, reproductive health, or cardiovascular conditions. Measures like these are also excellent indicators of whether policies to shift resource priorities are working.

Who benefits from health care expenditure? This question can be answered along a variety of different dimensions, including income groups, age/sex groups, geographical regions, health status or conditions, or types of interventions provided. Knowing where the benefits from health expenditure in terms of their financial value is an important measure in assessment of distributional fairness.

2.2 Reproductive Health Concepts

Adapting the WHO definition of health, ICPD (1994) defined RH as ‘a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its processes and functions.’ Reproductive health, therefore, implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this are the rights of men and women to be informed of, and have access to; safe, effective, affordable and acceptable methods of fertility regulation of their choice, and the right of access to appropriate health care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant.

The reproductive health portion of the ICPD Programme of Action calls for all nations (http://www.unfpa.org/monitoring/pdf/n2_issue22.pdf):

1. To ensure that comprehensive and factual information and a full range of reproductive health-care services, including family planning, are accessible, affordable, acceptable and convenient to all users (through the primary health care system by 2015);
2. To enable and support responsible voluntary decisions about childbearing and methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law and to have the information, education and means to do so;
3. To meet changing reproductive health needs over the life cycle and to do so in ways sensitive to the diversity of circumstances of local communities.

According to the WHO (1995) reproductive health has three main priority areas:

- Family Planning (information, counseling and services)
- Prevention of maternal and new-born deaths and disabilities by providing adequate maternal and child health services (covering the prenatal, delivery and postnatal phase of the mother as well as the follow up of the infants); prevention of unwanted pregnancy and unsafe abortion
- Prevention and management of sexually transmitted disease (STDs) and infections of the reproductive tract; prevention and management of the Acquired Immunodeficiency Syndrome (AIDS)

Other dimensions of the reproductive health package are:

- Prevention and management of infertility
- Issues of violence against women (rape, domestic violence, forced prostitution) including harmful traditional practices as female genital mutilation and forced early marriages
- Meeting the specific reproductive health needs of target groups other than women in their reproductive ages : adolescents, men, and women beyond the reproductive age (reproductive tract cancer, uterine prolapse, osteoporosis, etc)

Expanding access to these services and improving quality of care are essential components of the process leading towards better reproductive health. All related services should directly respond to people's needs and therefore be planned and implemented in collaboration with the concerned community. Integration of these services into general primary health care services should allow easier access and more efficient management of scarce resources.

2.2.1 Sexual and Reproductive Health (SRH) Service Issues

The users of SRH services are overwhelmingly women. This has been significant in framing the societal and state response to the financing and provision of SRH services. Within the context of patriarchal societies, the fact that SRH services have largely targeted and serviced women has served to undermine the value of the service. Traditionally located within a "population control paradigm", the emphasis has been on controlling women's fertility rather than on encouraging women to take control of their reproduction and sexuality. In order to meet the rights-based requirements described above, services have to be rendered in ways that enable women to make healthy choices.

In addition, the actual services to be provided are considerably broader than under the historical reproductive health paradigm of family planning, limited prenatal care and essential obstetric care. The elements of the SRH service package envisaged by ICPD include a wider range of services for: family planning based on choice; safe pregnancy and childbirth; prevention, diagnosis and treatment of reproductive tract infections, sexually transmitted infections (STIs) and human immunodeficiency virus (HIV); as well as elimination of harmful practices such as female genital mutilation and domestic violence. This expanded package also includes services such as treatment of HIV positive pregnant women to prevent transmission to the foetus and newborn, infertility management and detection and treatment of reproductive cancers.

Health systems have a long way to go in providing comprehensive, integrated SRH services that are rights-based and meet the myriad of challenges facing African populations. In addition to the increased scope of service provision required, there are growing demands placed on the health system relating to the HIV/AIDS pandemic, as the client-base is expanding to include men, adolescents and HIV-positive women, men and infants. These factors translate into increased resource requirements to ensure that the paradigm shift for SRH services can be realized.

2.2.2 Maternal and Child Health/ RH: Any Difference or Inter-relation?

To a certain degree there may be confusion concerning the question as to how the older term of MCH (Mother and Child Health) and Reproductive Health interrelate. The two concepts certainly overlap to a large extent, mainly on the “safe motherhood” side.

As to child health a cut off seems to be made at the age up to which care provided to the infant has an influence on the mother’s reproductive health and vice versa. Questions concerning for example breastfeeding and postnatal HIV transmission from mother to child would therefore be considered an RH issue while EPI vaccination programmes of children under five is not. But there seems to be no clear-cut definition or consensus on this point resulting in every agency having a slightly different policy.

3 REVIEW OF RELEVANT LITERATURE

3.1 Evolution of NHA

International comparative studies of health expenditure started at the beginning of this century and have been increasingly performed over the last 30 years. The UN methodology for National Accounts (NA) – approaching health expenditure through a subset of NA, the satellite accounts - was not answering some of the important questions for the health sector. The International Labor Organization (ILO) and WHO in the 50s and 60s led the movement to create standardized, comparable national health expenditure estimates (Abel-Smith, 1963).

The Organization of Economic Cooperation and Development (OECD) recognizing the important role of health care financing in comparative health system analysis - has systematically developed and applied a common format, called the System of Health Accounts (SHA) for reporting national health expenditures. Today, the OECD annually

compiles comparable health expenditure statistics for its member countries; for most countries data cover over 30 years (OECD, 1998).

In 1964 the United States adopted the NHA approach, which mainly added to the SHA method a more disaggregated “sources and uses” matrix. Because of its comprehensiveness and high level of detail, the NHA approach is considered by many to be the gold standard for estimating health expenditures, particularly in countries with highly pluralistic health financing structures.

The current NHA approach, a confluence of approaches mentioned above, depicts source and destination of financial flows.

3.2 NHA Classification Scheme and Other Methodological Issues³

3.2.1 *Classification Schemes for Health Expenditure*

To understand the myriad of transactions taking place in the nation’s health system, health accountants make use of classification schemes that allow them to “roll up” or summarize economic activities in a meaningful way. These classification schemes group transactions that share common characteristics in one or more of the dimensions satisfying defined criteria. A good classification scheme should satisfy several criteria:

- It should represent an important, policy relevant dimension, and should partition the dimension in policy relevant ways.
- It should partition the dimension in a mutually exclusive and collectively exhaustive way, so that each transaction of interest can be placed in one — and only one — category.
- It should respect and reflect, to the extent possible, existing international standards and conventions.
- It should be feasible to implement using the data available.

To a certain extent, these criteria can create a conflict for the health accountant. For example, the national policy debate may dictate the use of a categorization schedule very different from that found in other countries.

Like the people they serve, national health systems exhibit as many similarities as they do differences. The differences, which can be traced back to cultures, history, economic organization, and sociopolitical dynamics, present a challenge not only to policy-makers interested in adopting best practices in health delivery and financing from around the world, but also to health accountants interested in adopting best practices in measuring national health expenditure. Fortunately (at least for health accountants), the fundamental building blocks of health systems — the entities that make them up — are fairly similar across nations. National health systems tend to perform many similar tasks and functions, often with institutional entities that have similar characteristics. Consequently, the classification schemes used can be quite similar across national systems. Ready-made

³ Sections 3.2 and 3.3 borrow substantially from PHR *plus* (2003).

classification schemes exist for some of the dimensions mentioned above, although not all these schemes were developed specifically for health accounting.

3.2.2 *The International Classification for Health Accounts*

NHA methodology adopts its basic principles of health accounting from the System of Health Accounts (SHA) of the OECD. The SHA manual provides the International Classification for Health Accounts (ICHA) scheme, which categorizes each type of health expenditure. However, SHA classifications have been most useful in countries where a single source of health spending dominates, as in most OECD member states. NHA uses ICHA, but disaggregates the categories/classifications further, based on the needs of an individual country. This flexibility allows NHA to accommodate expenditures in the more pluralistic health systems often found in middle- and low-income countries, where providers may receive payment from multiple financing sources and where payments may be made to numerous providers.

The ICHA is a comprehensive classification system in three important NHA dimensions: financing agents, providers, and functions. It is designed to be compatible with a number of existing classification schemes and practices in international economic statistics — most importantly, with the system of national accounts (SNA).⁴ The ICHA classifications in the OECD system of health accounts (SHA) are accompanied by detailed definitions of each item in the scheme.

There are several reasons why health accountants should use international classification schemes as the basis for their work. One reason is that doing so makes cross-national comparisons of health expenditure possible. Another reason is that international schemes have already undergone considerable review and validation, and using them can save the time and cost of developing a schedule from scratch. Yet another reason is that significant economies of scale are to be found in using classifications in common with those used by national income accountants. Also, as has been mentioned, the intrinsic similarities among national health systems make it likely that the international schemes can be applied in a fairly straightforward manner.

3.2.3 *Criteria for Measuring Health Expenditures*

The following criteria should be considered when countries are deciding how to collect, select, and measure health expenditures:

- *Transparency.* There should be clear documentation of the sources of the expenditure data, the classifications and definitions used, and any adjustments or calculations. Typically, this requires preparation of a written manual for NHA estimates in each country.

⁴ The system of national accounts (SNA) is a broad structure for national economic accounting, developed jointly by the Commission of the European Communities, the International Monetary Fund, the Organization for Economic Co-operation and Development, the United Nations, and the World Bank. The rules and structure of the SNA are contained in a manual called *System of National Accounts 1993*, typically abbreviated SNA93.

- *Policy relevance.* Health expenditure measures should be constructed to ensure inclusion of everything that is relevant to a country’s health policy development efforts.
- *Compatibility with existing international standards and practices.* Health expenditure measures should be compatible with international standard classifications and definitions, such as those of the System of National Accounts and government finance statistics. Where there are departures from these standards, they should be clearly documented.
- *Measurement feasibility.* It should be feasible to compile and validate health expenditure measures within a reasonable time (less than a year) and cost.

3.2.4 *The NHA Framework and Classification System*

A *The NHA Tables*

At its broadest level, NHA measures health spending as a percentage of the GDP. The *basic* NHA framework organizes and tabulates health spending data in the form of a number of matrices or tables. Each of the two-dimensional tables shows the flow of funds from one category of health care entity to another, that is, how much is spent by each health care dimension and to where those funds are transferred. Each health care dimension in the tables is categorized according to the ICHA proposed in the OECD SHA methodology. NHA identifies *four* principal categories of health care entity within a health system:

- **Financing Sources** which are entities answering the question “where does the money come from?” They are entities that provide health funds.
- **Financing Agents** entities shedding light on the “who manages and organizes the funds? They receive funds from financing sources and use them to pay for health services, products, (e.g. pharmaceuticals), and activities. This is an important category because the programmatic responsibilities of financing agents give them influence or actual control over how the funds are used.
- **Providers** are the end users or final recipients of health care funds. This group of health care dimensions answers the question “to whom did the money go?” Providers are entities that deliver health services.
- **Functions** refer to the services or activities that providers deliver with their funds. Information at this level answers the question “what type of service, product, or activity was actually produced?”

Based on these, it is recommended that countries should estimate at least four tables that show the flow of funds from:

- *Financing Sources to Financing Agents*
- *Financing Agents to Providers*
- *Financing Agents to Functions*
- *Providers to Functions*

3.2.5 *Reading NHA Tables*

Within the NHA tables, the funds flow downward from the “originators” listed for each table column to the “recipients/users” listed for each row. The amount spent by each “originator” is shown at the bottom of each column. The total amount received by each

“recipient/user” is included at the end of each row. NHA tables are also linked to each other as they trace the flow of funds from financing sources to financing agents to providers to functions. Sample Table 1 shows the flow of funds from Sources to Financing Agents

Table 1: A Sample NHA Matrix; Sources by Financing Agents							
	Sources						
Financing Agents	Federal Government	State Governments.	Local Governments	Firms	Households	Donors	Total
Federal Ministries							
State Ministries							
LGA Health Departments							
Health Insurance							
Out of Pocket							
NGOs							
Total							

Second Sample table (Table 2) shows that the row headings (recipients/users) of one table become the column headings (originators) of the next table. Thus, the row totals of the first table become the column totals of the second table. For example, in the financing agents to providers table, the State Ministries of Health distributes its health funds to Public General Hospitals.

Table 2: A Sample NHA Matrix; Financing Agents by Providers							
	Financing Agents						
Providers	Federal Ministries	State Ministries	LG Health Departments	Health Insurance	Out-of-Pocket	NGOs	Total
Government Facilities							
Private Facilities							
Mission/NGO facilities							
Chemists/Pharmacies							
Traditional Health Care							
Others							
Total							

Similar tables can be shown for the other two recommended matrices.

3.2.6 Additional Tables

In addition to the four principal health care dimensions discussed above (i.e. financing sources, financing agents, providers, and functions), NHA suggests additional dimensions, such as:

- **Beneficiary Groups** refers to the groupings of people who receive health care goods and services. These groupings can be according to socioeconomic status (SES), location of residence (R) (e.g. urban/rural), age (A), and gender (G). Classification by such beneficiary groups allows for a significant analysis of resource allocation, equity, and distributional issues in health spending.
- **Health Problems, Diseases, Interventions (D)** refers to the classification of health expenditures according to specific measures of health and disease, or

- policy issues, such as interventions addressing HIV/AIDS, malaria, or reproductive health.
- **Inputs (I)** includes specific types of inputs used to provide services, such as labor, drugs and pharmaceuticals, and medical equipment.

These additional classifications can be used to organize health expenditure information in a way that responds to important health policy priorities. For example, policymakers might want to allocate resources more equitably among geographical areas; in such a case, a beneficiary group breakdown by urban and rural areas might be useful. This expenditure information, when combined with other data such as health outcome information, can better indicate whether current expenditures and services translate into adequate health gains.

Using these new categories, several additional tables are proposed:

- The Distribution of Total Current Expenditure on Health (TCEH) across population Age and Gender Groups (FA x A/G)
- The Distribution of Health Expenditures across Region (FA x R)
- The Distribution of Current Expenditure on Health by Financing Agents to the population classified by per Capita Household Expenditure Quintile (FA x SES)
- Allocating Different Types of Inputs by Financing Agents (FA x I): classification of inputs are for those goods that are used to produce health care and health-related services.
- The Distribution of Current Expenditure on Health by Financing Agents to the population classified by Disease Group (FA x GBD)

Preparing any of these tables requires additional data or calculations to disaggregate health expenditures into these new categories.

3.3 The NHA Estimation Process

The NHA estimation process consists of the following steps: setting up appropriate management mechanisms like the technical team and the steering committee; collecting health expenditure data, organizing the data into the NHA tables, analyzing the results for health policy, and disseminating the information to a wide range of stakeholders.

3.3.1 The NHA Team and Steering Committee

A successful approach to producing valid and reliable NHA results that have credibility with decision makers is to form a multidisciplinary NHA team, which will do most of the detailed technical work, and a more policy-oriented steering committee. The NHA team should comprise members who work for various government agencies, both to ensure broad organizational representation and to make accessible diverse data sources that otherwise may not be known to other team members. The team should include members who are familiar with national economic statistics and accounting practices, knowledgeable about health systems and policies, and experienced with data analysis. They should have report writing and data collection experience as well. It is also very useful to have a health economist on the team. Such a team can facilitate careful interpretation of NHA results. Initially, the NHA team members will likely be appointed by their respective organizations. With the help of the steering committee, a permanent

organizational home or structure should be found for NHA technical staff. However, all the original NHA team members can continue to be valuable contributors to each step of producing NHA.. The steering committee should include senior policymakers from the Ministry of Health, Ministry of Finance, and Ministry of Planning, and other high-level stakeholders from entities such as the national statistical office, academic groups, provider and consumer organizations, and the social health insurance organization. The committee's tasks include:

- Communicating policy concerns to the NHA team
- Giving feedback to the NHA team on results and findings
- Facilitating difficulties the team encounters while collecting data from different entities
- Assisting in interpreting the NHA results and drawing policy implications
- Assisting the Ministry of Health in translating the policy implications into policy action
- Supporting the NHA team in institutionalizing NHA as a routine annual exercise (see below)

The steering committee plays a key role in ensuring the institutionalization of NHA by establishing ownership at the nation's highest levels of policymaking.

3.3.2 Data Collection

Estimation of NHA requires extensive data collection from various ministries, donors, households, providers, and industry groups (e.g. private insurers, employers, and pharmaceutical companies). Often the data collection requires additional effort, to separate health expenditures from other types of expenditures or to estimate missing data. A standard spreadsheet program such as Excel, Lotus, or QuattroPro is needed to fill and maintain the tables, enter supporting data, and facilitate calculations. Because some data sets can be quite large (e.g. those from a household survey), it may be practical to enlist the central board of statistics or a similar body to manage the information. Committed staff and accurate, complete data are key to producing a good NHA. The steering committee's role in providing access to all potential data sources is paramount. Equally important is that the NHA team have the freedom to substitute official statistics with more accurate estimates.

To begin the process of data collection, the team should develop a data plan. The data plan sets out the course of action associated with data collection – who will collect the data, how, when, and from where – to help ensure that tasks are identified and completed on time. The gamut of good sources of data varies from country to country. Nevertheless, the following sources are available in most countries.

A. Records from national, regional and local level health authorities.

These records tend to be the most comprehensive, reliable, and accurate. However, they may not be up-to-date, because government accounts go through a lengthy auditing process. Auditing may create another problem, as it tends to generate two or sometimes three versions of total spending – un-audited and audited. These figures may or may not be identical, making it necessary to clarify which are correct.

B. *Insurer records (social and private).*

Insurer records should include premiums paid by households and companies to the insurer, and the insurer's medical and administrative costs. Private insurance companies may be reluctant to share some of their information, particularly their loss ratios and profits. Also, insurance records may exclude an important component of data, such as payments made by households directly to the provider (co-payments and deductibles).

C. *Provider records.* These can be collected from the providers themselves or the regulatory and financial agencies, such as tax authorities or licensing agencies. Often an industry association also collects routine data for its own purposes. As with private insurance companies, private providers are often reluctant to reveal their financial information for tax and other reasons, and a legal decree may be needed to mandate them to do so. Another potential issue is that, in some countries, it may be difficult to have a precise count of providers to get an accurate sample size for a survey. In addition, the presence of a large non-formal sector (traditional healers) may make it nearly impossible to capture reliable and accurate expenditure data.

D. *Household survey.* Household surveys are undoubtedly the most important source of information on private (household) out-of-pocket expenditures. Household data are also key for equity analysis, as they are linked to socio-economic and demographic characteristics. Household surveys specifically addressing health issues are conducted infrequently because they are expensive. It is possible to use household survey data from one year to estimate other years, but this extrapolation can be problematic. Broader household surveys are held more routinely, but do not necessarily include all the questions necessary to capture health care expenditures.

E. *Donor assistance.* Often, annual surveys and routine reports of all donor assistance in a country (produced by United Nations Development Programme, World Health Organization, or Ministry of Health) provide much of the necessary data. Nevertheless, issues arise with donor health expenditures: one is difficulty in determining the monetary value of in-kind donations (drugs, clinical supplies, vaccines). Another is the difference in the disbursement amounts reported by the donor and the expenditure amounts reported by the MOH. Also, when donors donate directly to an NGO or local entity without going through the ministry, the financing data is likely to be missed.

Following are ways to avoid or surmount the common data collection problems discussed above.

- Identify sources of independent data that can be used for validation/verification.
- Try to obtain the same estimate from at least two sources.
- When estimates differ, determine what a "large" difference is and don't waste time trying to reconcile small differences. Use the data from the more reliable source and document the discrepancy.
- When discrepancies in estimates appear to be large, examine the estimates more carefully: Was the same item measured? Were the "boundaries" the same? Was the time period the same? Was one accounted for on a cash basis, the other on an accrual basis?

3.3.3 Interpreting Data for Policy Purposes

The estimation of expenditures and financing flows by NHA provides a solid indicator of the “financial health” of a health system, and this can be used as a strategic planning tool. The value of NHA is not the findings themselves but the “so what” questions that the findings can answer. For example, Jordan spends 9.2 percent of its GDP on health care. This information in itself is not as meaningful as the answer to “*so what* if Jordan spends so much on health care?” On comparing this level of expenditure with health outcomes in Jordan, or with other countries in its socio-economic category, the answer to the “so what” question becomes apparent – this level of expenditure may be unsustainable for a country that is experiencing slow economic growth. The policy implication, then, is cost containment in the health system. In other words, NHA results must be analyzed in terms of the broad policy context.

The full value of NHA is in a three-step process – obtaining NHA results, interpreting the results, and implementing appropriate policy. The NHA team, the steering committee, and the legislative body of the country fulfill these tasks respectively. The focus of the NHA technical team should be to collect and analyze data; members are not necessarily in a position to interpret the policy implications of their findings. The steering committee, consisting of policymakers and others with a more “big picture” perspective, answers the “so what” and serves as the liaison between the technocratic NHA team and the legislature. The committee interprets the results in terms of policy implications. Given this crucial role, it is imperative that committee membership is chosen wisely. Finally, it is up to the legislative body to enact and implement a policy based on those results.

3.3.4 Institutionalizing NHA Estimation and Use

While many middle- and lower-income countries have started using NHA for estimating health expenditures, relatively few countries have taken steps towards conducting NHA on a regular and sustained basis – a process called institutionalization. Institutionalization is an ongoing process in which NHA activities, structures, and values become an integral and sustainable part of government operations. With institutionalization, a department or other unit is designated to oversee the collection, analysis, and reporting of health expenditure data in a routine and systematic fashion, with the full support of the government. This complex process can take years and multiple estimates before it is fully integrated into the country’s formal structure, but in order to ensure that NHA remains an effective policy tool in the future, institutionalization should be a goal from the initiation of NHA.

Four steps are essential to the process of institutionalizing NHA:

- Create demand on the part of policymakers for institutionalization;
- Determine a location where NHA is housed;
- Establish standards for data collection and analysis; and
- Institute data reporting requirements.

A. *Creating Demand*

For policymakers to be willing to invest time and resources in NHA, the benefit of the investment must be visible. Producing NHA estimates is only part of the process; the activity alone does not guarantee that results will be used for “evidence-based” decision-making. NHA must be channeled to the appropriate audience, reaching those who are in positions of power and are able to influence decisions. NHA reports should be disseminated in easily understandable formats, such as oral presentations and written briefs, that stress policy-relevant aspects of the findings. Dissemination ideally happens soon after findings are reached, but it should also be timely, because timing is important to creating demand for the information. For example, dissemination should be coordinated with the legislative schedule. Initial dissemination should be followed by periodic updates and summaries. By establishing a mutually beneficial relationship between NHA estimates and policymakers who will use them, the NHA team can lay the foundation for institutionalization.

B. *Institutionalizing NHA Estimation and Use*

NHA data should be housed in a location that will promote use of the data by policymakers. Traditional locations include: the Ministry of Health, the Ministry of Finance, the Central Statistical Bureau, a local university, or the Central Bank. Often, the decision upon where to house NHA hinges on how NHA findings will be disseminated and used. The location should also serve to encourage inter-institutional coordination. It is also useful to house NHA in a location with visibility, to garner political support and boost awareness of NHA’s importance. NHA also needs its own line item in the national budget, recognition of NHA’s independent and systemized status.

C. *Establishing Standard for Data Collection*

Institutionalization also means that data and reporting mechanisms are standardized into a consistent format; this allows for year-to-year comparisons. Procedures and protocols should be systemized with the creation or strengthening of the country’s health information system. In addition, the NHA team is encouraged to keep track of the original methodology and of any problems that arise during earlier rounds of NHA. Maintaining records offers useful insights for streamlining the NHA exercise and increasing the utility of results. In addition, keeping records guards against “memory loss,” in the event that the NHA team loses key members. Safeguarding the NHA process and standardizing data are critical components of the institutionalization process

D. *Instituting Data Reporting Requirements*

Institutionalization of NHA requires continual replenishment of data. This in turn requires official support for data sharing – sometimes a greater problem than overall lack of data – from NHA-relevant groups in the private as well as the public sector. By requiring the various NHA-relevant groups to report data to the NHA team, or at least to a central location, the reporting process is strengthened and becomes more integrated into the NHA structure. Reporting requirements are likely the single most important component of successfully institutionalizing NHA.

3.4 NHA Estimation Experiences: Types, Approaches and Methodological Issues

Several manuals and methodology reviews have been developed to encourage and complement the national studies on health expenditures carried out in the 1970s and 1980s. Mach and Abel-Smith (1983), Griffiths and Mills (1982), and Robertson et al (1979) provide detailed guidance on the structure and methods needed to compile national estimates. The manuals stress the need for estimates to be comprehensive and based on consistent definitions. They acknowledge that data sources may leave much more to be desired, but that countries can still develop sound estimates with a bit of creativity. The review of methods by Griffiths and Mills (1983) is a useful summary of these tools and their application.

The most successful effort to date in developing standardized estimates has been that of the OECD, which now receives annual reports of health expenditures from its 25 members (OECD, 1997). The OECD provides members with a computerized questionnaire and written guidelines of definitions. OECD definitions of expenditure categories focus on expenditure “uses”. “Sources” are broken down by public and private sector, with social health insurance included with public sector expenditures. These categories are a combination of types of services (acute hospital care, physician’s services) and types of providers (psychiatric hospitals, nursing homes), and categories of inputs (prosthetics). Many OECD members compile somewhat different or more disaggregated expenditure accounts for their own use, but all assist in reporting comparably defined estimates for the OECD’s comparative analyses. Often, data on some of the categories are not available in a country’s report, as in the example given.

In the United States, NHA estimates have been obtained by the Federal Government for many years. The U.S. methods meet the OECD standards but also go beyond them to estimate a detailed matrix of the “sources and uses” of health expenditures, with more extensive breakdowns of both public and private sources of spending. The OECD method only allocates sources of spending to “public” and “private”. The U.S. approach is particularly useful in pluralistic health care systems where finance comes from multiple sources and where providers may receive payment from more than one source. It is less useful where a single source of health spending is dominant nationally as in most OECD member states. However, such pluralistic health care systems are common in developing countries and becoming more so.

The core concept of NHA is defining the flow of funds. Experience in applying NHA in developing countries suggests that the approaches used in the U.S. should be adapted to the specific needs of developing countries, as well as the more limited data available. This requires modifying definitions of both sources and uses. There may be several levels of sources of funds before one reaches the level of financing agent, but in most cases we would be primarily interested in those which provide funds to the financing agents directly. In some countries, it has been of significant policy interest to trace expenditures back to these ultimate sources in order to analyze the equity of spending patterns (Selowsky, 1979 and Meerman, 1979).

3.5 Costing Reproductive Health

The implementation of the ICPD Programme of Action and the enhancement of reproductive health across the globe require a variety of reproductive health activities. These activities must be financed. With the growing scarcity of resources for basic reproductive health and family planning on the one hand and rapidly expanding needs for HIV/AIDS prevention and treatment on the other, financing reproductive health becomes a significant public health issue. The reluctance of the public sector to be involved more in health care financing and health care delivery, and the long-term consequences of poor reproductive health for mothers further reinforce the importance of this issue.

Few studies investigate the expenditures for reproductive health, including family planning. UNFPA/UNAIDS/NIDI engaged in primary data collection on donor assistance for population and AIDS activities at the global level and regional levels (UNFPA, 2002). In the RF 2003 survey round, data collected by the Resource Flows (RF) project are derived from detailed questionnaires mailed to 77 donor countries, multilateral organizations and agencies, development banks, major private foundations and other international NGOs that provide population and AIDS assistance. Information on domestic resource flows by national governments and local NGO's in developing countries and countries-in-transition was obtained from responses to questionnaires sent to UNFPA/UNDP the RF project pertain to expenditures on activities that are included in the ICPD costed population package, which is included in the ICPD Programme of Action (paragraph 13.14). The Cairo goal was to mobilize \$17 billion by the year 2000 and \$18.5 billion by 2005 for population and AIDS activities: family planning, basic reproductive health services, sexually transmitted diseases (STDs) and HIV/AIDS activities, and research and data collection. According to the Programme of Action, approximately two thirds of the projected resources was expected to come from developing countries and one third from the international donor community.

Recently, a study was conducted by the RF project on the world-wide size and structure of funds for population and AIDS activities, generated by donors and the governments and NGOs in developing countries and countries in transition for the years 2003-2005(Dalen and Reuser, 2005). Focus of this report is the question whether the financial promises made at the ICPD are likely to be fulfilled in the coming years. According to this study, the total flow of resources is expected to increase from US\$14.2 billion in 2003 to US\$18.5 billion current US dollars in 2005. This amount comprised resources from both donors and domestic organizations in developing countries/countries in transition, including a significant share of private out-of-pocket expenditures. The following conclusions can be drawn from the findings:

- The Programme of Action targeted a sharing of costs between donors and developing countries of 1:2. For 2005, donors did indeed provide approximately one third of total generated funds: \$5.9 billion in nominal terms. Domestic expenditures would account for \$12.7 billion. However, more than half of the funds in developing countries and countries in transition constitute out-of-pocket expenditures by consumers. Given this prominent position and the concern for poverty in the developing world, it would seem of utmost importance to strengthen the involvement of all public and private stakeholders, including profit

- and non-profit firms, in population and AIDS activities to alleviate the financial burden for consumers
- On average, donors as a whole are living up to their commitment by giving more than the aimed four percent of ODA to population and AIDS issues. Yet, a large share of a recent increase is attributable to one initiative, namely the United States President's Emergency Plan For AIDS Relief, committing US\$2.7 billion to HIV/AIDS in 2005
 - In nominal terms, the ICPD world-wide goal for 2005 is likely to be met. However, a dollar today cannot buy the same basket of goods and services as it did in 1993 — the time when ICPD targets were developed. To allow comparison across time, 2005 figures could be stated in 1993 dollars to correct for inflation. By doing so, the question whether the 2005 ICPD goal will be achieved would have to be answered differently
 - Given the dramatic AIDS pandemic and the skyrocketed health-care costs in general, a financial target considered reasonable in 1993 is no longer sufficient to cover expenses in 2005. Therefore, attention should be given to the question whether the 2005 ICPD target is adequate to meet the increasing needs of developing countries/countries in transition in the fields of family planning, reproductive health, STD/HIV/AIDS and basic research.
 - The fact that the world today is very different than at the time of the ICPD is also revealed by the shift from Family Planning and Reproductive Health to AIDS activities. This change will probably be the most dominant trend among the OECD/DAC countries. In 2005 it is expected that 66 percent of their donor funds will be allocated to STD/HIV/AIDS activities. This is in marked contrast to the targeted share mentioned in the ICPD Programme of Action for 2005 of eight percent. The other elements of the ICPD costed population package are crowded out by the drive to fighting AIDS.

Resource tracking is an active field of research. In addition to the RF study, a number of studies examine global funding of reproductive health, in particular donor funding, and investigate the extent to which funding has met the ICPD estimates of resources needed. Eisenman and Fossum (2005) provide a recent overview of actors and activities in RH.. The studies include Potts *et al.* (1999), Claeys and Wuyts (2004), McKellar (2005) and Kates (2005).

The International Planned Parenthood Federation (IPPF) organizes shadow peer reviews of donor countries, i.e. countries that are members of the Development Assistance Committee (DAC). The reviews are published in DAC Watch. IPPF aims to raise donor government awareness of the need to contribute to sexual and reproductive health programmes. In collaboration with relevant national family planning associations and other NGOs, IPPF initiated an independent evaluation of countries under DAC review. Population Action International (PAI) publishes overviews of donor performance with regard to their financial and political support for international reproductive health and population programs (Conly and de Silva 1998, Ethelston *et al.* 2004). The study, which relies to a large extent on data of the RF project, profiles the donor countries, and grades each of them on their contributions toward the goal of universal access to basic

reproductive health care by 2015 — the goal agreed to at the ICPD in 1994. The study also addresses donors' growing focus on HIV/AIDS and the importance of linking HIV/AIDS services to other aspects of sexual and reproductive health care. These many activities call for coordination. In 2004, the Centre for Global Development in Washington established the Global Health Resource Tracking Working Group, involving the major actors in the field. The Working Group drew up a number of recommendations for global health resource tracking (Global Health Resource Tracking Working Group, 2005).

The tracking of donor expenditures on sexual and reproductive health is relatively well developed. Information on domestic expenditures is difficult to obtain and generally requires detailed fieldwork, since accurate monitoring and accountancy systems are often missing. The Institute of Policy Studies in Sri Lanka reviews costs and financing of reproductive health services in Bangladesh, India, Nepal, Pakistan and Sri Lanka (IPS 2004). The study reveals large gaps in the available evidence base and existing information systems. The study shows that the only countries and states for which financing for reproductive health services can be easily quantified are those which have established health accounting systems (Bangladesh, Sri Lanka), or recent health accounting studies of reproductive health expenditures (Rajasthan). In only these territories do databases exist which systematically quantify and classify public expenditures by purpose, and thus enable ready identification of reproductive health service expenditures and costs. Household out-of-pocket expenditures are a substantial source of financing in all countries, but again only in those territories with health accounting systems have the level and composition of household spending been reliably quantified. In all countries, existing household surveys of expenditure and utilization suffer limitations with respect to the detail of their coverage of reproductive health. With respect to the costs of public sector services, similar limitations exist owing to the lack of reliable and representative facility cost studies outside of Bangladesh, Sri Lanka and a few Indian states (IPS 2004).

Rannan-Eliya *et al.* (2000) assessed the financing of family planning and reproductive health services in Egypt and Sri Lanka. The study identified important differences in the performance of the reproductive health system in the two countries. The study showed that reproductive health expenditures (per capita) in Sri Lanka and Egypt were comparable, with similar contributions of the private and public sectors. Expenditures on reproductive health were 14 percent of all health expenditures in Egypt (1994/95) and 11 percent in Sri Lanka (1997). Public sources (including donor assistance) accounted for two thirds of reproductive health expenditures (Rannan-Eliya *et al.* 2000, p. 46). Family planning and Mother and Child Health (MCH) services accounted for the smallest share of reproductive health costs whereas the largest cost components were general obstetric and gynecological care and childbirth services.

The Indian Institute for Health Management Research (IIHMR) in Jaipur, India, and the Futures Group International (FGI) in Washington joined forces to investigate the reproductive and child health financing in Rajasthan, India (IIHMR and FGI, 2000). In the fiscal year 1998/99, the state of Rajasthan spent 6 percent of the State Domestic

Product on health care, the same percentage as India. The Government of India (GOI) and the Government of Rajasthan (GOR) with donor assistance finance about 29 percent of health care services while household spending constituted 71 percent of the total. Of the 71 percent, households allocated 66 percent to direct payments to private providers and 33.6 percent to payments for services initiated in the public sector. Less than 1 percent of household spending went to pay official user charges in public facilities. Of the total state health care expenditure, 21 percent was for reproductive and child health (RCH). These services are a significant part of primary health care. They attend the immediate, basic needs of women of fertile age and of young children and infants by providing services like family planning, delivery assistance, immunizations, abortion, treatment of reproductive tract infections and others. They also support public health measures that aim to halt the spread of sexually transmitted infections including HIV/AIDS. In the study period, the GOI and GOR financed only one fifth of RCH services in the state. On an out-of-pocket basis, households financed four fifths of RCH services. Their direct payments to private providers constituted nearly half the services financed (49 percent). They also made payments to public providers (31 percent of total RCH spending). It is interesting to note that public institutions received far more of their financing from households than from governments and donors (31 versus 20 percent). A surprising result of this study was that the treatment of reproductive tract infections (RTIs) accounted for almost half of all RCH expenditures. RTI accounted for 41 percent of RCH expenditures, of which nine percent is spent by the government and 91 percent is spent by households. The high expenditures for RTI are related to the high prevalence of RTI. More than one in three women (37 percent) reported an RTI-related symptoms in the past three months (vaginal discharge that is not menstruation, pain or burning while urinating, pain in the abdomen during intercourse, or blood after sex when not menstruating). Only 20 percent of those who reported a symptom reported seeking medical help, mostly from private providers, although private providers charge three times the cost charged by government providers. Half of the expenditures for RTI treatment were for medicines.

Standing (2002) examined the impact of different financing regimes on the delivery of reproductive health services in low and middle income countries. She investigated the shift in balance between collective and individual responsibility for reproductive health and found that the shift towards individualization has produced a plethora of new financing arrangements. Rising cost of medical care means decreasing access to services, especially for the poor. The author raised a critical note on expenditures studies. In Africa, the public health sector is increasingly becoming a fiction as poorly paid and supervised health staff becomes personal entrepreneurs. Budget allocations are almost irrelevant when institutions that manage them are weak and lack accountability (Standing 2002, p. 5). She concluded that, “in understanding the relationship between financing and outcomes at the level of service delivery and health gain, unofficial financial flows, such as informal payments and other costs of access to services, are as important as official ones.” (Standing 2002, p. 6). Ways to monitor reproductive health spending, that may cover informal payments, are discussed. They include NHA and Budget Studies.

Zeitlin, Govindaraj and Chen (1994) attempted to review the available data on funding for reproductive health services in developing countries. They found data on international funding for population services did exist, but that information on domestic funding of reproductive health to be elusive, and certainly non-existent in an internationally comparable manner. They noted as problems the almost complete lack of information on private expenditures for reproductive health services, the lack of disaggregation of national government budgets in a manner permitting suitable analysis, and the lack of clear, unambiguous procedures for collecting data on these expenditures. With integrated FP/RH services, methodological difficulties and inconsistencies have prevented meaningful analysis of true economic costs and differences between countries and strategies (Janowitz and Bratt, 1992; Janowitz, 1993; Aitken and Reichenbach, 1994). Paucity of data prevents meaningful estimates of the resource requirements for FP/RH, both at national and global levels. Little is known about cross-country variations in unit costs of provision in public and private sectors, and factors explaining differences in efficiency, and thus the importance of technical inefficiencies in the delivery of services as an issue for policymakers.

The major limitation of the approaches so far reviewed is that it fails to track the flow of financial resources between the various stakeholders in the funding of RH. Only an HA framework can do this by developing as framework for implementing an HA for Reproductive Health. This is the main objective of this report

4 CONSTRUCTING REPRODUCTIVE HEALTH ACCOUNTS: SOME IMPORTANT CONSIDERATIONS

Like NHA, the RHA is basically a set of origin-destination tables that present financial flows related to reproductive health goods and services between categories of stakeholders in a particular country: financing sources, financing agents, health care providers and beneficiaries (figure 1). These actors include public, private (including households) and donor entities. To identify and classify the different categories of actors and activities, the RHA draws on classifications of ICHA by OECD. The organization of information about who pays, how much and for what; in RHA is consistent with the widely endorsed methodology of NHA; being a satellite account of NHA.

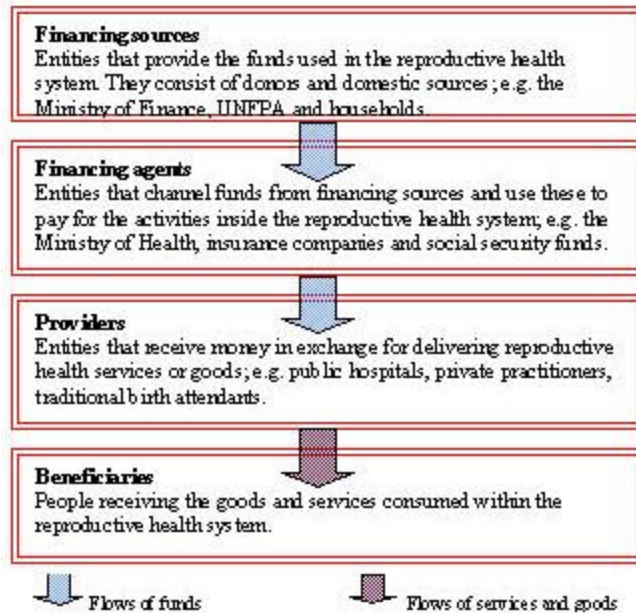


Figure 1: Actors and Flows in RHA

Source: (UNFPA, 2002).

4.1 The boundary

Following the general guideline by WHO on setting the boundary of national health accounts (WHO, 2003, p. 20), the boundary of the RHA is determined by (i) a set of activities that are related to reproductive health, (ii) space (geography) and (iii) time.

4.1.1 The activity boundary

Reproductive health expenditures encompass all expenditures for activities whose primary purpose is to restore, improve or maintain reproductive health for individuals during a specified period of time. The “primary purpose” is inferred from the type of good or service purchased, or determined from the stated intention of the purchaser. This definition applies regardless of the institution or entity providing or paying for the health activity.

Activities of RH care include:

- i. promoting reproductive health and preventing reproductive health related disease;
- ii. curing reproductive health related illness and reducing maternal mortality;
- iii. nursing care for persons with illness or impairment that are related to reproductive health;
- iv. providing and administering reproductive health service and programmes, including those for family planning and HIV/AIDS.

At a minimum, the RHA should cover expenditures incurred on reproductive health services and STD/HIV/AIDS activities listed by the Programme of Action of the ICPD (Paragraph 13.14). As a convention, health accounting excludes activities that do not involve financial transactions for goods and health services delivered by family, friends and volunteers. However, it is advisable to expand the RHA to include informal

payments, since they often represent an important part of service delivery and may contribute significantly to the health level of the population. The WHO manual notes that decisions to include or exclude activities and transactions are, in a sense, arbitrary. The goal of health accounting is to be consistent in making such decisions, and to document those decisions thoroughly for later reference and comparison.

4.1.2 The time boundary

The time boundary of the health account has two elements. First, a particular period must be chosen within which the activities took place. Most often this is a fiscal year or a calendar year. Government entities often report spending on the basis of a fiscal year while private entities report on the basis of a calendar year. The WHO manual includes procedures to adjust the time frame to assure comparability. The second element of the time boundary is the distinction between the activity and the transaction that paid for the activity. Funds may be released in a year that is different from the year in which the activity takes place. In *cash accounting*, expenditures are registered when the actual cash disbursement takes place. In *accrual accounting*, expenditures are attributed to the time period during which the economic value is created (by activity taking place). The manual recommends the accrual method. Funds that are received in a given year to be used over several years should be recorded that way. For instance, when funds are used in equal parts over three years, one third should appear in each year of the RHA (WHO, 2003, p. 43).

In the resource flows (RF) project by UNFPA/UNAIDS/NIDI, the second element of the time boundary is exemplified in the distinction between *primary funds* for population assistance and *final expenditures* on population activities. Primary funds refer to the financial resources contributed by a primary donor for population activities. Primary funds also include self-generated income of intermediate donors as well as contributions that they receive from donor countries that are not members of OECD/DAC. Primary funds reflect the money originating from donors in a given year. They are recorded in the year of allotment or allocation of funds (cash accounting). Final expenditures reflect the funds provided to a final recipient in a given year. They refer to funds that have been received by developing countries and countries in transition directly from donor governments and international foundations, or through intermediate donors. The final recipients may be domestic governments, national NGOs, or donors' field offices in developing countries and countries in transition. Final expenditures are attributed to the year during which the activities take place (accrual accounting).

4.1.3 The space boundary

The NHA for a country captures the health expenditures by *usual residents* of that country. The accounts include spending on health care by citizens and residents who are temporarily abroad, as well as spending by external agencies on inputs to health care within that country (WHO, 2003, p. 22). The accounts exclude spending in the country by foreign nationals (which is treated as 'export' of health care). This procedure is particularly significant in countries with a large foreign population, e.g. refugees.

The RF project also encounters problems related to the space boundary. Final expenditures on reproductive health in developing countries include expenditures on activities in developed countries, such as research, that benefit more than one developing country and country in transition.

Like in NHA and following WHO (2003) four types of actors can be identified:

- i. Financing sources (FS): institutions or entities that provide the funds used in the system by financing agents. They consist of donors and domestic sources;
- ii. Financing agents (FA): institutions or entities that channel the funds provided by financing sources and use those funds to pay for, or purchase, the activities inside the health account boundary;
- iii. Providers (P): entities that receive money in exchange for or in anticipation of producing the activities inside the reproductive health account boundary;
- iv. Beneficiaries: those receiving or affected by the goods and services consumed within the health account boundary.

Financing agents may pool health resources from different sources or may use their own resources (e.g. self-generated income) to pay directly for health care. They include households that purchase health services using out-of-pocket payments and firms that purchase health services for their employees.

Providers are paid for their goods and services directly by consumers of health care, or by financiers or the government.

Different countries have different systems of paying providers. Four types of systems may be distinguished (Borghuis-Lub *et al.* 1994, pp. 45ff). They are:

- *Transaction system.* The provider is paid directly by the consumer for goods and services provided. The price is generally determined by the market.
- *Insurance system.* The insurer is a third party between the beneficiary and the provider of health care. Health insurance is basically an instrument to share the risk of excessive health expenditures. In the presence of insurance, the out-of-pocket expenditures for health care are independent (to some degree) of the consumption of health care. Beneficiaries do not pay directly for goods and services but they pay a premium to the insurer who pays the goods and services from the premiums collected from all participants in the insurance. The list of goods and services covered by the insurance is governed by a contract between the beneficiary and the insurer. Insurance can be voluntary or compulsory. Insurance can be organized by the government or by the private sector (or a combination). A particular type of insurance is social insurance, which is an insurance established by law. Everyone who meets eligibility criteria established by law is insured. In some cases, insurers directly engage in providing health care. In this *integrated model*, providers are not independent of insurers.
- *National system.* In the national system, health care is financed entirely or in part from tax revenues. Participation is compulsory and contributions are generally dependent on income. Goods and services are provided free of charge. Providers generally have a fixed budget to cover costs.

- *Capitation fee system.* In this method of payment, the provider of medical services is paid a fixed period fee for each person served or member of the scheme (Capitation means by the head, or per person.) The total payment is according to the number of members in a health benefit plan that the provider contracts to treat. Because the fee is independent of how many services are performed, the doctor has an incentive to keep costs low. It also promotes preventive care. For more information, see e.g. Wouters *et al.* (1998).

A. *Financing Sources (FS)*

The guiding principle adopted by WHO for classifying financing sources is human behaviour. The WHO manual distinguishes among funds that in economic theory elicit different behaviour. Consumers of health care behave differently in response to a given out-of-pocket charge than they do in response to the same amount charged as a health insurance premium or levied as an income tax, or when the amount is paid by the employer. *Table I.1* in *Annex I* shows the WHO classification scheme for financing sources.

Three broad categories of financing sources (FS) are distinguished: the public sector, the private sector and the international donor community and the multinationals. FS 1.2 includes funds generated by government on trust funds or other assets and FS 2.4 include funds generated by private entities. The FS 3 category is reserved for funds that come from outside the country for use in the current year. They include external funds from bilateral or multilateral donors and funds contributed by institutions and individuals outside the country (e.g. remittances). External sources traditionally have accounted for an estimated 25 percent of global spending on family planning, and they have tended to be most important in the poorest countries (Potts *et al.*, 1999). About three quarters of all family planning expenditures have come from developing country governments and consumers. According to conservative estimates, private consumer spending accounts for about 14 percent of global spending on family planning (Conly *et al.*, 1995, Potts *et al.*, 1999). The *PHRplus* Project provides NHA-based estimates of out-of-pocket health expenditures in Middle East and African countries, ranging from 15 to 54 percent (*PHRplus* 2002). A compilation of HIV/AIDS expenditure statistics by UNAIDS (2004) reveals a range of 10-93 percent for the share of households. For the Indian State of Rajasthan, household contribution to reproductive and child health of 80 percent was found (Sharma *et al.*, 2002).

In tracking resource flows for reproductive health (costed-package), the UNFPA/UNAIDS/NIDI Resource Flows project adopts the notion of donor. A donor is a financing source located outside of the country. Three types of donors are distinguished: (1) *primary donors* which are developed countries (OECD/DAC members) and private foundations, (2) *intermediate donors*, which are multinational organizations and agencies (mostly UN organizations), international NGOs and research institutes/universities that channel most of the primary donor's funds for population and AIDS assistance, and (3) *development banks*. An overview of donors included in the 2004 survey round of the RF project is provided in *Annex II*. In addition, the RF project distinguishes two types of

domestic sources (in developing countries and countries-in-transition): (1) *central governments*; and (2) *national NGOs* which operate exclusively in one country.

B. *Financing agents (FA)*

Financing agents are the institutions and entities that pay for or purchase health care. They include institutions that pool health resources collected from different sources, as well as entities (such as households and firms) that pay directly for health care from their own resources (WHO, 2003, p. 36). The WHO manual adopts the OECD classification of financing agents (*Table I.2* in Annex I). The classification of expenses in mutually exclusive categories is often problematic because of several cost sharing mechanisms. Health care costs may be covered partly by government or insurance and partly by out-of-pocket payments. Deductibles under health insurance schemes are an example. Goods and services delivered under a social marketing programme represent another situation where costs are shared by the beneficiary and a governmental or non-governmental organization. Cost-sharing is a possibility for maintaining acceptable levels of reproductive health activities when public resources decline, provided market segmentation is used to determine those individuals most in need of subsidized services (Gribble *et al.*, 2004). The need for targeted cost recovery schemes is also stressed by Sanderson and Tan (1995, p. 89).

In the WHO classification, three types of insurance schemes are distinguished. They differ a little from the funding schemes presented above. Social security schemes (HF 1.2) are those in which participation is required by law or regulation. Although social security funds are closely tied to governments, they are separately organized and hold their assets and liabilities separately from the government. Social insurance schemes are collective schemes whose enrolment is restricted to subsets of the population; typically, to be covered one must be an employee (or retiree) of a sponsoring firm or association (e.g. trade union) or a family member of such a person. Other private health insurance (HF 2.2), often called voluntary medical insurance, is potentially available to any member of society.

The development of health accounts at a disaggregate level, i.e. for population groups, specific diseases, or geographic units within a country, raises additional problems of distinguishing primary financing sources and financing agents. For example, De *et al.* (2004a, p. 27) discuss classification issues raised in the development of subnational health accounts in Ethiopia. In Ethiopia, and many other countries, more than one level of financing source can be identified. In Ethiopia, the Ministry of Finance gives block grants to Regional Finance Bureaus (RFBs) and all major decisions on spending are done at the regional level. RFBs give funds to Regional Health bureaus. De *et al.*, decided to term the regional/local government as the “Financing source” of funds disbursed by RFBs. If the Central Government is shown as the “source” this would greatly diminish the role of RFBs and not accurately describe how the health system is organized. A similar issue arises in accounting the spending by donors given to a central government to allocate to regional governments. The donor is the ultimate financing source and the central government is the financing agent. The regional government is a financing agent too. Consequently, in a multilevel system, different financing agents can operate at different

levels. By treating donors as the financing source and not the central government, the country's dependence on external assistance is reflected.

C. *Health care providers (P)*

Providers are often the end-users of funds. They answer to the question “Where does the money go?” Providers include hospitals, clinics, primary health centres, traditional health care institutions, pharmacies and researchers (Berman, 1997). They also include independent physicians, nurses and other health personnel. Providers may also include organizations that provide IEC services aimed at promoting healthy lifestyles and preventing illnesses. Health care providers include international nongovernmental organizations such as the Red Cross or Red Crescent, Doctors without Borders, Oxfam, Save the Children, Caritas, Mary Stopes International, Family Health International, and so on. They also include for-profit organizations such as private clinics, traditional healers, pharmacies, doctors, and diagnostic centers; and non-profit and community-based organizations such as religious organizations, trade unions, and other NGOs.

Several classification schemes of the health care providers exist. Widely used ordering principles include the following:

- i. Classification based on the location of health care services*
 - Intra-mural and extra-mural
 - Residential and ambulant
- ii. Classification based on position of provider in health care chain (access)*
 - Primary health centres and physicians (Front-line health care)
 - Referral institutions (e.g. referral hospital)
- iii. Classification based on target population*
 - Mother and child health centres
 - Elderly health care
- iv. Classification based on type of intervention or function of care*
 - Prevention (including promotion activities)
 - Cure
 - Revalidation
 - Care (e.g. nursing home, palliative care)
- v. Classification based on ownership*
 - Government or public sector
 - Privately owned
 - Owned by NGOs
- vi. Classification based on type of medicine*
 - Allopathic or Western medical medicine
 - Traditional medicine.

The non-allopathic health system may include hospitals and dispensaries, research and training institutions.

The WHO manual recommends a classification of health care providers that is an extension of the OECD ICHA-HP classification scheme. The scheme is shown in *Table I.3* in Annex I.

A health care provider may provide several reproductive health services and several providers may be involved in a single service. For instance, antenatal care may be provided by midwives, primary or community health centres, district-level health centres, general government hospitals or other government facilities, private clinics, in hospital outpatient departments, or in offices of private physicians.

A useful source on providers of family planning services is the Demographic and Health Survey (DHS). The providers play an important role in the promotion and maintenance of family planning practices, e.g. contraceptive use, in the population. For instance, the Bangladesh DHS (BDHS) 1996-97 classifies the sources of family planning services into five major categories: government facilities (including thana health complexes, family welfare centres, clinics, and hospitals), private medical sources (including private clinics, doctors and pharmacies), fieldworkers (which may be either government or nongovernmental) and clinics run by NGOs. Fieldworkers remain the largest source of family planning methods. The DHS also shows that the proportion of users who buy their methods from pharmacies and shops is increasing. This finding indicates that the number of users willing to pay for family planning supplies or services has been rising. Pill users are more likely to pay for their method than users of other methods. Since the relative importance of different providers is influenced by the willingness to pay for family planning and reproductive health services and commodities, changes in the willingness to pay will result in changes in share of providers.

The increased willingness to pay for family planning services and commodities and the shift from governmental providers of health care to private providers are important trends in the reproductive health system. That shift is documented by resource tracking and the financial information it provides on who pays, how much and for what. That shift may signal significant underlying changes in the health system. For instance, the study in Rajasthan, India, by the Indian Institute for Health Management Research (IIHMR) and the Futures Group International (IIHMR and FGI, 2000), discussed earlier, revealed that many people seek medical help for RTIs from private providers rather than from government providers although private providers charge three times the cost charged by the government sector. The authors explain the observation by the fact that government facilities often fail to provide confidentiality and attention with dignity to the users of such services (*Ibid.* p. 34). Differences in (perceived) quality are also the reason why many individuals, even among the poor, obtain their contraceptives from private sources for a fee, despite the availability of free or highly subsidized supplies. Quality improvements can more than offset the demand-reducing effects of price increases (Matheny, 2004, p. 136-137).

A shift to private providers may also signal a change in reproductive health practice. Padmadas *et al.* (2004) show that 14 percent of deliveries in Kerala, India, are by caesarean section deliveries and that caesarean sections occur more in private health institutions than in public institutions.

D. Beneficiaries

Beneficiaries are individuals. They are patients or individuals in the population at large. Individuals can be classified on the basis of a range of attributes. Demographic attributes include age, sex, race or ethnicity, and place of residence. The socio-economic status and health status of beneficiaries are of particular relevance. Of equal relevance is vulnerability status. Vulnerable groups include women or couples with unmet need, i.e. persons who want to limit or space childbearing but have no access to the means to do so. They are not served by family planning (FP) and reproductive health services providers. Vulnerable groups also include people with a low ability to pay for commodities and health services. The health status and vulnerability status are not constant but vary in time. Of particular relevance is the variation over the life course. People in different stages of life have different needs and early life experiences may have consequence lasting a lifetime. The ICPD Programme of Action stressed the changing reproductive health needs over the life cycle and the Madrid International Plan of Action on Ageing 2002 called for ensuring that “gender-specific primary prevention and screening programmes are available and affordable to older persons” (Madrid Plan, para. 67c) and “provision of adequate information, training and care giving skills, treatment, medical care and social support to older persons living with HIV/AIDS and their caregivers” (Madrid Plan para. 80). Elias and Sherris (2003) also address the subject of reproductive health in an ageing population. An ultimate goal of reproductive health expenditures is to assure not only an adequate *health status* of the population, but also to assure a *healthy life* by meeting the reproductive health needs over the entire life course.

The classification of beneficiaries facilitates the assessment of who benefits most from reproductive health care expenditures. *Benefit incidence analysis* investigates the extent to which the financial benefits of public spending on social services accrue to different population groups (e.g. the poor, adolescents, older women and men) (Van de Walle, 1995; Demery, 2000). Benefit-incidence analysis has long been used in the public finance field, to determine the progressivity or regressivity of government expenditures. In recent years, it has been applied with increasing frequency to the health, nutrition and population (HNP) sector — usually to determine the distribution across economic classes of overall governmental HNP spending as well as the distribution of spending on a particular type of HNP program, such as a reproductive health programme.

Benefit-incidence analysis is one type of programme or policy evaluation. It focuses on money and on the distributional or equity effects of programmes. It differs from programme incidence analysis which focuses on the volume of services delivered (number of people seen, of operations performed, of children vaccinated). It also differs from cost-effectiveness analysis, used to assess a program’s efficiency. Cost-effectiveness analysis focuses on immediate programme **outputs**. Incidence analysis investigates the achievement of ultimate programmatic objectives or **outcomes** (at the population level). Benefit incidence analysis in Madhya Pradesh, India, for instance, shows that nearly half of the public health subsidies accrue to the top two percent of the population. The bottom quintile accounts for just 6.6 percent of the hospitalization. Analysis also shows that the rich use the private sector more but they also use a much larger share of the public provision as well (Government of Madhya Pradesh, n.d.). Studies in other parts of the world also indicate that government health care benefits are

significantly pro-rich (Barnett *et al.*, 2001, Mamotlohi Alina Mohanoe, 2004, p. 9, Nandakumar *et al.*, 2004, p. 19).

A particular type of public expenditure benefit incidence analysis disaggregates by gender. It aims at the determination of the extent to which men and women, girls and boys, benefit from expenditure on publicly provided services. It is a quantitative tool useful in assessing the distribution of public spending by gender.

Knowles and Behrman (2000) present a list of information needed to calculate benefit incidence for services oriented towards safe motherhood:

- ii. Service utilization rates among the target population by income group;
- iii. The proportion of the target population in the larger population of each income group (e.g., the proportion of married women of reproductive age in the total population of each income group);
- iv. The proportion of services obtained from various providers by income group (e.g., the proportion of women in each income group who obtain reproductive health services from commune health centres or from provincial hospitals);
- v. The unit subsidy received by each provider for each type of service.

In the RF project the concept of beneficiary is not used. The RF project uses the concept of *final recipient* instead. Final recipients include (1) developing countries and countries in transition that are the final beneficiaries of the programmes being funded, and (2) national NGOs that receive funds for programmes that they themselves execute (UNFPA, 2002, p. 9). The concept is therefore different from that of beneficiary.

The WHO manual suggests that spending on health problems can be partitioned among disease categories using the International Classification of Diseases (ICD) scheme, the WHO burden of disease classification (based on ICD-10), or other groupings. *Table I.4* in Annex I displays the global burden of disease classification scheme. Being able to link expenditures to specific ICD categories of groups of categories can be a useful approach to tracking resource allocation and a step in the direction of a powerful monitoring and evaluation methodology (WHO, 2003, p. 45). No international standards exist to guide the health accountant.

Data on reproductive health expenditures by socio-economic status and other characteristics of beneficiaries are often lacking. When expenditure data are lacking, they may be estimated using costing methods that combine information on the use of family planning commodities and reproductive health services and information on unit costs. Use data are generally made available by health surveys such as the Demographic and Health Surveys (DHS).

4.1.4 The activities (F)

Activities answer to the question “What types of goods and services were actually produced?”. A useful way of viewing activities is in relation to specific objectives such as the reduction of unwanted pregnancies, teenage pregnancies, maternal deaths, abortions,

and mother-to-child transmission of HIV, prolongation of life for people living with AIDS, increased access to health services, increased gender equity in health, etc.

The International Classification for Health Accounts — functional classification of health care (ICHA-HC), which is adopted by WHO (2003); provides a way to group activities and transactions in health accounts by referring to the functions of health expenditures. This *functional approach* includes all expenditures on all health care activities regardless of the provider or the paying entity. In the approach, spending on ‘non-health care’ or ‘health-related’ entities, such as spending by the Ministry of Education on teaching hospitals and infrastructure development or research, is included.

Many classifications of reproductive health activities have been applied by, for instance, Odumosu *et al.* (2002), Bernard and Tsui (1995), Rannan-Eliya *et al.* (2000), Sharma *et al.* (2002). *Annex III* reviews some classifications. The Programme of Action of the ICPD (Paragraph 13.14) distinguishes four categories in the costed-population package (see also *Annex IV*):

- a. Family planning services;
- b. Basic reproductive health services;
- c. Prevention and treatment of STDs and HIV/AIDS;
- d. Research, data, policy analysis.

The RF project adjusted the list of activities covered by these categories to meet data requirements of UNFPA and UNAIDS (see *Annex V*). De *et al.*, (2004a, 2004b) mapped that list of activities to the NHA classification scheme.

The classification of RH activities proposed here (see *Annex VI*) draws on the various classifications. In general, it takes into account the following considerations:

- The categories of the classification must be exhaustive and mutually exclusive; i.e. all RH-related activities should be covered by the classification, and they should be attributed to one category only;
- The classification should only include activities whose primary purpose is to promote, restore or maintain RH. Other activities that may be associated with RH, but whose primary aim is different —e.g. infant and child health activities— should be excluded;
- Given the importance of distinguishing health expenditure and activities for men and women, the classification should be gender specific. Expenditures by function and resulting RHA matrices should, therefore, be disaggregated by sex.

The classification should be based on OECD’s ICHA-HC (see *Annex VII*). This has two major reasons: it facilitates the integration of RHA in the larger framework of NHA; and it allows cross-country comparability. The ICHA-HC provides a functional classification of activities at the two- and three-digit level. It distinguishes personal and collective health care services (respectively, codes HC.1-HC.5 and HC.6-HC.7).

Personal health care services are further subdivided according to *mode of production* (in-patient, day care, out-patient, home care), and to the *basic functions of care* (curative,

rehabilitative and long-term nursing). The distinction between the functions of personal and collective services is not always obvious, especially since the ICHA-HC associates the public-personal dimension with the dimension of preventive-curative/rehabilitative care. In practice this parallel distinction cannot always be maintained and practical solutions should be found for adequately classifying all activities. The proposed functional classification for RH care assigns a relative large weight to the distinction between preventive and curative/rehabilitative care as criterion to categorize activities.

A relevant example of inconsistency in the ICHA classification relates to the HC.6.1 category, which is crucial to RHA since it includes maternal health, family planning and counselling. This health area comprises public and personal care components, as well as preventive, curative and rehabilitative elements. The present elaboration of the classification scheme retains functions of largely preventive nature (e.g. pre-natal and post-natal care, family planning service delivery) in this category, whereas curative and rehabilitative functions (e.g. obstetric care, fistula treatment, maternity care) are classified under respective categories HC.1 and HC.2.

The classification of RH activities in Annex VII provides a detailed elaboration and adaptation of the ICHA-HC by OECD. Next to including health-related functions, such as infrastructure development, health personnel training and research, it also includes the so-called Addendum or non-health related functions, e.g. legal support to people living with AIDS or reproductive health policy advocacy. For reasons of analysis and flexibility it is advisable to maintain this level of detail, even though for practical purposes information can be presented at a more aggregated level. However, it may not always be possible to collect data on all of the categories, and in practice the number can be limited to those categories that are relevant and feasible.

Countries that implement an RHA may also want to expand or adapt the functional classification to their specific needs, possibilities and circumstances. For instance, it may be relevant to append categories for services that fall outside the allopathic system —e.g. Ayurvedic or homeopathic alternatives— and cannot be assigned to the present classification.

Viewing activities in relation to the objectives they serve provides a good basis for the monitoring and evaluation of the activities, and the formulation of a set of indicators to measure the performance of the activities. Monitoring and evaluation view reproductive health programmes as composed of a set of **activities** that use (invest) **inputs** or resources (financial, manpower, technology) and that produce results (**output**) at the programme level intended to lead to changes at the population level (**outcome**) (Bertrand and Tsui, 1995, p. 15).

4.1.5 The expenditures

The flow of funds from source to final use (recipient, beneficiary) usually passes through several channels. Different data collection instruments are required to capture this flow at different points. Donor surveys collect expenditure data from financing sources. Provider surveys collect information from providers of health care on funds received (income) and

money spent. They may also include information on services delivered, visitors, etc. For the same transactions, provider data may differ from data produced by financing agents or donors.

WHO (2003, p. 112) recommends starting the measurement of expenditures with financing agents and to work upstream to financing sources and downstream to providers and activities or functions. A particular difficult issue is to determine in sufficient detail how much is spent on the various RH activities. It is often not possible to determine what funds are allocated to specific activities because the activities are not listed in sufficient detail. That is particularly true in case of a Sector-Wide Approach (SWAp).

The passage of funds through multiple channels of assistance before reaching the final beneficiary takes time. Generally, funds committed or allotted at one point in time are spent some time later. To accommodate these differences, accounting distinguishes between cash accounting and accrual accounting (see Section 3.1.2). As mentioned above, the RF project distinguishes primary funds and final expenditures. Primary funds provided by a primary donor to an intermediate donor in year A, may be spent by the intermediate donor in year B. Funds allotted in year A but spent in year B would be included under *primary funds* in year A and *final expenditures* in year B. The RF project also requests primary donors to report future commitments. These figures are used to generate real-time estimates for donor assistance in the area of population and AIDS activities.

WHO makes a distinction between three types of spending (WHO 2003, p. 84):

- a. Anticipated spending: Anticipated spending are reported future commitments for RH activities. Reported future commitments or budgetary estimates of expenditures may never materialize, or may be subject to overruns or under-runs
- b. Executed spending: Data on executed spending are more solid than budget estimates. They may be subject to revision, however, when later data become available.
- c. Audited spending. Audited accounts of actual spending are the most reliable. A drawback is the delay in data availability. Data on audited expenditures become available one to two years after the actual expenditures. As a result, provisional estimates or un-audited data are used until the more reliable audited data become available.

5 CONSTRUCTING RHA IN AFRICA: A FRAME WORK AND AN EXAMPLE

Based on our search of the literature of NHA and RH studies including costing of RH as well as estimation of RHA; we suggest a framework which considers three groups of issues viz : methodological issues, implementation issues and the way forward. We then provide an indicative empirical HA estimation and interpretation example.

5.1 Methodological Issues:

The methodological issues considered in this framework relate to:

- Definitional Issues

- Boundary Issues
- Measurement Issues
- Management of the Estimation Process, including institutionalization; and
- Data Sources and Analysis

5.1.1 *Definitional Issues*

Issues relating to the type of resource-tracking questions to be addressed in constructing RHA are considered a major definitional issue that should be addressed by all countries constructing the RHA. Among such questions to be addressed are:

- How are funds mobilized and managed?
- How do public sources and private sources compare?
- Are funds adequate for covering the expenses of activities required to achieve target RH levels?
- Who provides goods and services and what resources do they use?
- Who pays and how much is paid for RH care?
- How are funds distributed among different activities and inputs?
- Who benefits from RH expenditure?

With respect to what constitutes RH expenditure; the standard definition of the NHA Manual that has been adapted for RH will be used; i.e. any spending whose *primary* purpose is to *restore, improve and maintain* reproductive health of the individual and the population.

However, definitional issues are not as clear-cut in RH as in HA. For example, the ICPD adaptation of the WHO definition of health for RH is problematic from the point of view of health economics. Hurley (2000) argued that the WHO definition is problematic because it conflates health and utility. This is because, strictly interpreted, the WHO definition, will include safety interventions like crash barrier whose primary purpose is to reduce accidents, even though such are not *conventionally* considered as health care. It will be preferred, therefore, to have a definition of health which emphasizes physical and mental functions rather than only those encompassing purely physiological function. Health care should, therefore, be demanded and consumed to ensure that people can *restore, improve and maintain* health (or at least prevent its *deterioration*). This framework, therefore, recommends that only the activities of RH that conform to this view should be considered in the RHA construction.

5.1.2 *Boundary Issues*

The boundary issues to be considered are:

- **Activity boundary:** clear agreement is necessary on the overlap and cut-off between MCH and RH. The cut-off suggested in our review will be adopted; i.e. while there is overlap mainly on “safe motherhood”, with child health, cut-off should be at the point which child care has influence on mother’s RH and vice versa: thus, breastfeeding and postnatal HIV mother to child transmission(MTCT) is RH while expanded programme on immunization(EPI) vaccination of under-fives is not.

- **Space boundary:** the entire country is the space boundary for each group participating in the study.
- **Time boundary:** There are two types of time boundaries. The first is the estimation period which is one year. However, for expenditure the *accrual* method is recommended i.e. expenditure is recorded for the period when the activity takes place rather than the *cash accounting* method where expenditure is registered when payment is made.

5.1.3 Measurement Issues

Measurement of RH expenditures must satisfy the following criteria:

- *Transparency:* Clearly document data sources, classifications and definitions used, including any adjustments and calculations
- *Policy Relevance:* Only RH issues relevant to the specific country's policy development will be included.
- *Comparability:* The RHA being constructed should be comparable with international standard classifications and definitions. (Where there are departures they should be documented)
- *Measurement Feasibility:* It should be feasible to compile and validate RHA data within reasonable time (usually within a year) and cost

5.1.4 Management of the Estimation Process

The stakeholders and actors that should be addressed in the estimation of RHA are:

- Financing sources (FS)
- Financing agents (FA)
- Providers (P)
- Beneficiaries. It is proposed to have as a minimum demographic attributes like age, sex, race or ethnicity, and place of residence in defining the beneficiaries.

In general, the construction of RHA, as a *satellite account* of NHA, should be country-owned and government-led, even when the estimating is not directly by a government agency. This has the advantage of making the findings more likely to be used in policy-making, because it will more likely command acceptability. To achieve this, two bodies should be established to manage the RHA estimation process:

- *Steering Committee*(SC) consisting of policy-makers from the public and private sectors as well as the donor community, chaired by the Minister of Health or his/her nominee. This gives overall guidance to the process and confers credibility and acceptability.
- *Technical Committee* (TC) consisting of members of the estimation team and persons knowledgeable in national economic statistics and accounting practices, health systems and policies as well as data collection and analysis.

Another issue worth considering relates to where RHA estimation should be housed.? Possible candidates are the MOH, MOF, Ministry or Department of National Planning; or a University.

5.1.5 Data Sources and Analysis

A. Data Sources

Data for the estimation of RHA can be obtained from both secondary and primary sources. The types of data collected depend upon the primary objectives of the sub-analysis (which are based upon the key policy questions identified by the SC), the existence of needed data, and the feasibility of retrieving those data.

The first step in organizing the data collection process is to review and list all available data, or secondary data sources. Examples of secondary data include MOF-executed budgets, completed Demographic and Health Surveys; Living Standard Measurement and provider-based surveys, existing health information system data (typically collected by the MOH) on RH services and utilization, and data retrieved from the USAID NEWVERN information system, which tracks contraceptive commodities provided by international donors. Once secondary data are collected, the team identifies gaps that need to be filled through primary data collection, namely, the implementation of surveys. Because primary data collection is usually the most costly element of the NHA exercise, budgetary requirements for an RH sub-analysis depend greatly on how much primary data collection is needed as in case of household/facility survey.

B *Data Analysis*

As a minimum, we propose the following estimates must be obtained:

- **Total Reproductive Health Expenditure (TRHE)** which aggregates reproductive health expenditure from public sources i.e. government reproductive health expenditure (GRHE) and private outlays on reproductive health (PRHE) such that: $TRHE = GRHE + PRHE$
- **GRHE** is made up of tax-funded reproductive health expenditure (TFRHE), Reproductive Health Expenditure covered by Social Security/Health Insurance (SIRHE) and External Resources funded reproductive health expenditure (ERRHE) such that:
Thus, $GRHE = TFRHE + SIRHE + ERRHE$
- **TFRHE** is the expenditure portion of public outlays by the territorial governments, either central, federal, provincial, regional, state, district, municipal, and local, for interventions in reproductive health care services.
- **SIRHE** is the proportion of total premium paid by employees and employers for compulsory schemes of health (medical) care and medical goods channeled to reproductive health care for a sizeable group of population.
- **ERRHE** for reproductive health development channeled through the Ministry of Health or other public agencies. Grants in-kind refer to capital equipment, pharmaceutical supplies and vaccines, and technical assistance such as experts.
- **PRHE** integrate private health insurance (PHI) and other prepaid schemes, mandated enterprise health expenditure (MEHE), expenditure on health through nonprofit health services (NHE) and direct payments or out-of-pocket expenditure in health goods (OOP) which include co-payment as well as direct disbursements by uninsured individuals. Accounts not captured by the other headings, including private investment in reproductive health services (PIRH), are also added.
Therefore, $PRHE = PHI + MEHE + NHE + OOP + \text{other (including PIRH)}$.
- **Private Health Insurance Expenditure (PHIE)** are the total premiums collected from employers, households or sometimes other agents to prepay reproductive related medical and paramedical benefits, including the operating costs of these schemes.
- **Out-of-Pocket Expenditure (OOP)** is direct outlays of households including gratuities and payments in-kind made to reproductive health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary

intent is to contribute to the enhancement of the reproductive health status of individuals or population groups.

5.2 Implementation Issues and the Way Forward

In implementing the framework suggested in section 5.1, it is recommended that the proposed RHA construction in Africa should learn from the experiences of countries that have done such estimation e.g. Egypt and Rwanda. Besides, the estimation should be in phases:

- Phase I should involve countries with NHA experiences so we can benefit from the economies of scale of their existing NHA infrastructure. These include the seven countries in the East and Southern Africa NHA estimation network: Naboyonga and Munguti, 2001) and Nigeria(Soyibo et al, 2005).
- Phase II will involve countries yet to estimate NHA. This will involve first developing their NHA estimation capacity and infrastructure before we can specialize into RHA and similar satellite accounts of the NHA.

We suggest the following six-step approach as a way forward in implementing this framework:

- Identify countries in Phase I
- Design and organize Workshops on Conceptual Issues and Methodologies; Country Experiences in Health Accounts Estimation in Africa and elsewhere, as well as other relevant issues
- The output of the above workshops will be agreed approaches to be taken in constructing RHA in Africa to ensure comparability.
- Conduct RHA estimation in the different countries using a net-work approach
- Disseminate results
- Follow-up with Phase II and other relevant activities

5.3 An Empirical Example⁵

5.3.1 Estimation Process Management and Methodology

This subsection discusses briefly the estimation of the Nigeria's NHA for 1992-1995, with a view to showing and highlighting how challenges confronting HA estimation in a Third World environment can be overcome. The estimation process underwent a number of phases, including progressive capacity development of the Technical Team and changing funding sources⁶. The process involved consultations of various stakeholders by holding of Consensus Workshops across the country. In these workshops, stakeholders were sensitized to concepts and uses of NHA as early as 1999, yet the process was not

⁵ The illustrative example used is NHA estimation, which as seen in the foregoing, is similar in process and methodology to RHA. It is therefore broadly indicative of what needs to be done.

⁶ For example, the members of the technical team, consisting of academics from the Universities of Ibadan and Benin, as well as staff of the then Federal office of Statistics, now National Bureau of Statistics attended a number training workshops in Nigeria sponsored by the Carnegie Corporation which gave the initial grant for the project. This grant was administered by the then International Health Policy Program, an activity of the Pew Charitable Trust, World Bank and the World Health Organization, based in Washington, DC. The completion grant was provided by the World Health Organization, Geneva and was administered by its country office in Nigeria. Ideally, the process should be completed within a year, however, lack of funds made that of Nigeria to span several years.

completed until, 2004/2005 as it took several years to secure additional funds for project completion. Having secured completion fund, a Steering Committee, chaired by the Permanent Secretary, Federal Ministry of Health was set up. The Technical Committee was expanded to broaden its base and facilitate capacity development of NHA estimation in Nigeria. Based on the various consultations, the identified sources, financial agents and providers for Nigeria's NHA, are as shown in tables 1 and 2.

The identified data set needed for the study included household health expenditure, enterprise health expenditure, administrative (government) health expenditure, and spending Donors and Development Partners. Because of fund limitation, only enterprise, administrative data and health expenditure by Donors and Development Partners could be collected and these were done through surveys using a representative sample of the socio-cultural groups of Nigeria. However, before embarking on data collection, sample NHA matrices as expected outputs of the study were developed. These facilitated the development of the questionnaires used in data collection. Administrative data were collected from Federal, State and Local Government Ministries and their agencies. In addition, data were collected from donor agencies and development partners as well as non-governmental organizations (NGOs) to determine their expenditure on health in Nigeria. In all cases, data were collected for the five year period 1998-2002. For household health expenditure, we did a part analysis of the household health expenditure as contained in the General Household Survey (GHS) conducted by the Federal Office of Statistics (FOS) in 2002. The GHS had a question on health expenditure. However, the questionnaire did not seek any information on provider choice. The study, therefore, adapted the provider distribution of household health expenditure from the Benue State household expenditure survey of 2001(Soyibo and Ladejobi, 2002) for the entire country and period of study. This is a big limitation of the study in that it assumes that the Benue State is representative of the country. For example, being a rural state, households did not report any health expenditure through health insurance; neither were there reimbursement of health expenditure to households by firms and other employers.

Besides, using the estimated household health expenditure for 2002 for all the years under study also assumes that the basket of health goods and services consumed by households remained constant for the five years under study and that it is affected only by inflation and population which are assumed to vary with time. Accordingly, the study used the 2002 health expenditure to estimate health expenditure for the other four years covered in the study by deflating the 2002 estimate to respective year estimates using the consumer price index for each of the years and cumulating by population.

The data collected on the health expenditure of the Federal Government and its agencies were highly aggregative and could hardly be broken down into budget line items, functions and providers. This made it difficult to estimate NHA matrices by functions, by providers in which Federal Government values were adequately disaggregated. The household health expenditure used was not disaggregated by location and income quintile as well as providers. Accordingly, the study could not estimate NHA matrices disaggregated by location and income quintiles.

5.3.2 Sample Results and Discussion

We present and discuss in this section two sample NHA matrices for Nigeria for 1998 and summary NHA trend data for Nigeria, 1998-2002. Total Health Expenditure (THE) in Nigeria in 1998 was ₦ 157.1 billion or 5.45% of GDP; spent largely by households, whose expenditure of ₦108.7 billion was 69% of THE. Total Government Health Expenditure (TGHE) was 15% of THE with the Federal Government contributing 10%, States 4% and Local Governments just 1%. It is interesting that Donors spent more than any of the tiers of government in 1998, contributing 13% of THE. Total private Health Expenditure (TPHE) was ₦113.0 billion or 3.92% of GDP. In contrast, TGHE was just ₦23.5 billion or 0.82% of GDP. Health expenditure by Donors was N20.6 billion which is 0.71% of GDP. Among financing agents, private entities dominate in channelling funds to and/or paying providers of health services directly. Thus, out-of-pocket health expenditure of households, Health Insurance and NGOs together of accounted for a total of ₦116.0 billion which is 73.9% of THE. This means that just a little over a quarter of THE was channelled through public entities in 1998. Health insurance expenditure of ₦2.8 billion was just 1.79% of THE.

Table 3: 1998 NHA Matrix; Sources to Financing Agents (Naira, millions)

Financing Agents	Sources						
	Federal Government	State Governments.	Local Governments	Firms	Households	Donors	TOTAL
Federal Ministries	15,199.00					15,096.00	30,295.00
State Ministries		6,044.00				11,28.00	7,172.00
LGA Health Departments		118.13	2,141.00			,1335.00	3,594.13
Health Insurance				2,808.95			2,808.95
Out of Pocket				1,499.09	108,720.00		110,219.10
NGOs						2,992.00	2,992.00
TOTAL	15,199.00	6,162.13	2,141.00	4,308.04	108,720.00	2,051.00	157,081.10

Source: Soyibo et al (2005)

Table 4: 1998 NHA Matrix; Financing Agents by Providers (Naira, Millions)

Providers	Financing Agents						
	Federal Ministries	State Ministries	LG Health Departments	Health Insurance	Out-of-Pocket	NGOs	TOTAL
Government Facilities		2,498.98	304.78		22,043.81		24,847.57
Private Facilities				2,808.95	39,678.86		42,487.81
Mission/NGO facilities					15,430.67		15,430.67
Chemists/Pharmacies					22,043.81		22,043.81
Traditional Health Care					6,613.15		6,613.15
Others	3,0295.00	4,673.02	3,289.35		4,408.76	2,992.00	4,5658.13
TOTAL	30,295.00	7,172.00	3,594.13	2,808.95	110,219.10	2,992.00	157,081.10

Source: Soyibo et al (2005).

The characteristics and trend of Nigeria's NHA over the period 1998-2002 are shown in table 5. As a proportion of GDP, Nigeria's health expenditure varied between the least value of 4.39% in 2000 and the highest value of 5.45% in 1998, with an average THE/GDP ratio of 4.78 %. This does not compare favourably with average ratio of 7.2% of THE/GDP for the Eastern and Southern Africa NHA Network (Naboyonga and Munguti, 2001). In fact many less endowed countries of the sub region performed better than Nigeria as regards THE as a ratio of GDP. Among these are: Rwanda, 5.0%; Kenya, 5.3%; Zambia, 6.2%; Tanzania, 6.8%; Malawi, 7.2% and South Africa, 7.5%.

Nominally, Nigeria's THE is on an upward trend over the period 1998-2002. it grew by 14.52% from ₦157.1 billion in 1998 to ₦179.9 billion in 1999. Corresponding it grew by 19.63% to ₦215.2 billion between 1999 and 2000. Growing by 19.09%, between 2000 and 2001, THE became ₦256.3 billion in 2001. However, between 2001 and 2002 growth rate of THE slowed down significantly to 8.76 %. The average simple growth rate over the period 1999-2002 is 15.5%.

Table 5 : Characteristics and Trend of Health Expenditure in Nigeria

Health Expenditure (million Naira)	1998	1999	2000	2001	2002
Total Health Expenditure (THE)	15,7081.1	179,891.20	215,209.13	256,283.42	278,732.15
General Govt. Exp	23,502.13	29,882.85	40,391.25	69,765.96	60,211.87
Federal	15,199.00	16,866.03	22,781.25	45,078.14	34,538.73
State	6,162.13	6,486.68	13,552.27	20,417.09	20,660.43
Local	2,141	6,530.14	4,057.73	4,270.73	5,012.71
Private Expenditure	113,028	125,096.40	139,918.84	172,248.41	201,416.28
Firms	4,308	6,313.96	10,046.77	14,646.75	17,817.91
Household	108,720	118,782.40	129,872.07	157,601.66	183,598.37
Donors	20,551	24,911.96	34,899.04	14,269.05	17,104.00
GDP (million Naira)	2,882,310	3,322,030	4,902,800	5,702,650	5,927,680
Population (thousands)	108,635	111,681	114746	117823	120,911
THE/GDP	5.45	5.42	4.39	4.49	4.70
Govt/THE	14.96	16.61	18.77	27.22	21.60
HHD/THE	69.21	66.03	60.35	61.50	65.87
Per Capita THE	1,445.953	1,445.95	1,655.92	1,981.03	2,359.12

Source: Soyibo et al (2005).

6 CONCLUDING REMARKS

This paper provides a detailed review of the literature of HA, including NHA and its satellite accounts on HIV/AIDS; Immunization and RH; as well issues of concepts and definition relating to RH; the empirical literature of costing in RH; and estimation issues in RHA. Using this review, we highlighted issues of critical importance in designing a framework for constructing RHA in Africa and designed a framework that can be used for estimating RHA in Africa. The paper also has an illustrative example of an NHA estimation experience in Nigeria, including discussion and interpretation of results.

Besides, for ease of implementation, we adopted a utilitarian approach. Accordingly, attached to the paper are a number of annexes containing classification schemes relevant to RHA estimation as well as approaches used by selected researchers in RH costing studies; to facilitate user- referencing.

REFERENCES

Aitken, Iain and Laura Reichenbach. (1994). Reproductive and Sexual Health Services: Expanding Access and Enhancing Quality. In Gita Sen et al. (Eds.), *Population Policies Reconsidered: Health Empowerment, and Rights*. Boston: Harvard School of Public Health.

Barnett, C., M. Bhawalkar, A.K. Nandakumar and P. Schneider (2001), The application of the National Health Accounts framework to HIV/AIDS in Rwanda. Abt Associates: Bethesda, MD.

Berman, P.A. (1997), National health accounts in developing countries: appropriate methods and recent applications. *Health Economics*, 6, pp. 11-30.

Bernard, J. and A. Tsui (1995), Indicators for reproductive health program evaluation. Carolina Population Center, University of North Carolina, Chapel Hill.

Borghuis-Lub, T.L., M. de Bruine and R.M. Lapré (1994), Gezondheidszorg geordend. Een kwartet scenario's (Health care ordered. Four scenarios). Institute Policy and Management Health Care, Erasmus University, Rotterdam (in Dutch).

Claeys, V. and E. Wuyts (2004), Official development assistance levels and spending for sexual and reproductive health and rights since the ICPD. Background paper for the European Population Forum 2004, Geneva, January.

Conly, S. and S. de Silva (1998), *Paying their fair share? Donor countries and international population assistance*. Population Action International, Washington DC.

Conly, S.R., N. Chaya and K. Helsing (1995), *Family planning expenditures in 79 countries: a current assessment*. Population Action International, Washington DC.

Dalen, H. van and M. Reuser (2005), What drives donor funding in population assistance programs? Tinbergen Institute Discussion Paper TI 2005-062/1. Amsterdam etcetera. Tinbergen Institute, 28 p. Available at <http://www.nidi.knaw.nl/en/staff/vandalen/>

De, S. *et al.* (2004a), Measurement of population expenditures at the subnational level using the National Health Accounts framework. Abt Associates, Bethesda, MD. (prepared for UNFPA/UNAIDS/NIDI Resources Flow project)

De, S. *et al.* (2004b), Application of the National Health Accounts HIV/AIDS subanalysis to the Resources Flows Project. Abt Associates, Bethesda, MD. (prepared for

UNFPA/UNAIDS/NIDI Resource Flows project)

Demery, L. (2000), *Benefit Incidence: A Practitioner's Guide*. Poverty and Social Development Group, World Bank, Washington DC (Unpublished mimeo).

Deming, W.E. and F.F. Stephan (1940), On a least-square adjustment of a sampled frequency table when the expected marginal totals are known. *Annals of Mathematical Statistics*, 11, pp. 427-444.

DFID (2000) *National Health Accounts: What Are They and How Can We Use Them?* Briefing Paper

Eiseman, D. and D. Fossum (2005), *The challenges of creating a global resource tracking system*. RA441.E375 2005. RAND Corporation, Santa Monica (sponsored by the Global Health Policy Research Network, a program of the Center for Global Development, sponsored by the Bill and Melinda Gates Foundation and conducted by RAND Health, a division of the RAND Corporation).

Elias, C. and J. Sherris (2003), Reproductive and sexual health of older women in developing countries. Women and their healthcare providers face unique needs and challenges. *British Medical Journal*, 327, pp. 64-64 (ed.)

Ethelston, S. *et al* (2004), *Progress and promises. Trends in international assistance for reproductive health and population*. Population Action International, Washington D.C. Available
<http://www.populationaction.org/resources/publications/pandp/index.php?static=summary>

Global Health Resource Tracking Working Group (2005), *Following the Money in Global Health*. Recommendations for Global Health Resource Tracking. Executive Summary. Center for Global Development, Washington D.C.

Government of Madhya Pradesh (n.d.) *State health policy of M.P.*
<http://www.mp.nic.in/health/healthpolicy.HTM> (accessed 30 July 2004)

Gribble, J.N., V. Jennings and M. Nikula (2004), Mind the gap: responding to the global funding crisis in family planning. *The Journal of Family Planning and Reproductive Health Care*, 30(3), pp. 155-157.

ICPD (1994), *ICPD Programme of action*. Cairo (available at
http://www.unfpa.org/icpd/icpd_poa.htm)

IHMR and FGI (2000), *Financing reproductive and child health in Rajasthan: the sources and uses of funds*.

IPS (2004), Review of Costs and Financing of Reproductive Health Services. Report prepared for the World Bank's South Asia Health, Nutrition and Population Unit. Institute of Policy Studies (IPS) of Sri Lanka; Health Policy Programme. Colombo, Sri Lanka.

Janowitz, Barbara. (1993). Why do projections of the cost of family planning differ so widely? *Studies in Family Planning* (24) 1: 62-65.

Kates, J. (2005), Financing the response to HIV/AIDS in low and middle income countries: Funding for HIV/AIDS from the G7 and the European Commission. The Henry J. Kaiser Family Foundation, Menlo Park, CA (July 2005)

Knowles, J.C. and J. Behrman (2000), Case Study: Benefit Incidence of Safe Motherhood Services in Vietnam. Reading Material. UNFPA Staff Course "Adapting to change", Turin, Italy, 28 October-1 November 2002. Available at <http://www.reprohealth.org/unfpa/>(accessed 30 July 2004).

Lahr, M.L. and L. de Mesnard (2004), Biproportional techniques in input-output analysis: table updating and structural analysis. *Economic Systems Research. Journal of the International Input-Output Association*. 16(2), pp. 115-134.

Leontief, W.W. (1941), analysis *The structure of the American Economy, 1919-1929: an empirical application of equilibrium*. Cambridge University Press, Cambridge, UK.

MeasureDHS (2002), USAID celebrates 30 years of collecting data on population and health. *DHS+ Dimensions*, 4(2), p. 3 (Available at <http://www.measuredhs.com/pubs/pdf/NL42/Vol4no2.pdf#search='USAID%20celebrates%2030%20years'>).

Mamotlohi Alina Mohanoe (2004), Public Spending and Health Status in Lesotho. Paper presented at the Ninth Annual Conference on Econometric Modelling for Africa, 30 June-3 July 2004. Available at <http://www.commerce.uct.ac.za/economics/AES2004Conference/Papers/Mamotlohi%20final.pdf> (Accessed 30 July 2004).

Matheny, G. (2004), Family planning programs: getting the most for the money. *International Family Planning Perspectives*, 30(3), pp. 134-138.

McKellar, L. (2005) Priorities in global assistance for health, AIDS, and population. *Population and Development Review*, 32(2), pp. 293-312.

Mitra, S.N., A. Al-Sabir, A.R. Cross and K. Jamil (1997), Bangladesh Demographic and Health Survey, 1996-1997. Dhaka and Calverton, Maryland: National Institute of Population Research and Training (NIPORT) Mitra and Associates, and Macro International Inc.

Murray C.J.L. and A.D. Lopez (eds.) (1996), *The Global Burden of Disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Harvard University Press, Cambridge, MA.

Naboyonga, Juliet and Nzoya Munguti(2001) *National Health Accounts in Eastern and Southern African Countries: A Comparative Analysis*. Mimeo

Nandakumar, A.K., M. Bhawalkar, M. Tien, R. Ramos and S. De (2004), *Synthesis of findings from NHA studies in twenty-six countries*. Abt Associates: Bethesda, MD.

NIDI (2003), *Real time estimates for donor assistance and domestic expenditures for population activities (2003)*. NIDI, The Hague.

Odumosu, O., A. Soyibo and A. Mahal (2002), *Plan of action for the HIV/AIDS accounts for Nigeria*. Unpublished report.

OECD (2000), *A system of health accounts*. Paris: OECD.

Padmadas, S., I. Hutter and F. Willekens (2004), *Does cesarean section trigger postpartum sterilization?*, Accepted *International Journal of Gynaecology and Obstetrics*.

Pang T, Sadana R, Hanney S, et al. (2003) *Knowledge for better health - A conceptual framework and foundation for health research systems*. *WHO Bulletin 2003*.

Pass C, Lowes B, Davies L, et al. (1991) *The Harper Collins dictionary of economics*.

PHRplus (2002), *Using NHA to Inform the Policy Process*. Abt Associates (<http://www.phrplus.org/Pubs/sp3.pdf>).

Post, D. (1995), *Het functioneren van de gezondheidszorg (The functioning of health care)*. In: Van der Maas, P.J., J.P. Mackenbach (eds.) *Volksgezondheid en gezondheidszorg (Public health and health care)*. Wetenschappelijke Uitgeverij Bunge, Utrecht (in Dutch), pp. 281- 324.

Potts, M., J. Walsh, J. McAninch, N. Mizoguchi and T.J. Wade (1999), *Paying for reproductive health care: what is needed, and what is available?* *International Family Planning Perspectives*, 25(supplement).

PHRplus (2003) *Understanding NHA: The Methodology and Implementation Process*

Rannan-Eliya, R. P., Berman, P., Eltigani, E.E., de Silva, I., Somanathan, A., Sumathiratne, V (2000) *Expenditures for Reproductive Health and Family Planning Services in Egypt and Sri Lanka*. The POLICY Project, The Futures Group International, Inc

Rooks, J., B.H. Young and M. Potts (1999), How to Improve Family Planning and Save Lives Using a Stage-of-Life Approach. *International Family Planning Perspectives*, 24, pp. 195- 197.

Sanderson, W.C. and J-P. Tan (1995), Population in Asia. The World Bank, Washington DC.

Sharma, S.W. McGreevey, B. Kanjilal and R. Hotchkiss (2002), Reproductive and child health accounts: an application to Rajasthan. *Health Policy and Planning*, 17(3), pp. 314-321.

SIDALAC (2001), National HIV/AIDS accounts. National estimation of financial flows and expenditures on HIV/AIDS. Technical handbook for estimating the national health accounts on HIV/AIDS. SIDALAC, Mexico DF (Available at <http://www.sidalac.org.mx/english/publications/naccounts/guide.pdf#search='sidalac%20national%20estimation'>; accessed 23 December 2004)

Singh, S., J.E. Darroch, M. Vlassoff and J. Nadeau (2004), Adding it Up: The Benefits of Investing in Sexual and Reproductive Health Care. Washington D.C. and New York: The Alan Guttmacher Institute and UNFPA.

Soyibo, A., O. Odunosu, F. Ladejobi, A. O. Lawanson, B. Oladejo, and S. Alayande (2005) *National Health Accounts of Nigeria: 1998-2002*. Report submitted to the World Health Organization, Geneva.

Stone, R.A. (1961), Input-output and national accounts. OECD, Paris.

Standing, H. (2002), *Towards equitable financing strategies for reproductive health. Alternative ways to finance reproductive health care*. IDS Working Paper 153. Institute of Development Studies, Sussex. <http://www.eldis.org/static/DOC9743.htm>.

UNAIDS (2004a), Global summary of the AIDS epidemic, December 2004. UNAIDS, Geneva (available at <http://www.unaids.org/wad2004/report.html>).

UNAIDS (2004b), National spending for HIV/AIDS 2004. UNAIDS, Geneva.

UNFPA (2000) *The State of World Population 2000*; press release 20.9.2000. UNFPA 2000-12-12
www.unfpa.org/news/pressroom/2000/swp00adv.htm

UNFPA (2002), *Financial resource flows for population activities in 2000*. Publication E/1200/2002, UNFPA, New York.

United Nations (1975), *Towards a system of social and demographic statistics. Studies in Methods*, Series F, No. 18, ST/ESA/STAT/SER.F/18, United Nations, New York (authored by R. Stone).

United Nations (1994). *Report of the International Conference on Population and Development, Cairo 1994*. United Nations A/conf 171/13. New York: United Nations. 1994, paragraph 7.2.

Walle, D. van de (1995), Public spending and the poor: what we know, what we need to know, Policy Research Working Paper Series, No. 1476. World Bank, Washington.

WHO (1995) *The dimensions of reproductive ill-health. 1990- 1995*; WHO www.who.int/rht/rhtdimensions.htm

WHO (1995) *Communicating Family Planning in Reproductive Health; key messages for communicators*. WHO/FRH/FPP/97.33

WHO (World Health Organization) (2000), *The World Health Report 2000. Health systems: improving performance*. WHO, Geneva (available at <http://www.who.int/whr/2000/en/>).

WHO (World Health Organization) (2003), *Guide to producing national health accounts. With special applications for low-income and middle-income countries*. WHO, Geneva. (available at <http://whqlibdoc.who.int/publications/2003/9241546077.pdf>).

WHO (World Health Organization) (2004), *Unsafe Abortion: Global and Regional Estimates of Unsafe Abortion and Associated Mortality in 2000*, 4 th Edition. WHO, Geneva.

Willekens, F.J. (1994), Monitoring international migration flows in Europe. Towards a statistical data base combining data from different sources. *European Journal of Population*, 10, pp. 1- 42.

Willekens, F.J. (1999), Modelling approaches to the indirect estimation of migration flows: from entropy to EM. *Mathematical Population Studies*, 7(3), pp. 239-278

Willekens, F.J. (2005), *Towards a System of Reproductive Health Accounts*. Netherlands Interdisciplinary Demographic Institute Series Report, NIDI, The Hague.

Wouters, A., S. Bennett and C. Leighton (1998), *Alternative provider payment methods: Incentives for improving health care delivery*. PHR Primer for Policymakers. Partnerships for Health Reform, Abt Associates, Bethesda, MD.

Zeitlin, Govindaraj and Chen. (1994). *Financing Reproductive and Sexual Health Services*. In Gita Sen et al. (Eds.), *Population Policies Reconsidered: Health Empowerment, and Rights*. Boston: Harvard School of Public Health.

ANNEX I

WHO classifications

Table I.1. WHO classification of financing sources

<u>Code</u>	<u>Description</u>
FS.1	Public funds
FS.1.1	Territorial government funds
FS.1.1.1	Central government revenue
FS.1.1.2	Regional and municipal government revenue
FS.1.2	Other public funds
FS.1.2.1	Return on assets held by a public entity
FS.1.2.2	Other
FS.2	Private funds
FS.2.1	Employer funds
FS.2.2	Household funds
FS.2.3	Non-profit institutions serving individuals
FS.2.4	Other private funds
FS.2.4.1	Return on assets held by a private entity
FS.2.4.2	Other
FS.3	Rest of the world funds

Source: WHO, 2003, p. 42.

Table I.2. OECD classification of financing agents

<u>ICHA-HF code</u>	<u>Description</u>
HF.1	General government
HF.1.1	Territorial government
HF.1.1.1	Central government
HF.1.1.2	State/provincial government
HF.1.1.3	Local/municipal government
HF.1.2.	Social security funds
HF.2	Private sector
HF.2.1	Private social insurance
HF.2.2	Other private insurance
HF.2.3	Private households' out-of-pocket payment
HF.2.4	Non-profit institutions serving households (other than social insurance)
HF.2.5	Private firms and corporations (other than health insurance)
HF.3	Rest of the world

Source: WHO, 2003, p. 36.

Table I.3. Classification scheme for providers

<u>Code</u>	<u>Description</u>
HP.1	Hospitals
HP.1.1	General hospitals
HP.1.2	Mental health and substance abuse hospitals

HP.1.3	Specialty (other than mental health and substance abuse) hospitals
<i>HP.1.4</i>	<i>Hospitals of non-allopathic systems of medicine</i>
HP.2	Nursing and residential care facilities
HP.2.1	Nursing care facilities
HP.2.2	Residential mental retardation, mental health and substance abuse facilities
HP.2.3	Community care facilities for the elderly
HP.2.9	All other residential care facilities
HP.3	Providers of ambulatory health care
HP.3.1	Offices of physicians
HP.3.2	Offices of dentists
HP.3.3	Offices of other health practitioners
HP.3.4	Outpatient care centres
HP.3.4.1	Family planning centres
HP.3.4.2	Outpatient mental health and substance abuse centres
HP.3.4.3	Free-standing ambulatory surgery centres
HP.3.4.4	Dialysis care centres
HP.3.4.5	All other outpatient multi-specialty and cooperative service centres
HP.3.4.9	All other outpatient community and other integrated care centres
HP.3.5	Medical and diagnostic laboratories
HP.3.6	Providers of home health care services
HP.3.9	Other providers of ambulatory health care
HP.3.9.1	Ambulance services
HP.3.9.2	Blood and organ banks
<i>HP.3.9.3</i>	<i>Alternative or traditional practitioners</i>
HP.3.9.9	All other ambulatory health care services
HP.4	Retail sale and other providers of medical goods
HP.4.1	Dispensing chemists
HP.4.2	Retail sale and other suppliers of optical glasses and other vision products
HP.4.3	Retail sale and other suppliers of hearing aids
HP.4.4	Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids)
HP.4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods
HP.5	Provision and administration of public health programmes
HP.6	General health administration and insurance
HP.6.1	Government administration of health
HP.6.2	Social security funds
HP.6.3	Other social insurance
HP.6.4	Other (private) insurance
HP.6.9	All other providers of health administration
HP.7	All other industries (rest of the economy)
HP.7.1	Establishments as providers of occupational health care services
HP.7.2	Private households as providers of home care
HP.7.3	All other industries as secondary producers of health care
<i>HP.8</i>	<i>Institutions providing health-related services</i>

<i>HP.8.1</i>	<i>Research institutions</i>
<i>HP.8.2</i>	<i>Education and training institutions</i>
<i>HP.8.3</i>	<i>Other institutions providing health-related services</i>
<i>HP.9</i>	<i>Rest of the world</i>
<i>HP.nsk</i>	<i>Provider not specified by kind</i>

Source: WHO, pp. 39-40.

Table I.4. WHO's global burden of disease classification scheme

Code	Description
GBD.1	Communicable diseases, maternal and perinatal conditions and nutritional deficiencies
GBD.1.1	Infectious and parasitic diseases
GBD.1.1.1	Tuberculosis
GBD.1.1.2	Sexually transmitted diseases
GBD.1.1.3	HIV disease
GBD.1.1.4	Diarrhoeal diseases
GBD.1.1.5	Childhood diseases
GBD.1.1.6	Meningitis
GBD.1.1.7	Hepatitis
GBD.1.1.8	Malaria
GBD.1.1.9	Tropical diseases
GBD.1.1.10	Leprosy
GBD.1.1.11	Dengue
GBD.1.1.12	Japanese encephalitis
GBD.1.1.13	Trachoma
GBD.1.1.14	Intestinal nematode infection
GBD.1.1.15	Respiratory infections
GBD.1.1.16	Maternal conditions
GBD.1.1.17	Perinatal conditions
GBD.1.1.18	Nutritional deficiencies
GBD.1.1.19	All other communicable, maternal, perinatal, and nutritional conditions
GBD.2	Noncommunicable conditions
GBD.2.1	Malignant neoplasms
GBD.2.2	Other neoplasms
GBD.2.3	Diabetes mellitus
GBD.2.4	Endocrinal and nutritional disorders
GBD.2.5	Neuropsychiatric disorders
GBD.2.6	Sense organ disorders
GBD.2.7	Cardiovascular diseases
GBD.2.8	Respiratory diseases
GBD.2.9	Digestive diseases
GBD.2.10	Diseases of the genitourinary system
GBD.2.11	Skin diseases
GBD.2.12	Muskuloeskeletal diseases
GBD.2.13	Congenital abnormalities
GBD.2.14	Oral diseases

GBD.2.15 All other noncommunicable conditions
GBD.3 Injuries
GBD.3.1 Unintentional
GBD.3.1.1 Road traffic accidents
GBD.3.2 Intentional
GBD.3.2.1 Self-inflicted
GBD.3.2.2 Homicide and violence
GBD.3.2.3 War
GBD.3.3 All other injury conditions

Source: WHO, 2003, p. 46.

ANNEX II

Donors included in the UNFPA/UNAIDS/NIDI Resource Flows project (2004 survey round)

OECD/DAC Countries

Australian Agency for International Development	- Australia
Canadian International Development Agency	- Canada
Danish Ministry of Foreign Affairs	- Denmark
Department for International Development	- United Kingdom
Direction du Développement et de la Coopération Technique	- France
Directorate General for International Cooperation	- Belgium
Europe Aid Coordination Office	- European Union
Federal Ministry for Economic Cooperation and Development	- Germany
Federal Ministry of Foreign Affairs	- Austria
Hellenic Republic, Ministry of Foreign Affairs	- Greece
Ministère des Affaires Etrangères	- Luxembourg
Ministry of Foreign Affairs, Department for Development Policy	- Finland
Ministry of Foreign Affairs of Japan	- Japan
Ministry of Foreign Affairs, Development Cooperation Division	- Ireland
Ministry of Foreign Affairs, Directorate General for Development Cooperation	- Italy
Ministry of Foreign Affairs, Spanish Agency for International Development	- Spain
Ministry of Foreign Affairs, Institute for Portuguese Cooperation	- Portugal
Netherlands Ministry of Foreign Affairs, Directorate General for International Cooperation	- The Netherlands
New Zealand's International AID and Development Agency	- New Zealand
Norwegian Agency for Development Cooperation	- Norway
Swedish International Development Cooperation Agency	- Sweden
Swiss Agency for Development and Cooperation	- Switzerland
United States Agency for International Development	- United States

United Nations organizations

Food and Agriculture Organization of the United Nations
Global Fund to Fight AIDS, Tuberculosis and Malaria
International Labour Organization
Joint United Nations Programme on HIV/AIDS
United Nations Children's Fund
United Nations Department of Economic and Social Affairs
United Nations Development Fund for Women
United Nations Development Programme
United Nations Educational, Scientific and Cultural Organization
United Nations High Commissioner for Refugees
United Nations Office on Drugs and Crime
United Nations Population Fund
United Nations Volunteers
World Food Programme
World Health Organization

Banks

World Bank
Asian Development Bank
African Development Bank
Inter-American Development Bank

International foundations

Bill and Melinda Gates Foundation
Bristol-Myers Squibb Foundation
Clinton Foundation
Edith Stein Foundation
Fogarty International Center
Ford Foundation
Henry J. Kaiser Family Foundation
MacArthur Foundation
Population Area
OPEC Fund for International Development
Packard Foundation
Rockefeller Foundation
Safe Blood for Africa Foundation
Safe Blood for China Foundation
Summa Foundation
The Coca Cola Africa Foundation
The William and Flora Hewlett Foundation
United Nations Foundation
Wallace Global Fund
Welcome Trust
International NGOs
Engender Health Inc

International HIV/AIDS Alliance
International Planned Parenthood Federation (IPPF)
International Projects Assistance Services
Japanese Organization for International Cooperation in Family Planning (JOICP)
JHPIEGO Corporation
John Snow, Incorporated
Marie Stopes International (MSI)
ORC Macro
Pathfinder International
Population Council
Population Services International (PSI)
Program for Appropriate Technology in Health

ANNEX III

Selected classifications of reproductive health and AIDS activities

Bernard and Tsui (1995) consider five broad categories that are also related to objectives:

- i. Safe pregnancy
 - Maternal and neonatal health
 - Post-abortion care
- ii. STD/HIV
- iii. Women's nutrition
- iv. Breastfeeding
- v. Adolescent's reproductive health services

The categories include a range of activities. Viewing activities in relation to the objectives they serve, provides a good basis for the monitoring/evaluation of the activities and the formulation of a set of indicators to measure the performance of the activities.

Rannan-Eliya *et al.* (2000) define the package of reproductive health services as consisting of:

- i. Family planning services: All programs, goods and services intended to assist women control their fertility, and all counseling, health education and information in support of the same.
- ii. Maternal health services: All special programs designed to provide antenatal and postnatal care to mothers, including provision of dietary supplements for malnourished pregnant and lactating mothers, such as iron and vitamins.
- iii. Childbirth services: Services to provide medical care for women delivering and giving birth.
- iv. Infant care: All services intended to promote and improve the health and development of infants (defined as children aged less than 1 year), including baby health care, growth monitoring and growth promotion, and provision of dietary supplements such as micronutrients.
- v. Other personal reproductive health services for women: All other clinical services for women, which intend to enable women to safely exercise their reproductive health functions, to be operationalized as the equivalent of all obstetric and gynecological services.

For the purpose of their study, Rannan-Eliya *et al.* did not include services intended to treat sexually transmitted diseases. The reason for excluding the services is not substantive in nature, but is related to data limitation.

Other classifications are related more to the expenditures or the use of funds. The organization Abt Associates distinguishes between direct health care (HC) expenditures and indirect expenditures or health-related spending (see e.g. De *et al.* 2004b). The indirect or health-related (HRC) expenditures are for activities that may overlap with other areas of the NHA:

- i. Mitigation activities, such as
 - Nutritional support for pregnant women
 - Caring for HIV/AIDS orphans

- Empowerment and human right issues related to reproductive health and HIV/AIDS (Odumosu et al. 2002, p. 7)

ii. Training and supportive services, such as

- Education and training of health personal

- Operational research and development

iii. Capital formation to providers, such as

- Lab facilities

- Drug supply and storage systems

The Indian Institute for Health Management Research (IIHMR) and the Policy Project, the Futures Group International (2000) distinguish activities based on the use of funds:

i. Antenatal care

ii. Childbirth

iii. Postnatal care

iv. Family planning

v. Child health care

vi. Abortion services

vii. RTI services

The identification of activities (including activities that involve the provision of goods and services) is critical for the specification of transactions. The development of a classification of activities in the area of reproductive health may benefit from the experience of SIDALAC, PHR*plus* and others in developing HIV/AIDS accounts.

De *et al.* (2004a) distinguish the following services:

i. Family planning services

- Retail pharmaceutical sales of products such as oral contraceptives, condoms and spermicidals.

- Outpatient services (counselling, IUD insertions, injectables)

- Inpatient services (female and male surgical sterilization)

ii. Services that support or promote family planning

- Information, education, communication (IEC), public awareness, health education campaigns

- Training, research

iii. Prenatal care and delivery

ANNEX IV

Activities included in the ICPD “Costed Population Package” (Paragraph 13.14 of the Programme of Action of the ICPD)

Basic reproductive health includes the following major components:

- a. Family-planning services: contraceptive commodities and service delivery; capacity building for information, education and communication regarding family planning and population and development issues; national capacity-building through support for training; infrastructure development and upgrading of facilities; policy development and programme evaluation; management information systems; basic service statistics; and focused efforts to ensure good quality care;
- b. Basic reproductive health services: information and routine services for prenatal, normal and safe delivery and post-natal care; abortion (as specified in paragraph 8.25 of the ICPD document); information, education and communication about reproductive health, including sexually transmitted diseases, human sexuality and responsible parenthood, and against harmful practices; adequate counselling; diagnosis and treatment for sexually transmitted diseases and other reproductive tract infections, as feasible; prevention of infertility and appropriate treatment, where feasible; and referrals, education and counselling services for sexually transmitted diseases, including HIV/AIDS, and for pregnancy and delivery complications;
- c. Sexually transmitted diseases/HIV/AIDS prevention programmes: mass media and in-school education programmes, promotion of voluntary abstinence and responsible sexual behaviour and expanded distribution of condoms;
- d. Basic research, data and population and development policy analysis: capacity building through support for demographic as well as programme-related data collection and analysis.

Source: <http://www.unfpa.org/sustainable/popups/icpd-ch13.htm>, accessed 31 July 2004.

ANNEX V

Categories and examples of population and AIDS activities (RF project)

Category:

1. Family planning services:

- Contraceptive commodities and service delivery;
- Capacity-building for information, education and communication (IEC) regarding family planning and population and development issues;
- National capacity-building through support for training;
- Infrastructure development and upgrading of facilities;
- Policy development and programme evaluation;
- Management information systems;
- Basic service statistics;
- Focused efforts to ensure good quality care.

Examples of project, programmes and activities:

Examples of category 1:

- Family planning projects;
- Family planning information systems;
- Construction/infrastructure of family planning clinics;
- Soap series on TV about family planning;
- Procurement of contraceptives;
- Contraceptive supply;
- Family planning training.

Category:

2. Basic reproductive health services given at primary health care level:

- Information and routine services for prenatal care, normal and safe delivery, post-natal care;
- Abortion (as specified in paragraph 8.25 of the ICPD document);
- Information, education and communication (IEC) about reproductive health, human sexuality and responsible parenthood, and against harmful practices;
- Adequate counselling;

Examples of project, programmes and activities:

Examples of category 2:

- Upgrading maternity wards;
- Training of traditional birth attendants;
- Refresher course for midwives;
- “Safe Motherhood” programmes;

- Diagnosis and treatment for reproductive tract infections, as feasible;
- Prevention of infertility and appropriate treatment, where feasible;
- Referrals, education and counselling services for pregnancy and delivery complications.

Category:

Examples of project, programmes and activities:

3. Sexually transmitted disease and HIV/AIDS activities:

Examples of category 3:

a) *STD activities*

- STD prevention and care services;
- STD diagnosis and treatment;
- Promotion of voluntary abstinence and responsible sexual behaviour.

- Information, education and communication (IEC) about STDs;
- STD sentinel and behavioural surveillance

b) *HIV/AIDS prevention*

- Voluntary Counselling and Testing (VCT);
- Prevention of Mother to Child Transmission of HIV/AIDS (MTCT);
- Information, education and communication (IEC) about HIV/AIDS prevention;
- Blood safety;
- HIV/AIDS prevention strategies – peer outreach for out-of school youth, public sector condom promotion and distribution

- Policy, advocacy, administration and research, school based AIDS education;
- Support to MTCT programmes; post exposure prophylaxis (PEP);
- Prevention programmes, including those in the workplace, targeted at vulnerable groups, e.g. youth, women, men having sex with men (MSM), intravenous drug users;
- HIV/AIDS prevention-related research.

c) *HIV/AIDS treatment/care*

- Palliative care for people living with AIDS;
- Treatment for opportunistic infections;
- Access to essential HIV/AIDS care programmes, including drugs,

- Diagnosis, counselling and referrals to care services;
- Multidrug-resistant (MDR) TB and HIV care;
- Highly active antiretroviral therapy (HAART), including

prophylaxis for opportunistic infections.

laboratory services for monitoring treatment.

d) HIV/AIDS social mitigation/support

- Promotion and protection of human rights of HIV-infected people;
- Legal support services for people living with HIV/AIDS;
- Humanitarian assistance for people affected by HIV/AIDS.
- Support to national strategic plans on HIV/AIDS;
- Support to AIDS orphans;
- Surveillance of HIV infection and AIDS prevalence;
- Psychological support for HIV/AIDS affected people and families;
- Support to networks of people living with HIV/AIDS.

Category:

Examples of project, programmes and activities:

4. Basic research, data and population and development policy analysis:

Examples of category 4:

- National capacity-building through support for demographic as well as programme-related data collection and analysis, research, policy development and training;
- Support for population data collection, support to academic and other training institutions for population and development research and analysis and to national population planning units, population councils, and population commissions.
- Demographic and health surveys;
- Sending staff to overseas training courses;
- Setting up a demography department at a university;
- Population censuses.

ANNEX VI

Reproductive Health Account functions classification⁷

Health care functions	Examples
HC. 1-7 Direct health care functions	
HC.1 Services of curative care	
<i>HC.1.1 Inpatient curative care</i>	
HC.1.1.1 RH related inpatient curative care	Including accommodation costs
HC.1.1.1.1 Obstetric care	Assistance by trained attendants of vaginal delivery, cesarean section, surgery, anaesthesia, blood transfusion; antibiotics, oxytocic drugs, sedatives for eclampsia, manual removal of placenta, removal of retained products
HC.1.1.1.2 Fistula reconstructive surgery	
HC.1.1.1.3 Treatment for reproductive tract infections	Treatment female and male tract infections, e.g. vaginal, pelvic, cervical and urinary tract infections (in-patient)
HC.1.1.1.4 Treatment of RH-related cancers	Treatment of uterine, cervical, ovarian, breast, prostate, testicular cancer; radiotherapy
HC.1.1.1.5 Health-related abortion	Abortion related to health of the mother (in-patient)
HC.1.1.1.6 Psycho-social support to mothers	Support to mothers in case of loss of child
HC.1.1.1.7 STI management	STI diagnosis and treatment
HC.1.1.1.8 Treatment of infertility	Treatment of infertility and sub-fertility; IVF (in-patient)
HC.1.1.1.9 All other inpatient RH-related curative care	

⁷ Prepared by Bart de Bruijn and Ronald Horstman, NIDI.

HC.1.1.2 HIV/AIDS-related inpatient curative care	
HC.1.1.2.1 OI Treatment and monitoring	
HC.1.1.2.9 All other inpatient HIV/AIDS-related curative care	
<i>HC.1.3 Outpatient curative care</i>	
HC.1.3.5 RH-related outpatient curative care	
HC.1.3.5.1 Treatment for reproductive tract infections	Treatment female and male tract infections, e.g. vaginal, pelvic, cervical and urinary tract infections (out-patient)
HC.1.3.5.2 Treatment of RH-related cancers	Treatment of uterine, cervical, ovarian, breast, prostate, testicular cancer; radiotherapy
HC.1.3.5.3 Health-related abortion	Abortion related to health of the mother (out-patient)
HC.1.3.5.4 Psycho-social support to mothers	Support to mothers in case of loss of child
HC.1.3.5.5 STI management	STI diagnosis and treatment
HC.1.3.5.6 Treatment of infertility	Treatment of infertility and sub-fertility (out-patient)
HC.1.3.5.9 All other outpatient RH-related curative care	
HC.1.3.6 HIV/AIDS-related curative care	
HC.1.3.6.1 OI Treatment and monitoring	
HC.1.3.6.2 ARV treatment	Highly active anti-retroviral therapy (HAART)
HC.1.3.6.3 Psychosocial support	
HC.1.3.6.9 All other outpatient HIV/AIDS-related curative care	
<i>HC.1.4 Services of curative home care</i>	
HC.1.4.1 Obstetric services	Birth attendance at home

HC.2 Services of rehabilitative care	
<i>HC.2.1 Inpatient rehabilitative care</i>	
HC.2.1 Inpatient rehabilitative care for RH-related cancer	
<i>HC.2.4 Services of rehabilitative home care</i>	
HC.2.4.1 Rehabilitative home care for RH-related cancer	
HC.2.4.2 Post-delivery rehabilitative home care	Maternity care
HC.3 Services of long-term nursing care	
<i>HC.3.1 Inpatient long-term nursing care</i>	
HC.3.1.1 Palliative care for RH-related cancer patients	
HC.3.1.2 Palliative care for PLWHA	
<i>HC.3.3 Long-term nursing care: home care</i>	
HC.3.3.1 Palliative care for RH-related cancer patients	
HC.3.3.2 Palliative care for PLWHA	
HC.4 Ancillary services to medical care	
<i>HC.4.1 Clinical laboratory</i>	
HC.4.1.1 Pregnancy tests	
HC.4.1.2 Diagnosis for RTI	Diagnosis for vaginal, pelvic, cervical and urinary tract infections; PAP smears
HC.4.1.3 STI-related lab services	Lab monitoring for STI
HC.4.1.4 HIV/AIDS-related lab services	Lab monitoring for HIV, HAART, immunology
HC.4.1.9 All other RH-related lab services	
<i>HC.4.2 Diagnostic imaging</i>	
HC.4.2.1 Diagnostic imaging for MTP	Diagnostic imaging for medical termination of

	pregnancy
HC.4.2.2 HIV/AIDS diagnostic imaging	
HC.4.2.9 All other RH-related diagnostic imaging	Mammograms, imaging of uterine, cervical, ovarian, breast, prostate, testicular cancers
<i>HC.4.3 Patient transport and emergency rescue</i>	
HC.4.3.1 Transport for emergency obstetric care	
HC.4.3.2 Transport for other RH-related inpatient curative care	
HC.4.3.3 Transport for RH-related outpatient curative care	
HC.4.3.4 Transport for RH-related diagnostic services	
<i>HC.4.9 All other miscellaneous ancillary services</i>	
HC.4.9.1 Attending to inpatients by family members and relatives	Expenses for food and accommodation of patient's attendants
HC.4.9.9 Other miscellaneous ancillary services	
HC.5 Medical goods dispensed to outpatients	
<i>HC.5.1 Pharmaceuticals and other medical nondurables</i>	
HC.5.1.1 Prescribed medicines	
HC.5.1.1.1 STI medication	Antibiotics
HC.5.1.1.2 RTI medication	Antibiotics
HC.5.1.1.3 Prescribed contraceptive commodities	Oral contraceptives
HC.5.1.1.4 Other RH-related prescribed medicines	
HC.5.1.1.5 ARV Drugs	ARV drugs as prescribed medicines for outpatients
HC.5.1.1.6 OI Drugs	Prophylaxis for opportunistic infections
HC.5.1.2 Over-the-counter medicines	
HC.5.1.3 Other medical nondurables	
HC.5.1.3.1 Safe-delivery kits	

HC.5.1.3.2 Condoms	
HC.5.1.3.3 Contraceptive commodities other than condoms	Spermicides, IUDs
HC.5.1.3.4 Pregnancy tests	Over-the-counter pregnancy tests
HC.5.1.3.9 All other medical nondurables	
HC.6 Prevention and public health services	
<i>HC.6.1 Maternal health; family planning and counselling</i>	
HC.6.1.1 Maternal health	Tetanus toxoid immunization, hookworm treatment, detection and management of complications (e.g. pre-eclampsia), antenatal check-ups, safe motherhood counselling and referral, registration of pregnant women (N.B. diagnosis and management of tract infections is included in HC.1.1.1.3 or HC.1.3.5.1)
HC.6.1.1.1 Prenatal care	
HC.6.1.1.2 Post-natal care	Post-delivery check-ups and referral
HC.6.1.1.3 Women's nutrition	Provision of dietary supplements to during and after pregnancy women (e.g. iron, folic acid and other minerals and vitamins)
HC.6.1.2 Family planning service delivery	
HC.6.1.2.1 Family planning counselling	Counselling and referral, including genetic counseling
HC.6.1.2.2 Permanent methods of family planning	Female and male sterilization
HC.6.1.2.3 Temporary methods of family planning	IUD insertions, injectables (NB: oral contraceptives and condoms are included in category HC.5.1.3)
HC.6.1.2.4 Abortion	Abortion and post-abortion care (abortion related to health of the mother in HC1.1.1.5 or HC.1.3.5.3)

<i>HC.6.3. Prevention of communicable diseases</i>	
HC.6.3.1 HIV/AIDS prevention	
HC.6.3.1.1 Counselling and testing	Voluntary counselling and testing (VCT) and referral
HC.6.3.1.2 Blood safety	Screening of donated blood
HC.6.3.1.3 Post exposure prophylaxis	PEP use for exposed health workers or other high-risk groups
HC.6.3.1.4 Needle programs	Needle exchange programmes
HC.6.3.1.5 Health workers protection	Disposable bins, protective wear
HC.6.3.1.6 Condom distribution programs	Condom promotion and distribution (specifically aiming at HIV/AIDS)
HC.6.3.1.6.1 Targeted interventions	Interventions aiming at high-risk groups, e.g. commercial sex workers, truckers, migrant workers, street children
HC.6.3.1.6 General programmes	
HC.6.3.1.7 Prevention of mother to child transmission of HIV/AIDS	Breast feeding intervention, provision of ART drugs during pregnancy and at time of delivery
HC.6.3.1.9 All other HIV/AIDS prevention activities	
HC.6.3.2 STI Prevention program	Prevention of infertility and sub-fertility
HC.6.3.2.1 Condom distribution programs	Condom promotion and distribution (not specifically aiming at HIV/AIDS)
<i>HC.6.4 Prevention of non-communicable diseases</i>	
HC.6.4.1 Prevention of RH-related cancer	
<i>HC.6.6 IEC/BCC on reproductive health practices</i>	Including mass media, magazines, posters and targeted programmes (school and peer education); community/group level communication; Including male involvement programmes
HC.6.6.1 IEC&BCC on safe motherhood	

HC.6.6.2 IEC&BCC on family planning	Campaigns for natural methods (abstinence, rhythm, breastfeeding)
HC.6.6.3 IEC&BCC on infertility	Promotion of voluntary abstinence and responsible sexual behaviour
HC.6.6.4 IEC&BCC on sexual health	
HC.6.6.5 IEC&BCC on STI prevention	Promotion of voluntary abstinence and responsible sexual behaviour
HC.6.6.6 IEC&BCC on HIV/AIDS prevention	
HC.6.6.6.1 Targeted interventions	IEC aiming at high-risk groups, e.g. commercial sex workers, truckers, migrant workers, street children (excl. school-based IEC)
HC.6.6.6.2 School AIDS education programme	School-based education
HC.6.6.6.9 All other IEC/BCC on HIV/AIDS	Workplace prevention programmes; promotion of voluntary abstinence and responsible sexual behaviour
HC.6.6.9 IEC/BCC on all other reproductive health practices	IEC&BCC about harmful practices (e.g. female genital mutilation)
HC.7 Health administration and health insurance	
<i>HC.7.1 General government administration of health</i>	
HC.7.1.1 General government administration of health (except social security)	Formulation, administration, coordination and monitoring of health policies, plans, programmes and budgets; management information systems, monitoring and evaluation, basic service and health statistics (not compilation), preparation and enforcement of legislation (governmental)
HC.7.1.2 Administration, operation and support of social security funds	

<i>HC.7.2 Health administration and health insurance: private</i>	
HC.7.2.1 Health administration and health insurance: social insurance	Administration and operation of private social health insurance
HC.7.2.2 Health administration and health insurance: other private	Administration and operation of all other private health and accident insurance, including private for-profit insurance
HC.nsk HC expenditure not specified by kind	
HC.R.1-5 Health-related functions	
HC.R.1 Capital formation for health care provider institutions	Infrastructure development and upgrading of facilities; e.g. clinics, lab facilities, drug supply and storage systems
<i>HC.R.1.1 Infrastructure development and upgrading in the curative and preventive health care provider institutions</i>	
HC.R.1.1.1 Primary health care	
HC.R.1.1.2 Secondary health care	
HC.R.1.1.3 Tertiary health care	
<i>HC.R.1.2 Infrastructure development and upgrading in the delivery of diagnostic health care services</i>	
<i>HC.R.1.3 Non-clinical system improvements</i>	
HC.R.2 Education and training of health personnel	Medical education and in-service training for paramedical workers; universities and nursing schools; training on capacity-building for IEC
<i>HC.R.2.1 Health personnel education and training on RH (not related to HIV/AIDS)</i>	Education and training on RH, including maternal health, family planning. STI; e.g. training TBAs, refresher course midwives

<i>HC.R.2.2 Health personnel education and training on HIV/AIDS</i>	Training on treatment and protection
HC.R.3 Research and development in health	Basic and applied research (including data collection), and experimental development; research to improve programme performance
<i>HC.R.3.1 R&D in RH (not related to HIV/AIDS)</i>	Data collection (DHS, surveillance), (policy) analysis, (operations) research in RH, including maternal health family planning, STI and sexuality
<i>HC.R.3.2 R&D in HIV/AIDS</i>	Data collection, (policy) analysis, prevention and cure research (e.g. vaccine and microbicide research)
HC.R.3.2.1 HIV sentinel surveillance	
HC.R.3.2.2 Autopsies of HIV/AIDS patients	
HC.R.3.2.9 All other R&D in HIV/AIDS	
HC.R.nsk HC.R expenditure not specified by kind	
Addendum functions	
AD.1 Provision of social services in kind to assist living with disease	
<i>AD.1.1 Support to people with RH problems (not related to HIV/AIDS)</i>	Support to people with infertility, fistula stigma reduction, empowerment
<i>AD.1.2 Support to PLWHA</i>	Legal support services for / in-kind benefits (e.g. nutritional support) to / empowerment and organization, human rights protection, stigma reduction of PLWHA
AD.2 Policy advocacy	Support to national strategic plans
<i>AD.2.1 Policy advocacy on RH (not related to HIV/AIDS)</i>	Support to national strategic plans on family planning and RH or to alternative plans

<i>AD.2.2 Policy advocacy on HIV/AIDS</i>	Support to national strategic plans on HIV/AIDS or to alternative plans
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ANNEX VII

International Classification for Health Accounts — Functional Classification of Health Care (ICHA-HC)

HC. 1-7 DIRECT HEALTH CARE FUNCTIONS

HC.1 Services of curative care

HC.1.1 Inpatient curative care

HC.1.2 Day cases of curative care

HC.1.3 Outpatient curative care

HC.1.3.1 Basic medical and diagnostic services

HC.1.3.2 Outpatient dental care

HC.1.3.3 All other specialized medical services

HC.1.3.4 All other outpatient curative care

HC.1.4 Services of curative home care

HC.2 Services of rehabilitative care

HC.2.1 Inpatient rehabilitative care

HC.2.2 Day cases of rehabilitative care

HC.2.3 Outpatient rehabilitative care

HC.2.4 Services of rehabilitative home care

HC.3 Services of long-term nursing care

HC.3.1 Inpatient long-term nursing care

HC.3.2 Day cases of long-term nursing care

HC.3.3 Long-term nursing care: home care

HC.4 Ancillary services to medical care

HC.4.1 Clinical laboratory

HC.4.2 Diagnostic imaging

HC.4.3 Patient transport and emergency rescue

HC.4.9 All other miscellaneous ancillary services

HC.5 Medical goods dispensed to outpatients

HC.5.1 Pharmaceuticals and other medical nondurables

HC.5.1.1 Prescribed medicines

HC.5.1.2 Over-the-counter medicines

HC.5.1.3 Other medical nondurables

HC.5.2 Therapeutic appliances and other medical durables

HC.5.2.1 Glasses and other vision products

HC.5.2.2 Orthopaedic appliances and other prosthetics

HC.5.2.3 Hearing aids

HC.5.2.4 Medico-technical devices, including wheelchairs

HC.5.2.9 All other miscellaneous medical goods

HC.6 Prevention and public health services

HC.6.1 Maternal and child health; family planning and counselling

HC.6.2 School health services

HC.6.3 Prevention of communicable diseases

HC.6.4 Prevention of noncommunicable diseases

HC.6.5 Occupational health care

HC.6.9 All other miscellaneous public health services

HC.7 Health administration and health insurance
HC.7.1 General government administration of health
HC.7.1.1 General government administration of health (except social security)
HC.7.1.2 Administration, operation and support of social security funds
HC.7.2 Health administration and health insurance: private
HC.7.2.1 Health administration and health insurance: social insurance
HC.7.2.2 Health administration and health insurance: other private
HC.nsk HC expenditure not specified by kind

HC.R.1–5 HEALTH-RELATED FUNCTIONS

HC.R.1 Capital formation for health care provider institutions
HC.R.2 Education and training of health personnel
HC.R.3 Research and development in health
HC.R.4 Food, hygiene and drinking-water control
HC.R.5 Environmental health
HC.R.nsk HC.R expenditure not specified by kind
Source: WHO, 2003, p.28.