GUIDE TO PRODUCING
REPRODUCTIVE HEALTH SUBACCOUNTS WITHIN THE
NATIONAL HEALTH ACCOUNTS FRAMEWORK

PREPUBLICATION VERSION

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Preface

In September 2000, the countries of the world adopted the Millennium Declaration, a collective commitment to accelerate progress on human development, setting out eight Millennium Development Goals, which they pledged to achieve by 2015. It has been widely acknowledged that these goals can only be reached if there are significant improvements in reproductive health (RH), especially in the poorest developing countries. Most families in these countries still have more children than they want. Women especially suffer from the lack of means to control their fertility, and many die young from causes related to maternal health.

Half way to 2015, a number of countries have been identified as not being on track to meet the MDGs. National and international organizations are asking how efforts to achieve the MDGs and related targets can be made more effective. One way is to improve understanding and management of competing financial resources for health. Decision-makers need to know whether their country has sufficient resources to achieve its health goals. If there is a funding gap, can external resources fill it? And where are the resources going? In particular, what resources are earmarked for RH?

Often, governments do not have the technical instruments they need to plan budgets that would allow them to achieve their RH goals. Civil society also lacks information about where money is going, and is thus unable to lobby successfully for national and international funds to fill the gaps. The challenge is, thus, to obtain information that will lead to more effective use of the resources available. Considerable value would be added if resource monitoring were done in a comprehensive and consistent way, with standard definitions that allow for international comparable time trends.

The national health accounts (NHA) methodology is an internationally accepted tool that provides a comprehensive estimate of all national health expenditures. An NHA subaccount is a more detailed reporting of spending levels and patterns for a particular component of health care, such as RH services. Subaccounts report expenditures in accordance with the NHA framework but with a focus on specific relevant categories. In the case of RH subaccounts, this includes the main RH activities, such as antenatal care, delivery, family planning, and other RH services. The RH subaccount provides an overview of the financing flows in the RH programme, highlighting the origin of the resources, the pooling and purchasing mechanisms, the resources used by the RH providers, and the services consumed by the population.

RH subaccount results can be used in various ways to inform RH policy and programming. Because the subaccount methodology uses the internationally recognized NHA framework, its findings can be compared across countries. If a country prepares estimations for a number of years, the results can be used to track trends in expenditure, to monitor patterns of resource use over time, and to evaluate how resource use relates to the achievement of RH programme goals. Current expenditure data can be compared with projections of funds required to address reproductive mortality and morbidity, in order to inform financing strategies.

This guide has benefited from the participation and contributions of numerous RH and NHA experts, and from experiences with use of the methodology in three countries. Particular efforts have been made to
ensure that it is consistent with existing WHO guidelines on producing national health accounts.\textsuperscript{1}

Intended for both NHA country experts and novices, this guide aims to help countries obtain a clearer picture of resource flows in reproductive health programmes, through regular estimations that can inform the policy process.

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Acknowledgements

The reproductive health subaccount guide was produced with support from: the WHO Departments of Health System Financing, Making Pregnancy Safer, and Reproductive Health and Research; the United States Agency for International Development (USAID)/Partners for Health Reformplus (PHRplus) Project and its successor, the Health Systems 20/20 (HS 20/20) project; the United Nations Population Fund (UNFPA); the Netherlands Interdisciplinary Demographic Institute (NIDI); the Inter-American Development Bank (IDB); and the Partnership for Maternal, Newborn and Child Health (PMNCH).

The guide has benefited from the input of numerous experts in reproductive health and NHA, and from country implementation experiences. The core drafting team consisted of Susna De (USAID/PHRplus and HS 20/20), Jacqueline Eckhardt, Ronald Horstman, and Bart de Bruijn (NIDI), and Patricia Hernandez (WHO). Input and valuable feedback on initial drafts were received from an internal review team, consisting of Karen Cavanaugh (USAID), Tania Dmytraczenko (USAID/PHRplus and HS 20/20), Tessa Tan-Torres Edejer (WHO), Dale Huntington (WHO), André Medici (IDB), Ann Pawliczko (UNFPA), Dorota Raciborska (IDB) and Juliana Yartey (WHO/MPS), and an external review expert group consisting of Amanda Glassman (Global Health Fellow and Deputy Director, Global Health Initiative, Global Economy and Development, Brookings Institution, USA), Patricia Uribe (General Director, National Centre of Gender Equity and Reproductive Health, Ministry of Health, Mexico), Jim Foreit (Senior Associate, Population Council, USA), Margaret Neuse (former Director of Population and Reproductive Health, USAID), Lale Say (WHO), Vinod Annigeri (Center For Multidisciplinary Development Research, CMDR, team leader, Karnataka, India).

Critical to the development of the reproductive health subaccount approach was its application in India (Karnataka), Jordan, and Mexico. The issues raised, strategies employed, and lessons learned in these country experiences were vital to the refinement of the methodology outlined in this guide as well as to the determination of the feasibility of tracking reproductive-health-specific expenditures in the developing country context. The following people constituted the country teams: India (Karnataka): Vinod Annigeri; Jordan: Fatina Halawani; and Mexico: Leticia Avila, Lucero Cahuana, and Ricardo Pérez Núñez.
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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADL</td>
<td>activities of daily living</td>
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<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<tr>
<td>BCC</td>
<td>behaviour change communication</td>
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<tr>
<td>CAMERWA</td>
<td>Consommables et Équipements Médicaux [Central Medical Stores] du Rwanda</td>
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<tr>
<td>CH</td>
<td>child health</td>
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<tr>
<td>CHA</td>
<td>child health account</td>
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<tr>
<td>COFOG</td>
<td>Classification of the Functions of Government</td>
</tr>
<tr>
<td>CRS</td>
<td>creditor reporting system</td>
</tr>
<tr>
<td>DAC</td>
<td>Development Assistance Committee (OECD)</td>
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<td>DRG</td>
<td>diagnosis-related group</td>
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<td>ESI</td>
<td>Employees State Insurance</td>
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<tr>
<td>ESIC</td>
<td>Employees State Insurance Corporation</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
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<td>FGM</td>
<td>female genital mutilation</td>
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<td>FA</td>
<td>financing agent</td>
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<td>FP</td>
<td>family planning</td>
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<tr>
<td>FS</td>
<td>financing source</td>
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<tr>
<td>FTE</td>
<td>full-time equivalent</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>HC</td>
<td>health care function</td>
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<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
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<td>HP</td>
<td>health provider</td>
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<tr>
<td>IADB</td>
<td>Inter-American Development Bank</td>
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<td>ICHA</td>
<td>International Classification of Health Accounts</td>
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<tr>
<td>ICPD</td>
<td>International Conference on Population and Development</td>
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<tr>
<td>ICPD+5</td>
<td>special session of the United Nations General Assembly that took place five years after the ICPD</td>
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<tr>
<td>IEC</td>
<td>information, education and communication</td>
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<tr>
<td>IPT</td>
<td>intermittent preventive therapy</td>
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<tr>
<td>IRDA</td>
<td>Insurance Regulatory and Development Authority</td>
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<tr>
<td>ITN</td>
<td>Insecticide-treated bed nets</td>
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<tr>
<td>IUD</td>
<td>intrauterine device</td>
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<tr>
<td>LSMS</td>
<td>Living Standards Measurement Survey</td>
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<tr>
<td>MCH</td>
<td>maternal and child health</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
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<tr>
<td>MTP</td>
<td>Medical termination of pregnancy</td>
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<td>NGO</td>
<td>nongovernmental organization</td>
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<td>NHA</td>
<td>national health accounts</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NHE</td>
<td>national health expenditure</td>
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<tr>
<td>NIDI</td>
<td>Netherlands Interdisciplinary Demographic Institute</td>
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<tr>
<td>NPISH</td>
<td>non-profit institution serving household</td>
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<tr>
<td>NSK</td>
<td>not specified by kind</td>
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<tr>
<td>NTR</td>
<td>Non tax revenue</td>
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<tr>
<td>ODA</td>
<td>official development assistance</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>ONAPO</td>
<td>National Office on Population (Rwanda)</td>
</tr>
<tr>
<td>ONTR</td>
<td>Other than non tax revenue</td>
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<tr>
<td>OOP</td>
<td>out-of-pocket</td>
</tr>
<tr>
<td>ORC</td>
<td>Opinion Research Company</td>
</tr>
<tr>
<td>OTR</td>
<td>Other than tax revenue</td>
</tr>
<tr>
<td>PAHO</td>
<td>Pan American Health Organization</td>
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<tr>
<td>PMNCH</td>
<td>Partnership for Maternal, Newborn and Child Health</td>
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<tr>
<td>PMTCT</td>
<td>prevention of mother-to-child transmission (of HIV)</td>
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<tr>
<td>RC</td>
<td>resource cost</td>
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<tr>
<td>R&amp;D</td>
<td>research and development</td>
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<tr>
<td>RF</td>
<td>resource flows</td>
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<tr>
<td>RH</td>
<td>reproductive health</td>
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<tr>
<td>RTI</td>
<td>reproductive tract infection</td>
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<tr>
<td>SHA</td>
<td>System of Health Accounts</td>
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<tr>
<td>SIDALAC</td>
<td>Regional AIDS Initiative for Latin America and the Caribbean</td>
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<tr>
<td>SPA</td>
<td>service provision assessment</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<tr>
<td>STD</td>
<td>sexually transmitted disease</td>
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<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
</tr>
<tr>
<td>TC</td>
<td>technical cooperation</td>
</tr>
<tr>
<td>TCAM</td>
<td>traditional, complementary and alternative medicine</td>
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<tr>
<td>THE</td>
<td>total expenditure on health</td>
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<tr>
<td>THErh</td>
<td>total expenditure on reproductive health</td>
</tr>
<tr>
<td>TR</td>
<td>Tax revenue</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>UNGASS</td>
<td>United Nations General Assembly Special Session</td>
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<tr>
<td>UNIFEM</td>
<td>United Nations Fund for Women</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WB</td>
<td>World Bank</td>
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WHO  World Health Organization
WHS  World Health Survey
1 Introduction

1.1 Background

Improving reproductive health (RH) is widely recognized as a key component of social and economic development. The International Conference on Population and Development (ICPD), held in Cairo in 1994, set the goal of universal access to a wide range of quality RH services by 2015. This goal was reiterated five years later at a special session of the United Nations (UN) General Assembly (ICPD + 5). Furthermore, although RH is not an explicit Millennium Development Goal (MDG), it has been acknowledged that universal access to RH is fundamental for development, for fighting poverty, and for meeting the MDGs. Reproductive ill-health undermines development, diminishes quality of life and places heavy burdens on families and communities – a point noted in 2002 by the then UN Secretary-General Kofi Annan:

“The Millennium Development Goals, particularly the eradication of extreme poverty and hunger, cannot be achieved if questions of population and reproductive health are not squarely addressed. And that means stronger efforts to promote women’s rights, and greater investment in education and health, including reproductive health and family planning.” (Message to the Fifth Asian Pacific Population Conference. Bangkok, 16th December 2002)

The movement to achieve the MDGs and other international agreements, such as those put forth at the ICPD and ICPD+5, has resulted in countries setting ambitious agendas for improving their RH services, including expansion, improvement of quality, and adaptation to meet user needs.

Implementing these agendas requires not only significant financial resources but also their equitable and efficient use. So how much is needed? To address this question, policy-makers first need to understand what is already being spent on RH and, specifically, who is financing RH care, how much each financing source is spending, and for what kinds of services. To make the system more equitable, information is needed on existing inequities, such as the distribution of RH resources between urban and rural communities, or between rich and poor. Also, in some developing countries, where programmes dealing with RH and those tackling human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) share many financing sources, RH stakeholders may be concerned that a disproportionate amount of funds are going to HIV/AIDS services, with the consequent risk that other basic RH services are underfunded. To determine whether such concerns are valid, and to assess the “financial health” of RH care in a country, policy-makers require regular, comprehensive data on the flows of RH funds, both in the public sector and from private and donor investments. In most middle- and low-income countries, stakeholders do not have access to such data, which makes it difficult to develop sustainable and informed strategies for expanding RH services and mobilizing additional resources. This, in turn, can adversely affect progress towards national and international RH targets.

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2 The MDGs were ratified by the international community in 2000. In 2005, the World Summit adopted universal access to RH as a development goal. Subsequently, in 2006, universal access to RH was added to the targets for MDG 5 (improving maternal health) and four indicators were defined.

3 At the ICPD conference, activities were costed, which led to the development and recommendation of a “costed population package” for developing countries.
One widely used tool that can help inform stakeholders about financial flows for health care at the national level is national health accounts (NHA). This guide describes the adaptation of NHA to the RH context and, specifically, the development of an NHA RH subaccount.\(^4\) It is intended for NHA practitioners in middle- and low-income countries, offering a comprehensive approach that can be adapted to the country-specific setting while maintaining international comparability. The guide is based on country experiences tracking national RH expenditures and agreements reached by an international working group of RH and NHA specialists.\(^5\) Actual country experiences are used to illustrate recommended strategies.

### 1.2 The concept of NHA and subaccounts

In response to the growing need for information on health expenditure for evidence-based policy-making, international researchers, with support from various international organizations,\(^6\) have promoted the development and preparation of NHA in middle- and low-income countries. A complete description of the NHA framework is provided in the *Guide to producing national health accounts with special applications for low-income and middle-income countries* (WHO, 2003), known informally as the Producers’ Guide.

NHA, sometimes referred to as the “general NHA”, are a framework used to capture total expenditure on health (THE) in a country for a particular year. This information is presented in a series of two-dimensional tables, with each expenditure categorized according to the International Classification of Health Accounts (ICHA).\(^7\) In this way, NHA track the annual flow of funds through the health system, principally along the following core dimensions:

- from the financing sources, such as the ministry of finance, donors, and households;
- through the financial agents, which are the principal managers of health funds and may include entities such as insurance funds, the ministry of health and nongovernmental organizations (NGOs);
- to providers, such as hospitals, clinics, dispensaries, pharmacies, and traditional healers; and
- to functions, i.e. the types of service or products rendered, including curative care, preventive and public health programmes, and administration.

The NHA framework can also be used to track expenditures according to:
- inputs used to produce health and health-related services. Classified as “resource costs”, this classification includes items such as labour, non-labour services, medical equipment, pharmaceuticals, and medical and non-medical supplies; and

---

\(^4\) Formerly known as a subanalysis.

\(^5\) Sponsors of the working group were the World Health Organization (WHO), the United States Agency for International Development (USAID)/ Partners for Health Reform*plus* project, the Netherlands Interdisciplinary Demographic Institute (NIDI), the United Nations Population Fund (UNFPA), and the Inter-American Development Bank (IADB).

\(^6\) Such as WHO, the World Bank (WB), USAID, and the Swedish International Development Cooperation Agency.

\(^7\) Derived from the *System of Health Accounts* (SHA) (OECD, 2000) and presented in Chapters 3 and 4 of the Producers’ Guide (WHO, 2003).
various beneficiary populations, defined by for example age, sex, socioeconomic status, and place of residence (district, region, province, etc.).

NHA are designed to address a country’s policy needs, and this objective is best realized when NHA estimates are done on a regular basis, as part of routine data collection systems. In addition, the NHA framework provides internationally comparable data, which is a valuable commodity for multilateral and bilateral donors in determining how and where they should spend their funds.

A multidimensional analysis of financing, provision, and consumption can be constructed for disease-specific areas (e.g. malaria, HIV/AIDS) or intervention clusters (e.g. reproductive health, child health). These are referred to as subaccounts. It is recommended that subaccounts be prepared as part of the general NHA exercise rather than as stand-alone exercises. In this way, subaccount expenditure estimates can be placed in the context of overall health spending. For instance, if an HIV/AIDS subaccount is constructed concurrently with the NHA, it will be possible to determine more precisely the proportion of overall health funds spent on HIV/AIDS services. This holds added benefits for international aid agencies, which are often concerned about demonstrating the added value of their support, particularly the impact of disease-specific funding on other health priorities (e.g. RH). Only by preparing a general NHA and subaccounts can countries and donors demonstrate the additionality of their funding, at least within the health sector. In addition, doing the exercises concurrently is more cost-effective than doing them separately, because the same human resources and primary data collection efforts can be used by the two. It is therefore recommended that any NHA subaccount be prepared together with the general NHA. Subaccounts may, however, be prepared less frequently; for example, countries may choose to prepare general NHA tables every year and subaccount tables only every two years.

1.3 Overview of RH subaccounts

Like the general NHA, the RH subaccount captures and organizes information on health care expenditure in two-dimensional tables – from financing sources to end uses. The tables are the end result of the RH subaccounts. Also like the NHA, the subaccount aims to be comprehensive in scope, capturing public, private, and donor fund flows.

While there may be more specific goals in a particular country context, generally speaking the RH subaccount methodology aims to:

- provide key expenditure information to guide the strategic planning of national policy-makers, donors, and other stakeholders in the area of RH care;
- identify all sources and uses of financial flows for RH in the context of overall health spending; and
- provide internationally comparable data.

Regarding the last objective, the advantage of following the general NHA framework is that it is widely used, thus allowing the preparation of RH estimates that are consistent, comparable, and compatible.

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8 Even when subaccounts are prepared as a stand-alone study, it is recommended that they be linked to the year for which general NHA data are available.
1.4 Policy-related use of the RH subaccount

As with any NHA exercise, RH subaccount estimations are undertaken primarily to inform the policy process. As such, the primary audiences are RH programme managers, national policy-makers, donors, and other stakeholders who use expenditure data for strategic planning in the area of RH care. More broadly, the audience is those individuals, institutions or groups that have an interest in the functioning and monitoring of the health system – in particular its RH programmes – and its financial structure. This said, what are the main policy issues that the RH subaccount can inform? Experience shows that, when done concurrently with a general NHA exercise, the subaccount can answer the following key policy questions.

- **How much is spent on RH care? What is this in relation to THE?** This indicates the total resource envelope for RH care, including public, private, and donor contributions.

- **What is the reliance on donors for RH services and commodities? What share of donor health funds are targeted for RH?** While developing country governments have expressed great willingness to address RH issues, it is becoming apparent, particularly in sub-Saharan Africa, that a large proportion of the resources used to do so is provided by donors. Hence, there is a need to understand the role of donor funding and related sustainability issues; if donor funding for RH were dramatically reduced or withdrawn, would the government be able to mobilize funds to meet RH needs?

- **What proportion of public health funds is spent on RH care?** This provides an indication of the relative importance of RH on the government’s health agenda. If an RH subaccount is prepared at the same time as other subaccounts, such as for HIV/AIDS, spending on RH can be compared with that in other areas. Such information is valuable because, although governments may allocate specific budgets to different health programmes, these budgets may not be spent in the same year. A comparison of actual amounts spent on priority areas reflects the real emphasis given to a particular programme.

- **What is the financial burden of RH care on households? How does this compare with utilization rates of services and contraceptives?** Current information tracking systems, particularly in low- and middle-income countries, may offer partial data on donor and government contributions for RH. However, households may also serve as a major financer of RH care, particularly through out-of-pocket spending (OOPs) on inpatient and outpatient services. Policy-makers may be interested in understanding the burden of such financing on households and how this may be affecting the use or non-use of RH services.  

- **What types of services are financed by RH funds?** This information reveals the amount of resources actually spent on various RH activities, such as family planning, maternal health, and information, education and communication (IEC) campaigns. By comparing these results with official government policies, it is possible to see whether policies are actually being financed and implemented. Furthermore, specific financial data broken down by RH activities can inform the process of setting priorities for resource allocation across various interventions.

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9 Utilization data may be available from other studies, such as the Demographic and Health Survey (DHS).
• **Who benefits from RH spending?** In order to monitor progress towards financial equity goals, it is necessary to understand the profile of the beneficiary population. For example, are the rich the main users of services? If so, could financial constraints be a barrier to use of services by the poor? Understanding spending by different socioeconomic groups is crucial in RH service delivery and financing. Such detailed equity analyses may require a greater effort and investment in completing the NHA, as they rely on good household survey data.

• **Who provides what RH services and where?** In many countries, there has been a proliferation of RH providers that has not been adequately coordinated or regulated by the government. NHA can provide data on different types of providers, categorized by ownership (public/private) and type of facility (infrastructure, equipment). This information is useful in determining if resources are being efficiently distributed; for example, are government funds financing services that are already well covered by NGOs? Or by the private for-profit sector? More in-depth analyses can provide an expenditure breakdown by geographical area (region, district, rural vs urban).

• **How does financing of RH services compare with that in other countries?** In the light of international agreements on RH goals, there is strong interest from both national and donor governments in tracking resources for RH care across countries. This helps to monitor the spread of RH resources; there is a danger that resources from different donors could be concentrated in a few countries, while others with similar RH problems may be receiving inadequate resources.

• **What are the implications of different health-financing policy options on the mobilization and allocation of resources for RH?** NHA data, particularly when estimated on a regular basis, can be used to inform simulation exercises to illustrate the impact of changes in financing patterns. The different scenarios produced can be useful in decision-making on decentralization, introduction or reduction of external resources, elimination or reduction of user fees, introduction of new payment mechanisms, etc. Similarly, the effect of demographic changes can be forecast. For example, fertility changes may lead to shifts in resource use among programme components, such as family planning relative to antenatal, delivery, and postnatal care, or to treatment of unsafe abortion. Equally, routine resource monitoring can reveal the drivers of expenditure, reflecting epidemiology and RH needs. For example, an increase in the number of births may be related to increased investment in fertility interventions for women over 35 years of age. Or an increase in spending related to cancers of the reproductive system may reflect the introduction of new technology, such as the human papillomavirus (HPV) vaccine.

• **Are expenditures in line with national plans for investment in RH?** The flexibility of detail afforded by the NHA framework allows its classifications to be mapped to RH priority areas, as outlined in national strategic plans. Such plans contain estimates of investment needed in particular areas. NHA data can be used to monitor whether or not such investments are being made. In addition, for planning purposes, NHA data can inform estimations of gaps in RH resources.

The utility of the NHA RH subaccount depends on the extent to which it can address the questions in the minds of national health planners, policy-makers, and donors. An NHA RH subaccount exercise should therefore be undertaken in full consultation with all stakeholders (government, private not-for-profit, private for-profit, and donors). This will also facilitate the incorporation of the findings in policy design and implementation, and in the monitoring and evaluation of RH policies and strategies.
Although they have only recently been implemented, RH subaccounts have already begun to have an impact on policy. At the Special Session of the African Union Conference of Ministers of Health (Maputo, September 2006), the Ministers of Health adopted the subaccounts as a policy tool to advocate for increased resources. Specifically, the Ministers endorsed the following text (African Union, 2006): “It is recommended that health ministries use NHAs and [sexual and reproductive health] SRH sub-accounts as tools in their policy dialogues. They should institutionalise NHAs and SRH sub-accounts to ensure systematic tracking of expenditures, improving not only efficiency in allocating funds but advocacy for more resources for health. Countries and donors should co-operate to develop national capacity to undertake NHAs and SRH sub-accounts.” In Rwanda, the 2002 RH subaccount found that 80% of RH expenditure was coming from donors; this was used by the Ministry of Health to advocate for greater domestic policy and financial support to family planning.

1.5 Indicators for the RH subaccount

The RH subaccount can generally provide information on the indicators listed in Table 1.1. Depending on the level of detail in the data sources, the subaccount may allow for further disaggregation.

<table>
<thead>
<tr>
<th>Table 1.1 Potential indicators for the RH subaccount</th>
</tr>
</thead>
</table>
| **General indicators** | • Total RH expenditure (THE$_{RH}$) (and, to the extent possible, RH expenditure by region)  
  • Total RH expenditure by functional category  
  • RH expenditure per woman or man of reproductive age  
  • RH expenditure as % of gross domestic product (GDP)  
  • RH expenditure as % of THE$_{RH}$ |
| **Financing sources indicators** | • Public contribution as % of THE for RH (THE$_{RH}$)  
  • Public RH contribution as % of overall public spending on health  
  • Private contribution (by households and other private entities) as % of THE$_{RH}$  
  • Donor contribution as % of THE$_{RH}$  
  • Linking of financing sources to their end uses, NHA functional area or RH functional category, e.g. % of curative care financed by donors, households and the government; % of maternal health services financed by donors and households |
| **Household expenditure indicators** | • Total household spending$^3$ as % of THE$_{RH}$  
  • OOP spending as % of THE$_{RH}$  
  • OOP spending by RH functional category (see below).  
  • OOP spending per woman of reproductive age  
  • OOP spending on RH as % of overall OOP spending on health |
| **Financial agent indicators** | • % of RH funds managed by  
  o the Ministry of Health and other public entities  
  o NGOs and donors  
  o households (through OOP)  
  • Health insurance contributions  
  o by RH functional category |
| **Provider indicators** | • Provider expenditure as % of THE$_{RH}$  
  o by ownership (public, private)  
  o by facility (hospital, health centre, shops, etc.) |
| **Functional indicators** | • Curative care as % of THE$_{RH}$  
  o inpatient curative care as % of THE$_{RH}$  
  o outpatient curative care as % of THE$_{RH}$  
  • Prevention and public health programmes as % of THE$_{RH}$  
  • Health administration as % of THE$_{RH}$ |
| **RH functional categories** | • Maternal health services (including a breakdown by prenatal, delivery, and postnatal services) as % of THE$_{RH}$  
  o expenditure per delivery by type of facility  
  o breakdown of maternal health expenditure by financing sources, e.g. % of maternal health expenditures financed by households.  
  • Family planning as % of THE$_{RH}$  
  • Abortion as % of THE$_{RH}$ |
1.6 Organization of this guide

This guide has a similar structure to the NHA Producers’ Guide (WHO, 2003). It builds on the Producers’ Guide by focusing on the added complexities and issues raised when RH expenditure is measured. Readers of this guide should therefore already be familiar with the basic principles of health accounts as described in the Producers’ Guide.

Chapter 2 discusses the scope or boundaries of RH subaccounts, i.e. what should and should not be included in the subaccount to meet local policy needs and ensure international comparability of the findings. It discusses the criteria to be used when determining the scope of the subaccount and provides guidance on setting boundaries with other subaccounts that may have overlapping activities, such as the HIV/AIDS and child health subaccounts.

Chapter 3 outlines the classification scheme used to categorize each type of RH expenditure. The classifications are based on those described in the Producers’ Guide (Chapter 3 and 4). The chapter also offers guidance on how to place some seemingly hard-to-classify RH activities (such as programmes addressing gender-based violence) within the NHA framework.

Chapter 4 offers an overview of the types of tables generated by an RH subaccount study in keeping with the standard format of the NHA. It also discusses different ways of tallying total RH expenditure to allow comparability between countries and to comply with local policy perspectives on what is considered to be RH.

Chapter 5 discusses issues related to primary and secondary data collection. As NHA aim to be comprehensive in scope, a sizeable amount of data is required from numerous stakeholders. This chapter offers recommendations on how to find the necessary data and how to organize the data collection.

Once the data have been retrieved, the next major step is data analysis. Chapter 6 discusses some of the issues that may be faced at this stage with respect to filling in gaps, resolving conflicts, and improving estimates of RH expenditures. It also describes the need to document the process of preparing an RH subaccount and the various assumptions and decisions underlying the final estimates.

Chapter 7 discusses the organization, goals, and contents of the report. It addresses the presentation of results with a view to ensuring both full coverage of relevant information and international comparability.
It also emphasizes the need to document the process, including assumptions and decisions made in the process of preparing RH subaccounts.

Chapter 8 offers suggestions on forming a steering committee and the subaccount team, outlining the skills and responsibilities required by both groups. It offers an illustrative workplan and timeframe for the process, incorporating critical actions needed to maximize the uptake of subaccount findings in policy formulation.

Finally, Chapter 9 highlights the main issues and suggested approaches that are specific for RH subaccounts.

Country technical teams that have additional methodological queries are welcome to consult the international committee of NHA experts at nhaweb@who.int.
2 Boundaries of RH subaccounts

2.1 Background

An RH subaccount exercise tracks national-level expenditure\textsuperscript{10} on RH care for a given year. Its successful completion will produce information to serve two goals: to contribute to country policy-making and to allow international comparisons. Meeting this latter goal can prove challenging because programme elements and implementation of RH services vary from country to country, depending on the politics, history, culture, epidemiological profile, and other factors. For example, the type and range of services for abortion care (provision of abortion services versus post-abortion care) will depend on the legal status of abortion in the country. Some countries place STI services in their RH programmes, others in their HIV/AIDS programmes.

Given the various approaches to RH care delivery, it is extremely important for the NHA technical team to define clearly the scope of the subaccount at the beginning of the process. This chapter defines RH care and discusses the steps and issues involved in determining its functional, space, and time boundaries. It has been developed in accordance with the general NHA framework and approach described in the Producers’ Guide (WHO, 2003). The chapter concludes with a list of major RH services, programmes, and commodities that may fall within the scope of the subaccount.

2.2 ICPD definitions

This guide uses the definitions of reproductive health and reproductive health care proposed by WHO and agreed at the ICPD in Cairo (1994). According to paragraph 7.2 of the ICPD Programme of Action (UNFPA, 1994), reproductive health is:

“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a 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 last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable 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 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 same paragraph goes on to define reproductive health care as “the constellation of methods, techniques and services that contribute to reproductive health and well being by preventing and solving reproductive health problems. It also includes sexual health, the purpose of which is the enhancement of life and personal relations and not merely counselling and care related to reproduction and sexually transmitted diseases.”

\textsuperscript{10} Measured in monetary terms. Monetary equivalents of in-kind expenditure should be included where feasible, when such expenditures are expected to be large. This topic is further discussed in section 2.7.
Because of their broad nature, these definitions can best be viewed as encompassing the universe of potential RH services (for the purpose of NHA). It is suggested that services and products that fall outside the realm of these definitions be excluded from the RH subaccount.

### 2.3 Determining the boundaries of the RH subaccount

Depending on their epidemiological setting, sociocultural norms, and policy preferences, countries employ different approaches to delivering RH care, which as a result may not include everything encompassed in the ICPD definition. For example, some countries include only family planning and maternal health care. Others may include maternal and child health (MCH) care, newborn care, and STI services.

This variation raises the question of which activities should be included in the RH subaccount, so that it meets its twin goals of serving local policy needs and facilitating international comparisons. In determining the scope of an RH subaccount, consideration must be given of the nature of the expenditure, i.e. its purpose, intended beneficiaries, policy perspective, and the international definition, as well as to where and when the expense was incurred.

The NHA team should thus begin this part of the subaccount process by defining the functional, time, and space boundaries of the estimates. Ideally, the team should include someone with a thorough knowledge of the country’s RH programmes; otherwise, the scope as initially envisioned may have to be modified for practical reasons once implementation begins. The team may find, for instance, that not all services included in the potential scope are offered in the country, or that, even if a service is offered, data on expenditure may not be available.

### 2.4 Determining the functional boundary

#### 2.4.1 Potential scope

In the NHA framework, health care functions are the “goods and services produced by health care providers and by institutions and actors engaged in related activities to health care” (Producers’ Guide, paragraph 3.15). The first step in determining the scope of a health accounts exercise is to decide on the period of the study and its functional boundary, by assessing: (1) the primary purpose of the expenditure; (2) the local (national) policy perspective; and (3) the extent to which the expenditure complies with international norms and recommendations. A useful reference for creating a list of RH service categories is the International Classification of Diseases (WHO, 2007) (see section 2.4.1.4).

##### 2.4.1.1 Primary purpose

Begin with the primary purpose criterion: if the primary purpose of an expenditure was to restore, improve, or maintain RH for the country and its residents, that expenditure should be included.\(^\text{11}\) The institution providing or paying for the service does not matter; the subaccount will include spending on

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\(^{11}\) Adapted from the NHA Producers’ Guide definition of national health expenditure (WHO, 2003, para. 3.02).
RH by institutions that are not obviously affiliated with RH care. For example, the Ministry of Justice may provide or finance RH services for prison inmates, and those expenditures should be included in the subaccounts. It is also important to note that the NHA do not distinguish between effective and ineffective health interventions – as long as the intent is to improve RH, the expenditure can be included.

### 2.4.1.2 National policy perspectives and international norms

Defining the functional boundary incorporates national perspectives on what is considered to be RH care. However, international comparability of data is also important; it is strongly recommended, therefore, that country subaccounts should be designed so that they can be “mapped” to the recommendations outlined here, and that any deviations should be well documented. For example, some countries consider HIV/AIDS interventions as components of RH care; in this case, the HIV/AIDS expenditures should be clearly labelled to allow for possible adjustments when the subaccount is compared with those of countries that place HIV/AIDS interventions outside the RH programme.¹²

If an activity in the national RH programme falls outside the scope of the ICPD definition, expenditure on it should be excluded, at least for comparison purposes. For example, some national RH programmes provide maternal and child health services, although child health care is outside the scope of the ICPD definition.¹³ Expenditure on child health should be clearly identified, so that it can be excluded in international comparative analyses. Should a country wish to follow international norms, child health expenditures may be captured under a separate child health care subaccount.

It should be noted that the ICPD definition refers to services that “are not against the law” when recommending what programmes should cover. However, OOP spending on some unlawful services, such as abortion, may be included in the RH subaccount, particularly if this is an area of concern to policy-makers. This inclusion can offer an insight into the extent to which households are using such services and the amount they are spending on them. Female genital mutilation (FGM), a recognized human rights violation may be motivated by a variety of reasons, including notions of protecting health. Nevertheless, FGM is a health hazard and, in accordance with WHO recommendations, OOP spending on it should be excluded from the RH subaccount.¹⁴ However, expenditure on Information, Education and Communication advocating against FGM as well as management of complications of FGM are included where appropriate. Should there be a strong policy desire to have information on OOP spending on FGM, this may be described separately in an addendum to the NHA report. It should not, however, be included in the body of the subaccount itself.

### 2.4.1.3 Functional boundaries between subaccount types

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¹² Readers interested in tracking expenditures associated with HIV/AIDS should refer to existing guidelines on NHA HIV/AIDS subanalysis (De et al., 2004) and HIV/AIDS accounts (SIDALAC, 2001). The potential overlaps with other types of subaccount are discussed in section 2.4.1.3 and Chapter 6.

¹³ Generally, child health care is defined as services targeting children up to 5 years of age; ICPD discusses only services that “provide couples with the best chance of having a healthy infant”.

The boundaries of different programme- or disease-specific subaccounts may overlap. RH subaccounts may overlap with the HIV/AIDS, child health care, and malaria subaccounts. The inclusion of these areas in one subaccount or another, or in multiple subaccounts, will largely be determined by the local policy context. This does not necessarily preclude international comparability. Care should be taken to disaggregate services that may overlap with other subaccounts so that adjustments may be made to ensure comparability.

### Table 2.1. Possible overlapping services in RH and other subaccounts

<table>
<thead>
<tr>
<th>Service</th>
<th>RH subaccount</th>
<th>Child health subaccount</th>
<th>HIV/AIDS subaccount</th>
<th>Malaria subaccount</th>
</tr>
</thead>
<tbody>
<tr>
<td>STI services</td>
<td>√</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS services</td>
<td></td>
<td>√</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Prevention of mother-to-child transmission (PMTCT) of HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermittent preventive therapy (IPT) and antimalarial chemoprophylaxis (given to pregnant mothers for malaria prevention)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic newborn health care (in perinatal period)</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Newborn care is defined as routine/well-baby care given up to 28 days after birth. To the extent that these services are delivered as a mother–baby package of care, they would be included in RH. If there are complications with the newborn and the baby is cared for in a pediatric unit, these expenditures would be classified under child health. In short, the type of service and the manner in which it is delivered will to a large extent determine its classification.

### Box 2.1. Assigning expenditure on neonatal care to the appropriate subaccount

Every year 4 million newborn babies die, accounting for 40% of all deaths among children under 5 years. In many countries, interventions addressing newborn health reach a relatively low percentage of the population. Given the limited resources available for neonatal health, one important policy question for subaccounts to address is the relative investment in this area compared with other child health interventions – or with health interventions in general.

Expenditure on newborn health is included in both child health and reproductive health subaccounts. Services delivered to the child or its caretaker after the birth of the child, and whose primary purpose was to restore, improve or maintain the health of the child, should be included in child health expenditure. This raises the question of what to do with interventions that are delivered jointly to mother and child or those delivered to the mother that benefit both mother and child (such as breastfeeding counselling).

Examples are PMTCT, Insecticide Treated Nets (ITNs which include interventions delivered to both mother and child, but which are primarily aimed at protecting the newborn child (see footnote 15). Every attempt should be made to separate out the proportion of PMTCT expenditure that is used to deliver services to the mother before the child is born and to exclude them from the child health accounts. In

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15 Areas of overlap between different subaccounts should be clearly identified. This can be done more easily if subaccounts are prepared at the same time.
practice at country level, it is difficult to separate out the child-health-specific PMTCT expenditure, and
the team may therefore include the entire PMTCT expenditure after the birth in the child health accounts.
It should be clearly indicated in the final report that this was the method used.

For neonatal health interventions in general, the challenge is to separate expenditures on mother and
child. In many settings, newborn care is delivered in conjunction with maternal care, and it may be
difficult to disentangle the expenditures for the child. Health interventions aimed at improving newborn
health may include activities that are perceived as belonging to more than one programme and more than
one age group, such as:
- advice on birth spacing and birth control;
- antenatal care;
- safe delivery;
- breastfeeding counselling;
- immediate postnatal care.

Figure 2.1 shows how intervention expenditures are included in reproductive health and child health
subaccounts. The dividing lines are birth (for child health accounts) and 28 days after birth (for RH
accounts).

Figure 2.1. The inclusion of health interventions for the newborn in child health subaccounts (CHA) or
reproductive health accounts (RHA)
As shown in Figure 2.1, certain interventions can be fully attributed to reproductive health and should not be included in the child health accounts. These include antenatal care and safe delivery. Interventions delivered to the child after 28 days should be included in the child health subaccount and not in the RH subaccount.

Regarding interventions between the birth and 28 days of age, for some activities it may be possible to separate expenditures on the mother from those on the newborn. Safe delivery, for example, is counted only in the RH account, while management of neonatal illness is included only in the child health account. In principle, most of the curative care for the child is included only in the child health account. Much of the preventive care for the newborn, on the other hand, is included in both sets of accounts. One of the reasons for this is that much of this preventive care, e.g. postnatal visits, is delivered jointly to the mother and the baby. In these cases there may be two strategies for the subaccounts:

(a) divide the joint expenditure and allocate one part to child health and the other part to RH;
(b) keep the joint expenditure whole and include it in both sets of accounts.

The recommendation here is to use method (b). Overlap is not a problem in itself, but should be clearly indicated when the results are presented. If the child health and RH subaccounts are prepared and presented jointly, then in the final presentation of results the services that have been included in both accounts need to be not double counted.
Note that the distinction here is programmatic (by national programme) but also strategic. In many countries, responsibility for newborn health is shared between reproductive health and child health programmes, and the guidelines need to reflect this reality.


2.4.1.4 ICD-10

Once the boundary has been demarcated, the accounts team should consult the *International Classification of Diseases*\(^{16}\) (ICD-10) (WHO, 2007) for a comprehensive listing of conditions related to reproductive health. Services targeting those conditions would fall within the potential boundary of the subaccount. Note, however, that the ICD-10 is not comprehensive for NHA purposes; it does not include programme services, such as information, education and communication (IEC) campaigns and other public health programmes. Annex 1 contains a list of the ICD categories that are relevant to the RH subaccount.

2.4.2 Implemented scope

Through the above process, the NHA teams can identify all the activities that could potentially be included in the RH subaccounts. When preparing the accounts, however, the scope may have to be modified, for example if the team finds that some services within the potential boundary are not provided, or that expenditure data for some services are not available. This may be because the data have not been collected; or they may not be accessible to the technical team; or they may be unusable because the quality is low. It is critical that any such unavailable data are properly documented in the final report, to facilitate comparisons over time and between countries. When considering eliminating a service from the implemented scope because of lack of data, teams are advised to apply the “2% rule”; that is, the team should not feel compelled to measure a particular expenditure if it is difficult to track and is thought to account for less than 2% of THE\(_{RH}\) (unless this small amount is significant for policy purposes). For example, one sub-Saharan African country did not include expenditure on sterilizations or infertility counselling in the scope of its RH subaccount, because these services were not offered widely in the country (and were thus expected to account for less than 2% of THE\(_{RH}\)) and were difficult to track because of poor record-keeping. By allowing insignificant expenditures to be excluded, the 2% rule helps to ensure that estimates are timely and relevant to policy. Note, however, that what falls within the 2% rule in one country may be outside it in another.

Another practical consideration for the implemented scope is the capture of “non-targeted” expenditures for RH. Non-targeted expenditures involve activities that are not specific to RH, such as administration. In this case, it is necessary to estimate the proportion going to RH, for example, the proportion of medical staff wages going to public hospital staff who treat patients for RH-related issues. Generally speaking, unless providers have cost-accounting systems, such information is not readily disaggregated; this may be a particular problem in the information systems of middle- and low-income countries. Nevertheless, RH

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\(^{16}\) ICD is an international diagnostic classification “used to classify diseases and other health problems recorded on many types of health and vital records including death certificates and hospital records. In addition to enabling the storage and retrieval of diagnostic information for clinical and epidemiological purposes, these records also provide the basis for the compilation of national mortality and morbidity statistics by WHO Member States.” (http://www.who.int/classifications/icd/en/)
subaccounts should aim to capture both targeted and non-targeted spending. Estimation approaches for non-targeted spending, particularly in countries without cost-accounting systems, are described in section 6.3.2.

Market providers are assumed to include in their prices the cost of the services provided, thus their sales can be analysed.\(^{17}\) For non-market producers (non-profit institutions serving households and government units), the costs of producing RH services need to be considered (e.g. the inputs consumed as human resources, supplies, etc.). A breakdown is feasible using the resource cost classification.

### 2.4.3 Core, health-related, and addendum functions

Within the functional boundary of RH expenditures, the NHA framework establishes parameters of spending on core, health-related, and other RH activities. In this guide, RH activities that fall outside the core and health-related parameters are referred to as “addendum” functions or activities.

1. Core activities are those primarily and entirely associated with RH care.
2. A health-related RH activity may overlap with other fields, such as education, overall social expenditure, and research and development. These activities may be closely linked to health care in terms of operations, institutions, and personnel, but should, as far as possible, be excluded when measuring direct health care functions. Also, health-related activities should comply with the classification categories outlined in the NHA Producers’ Guide (WHO, 2003), which are drawn directly from the *System of Health Accounts* (SHA) (OECD, 2000).\(^{18}\) Examples of health-related activities are formal education\(^ {19}\) of health personnel to deliver RH services and basic research on contraceptive methods.
3. RH activities that are principally non-health-related are referred to as addendum functions or “below the national health expenditure (NHE)\(^ {20}\) line” items. These include, for example, programmes to counter gender-based violence, which do not have an exclusive health focus and do not fall within the health-related categories specified by SHA. Female genital mutilation would also be considered addendum activities. While these activities are not included in the NHA framework for purposes of international comparison, they may be important in the local policy context. For that reason, expenditure on such activities can be included in the NHA report, but “below the NHE line”, which refers to the row in the NHA tables that presents the NHE\(_{RH}\) estimate. Thus, addendum expenditures should be shown in separate analyses following the NHA

\(^{17}\) The full cost of intermediate inputs (including salaries, equipment and supplies) at private for-profit providers is embedded in the price charged to patients or insurance schemes. Thus, non-targeted expenditures do not need to be estimated separately in these cases.

\(^{18}\) A *System of Health Accounts* was principally intended for use in OECD countries. The NHA Producers’ Guide adapted the SHA classifications to the developing country context.

\(^{19}\) While the category of “education and training of health personnel” is considered health-related in the SHA, not all training is included as health-related. What is principally considered as health-related is expenditure at paramedical schools, undergraduate schools in medical/paramedical departments, and graduate schools in medical/biomedical departments (SHA, p. 124). Training of community health workers, however, is considered part of public health programmes and thus as a direct health expense rather than a health-related one.

\(^{20}\) NHE refers to expenditures included in THE as well as any additional health-related activities, such as training and education. This concept will be explained further in Chapter 4.
matrices. This “below the NHE line” concept offers a way of addressing national policy concerns while maintaining the potential for international comparability.

The distinction between direct, health-related, and addendum functions will be elaborated in the chapter on classifications (Chapter 3).

2.5 Determining the space boundary

In the general NHA framework, national health expenditures are not limited to activities that take place within the country’s borders. Rather, the “space” boundary is defined in terms of the country’s residents. As such, health accounts include spending by residents who are temporarily abroad and exclude that of visitors (though not in all cases\(^{21}\)). This definition is maintained for RH subaccounts, which include spending on and by all residents of a particular country, including expenditure by external agencies on inputs to RH care within the country.

2.6 Determining the time boundary

The other important feature in determining scope is time. The general NHA framework highlights two time-related issues: (1) the timeframe of the subaccount itself: “over what period will expenditures be tracked?”; and (2) a possible time lag between the provision of a service and the payment for it.

Generally speaking, health accounts track spending over either a calendar year or a fiscal year. This may seem obvious but, in practice, it may be necessary to make adjustments if different institutions report annual expenditures according to different timeframes. For example, most government entities report their health expenditures over the fiscal year, while most private-sector institutions use the calendar year. In preparing NHA and RH subaccounts, the team will need to choose between the calendar and fiscal year and, where needed, adjust expenditures accordingly (see Producers’ Guide (WHO, 2003), p. 22 and Annex D).

The second major time issue has to do with cash versus accrual-based accounting. NHA use the latter, which means that health expenditures are counted in the period in which the transaction took place, not that in which payment was made. Thus, a payment may be made by a household in December, but the reimbursement by the insurance company is done 6 months later. In the accrual approach, this is recorded as if everything happened in December.

Another common time-related issue for the RH subaccount involves the procurement of large batches of contraceptive commodities from donors. In some countries, donors may provide two years’ worth of commodities in one shipment. Rather than including the entire value of the commodities in that year’s subaccount, the expenditure should reflect the value of commodities used for that year alone.

Unique to RH care are time boundaries relating to the particular RH services of postpartum, newborn, and child care. It is recommended that postpartum care to the mother be included in the RH subaccount. The postpartum period is usually defined as the first six weeks after delivery. Newborn care should be

\(^{21}\) See Producers’ Guide, p. 22, for more details. Special cases include, for example, countries where medical tourism is a policy objective.
included in the subaccount only if it is for services up to 28 days after the birth, and if those services are part of routine or well-baby care. If the infant has a health problem during this time, expenditures on services addressing that condition are best classified under child health and, to the extent possible, should be included only in the child health subaccount.

2.7 Boundary issues involving monetary versus in-kind expenditure transactions

“In national accounting, expenditure refers to the economic value of goods or services produced or consumed. For market production, this value is established by the transaction prices observed in the market. For nonmarket production, the value is established at the cost of resources (labour, supplies, etc.) used to produce the good or service in question” (Producers’ Guide (WHO, 2003), p. 295).

Generally speaking, expenditure involves a monetary transaction. However, the NHA framework accommodates the value of in-kind transactions, such as contributions of contraceptive commodities made by donors, and household OOP payments in-kind (Producers’ Guide, Chapter 7). For the latter, because of the complexities of assigning a monetary value, in-kind expenditures should be included only if they are expected to be large and a monetary value can be assigned. For RH, these transactions may be quite important; for instance, in-kind payments may be made to traditional birth attendants for delivery services.

Unpaid care by a member of the family is not included, as per the current directions of the Producers’ Guide (paragraph 12.22). Although these inputs may be substantial, the value of uncompensated time and effort is generally excluded from the NHA tables, particularly from the THE estimate that is compared across countries. While this is currently the recommended approach, work is under way to expand national accounts to include such nonmarket transactions (National Research Council, 2005). In the interim, should a country NHA team feel that household production of health care is important from a policy perspective, the value of these activities may be estimated but described outside the NHA tables.

2.8 List of potential RH activities included within the subaccount boundary

In light of the criteria described above, the RH activities listed below are the main ones that can be included in the RH subaccount. The activities are grouped according to five core aspects of reproductive (and sexual) health care, as defined in the reproductive health strategy adopted by WHO in 2004. The non-programme elements of the core aspects have been mapped to specific ICD categories in Annex 1.

In Chapter 3, the listed activities are reclassified according to the NHA framework.

1. Improving antenatal, perinatal and postnatal care

22 For purposes of comparison, it is recommended that PMTCT of HIV is excluded from the RH subaccount and included in the HIV/AIDS subaccount, because the service is generally offered in settings with a medium or high prevalence of HIV, where the preparation of a distinct HIV/AIDS subaccount is recommended. Irrespective of the subaccount chosen, care should be taken to clearly distinguish expenditures associated with services that may be perceived to overlap with other subaccounts.
• Antenatal care, including the provision of micronutrients (such as iron sulfate, folic acid, vitamin A) and food supplements to mothers before, during, and after pregnancy.
• Postnatal care, including services for the mother up to six weeks after delivery and for routine care for the infant up to 28 days.
• Deliveries, including emergency obstetric care to deal with complications, and transportation for emergency obstetric care.

2. Providing high-quality services for family planning, including infertility services
• Includes all programmes, goods, and services, as well as counselling, health education, and information, intended to assist people to control their fertility:
  - outpatient counselling and provision of contraceptive commodities, such as insertion of intrauterine devices (IUDs);
  - retail sale of family planning commodities, such as oral contraceptives, condoms, spermicides;
  - female and male surgical sterilization;
  - abortion (where legal);
  - infertility counselling, fertility drugs, and procedures; and
  - programmes that support or promote family planning, such as IEC, public awareness, health education campaigns, training, and research.

3. Eliminating unsafe abortion

4. Combating STIs including HIV, RTIs, cancers of the reproductive system, and other reproductive morbidities
• Includes general reproductive care:
  - routine examinations (e.g. Papanicolaou (Pap) smears);
  - diagnosis, management, and treatment of STIs (may be included in either the RH subaccount or the HIV/AIDS subaccount depending on country context);
  - health education;
  - treatment of RTIs;
  - screening and treatment of uterine, cervical, ovarian, breast, prostate cancers, etc.; and
  - treatment of fistula.
• STI prevention and awareness programmes

5. Promoting sexual health
• Programmes addressing gender-based violence, elimination of harmful sexual practices, sexual trafficking, and exploitation of minors

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23 Included as health-related.
24 WHO defines unsafe abortion as the termination of a pregnancy carried out by someone without the skills or training to perform the procedure safely, or in an environment that does not meet minimal medical standards, or both.
25 Promoting sexual health is part of the Reproductive Health programme, as detailed in chapter 3. Certain activities can go beyond the reproductive health boundary, e.g. legal issues regarding sexual trafficking, which are considered as addendum activities.
• Programmes addressing adolescent sexual and reproductive health
• Programmes addressing the issue of sexual trafficking (social protection, family and children)
• Programmes addressing the issue of exploitation of minors
3 Classifications

3.1 General principles of classification

Tracking resources through the health system requires careful identification of the different actors involved and the different functions performed in the health sector. Health system actors and functions are the principal components in the organization of NHA.

The NHA Producers’ Guide (WHO, 2003) provides the conceptual and practical approach to identifying and categorizing actors and functions vectors in meaningful and internationally applicable categories. This guide follows the general classification principles of the Producers’ Guide (Chapters 3 and 4), expanding on the classification scheme of the ICHA (OECD 2000) and building on ICD-10 (see section 2.4.1.4).

The Producers’ Guide identifies four principal vectors: functions, providers, financing agents, and financing sources.

Operational definitions of the actors and functions in the health system are as follows:
1. Functions are goods and services produced by health care providers and by institutions and actors engaged in activities related to health care. Functions include curative, rehabilitative, preventive, and long-term nursing care, as well as medicines and other commodities, such as condoms.
2. Providers are entities that receive money in exchange for, or in anticipation of, the performance of services within the health accounts boundary. Examples of health care providers include hospitals, clinics, pharmacies, independent physicians, and NGOs.
3. Financing agents are institutions or entities that channel the funds provided by financing sources, and use those funds to pay for, or purchase, services within the health account boundary. Financing agents are the principal managers and distributors of funds in the health sector. Examples of financing agents include the Ministry of Health, insurance companies, and households that purchase health services.
4. Financing sources are institutions or entities that provide the funds for health care. Examples of financing sources include the Ministry of Finance, households, and donors.

Classifications used in disease-specific or intervention-cluster subaccounts are based on the same principles and criteria as those used in NHA. The main difference is the focus on a specific disease, accompanied – where possible and relevant – by a greater level of detail in the classification schemes. This is particularly the case in the classification of health care functions.

The Producers’ Guide also proposes a classification of the beneficiaries of health care (see Box 3.1).

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26 An important difference between the Producers’ Guide and the OECD’s SHA is that the former distinguishes financing agents from financing sources, whereas the latter combines them in one dimension of sources of funding for health care. In addition, the Producers’ Guide identifies separate vectors for beneficiaries and resource costs (the factors or inputs used by providers or financing agents to produce the goods and services consumed or the activities conducted in the system). The SHA does not prescribe these in its system for recording health expenditure, although it includes a standard beneficiary table on personal expenditure on health by age and sex.
The ICHA-based classifications for financing sources, financing agents, providers, and functions, presented in the Producers’ Guide, are given in Annexes 2–5. The taxonomy of these classifications is based on combining actors and functions with common characteristics in a hierarchical and internally consistent format. The identification codes of the four NHA vectors start with a letter code:

- functions: HC
- providers: HP
- financing agents: HF
- financing sources: FS

The letter code is followed by a numerical code of one or more digits, and a description of the subcategory. A section of the provider classification of the RH subaccount in Karnataka, India, illustrates the structure of ICHA-based classifications (Table 3.1).

Table 3.1. Classification scheme for RH care providers in Karnataka (HP.1.1–1.4 only)

<table>
<thead>
<tr>
<th>HP Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP.1</td>
<td>Hospitals</td>
</tr>
<tr>
<td>HP.1.1</td>
<td></td>
</tr>
<tr>
<td>HP.1.1.1</td>
<td>General hospitals</td>
</tr>
<tr>
<td></td>
<td>Hospitals in the public sector</td>
</tr>
<tr>
<td>HP.1.1.1</td>
<td>Central Government hospitals</td>
</tr>
<tr>
<td>HP.1.1.2</td>
<td>State Government hospitals</td>
</tr>
<tr>
<td>HP.1.1.3</td>
<td>Local Government hospitals</td>
</tr>
<tr>
<td>HP.1.1.2</td>
<td>Hospitals in the private sector</td>
</tr>
<tr>
<td>HP.1.3</td>
<td>Specialty hospitals</td>
</tr>
<tr>
<td>HP.1.3.1</td>
<td>Hospitals in the public sector</td>
</tr>
<tr>
<td>HP.1.3.2</td>
<td>Hospitals in the private sector</td>
</tr>
</tbody>
</table>
| HP.1.4  | Hospitals of nonallopathic systems of medicine: ISM&H*
| HP.1.4.1| Hospitals in the public sector |
| HP.1.4.2| Hospitals in the private sector |

* Indian Systems of Medicine and Homeopathy
When developing national classifications for RH subaccounts, countries are recommended to adhere to the following principles.

- As far as possible, international standards and conventions should be respected; thus the taxonomy and alphanumerical codes of the ICHA-based classifications in the Producers’ Guide should be adopted. Consistent application of this organizing principle permits easy cross-walking from national classifications to the ICHA system and allows international comparison of health expenditures.

- Classifications are flexible in the sense that they can be adjusted to national policy requirements and institutional settings in the health sector, as long as these adjustments are consistent with, and confined by, the broader ICHA categories. Specific categories may be deleted, collapsed, or combined, or new subcategories created. When new subcategories are created, the ICHA-based Producers’ Guide codes should be maintained. Subsequent digits may be used to identify lower-level subcategories that are relevant from the national policy perspective. All adjustments to the standard classification should be carefully documented.

- Classifications may also need to be adapted for reasons of feasibility. To allow flexibility and detailed analysis, it is advisable to aim for as much detail as possible, but in practice – because some data may not be available or accessible, or because of limited budget and time – information may need to be presented at an aggregated level.

- Classification schemes should reflect the principles of mutual exclusivity (an expenditure cannot go into more than one category) and exhaustiveness (every expenditure can go into a category). If a scheme is not exhaustive, health expenditure will be underestimated. If the categories of the schemes are not mutually exclusive, transactions or activities may be counted more than once, and health expenditures will be overestimated.

In the example given in Table 3.1, the categories in italics were added to the standard ICHA classification, because of their policy relevance in the Indian setting. Also, the ICHA category HP.1.2 (Mental health and substance abuse hospitals) does not appear, because tracking funds for this provider type is not relevant to the RH subaccount.

Fitting the classifications used in disease-specific or intervention cluster subaccounts to the NHA classification scheme allows the results to be interpreted in the wider health system analysis and to be compared with those for other subaccounts. The connection between the NHA and the RH subaccount can be approached in two ways:

1. The NHA and RH subaccount estimates can be done in tandem. The classifications of the subaccount framework are determined by the broader NHA framework. RH specifics are built into the development and implementation phases of the NHA.

2. The RH subaccount study may be done as a stand-alone endeavour. General NHA classification schemes (if they exist) can be extended and tailored to the specific needs of RH policy-makers. The designers of stand-alone RH subaccounts should, as far as possible, adhere to the NHA classifications to allow comparisons.

In either case, it is important to comply with the classification codes of the Producers’ Guide to ensure international comparability.
3.2 Classification of functions

The HC classification of functions allows the goods and services produced to be systematically grouped according to their purpose, and expenditures to be tracked by group, regardless of the provider or the financing source. The functions classification scheme contains nested subcategories. First, a distinction is made between core functions (codes HC.1–HC.7), and functions related to health care (HC.R.1–HC.R.5). Health-care-related functions are closely linked to health care in terms of operations, institutions, and personnel (e.g. training of medical personnel, policy monitoring and advocacy, research, and construction and maintenance of buildings, storage, and equipment) but overlap with other fields, such as education, overall social expenditure, and research and development. They should, to the extent possible, be differentiated from core health care functions in the subaccount.

Second, within core functions (HC.1–HC.7), services and goods that can be unequivocally allocated to individuals are separated from those provided to society at large. The latter functions are associated with prevention and public health programmes and policies, such as vaccination schemes, advocacy, and educational campaigns. Codes for individual or personal health functions are HC.1 to HC.5 and codes for collective health functions are HC.6 to HC.7.

Third, the group of personal health functions is further subdivided according to the basic types of care (curative, rehabilitative, and long-term nursing), and mode of production (inpatient, day care, outpatient, home care).

Addendum functions (see section 4.2) are denoted by the code AD. Expenditures on addendum functions should be presented separately from the RH subaccount, because they lie outside the realm of health per se. In order to maintain comparability and analytical power, any newly created category should comply with the overall basic principles of category formation, as defined in section 3.1, including mutual exclusiveness and exhaustiveness.

Box 3.2 provides a basic description of the classification categories of ICHA-HC. The description is restricted to categories that are relevant to RH care. For a complete and more elaborate explanation, see the SHA (OECD, 2000).
An episode of curative care is one in which the principal medical intent is to relieve symptoms of illness or injury, to reduce the severity of an illness or injury or to protect against exacerbation or complication of an illness or injury. A distinction is made between inpatient care, outpatient care, and home care. With inpatient curative care, patients stay overnight in the health facility. Curative inpatient or outpatient care includes, for example, the diagnosis and treatment of STIs, or the treatment of cancers of the reproductive system, such as cervical or prostate cancer. Curative home care comprises all medical and paramedical curative services delivered to patients at home. An example is obstetric services provided at home at the time of delivery, when complications occur and the patient cannot immediately be taken to hospital. It should be noted that the associated costs for diagnostic and laboratory services, drugs, and administration should be included in this category.

Home care pertains to services delivered by medical or paramedical providers to a patient at home. It does not include self-medication or care provided by family members (unless reimbursed).

The category of curative care usually accounts for a large share of RH expenditures, which complicates efficiency studies. In order to reduce this problem, the category may be disaggregated into separate subcategories, for ancillary services, pharmaceuticals, and direct curative care.

An episode of rehabilitative care comprises services aimed at improving the functional levels of the persons served (where the functional limitations are either due to a recent illness or injury or of a recurrent nature (regression or progression)).

Over-the-counter medicines are classified usually as private households’ pharmaceutical expenditure.
The boundaries of the RH subaccount are determined by the aggregation of all functions.

As noted in section 2.8, the present guide uses the ICD-10 as a basis for the classification of functions (see annex 1). Groups are created to reconcile: (1) the criteria for functional boundaries (see above and

Different RH classifications have been applied by, for instance, WHO (2004), Bernard & Tsui (1995), Rannan-Eliya et al. (2000), Sharma et al. (2002), Odumosu (2002). These classifications group activities according to different criteria: the domain of RH (e.g. family planning, maternal health, STIs including HIV/AIDS), health objectives (e.g. reduced teenage
section 2.4), and (2) the ICHA-HC (OECD, 2000). The result of this exercise provides, as a minimum, the following main RH function categories:

1. Maternal health services, including antenatal and postnatal care, delivery care, management of abortion complications.
2. Family planning services, including prevention and treatment of infertility, and other fertility regulation services, including induced abortion.
3. Other RH services, including:
   - services dealing with STIs (except HIV/AIDS);
   - other services, including management of cancers of the reproductive system, RTIs, and fistulas, and sexual health programmes (see Box 3.3).
4. HIV/AIDS services (placeholder category). For practical reasons, the activities, services, and goods dealing with HIV/AIDS have been excluded from the RH functions classification. Many countries do not incorporate HIV/AIDS interventions into their RH programme and consequently may not want to include these in the RH subaccount. Countries that do want to include HIV/AIDS in RH can use this placeholder category, which does not belong to the core of RH subaccounts. For comparison purposes, expenditures associated with HIV/AIDS services should be clearly distinguished from other RH expenditures. The HIV/AIDS functions classification has been described by De et al. (2004).

Programme services, such as IEC campaigns, and other public health programmes are not included in the ICD but would fall within the reproductive and sexual health boundary. These activities, services, and goods are added in the function classification.

The proposed classification of RH functions provides a detailed elaboration and adaptation of the ICHA-HC. Up to the two-digit level, the categories are identical to those of the ICHA-HC. Categories that are not considered relevant for RH are excluded. At the three-digit level and below, the function classification scheme is specific to RH services and goods. The following codes have been assigned consistently throughout the RH functions classification:

1 maternal health services
2 family planning services
3 other RH services.

These new RH-related categories are assigned to the level directly below the most detailed classification level for health care functions in the Producers’ Guide. Classification at the three-digit level is recommended as the minimum for RH subaccounts.

Box 3.3 provides an overview of the RH functions classification. Examples of recommended subcategory breakdowns are given in the second column. The third column contains illustrative examples and additional remarks pertaining to the subcategories.

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pregnancy or maternal mortality), age and life course events (e.g. adolescence, marriage, pregnancy), and health care activities themselves (e.g. antenatal services, antiretroviral therapy (ART), counselling).

The following considerations on structure and content guide the classification of RH functions.

- Within the group of core health care functions (HC.1–HC.7), the ICHA-HC presents a classification dilemma. Between HC.1–HC.5 and HC.6–HC.7, two criteria are applied: curative versus preventive care and individual versus collective care. To allow international comparison of results, the function classification for RH accounting should give preference to the individual rather than the collective criterion. Therefore, expenses on all personal clinical care will fall into category HC.1. For example, prenatal and postnatal care belong to outpatient curative care. Therefore, even if individual clinical services are preventive, they will be categorized in HC.1.

- The group of functions that are indirectly related to health care (HC.R.1–HC.R.5) includes expenses that relate to RH activities, but also overlaps with other fields – such as education, overall social expenditure, and research and development – that in terms of operations, institutions, and personnel expenditures are closely linked to health care. For example, expenditure on training of medical personnel is included when their training is closely linked to the delivery of RH services.

- The classification scheme is detailed and specific, and few countries will have information on all the categories listed. In practice, therefore, each country will only complete those that are relevant and feasible. It is, nevertheless, advisable to maintain the highest possible level of detail, to facilitate the analysis and allow comparisons. This specificity should be maintained both in the planning and data collection phase and in the concluding working tables. Summary indices can be presented at a more aggregated level.

- Countries may want to expand or adapt the functions classification scheme to their specific needs, possibilities, and circumstances. For instance, it may be relevant to append categories for services that fall outside the allopathic system and cannot be assigned to the present classification, such as Ayurvedic or homoeopathic treatments. However, it is advisable to maintain the possibility of cross-referencing to ICHA-HC and the RH functions classification scheme proposed here. Explicit documentation is recommended for the categories that are developed.

- The categories of the classification should be exhaustive and mutually exclusive, i.e. all RH and RH-related activities should be covered by the classification, and they should be attributable to one category only.
Box 3.3. RH functions classification

See annex file
3.3 Classification of health care providers

Providers deliver health services and goods and as such are the end-users of funds. The provider classification relates to the NHA question, “where does the money go?” Providers include, for example, hospitals, clinics, primary health care centres, traditional healers, and pharmacies.

As deliverers of health care, health care providers are closely linked to the functions that describe the services and goods produced and paid for in the health sector (see section 3.2). It is, however, essential to maintain a clear distinction between the two and to understand the difference between the respective classifications. One specific health care function (e.g. delivery attendance) can be offered by a range of providers (e.g. a hospital inpatient department, a private clinic, a community nurse, or a traditional birth attendant).

There are several ways to categorize health care providers. Widely used ordering principles include the following:

1. **Categorization based on sector**
   - public
   - private (for-profit, not-for-profit)
2. **Categorization based on mode of production of health care services**
   - intramural and extramural
   - residential and ambulatory
3. **Categorization based on position of provider in health care chain (access)**
   - primary health care centres and physicians (front-line health care)
   - referral institutions (e.g. regional hospital)
4. **Categorization based on target population**
   - mother and child health centres
   - elderly health care
5. **Categorization based on type of intervention or function of care**
   - prevention (including promotion activities)
   - cure
   - rehabilitation
   - care (e.g. nursing home, palliative care)

The basic criterion for classifying health care providers is the provider’s principal activity. On this basis, a distinction is made between primary producers of health care – providers whose principal activity is health care delivery, such as hospitals, nursing care centres, retail sale outlets of medicines, health administration – and secondary producers – entities that provide health care in addition to their primary activities, which are not related to health care, such as residential care institutions.

The mode of production of health services is also applied as an ordering principle and the type of service is classified according to where the provision takes place. The providers classification allows differentiation by sector (public and private, the latter subdivided into for-profit and not-for-profit), the position in the health chain (primary, secondary, and tertiary), and the administrative level (national, regional, and local).
To reflect the types of provider and arrangements for health care delivery in the country, the NHA team may collapse, combine, or omit categories or, conversely, expand the classification scheme by adding new policy-relevant subcategories. In order to maintain international comparability, the numbering of the Producers’ Guide (WHO, 2003) should be maintained. In addition, the principles of mutual exclusiveness and exhaustiveness should be respected.

The Producers’ Guide makes explicit reference to providers of nonallopathic and traditional health services, which may be integrated to some degree in the formal health system (see, for example, Table 3.1). A separate category is included in the providers classification for “Hospitals of non-allopathic systems of medicine” (HP.1.4), while alternative or traditional practitioners in ambulatory health care should be classified under HP.3.3 or HP.3.9.3.

Box 3.4 describes the provider classification categories, focusing on providers of RH care. E.g. on providers that offer the services and goods stipulated in the RH functions classification (section 3.2): maternal health, family planning, and other RH services, such as services for STIs, cancers of the reproductive system, RTIs, fistulas, circumcision, abortion, and sexual health.

**Box 3.4. Basic categories of RH care providers**

HP.1  Hospitals
Hospitals are licensed establishments primarily for inpatient care and associated accommodation. They may also provide outpatient care as a secondary activity. Subcategories include general hospitals (hospitals providing health care to inpatients with a wide variety of medical conditions), speciality hospitals (hospitals primarily providing health care to inpatients with a specific type of disease or medical condition), and hospitals of nonallopathic systems of medicine. Examples in the classification for RH care providers are general hospitals with maternity wards, maternity homes, abortion clinics, and specialized oncology hospitals (for treatment of cancers of the reproductive system).

HP.2  Nursing and residential care facilities
This category comprises establishments primarily engaged in providing residential care combined with nursing or other types of care as required by the residents, for example, nursing homes providing rehabilitative and palliative care for patients with cancer of the reproductive system.

HP.3  Providers of ambulatory health care
This category comprises establishments primarily engaged in providing health care services to outpatients, for instance outpatient gynaecological care. This includes health centres and health posts. Subcategories include offices of physicians and other health practitioners (e.g. midwives, community health workers), whether independent or operating in the facilities of others, as well as outpatient care centres. The latter includes a subcategory for family planning centres (HP.3.4.1). Special attention should be given to possible traditional, complementary, and alternative medicine (TCAM) performed by ambulatory health care providers. Given the significant role of traditional birth attendants in many countries, it is recommended that a separate subcategory should be specified for non-office-based providers under HP.3.9.3 (Alternative or traditional practitioners). If these practitioners are office-based, a separate subcategory under HP.3.3 (Offices of other health practitioners) is appropriate.

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29 For a more elaborate explanation of the provider classification, see the Producers’ Guide (WHO, 2003, section 4.10 onwards) and the SHA (OECD, 2000, sections 4.8 onwards).

30 These include, for instance, hospitals and outpatient centres for mental health and substance abuse, and residential mental retardation facilities (HP.1.2, HP. 3.4.2 and HP. 2.2, respectively), community care facilities for the elderly (HP.2.3) unless these include RH care services, offices of dentists (HP.3.2), dialysis care centres (HP. 3.4.4), and providers of medical goods not related to RH (HP.4.2 and HP.4.3).
The classification of health care providers – more than the other classifications – will need to be modified to meet the aims of the country’s RH subaccount. The contents and level of detail of the resulting provider classification will depend on the following factors:

- the structure and complexity of the health sector, in terms of division of tasks and responsibilities, and the specific position of RH care providers in the sector;

- the policy questions to be addressed by the RH subaccount. This will determine, for example, the application of additional classification principles, such as type of ownership (public–private) or factors facilitating access to RH care (e.g. insurance);

- the function boundaries defined for the RH subaccount. The classification should be cross-checked with the RH subaccount function classification (see section 3.2) to ensure that all relevant functions can be accommodated by the provider categories. A prominent consideration in this respect...
could be the inclusion of condom distribution and prevention and treatment of STIs, because these issues are on the border with HIV/AIDS activities, which may be dealt with in a separate account. Another issue is the incorporation of health-related functions (such as research and training) and non-health care activities (such as women’s empowerment or legal support to women victims of rape);

- the availability of data and time, and budget constraints. These may impose limits on the level of detail in the provider classification.

### 3.4 Classification of financing agents

Financing agents – denoted by the code HF – are the institutions or entities that channel the funds provided by financing sources, and use those funds to pay for, or purchase, services within the health account boundary. Financing agents perform a crucial role in the health sector, because they manage and organize health funds, and make decisions that critically affect the consumption of health care.

In addition to receiving funds, financing agents may also generate funds to pay for health care. In this case, they should appear in the RH subaccounts in both roles, as financing agent and financing source. This may be the case, for instance, for households or firms, which may select and pay for health care (as both financing source and agent) and contribute to health insurance schemes (as a financing source, paying to a financing agent).

While the Ministry of Finance is usually the primary financing source in the public sector, other ministries are usually the prominent financing agents. The Ministry of Health occupies a central position, but other ministries (e.g., defence and education) may also be involved in channelling funds to purchase health care.

The ICHA classification of financing agents (see Annex 3) is similar to that of financing sources, in that it is divided into national public and private entities and international entities, and subdivided by administrative levels of territorial government. Special attention should be given to the classification of parastatal firms, which combine private and public characteristics. In many ways, they are similar to private enterprises, providing goods and services at economically significant prices. However, in terms of health care and funding, they are similar to government entities. As a rule, private entities providing social security should be classified in the public sector when they provide compulsory insurance and are controlled by government. Parastatal firms, such as government-owned railways or power companies, that are engaged in health activities through company clinics or insurance schemes should be treated as private firms.

Households are assigned a separate category, as they are important purchasers of health care in most health care systems (HF.2.3). A distinction can be made between direct and indirect payments by households. Direct or OOP payments refer to expenditures borne directly by the household for the purchase of health care. They include formal and informal payments to providers and cost-sharing arrangements in the form of co-payments, co-insurance, or deductibles. Indirect health care costs of household are payments to financing agents and include taxes and premiums for social and private insurance.

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31 For definitions of forms of cost-sharing, see the SHA (OECD, 2000, p. 157).
Various institutional arrangements in the form of insurance schemes exist as intermediate entities for pooling and channelling resources. The Producers’ Guide (p. 37) distinguishes three types of insurance schemes, which also appear in the suggested classification of financing agents:

1. Social security schemes (HF.1.2) are pooling mechanisms that are imposed by law or regulation and should therefore be included under “General government” in the financing agent classification. Although these funds are closely tied to and controlled by governments, they are organized separately and hold their assets and liabilities separately from the government. Social security funds usually involve compulsory contributions by employees or employers or both. They are intended to cover the community as a whole or large subsets of the population, although this aim is seldom realized in low- and middle-income countries.

2. Private social insurance schemes (HF.2.1) are collective schemes restricted to subsets of the population. They comprise all social insurance funds other than social security schemes. Usually, membership of such insurance schemes is restricted to employees or retirees of the sponsoring firms or associations (e.g., trade union) and their family members. Unlike social security funds, social insurance schemes are not under the direct control of the government and are, therefore, considered as private entities.

3. Other private health insurance (HF.2.2), often called voluntary medical insurance, is potentially available to any member of society. The category includes prepayments by households and pooling mechanisms for the purchase of services and goods in the health sector.

The classification of expenses in mutually exclusive categories is often problematic where there are several cost-sharing mechanisms. Health care costs may be covered partly by government or insurance and partly by OOP 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 nongovernmental organization.

It is worth reiterating here that RH subaccount classifications should include only the financing agents that manage funds for RH services and goods.

3.5 Classification of financing sources

Financing sources – denoted by the code FS – are the institutions or entities that provide the funds used for health care financing. The health system usually consists of a mix of public and private financing, with various arrangements for generating the funds used for health care.

Box 3.5 describes the categories of financing sources that are often found to finance RH care. Of course, some countries will not have all the categories identified here, while other countries will need to add categories. The organization of the country’s health care system will determine the specific classification scheme for financing sources.32

If starting with the general NHA tables, the technical team needs to separate out the financing sources that are relevant to RH. Many of those included in the general NHA – such as the government – cover the full range of health care delivery and will thus be relevant for RH. However, some entities, for example, NGOs and various disease-specific programmes, may be unrelated to RH.

32 A specific classification of sources of government financing is given in IMF, 2001 (Chapter 5).
Box 3.5: Basic categories of financing sources

FS.1 Public funds
The first main category comprises all funds generated as general revenue by the territorial government (FS.1.1) and funds generated as interest on government-held assets or for specific public purposes (target groups, universities) (FS.1.2). Territorial government funds are subcategorized into funds generated by the central government (FS.1.1.1) and by the regional and local government (FS.1.1.2). Many countries explicitly distinguish between the regional (e.g. state, province, district) and local (e.g. municipality, county) levels by adding a separate optional category (FS.1.1.3), for funds generated by local government.

FS.2 Private funds
In the category of private funds, three health system actors are distinguished: employers or firms (FS.2.1), households (FS.2.2), and not-for-profit institutions serving individuals (FS.2.3). The additional category of “Other private funds” (FS.2.4) comprises mainly interest payments on assets held by the private actors.

The employer funds (FS.2.1) include employers’ payments for their own health care facilities and self-insurance, as well as employers’ contributions to their employees’ health insurance and social security schemes. The funds provided by parastatal organizations and NGOs in their function of employers are also included in this category.

The household funds (FS.2.2) relate to direct payments to health care providers for health services and goods and to indirect payments for health made to social security and private health insurance schemes, which are managed by financing agents. The category of direct payments includes unofficial, undocumented, and informal payments to providers.

FS.3 Rest of the world funds
The third main category of financing sources captures the grants transferred from external entities, such as bilateral and multilateral organizations (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria, UNITAID), and development banks. Loans provided by these entities to governments should not be included here, but in category FS1.1.
4 Reproductive health subaccount tables

4.1 Introduction

RH subaccounts provide information about financial transactions in the form of a standard set of tables. The tables are the end result of the health accounting exercise and display the estimates of RH expenditures that are relevant to policy-makers, to answer questions such as how financial resources are mobilized (input), managed and distributed (throughput), and used (output). The tables also facilitate the estimation process itself, in that they provide a framework for combining figures and other information from diverse sources, and for identifying gaps and overlaps in the information.

The tables that constitute the RH subaccount framework are drawn up in accordance with the format prescribed for NHA in the Producers’ Guide (WHO, 2003, Chapter 5). They rely on the classification schemes described in Chapter 3. Each of the RH subaccount tables displays some facet of health expenditure, cross-tabulated by two of the vectors of health expenditure. Because the tables are interlinked, they provide an easy-to-use tool for tracking expenditures from funding sources to functions and beneficiaries.

4.2 General contents and structure of RH subaccount tables

The two major goals of the RH subaccounts process – to produce information that is relevant for local policy-makers and that is also internationally comparable – may require different output tables.

- **Total health expenditure on RH (THE\textsubscript{RH})** includes all expenditures classified under categories HC.1–HC.7 and HC.R.1 in the RH functions classification. Thus, it includes spending for direct RH care (individual care, collective health services, and the operation of the system’s financing agents) and capital formation of health care providers (HC.R.1). This measure is proposed by the OECD for use in international comparisons.

- **National health expenditure on RH (NHE\textsubscript{RH})** includes the THE\textsubscript{RH} plus all other health-related or indirect expenditures stipulated in the RH functions classification (HC.R.2 and HC.R.3). This measure may be of particular relevance to policy-makers in the country.

The two measures can be shown either in one table or in two separate tables. Expenditures for addendum functions should, in any case, be presented separately, in order to preserve the integrity of the RH subaccount.

By convention, the tables are organized such that the dimension representing the origin of funds is shown in the column headings and that representing the destination or use of funds is shown in the row headings. If a row is denoted by \(i\) and a column by \(j\), the \((i,j)\) cell of the table shows the amount of resources received from \(j\) that is spent by \(i\) during the year of estimation. Table 4.1 illustrates this. Row and column margin totals and grand totals should be equal, providing a basic cross-check of the data.

| Table 4.1. Resource flows by provider (source of funds) and function (use of funds) |

33 In principle, more than two dimensions could be combined in one table, but two are preferred for reasons of simplicity.
For purposes of publication and international comparison, the data may be presented at a high level of aggregation. Policy-makers, however, will be interested in the detail and may wish to have a number of subcategories presented in the tables. It is, therefore, advisable to produce working tables with as much detail as possible.

### 4.3 Selection of RH subaccount tables

Any two dimensions can be combined to produce different RH tables, but in practice time, data, or resource constraints and policy relevance will usually limit the number of tables to a selected few.

The Producers’ Guide (Section 5.08) recommends nine tables for production, consistent with the recommendations in the SHA (OECD 2000, Chapter 2). These are:

- four tables showing the resource flows between institutional health system actors and functions (for consistency, identification codes of actors and functions have been maintained):
  - RH expenditure by financing source and financing agent (FSxHF),
  - RH expenditure by financing agent and provider (HFxHP),
  - RH expenditure by provider and function (HPxHC),
  - RH expenditure by financing agent and function (HFxHC);
- four tables showing the distribution of RH spending among the population:
  - RH expenditure by age and sex of the beneficiaries,
  - RH expenditure by socioeconomic status of the beneficiaries,
  - RH expenditure by health status of the beneficiaries,
  - RH expenditure by geographic region;
- one table showing the cost of resources used to produce RH services and goods.

For the production of RH subaccounts, an additional table is recommended:
- RH expenditure by financing source and function (FSxHC)

The first group constitutes a core set of four tables that track the flow of RH funds from financing sources, through the intermediate financing agents to health care providers and RH functions. They focus principally on the financial mechanisms of producing RH services, goods, and activities. It is recommended that at least this core set of tables should be produced.
RH expenditure by financing source and financing agent (FSxHF)
This table highlights resource mobilization patterns in the field of RH. It addresses the question, “where does the money come from?” by showing the sources and amounts of funds received by the financing agents. It also shows the relative contribution of each financing source (e.g. households, the government, donors, private firms) to each financing agent and to overall spending.

RH expenditure by financing agent and provider (HFxHP)
This table answers the question, “how are RH resources distributed among providers?” in the health system. In doing so, it demonstrates the actual priority given to the various types of providers (which may differ from that in official policy documents). In combination with information about provider service delivery, the table can also provide a first indication of the cost-efficiency of different types of providers.

RH expenditure by provider and function (HPxHC)
This table shows how funds for the different activities are channelled through the various types of provider. It answers the question “how do providers spend their resources?” i.e., which providers are carrying out particular activities, providing particular services or offering particular goods? It is possible to examine, for instance, the proportion of spending on antenatal care accounted for by, or channelled through, government hospitals, private hospitals, and community health centres. The information can be linked to use and may give useful insight into how the different institutions differ in output (services delivered) per dollar spent on the institution (or received by the institution). Ideally, the information could also be linked to outcome, i.e. to behavioural changes and changes in health status. This would give an indication of the cost-effectiveness of service delivery.

RH expenditure by financing agent and function (HFxHC)
This table shows the entities that allocate resources to the major types of RH activities. To which activities does the central government allocate funds? Which activities are financed by the private sector (including OOP expenses and private insurance schemes), or by NGOs or donors?34 By implication, it also shows, for instance, the extent to which actual resource allocation to health services is consistent with policy priorities. Tables 4.2 and 4.3 provide examples of the FSxHF and HFxHP tables. (The Producers’ Guide contains additional examples.) Note that the grand totals for THE\textsubscript{RH} (a) and NHE\textsubscript{RH} (b) should be the same in all tables.

Also note that, in Table 4.2, the financing agents represent the destination of funds and are shown in the rows, whereas in Table 4.3 they are the origin of funds and are, therefore, presented in the columns. The two tables are linked, in that the row totals in Table 4.2 (the amounts received by the different financing agents) correspond to the column totals of Table 4.3 (the amounts spent by the financing agents).

It should be clear that the expenditure in each cell of the RH subaccount tables – and consequently the column and row totals – consist of the subset of the expenditure in the corresponding cells of the NHA that is defined by the functional boundary of the RH subaccount. So, in Table 4.2, the amount (c) that flows from the central government (FS.1.1.1) to the Ministry of Health (HF.1.1.1.1) is the RH part of the

34 This relates only to entities that transfer funds directly to providers. Entities, such as donors, that transfer funds to the government, for example, are considered financing sources.
total financial flow between this financing source and financing agent, as presented in the corresponding cell in the NHA. The difference between the total amount in the NHA and the amount presented in the RH subaccount represents non-RH health expenditure.

Part of this total flow may have been explicitly earmarked to RH and can therefore be integrally incorporated in the RH subaccount. Another part may consist of non-targeted expenditure. The methods used to determine the RH component of non-targeted expenditures (see section 6.3.2) should be well documented (see section 7.2).

**Table 4.2. RH expenditure by financing source and financing agent (FSxHF)**

<table>
<thead>
<tr>
<th>Financing agents</th>
<th>FS 1 Public funds</th>
<th>FS 2 Private funds</th>
<th>FS 3</th>
<th>THE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central government</td>
<td>Other public funds</td>
<td>Employees</td>
<td>Households</td>
</tr>
<tr>
<td>HF 1.1.1.1 Ministry of Health</td>
<td>©</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 1.1.1.2 Other ministries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 1.2 Social security fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 2.2 Private insurance enterprises</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 2.3 Private households OOP payment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 2.4 Non-profit institutions serving households</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF 3 Rest of the world</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF C.R. Financing agents funding education and research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### RH expenditure by financing agent and provider (HFxHP)

<table>
<thead>
<tr>
<th>Providers</th>
<th>Financing Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HF 1.1.1.1</td>
</tr>
<tr>
<td></td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>HP 1 Hospital</td>
<td></td>
</tr>
<tr>
<td>HP 2 Providers of ambulatory care</td>
<td></td>
</tr>
<tr>
<td>HP 3.1 Offices of physicians</td>
<td></td>
</tr>
<tr>
<td>HP 3.4 Outpatient care centers</td>
<td></td>
</tr>
<tr>
<td>HP 3.4.1 Family planning centres</td>
<td></td>
</tr>
<tr>
<td>HP 3.9 Other providers of ambulatory care</td>
<td></td>
</tr>
<tr>
<td>HP 4 Retail sale and other providers of medical goods</td>
<td></td>
</tr>
<tr>
<td>HP 5 Provision and administration of public health programmes</td>
<td></td>
</tr>
<tr>
<td>HP 6 General health administration and insurance</td>
<td></td>
</tr>
<tr>
<td>HP 8 Institutions providing health-related services (e.g. education and research)</td>
<td></td>
</tr>
<tr>
<td>NHE</td>
<td></td>
</tr>
</tbody>
</table>

### RH expenditure by population characteristics

These tables show how health system expenditures are distributed among different population groups, defined according to the criteria used to target health interventions: sex, age, socioeconomic status, income, health status, and place of residence. The distributional breakdown is a first step in benefit incidence analysis, a type of programme or policy evaluation that specifically addresses the equity of health system spending. The tables consist of one-dimensional overviews, but the information can easily be combined with other vectors of the health account system, such as financing sources, financing agents, providers, and functions. This would provide policy-makers with additional information on the equity of the health system.

### Costs of resources used to produce RH services and goods

This table gives information about the value of labour, pharmaceuticals, medical supplies, equipment, and buildings used in providing RH care, and thus can be used in assessing health system efficiency. The resource costs can, for instance, be combined with the provider dimension to analyse efficiency across different types of health care producers. Because the human resources component is becoming an increasingly important issue in health policies, a separate table on human resources expenditure for specific RH services could be considered. A resource costs table can inform important policy questions, such as:

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35 The resource cost (RC) classification schedule as proposed by the Producers’ Guide is close to the economic classification proposed in the System of National Accounts (see table 18.4, p 419 of SNA93 ) and by IMF (2001): current outlays (compensation of employees and owners; supplies and services; consumption of fixed capital; interest; subsidies to providers; transfers) and capital expenditure (buildings, movable equipment; capital transfers).
- In the public sector, what proportion of personnel time or budget is spent on RH?
- What proportion of spending on supplies and drugs is used for RH commodities?
- What proportion of the total RH budget is spent on supplies? Or on personnel?

RH expenditure by financing source and function (FSxHC)
This final table answers the question, “what activities are financed by donor, government and household funds?” Stakeholders frequently ask this question when NHA data are presented. In many developing countries, there is significant intermingling of resources at the financing agent level, and stakeholders, particularly donors, often want a clearer picture of the end uses of their funds. In poor developing countries, the share of donor funds for RH is likely to be relatively large, because of the international community’s focus on RH in general, and family planning in particular. An example of a figure that can be generated by an FSxHC table is shown in section 6.3.4.
5 Data collection

5.1 Approaching the data collection process

In preparing RH subaccounts, comprehensive data need to be assembled from all parts of the health care system – public, private, and donor. This is the most time-consuming step in the whole process. The time needed will depend on a number of factors, including: availability of data, access to those data, availability of financing and expertise for surveys (if surveys are needed), cooperation of the “keepers” of data sources and survey respondents, the stability and motivation of the technical team, and the ability of the team to maintain momentum by regularly following up with key informants.

Data collection is also work-intensive because, in accordance with the general NHA approach as outlined in the Producers’ Guide (WHO, 2003), every effort should be made to obtain each piece of data from more than one source, that is, to triangulate the data. For example, when estimating companies’ contributions to health insurance schemes, the team should examine both the amount that companies report paying to the schemes and the amount that the schemes report receiving from companies. Triangulation and data retrieval for general health expenditure are discussed in detail in Chapter 6 of the Producers’ Guide. The present chapter focuses on the specific data collection issues and processes relevant to the RH subaccount. It also incorporates experiences and lessons learned from data collection in countries with varying levels of secondary data.

5.1.1 Understanding what you need and why you need it

The first step in planning the data collection process is to understand as much as possible about the “spider web” of funding flows for RH. This will give a preliminary picture of who is funding whom and where the funds are going. The team should list all the known entities – health care actors and their presumed transactions – associated with RH and then map the flow of funds between them. This is best visualized in a flowchart or spider-web chart. These are helpful in providing an overview of the scope of the subaccount exercise and in identifying the types of data needed and their possible sources. For example, the spider web may show a transaction between donors and the Ministry of Health; the transaction would then be recorded for the donor institution and for the ministry, both of which could provide relevant data. Figures 5.1 and 5.2 show charts from exercises conducted in Mexico and Karnataka, India.

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36 RH subaccounts are not necessarily conducted by the NHA team. For example, a consultant group could be asked to conduct a stand-alone subaccount study. However, it is recommended that the subaccounts be coordinated with general NHA efforts.

37 Based on the knowledge of team members, particularly those from the government RH programme.
Figure 5.1 Spider-web chart of funding flows, Mexico
Charting the funding flows in this way allows the team to identify the entities from which data are needed. At this stage, the team should try to obtain an understanding of why the different estimates are needed, i.e. how they will inform the NHA matrices. Table 5.1 provides a generic listing of entities involved in RH care and the types of NHA-related questions that can be addressed from the data they provide.

**Table 5.1 Relationship between needed data estimates and the NHA-related questions they inform**
<table>
<thead>
<tr>
<th>RH care entities</th>
<th>NHA-related questions addressed by data estimates from each entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>How much do households pay OOP (as financing agents) to various providers for inpatient and outpatient goods and services (including contraceptive commodities)? <em>(FSxHF, HFxHP, HFxHC, and HPxHC tables)</em></td>
</tr>
</tbody>
</table>
| Providers        | Which financing agents pay providers? How much is received from each financing agent? *(HFxHP tables)*  
| e.g. hospitals, clinics, pharmacies/shops, and if applicable traditional birth attendants, midwives (as standalone providers) | How do providers spend their funds across each function? *(HPxHC table)* |
| Donors           | To which financing agents do donors (as financing sources) give their RH funds? How much do they contribute? *(FSxHF table)*  
|                  | Do donors transfer their funds directly (as financing agents) to providers? If so, to which ones, how much, and for which functions? *(HFxHP, HPxHC, and HFxHC tables)* |
| NGOs             | From which financing sources do NGOs (non-profit institutions serving households as financing agents) receive their RH funds? How much do they receive? *(FSxHF table)*  
|                  | Do NGOs serve as financing sources by generating their own revenue locally (e.g. from church groups)? If so, how much is generated in this way?  
|                  | How do NGOs allocate their funds across each type of provider and function? *(HFxHP, HPxHC, and HFxHC tables)* |
| Relevant government entities: Ministry of Finance, Ministry of Health, and others (e.g. in Rwanda, the National Office of Population is separate from the Ministry of Health (ONAPO)) | To whom does the Ministry of Finance (financing source) give RH funds, and how much? *(FSxHF table)*  
|                  | From which financing sources do the various ministries (excluding the Ministry of Finance) (as financing agents) receive their RH funds? How much do they receive? *(FSxHF table)*  
|                  | How do the various ministries (excluding the Ministry of Finance) allocate their RH funds across each type of provider and function? *(HFxHP, HPxHC and HFxHC tables)* |
| Insurance companies and schemes | Do insurance schemes offer RH benefits? If so, how much was paid out in the year of estimation, for what services and providers? *(HFxHP, HPxHC, and HPxHC tables)*  
|                  | What was the ultimate source of those RH expenditures (e.g. how much came from household premiums, company contributions, etc.?) *(FSxHF table)* |
| Employers        | To whom (financing agents such as insurance schemes) do employers (financing sources) give funds that are ultimately used for RH health care and how much do they give? *(FSxHF table)*  
|                  | Do companies offer on-site RH services for employees? How much and for what types of services? *(FSxHF, HFxHP, HFxHC, and HPxHC tables)* |

### 5.1.2 Identifying types of data needed

The next step is to determine what types of data will be required from each entity.
It is important to remember that the objective of the RH subaccount is to capture what has been spent on RH.\(^{38}\) This means that the team should make every effort to obtain actual expenditure data and not budget or cost estimates.

Nonetheless, in some cases expenditure data do not exist and cannot be obtained through primary data collection. In such cases – as a last resort – alternative data can be used. For example, unit cost and use indicators may be considered. In these cases, every effort should be made to obtain actual costs, not those based on an ideal set of services presumed to be regularly delivered.\(^{39}\) These can be obtained from records of facilities that use cost-accounting systems. RH expenditure estimates can then be inferred, deriving cost/use weights and applying them to total expenditure levels. This process, and other applications of cost and use data, are described further in Chapter 6.

In addition, in order to apply subaccount findings to key policy indicators in the final report, the team will have to collect many types of non-expenditure data. For example, to estimate RH expenditure per woman of reproductive age or per capita, the team will need data on the total number of women of reproductive age in the country and the official national population. (This will also be elaborated on in Chapter 6.)

Thus, the team will need to anticipate the different estimation techniques that may be employed during the analysis, and work backwards from there to determine the types of data they must collect.

### 5.1.3 Identifying the sources of needed data

After determining all the types of data needed, the team should make a data collection plan. First, the team should identify the entities that can provide each type of secondary data (expenditure data, use rates, etc.). Then, for each entity, they should identify all the specific records, reports, intermediate reports, draft publications, etc. that may provide data – the more secondary expenditure data accessed, the less need there will be for use and cost information or for collection of primary data. The data collection plan should specify the team member responsible for retrieving each piece of data. The team also needs to develop a strategy for retrieving data that can be obtained only with the intercession of high-level, senior policy-makers. Thus, the accessibility of supposedly available data should be assessed early in the NHA activity (see Box 5.1).

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\(^{38}\) As discussed previously, the Producers’ Guide recommends using accrued expenditures rather than a cash-based accounting system. Thus, in addition to actual cash disbursements made during the year of estimation, the technical team should include obligated amounts in their annual expenditure estimate. For example, if a health care service was delivered in December 2003 but the actual cash transfer did not take place until February 2004, the value of the service should be included in the 2003 estimate.

\(^{39}\) For example, costing studies may be developed using an “ingredients approach,” namely, adding up the elements that should constitute a given RH-related service, such as the portion of a doctor’s salary used for that consultation, and the drugs that are issued as part of the visit. In reality, however, a patient may see a nurse (whose salary is lower), rather than a doctor, and the patient may not get drugs (for example, because they are out of stock). Thus, estimating the cost based on what should happen would produce an overestimate.
In addition to secondary data collection, the plan should list all primary data collection efforts that may be needed, together with the team focal point or coordinator for each survey. This person may need to make sure that RH questions are added to ongoing surveys, or to coordinate and implement a specific survey. To keep the time and finance needed for the data collection phase to a minimum, and to avoid duplication of efforts, the team should plan to seek data from four categories of data sources in the following order:

1. **Existing information systems.** What types of data are provided on a regular basis through health information systems (e.g. revenue generated by user fees)?
2. **Secondary data (existing studies/reports).** What types of studies and reports have already been produced? Perhaps there are useful costing studies or focused expenditure review studies in existence? It will also be important to get reports on needed non-health data, such as GDP, inflation, and population. This will be useful for the computation of policy-relevant indicators.
3. **Ongoing surveys.** Are surveys in progress to which questions on RH expenditure can be added? There may be general NHA surveys targeting donors and NGOs, or non-NHA surveys, such as the Demographic and Health Survey (DHS) or an RH provider assessment survey.
4. **RH subaccounts-specific surveys.** RH subaccounts can usually use household data from the DHS, which is carried out in more than 75 countries. Should DHS data not exist, it may be possible to retrieve data on OOP spending from providers. If the RH subaccount is done concurrently with the general NHA, there is usually no need for RH-specific surveys. However, if there is no other way to estimate RH expenditures, the team may need to carry out specific surveys (of donors, NGOs, etc.).
The Producers’ Guide (Chapter 6) recommends that, for each source identified, the level of detail, quality (scope, reliability), appropriateness, and sufficiency of the data provided should be evaluated. This will help the team to determine if additional data sources are needed or not. The following aspects should be evaluated:

- **Year of estimation:**
  - Does it coincide with the year of estimation for the RH subaccount?

- **Scope of information provided**
  - What types of RH services are reported on?
  - Are the data for the national level or the regional level?

- **Quality, validity, and reliability of the data**
  - How was this information collected? What was the sample size? (Was it sufficient for RH subaccount purposes?) What was the sample design, response rate, etc.?

- **Level of detail**
  - Can this information provide functional-level detail? Provider-level?
  - Can the data be sufficiently disaggregated to inform the RH classification list developed by the country? If an expenditure estimate is reported for “maternal and child health services”, for example, can the maternal health portion be extracted for the RH subaccount.

The following sections describe the types of information that can be obtained from each of the four main categories of data sources.

### 5.2 Existing information systems

Health information systems are perhaps the most accessible data source. The level of detail provided and the quality of data in these systems differ from country to country. Low-income countries may have weak information systems, but even so they should not be disregarded, particularly if RH is a priority for the government. In that case, reporting of relevant RH indicators may be mandatory for hospital and health centre administrators. Such indicators can provide a wealth of information, particularly regarding use rates and diagnoses, which can help with functional classifications and expenditure estimates for particular RH services. Examples from Rwanda and Mexico are given in Tables 5.2 and 5.3. Note that, regardless of the level of detail in the information system, the team should investigate the accuracy of all the data to determine if they are indeed useful for the RH subaccount estimation.

#### Table 5.2. RH indicators tracked by Rwanda’s health information system

<table>
<thead>
<tr>
<th>Indicators tracked</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital level</strong></td>
<td></td>
</tr>
<tr>
<td>Number of new consultations for (a) abortion, (b) sterilization, (c) menstrual problems, (d) male genital problems, (e) pelvic inflammatory disease, (f) other gynaecological or obstetric conditions. Can be broken down by age.</td>
<td></td>
</tr>
<tr>
<td>Number of hospitalizations for (a) normal delivery, (b) puerperal infection, (c) postpartum complications, (d) vesicovaginal fistula, (e) premature delivery. Can be broken down by age.</td>
<td></td>
</tr>
<tr>
<td>Number of normal and complicated deliveries.</td>
<td></td>
</tr>
<tr>
<td>Number of deliveries with complications: (a) needing caesarean, (b) needing vacuum extraction, (c) ruptured uterus,</td>
<td></td>
</tr>
</tbody>
</table>

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40 Validity refers to “measuring what you want to measure”, while reliability refers to “measuring in a consistent way”.
| Health centre level | Number of outpatients and inpatients for: (a) gynaecological and obstetric reasons, (b) urethral collapse, (c) genital ulcers (male and female). Can be broken down by age. |
| Number of normal and complicated deliveries at the centre. |
| Number of deliveries assisted outside the centre. |
| Number of antenatal consultations (and in which trimester they occurred). |
| Number of users of family planning products: oral contraceptives, injectables, implants, IUD, etc. |
| Number of seminars held on family planning, antenatal care, postnatal care, and number of participants. |
| Total expenditures in past month for: (a) delivery, (b) antenatal consultations, (c) and postnatal care. |

### Indicators not tracked

Although it is possible to obtain the total OOP spending for all consultations and hospitalizations, it is not always possible to link each payment to the diagnosis. The only specific RH expenditures tracked are listed above.

---

**Table 5.3. Indicators tracked by Mexico**

- Distribution of expenditure by financing agent and comparison by year.
- Public expenditure on health per female beneficiary, by state, among non-insured population.
- Public expenditure on health per female beneficiary, by state, among insured population.
- Distribution of expenditure on reproductive and sexual health functions.
- Distribution of expenditure on reproductive and sexual health functions, by financing agent.
- Expenditure by financing agents on reproductive curative care.
- Distribution of expenditure on ambulatory reproductive health care, by financing agent.
- Distribution of expenditure on medicines, by financing.
- Distribution of expenditure on prevention and public health, by financing agent.
- Distribution of expenditure on RH by provider.
- Distribution of expenditure on reproductive functions by programme.
- Distribution of expenditure on RH functions, by programme, by financing agent.
- Expenditure on RH functions per female beneficiary, by state, by financing agent.
- OOPS by RH function.
- Share of private spending by programme.
- Public spending on perinatal and maternal health programme, per female beneficiary, in relation to maternal mortality rate and perinatal mortality rate.
- Public spending on family planning programme, per beneficiary, by state in relation to infant mortality rate and fertility rate.
- Public spending on programme for early detection of cervical cancer, per female beneficiary, by state, in relation to
Another reason to review the data provided by the country’s health information system is to identify gaps or areas that could be improved if the RH subaccount were to be estimated on a regular basis.

5.3 Secondary data (studies and reports already in existence)

The technical team should list all the studies and reports known to them relating to RH expenditures or to unit cost and use. In doing so, it may be useful to revisit the spider-web funding flowchart. Consider each of the listed entities, and whether they may routinely submit some sort of financial statement to another agency. For example, in Rwanda, donor agencies are required to participate in an annual “donor mapping survey”, led by the Ministry of Health. This survey includes the amount of funds contributed and for what project. From the titles and descriptions of each reported project, it may be feasible to identify contributions to RH programmes. In addition to considering routine reports, the team should also list specific studies that may have been carried out recently on RH-related topics. Tables 5.4, 5.5 and 5.6 list examples of secondary data sources identified for potential use in the RH subaccounts of Rwanda, India, and Mexico.

Table 5.4. Secondary data sources identified in Rwanda

<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
</tr>
</thead>
</table>
| Government         | - Ministry of Health and CAMERWA (Consommables et Equipements Médicaux du Rwanda [central medical store]). Annual expenditure reports  
- Commodities listing from the Customs Office |
| Households         | - ONAPO, ORC Macro. *DHS Rwanda. 2000* |
| Donors and NGOs    | - RH Interchange at [www.rhsupplies.org](http://www.rhsupplies.org). If more information is needed, the site manager can be contacted, and will get the necessary approval to access more information (e.g. in the NEWVERN Information System, see below).  
<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government</strong></td>
<td></td>
</tr>
<tr>
<td>1. Central</td>
<td>I. Budget documents</td>
</tr>
<tr>
<td>2. State</td>
<td>II. Annual reports</td>
</tr>
<tr>
<td></td>
<td>III. Audit reports</td>
</tr>
<tr>
<td><strong>Local government bodies</strong></td>
<td></td>
</tr>
<tr>
<td>Panchayati Raj and Rural Development Institutions</td>
<td>I. <strong>Consolidated data for the State</strong></td>
</tr>
<tr>
<td></td>
<td>State Finance Commission Reports</td>
</tr>
<tr>
<td></td>
<td>Department of Panchayati Raj and Rural Development</td>
</tr>
<tr>
<td></td>
<td>State Audit Report by the CAG</td>
</tr>
<tr>
<td></td>
<td>Statistical Abstract</td>
</tr>
<tr>
<td></td>
<td><strong>II. District-level data by line item</strong></td>
</tr>
<tr>
<td></td>
<td>CEO Zilla Parishad: Income &amp; Expenditure Statement</td>
</tr>
<tr>
<td></td>
<td>Regional/District Fund Audit Report</td>
</tr>
<tr>
<td></td>
<td>Annual Administrative Report of Panchayats</td>
</tr>
<tr>
<td></td>
<td>District Panchayat Office</td>
</tr>
<tr>
<td><strong>Municipalities</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I. <strong>State-level consolidated data</strong></td>
</tr>
<tr>
<td></td>
<td>Department of Municipal Administrator</td>
</tr>
<tr>
<td></td>
<td>State Finance Commission Report</td>
</tr>
<tr>
<td></td>
<td>State Audit Report</td>
</tr>
<tr>
<td></td>
<td><strong>II. District-level subhead accounting</strong></td>
</tr>
<tr>
<td></td>
<td>Regional/District Audit Fund</td>
</tr>
<tr>
<td></td>
<td>Income and Expenditure Statement of Corporations</td>
</tr>
<tr>
<td></td>
<td>Handbook of Municipal Statistics</td>
</tr>
<tr>
<td><strong>Employees State Insurance Scheme</strong></td>
<td>Regional office, Employees State Insurance Corporation (ESIC)</td>
</tr>
<tr>
<td></td>
<td>Director of Employees State Insurance (ESI) Medical Services</td>
</tr>
<tr>
<td><strong>Central Government Hospital Services (CGHS)</strong></td>
<td>Central office</td>
</tr>
<tr>
<td></td>
<td>Demand for Grants – Ministry of Health and Family Welfare</td>
</tr>
<tr>
<td><strong>Private insurance</strong></td>
<td>Regional office of insurance companies</td>
</tr>
<tr>
<td></td>
<td>Annual Report of Insurance Regulatory and Development Authority (IRDA)</td>
</tr>
<tr>
<td><strong>Corporate bodies</strong></td>
<td>Annual reports of corporate bodies</td>
</tr>
<tr>
<td></td>
<td>Department of Industries and Commerce, Government of Karnataka</td>
</tr>
<tr>
<td></td>
<td>ESIC, regional office, Bangalore</td>
</tr>
<tr>
<td><strong>NGOs</strong></td>
<td>Government grants-in-aid (central and state governments) – budget documents (demand for grants)</td>
</tr>
<tr>
<td></td>
<td>State- and district-level societies for HIV/AIDS, reproductive and child health activities: annual report/semi-annual reports</td>
</tr>
<tr>
<td></td>
<td>External assistance report by the Ministry of Finance &amp; FCRA Report on Contributions to Voluntary Organizations</td>
</tr>
<tr>
<td><strong>Drug expenditure</strong></td>
<td>Central and state government expenditures on drugs</td>
</tr>
<tr>
<td></td>
<td>Budget documents Other departments/ Ministry of Health &amp; Family Welfare/other ministries</td>
</tr>
<tr>
<td></td>
<td>Commissioner of Commercial Taxes</td>
</tr>
<tr>
<td><strong>Households</strong></td>
<td>National Family Health Survey 1998-99 (NFHS-II), International Institute for Population Sciences, Mumbai</td>
</tr>
<tr>
<td></td>
<td>National Sample Survey, NSSO, New Delhi</td>
</tr>
</tbody>
</table>
Table 5.6. Secondary data sources identified in Mexico

<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
</tr>
</thead>
</table>
                           - Health accounts at national and state level.  
                           - Statistical yearbook of main social security institution [Memoria Estadística del IMSS]  
                           - Statistical yearbook of second social security institution [Anuario Estadístico del ISSSTE]  
                           Annual budget report for each institution.  
                           Programme reports for each institution.  
                           Cost studies, published, internal reports, reports in preparation. |
| Services (production)    | Programme reports for each institution.  
                           Statistical reports for each institution.  
                           Discharges from hospitals by institution  
                           Morbidity records by institution                                                                                                                                     |
| Private sector           | National Survey of Household Income and Expenditure [Encuesta Nacional de Ingreso y Gasto de los Hogares]  
                           National Performance Assessment Survey [Encuesta Nacional de Evaluación del Desempeño]  
                           National Survey of Reproductive Health [Encuesta Nacional de Salud Reproductiva]  
                           Statistical records of the Mexican Association of Insurance Institutions.                                                                                       |

Both national and international studies should be considered for inclusion as secondary data sources. International data sources can also be useful for triangulating and cross-checking estimates. Table 5.7 lists several potentially useful international documents.

Table 5.7. International sources of data

<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
</tr>
</thead>
</table>
| Donors, government  | UNFPA/UNAIDS/NIDI Resource Flows Database  
                           departments, national NGOs, and national consultants in developing countries and countries in transition  
                           The Resource Flows (RF) project is a joint collaboration of the United Nations Population Fund (UNFPA), the Joint United Nations Programme on HIV/AIDS (UNAIDS), and the Netherlands Interdisciplinary Demographic Institute (NIDI). The project was established to monitor expenditures related to population and AIDS, and to advocate for the mobilization of adequate funds to ensure that the promises made at the ICPD and the United Nations General Assembly Special Session (UNGASS) are realized. Core to the project is an annual data collection, monitoring, and information dissemination exercise on global financial flows for population and AIDS activities in developing countries and countries in transition. The RF |
<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
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</thead>
<tbody>
<tr>
<td>database includes expenditure data on population and AIDS activities in four categories: family planning services; basic RH services; sexually transmitted disease (STD) and HIV/AIDS activities; and basic research, data, and population and development policy analysis. The category “STD and HIV/AIDS activities” has four subcategories: STDs, HIV/AIDS prevention, HIV/AIDS medical care/treatment, and HIV/AIDS support/social mitigation. Data are collected through mail surveys and the database of the OECD Development Assistance Committee (DAC) (see below). The mail surveys consist of two independent parts: (1) An annual donor questionnaire distributed to OECD/DAC countries, international foundations and NGOs, multilateral organizations and agencies, development banks, and universities and research institutions (2) An annual domestic questionnaire distributed to government departments, national NGOs, and national consultants in developing countries and countries in transition. To avoid double counting, data are collected at the project/programme level. For more information, please contact: UNFPA/UNAIDS/NIDI Resource Flows project NIDI PO Box 11650 NL-2502 AR The Hague The Netherlands <a href="mailto:resflows@nidi.nl">resflows@nidi.nl</a> <a href="http://www.resourceflows.org">http://www.resourceflows.org</a></td>
<td></td>
</tr>
<tr>
<td>OECD Development Assistance Committee Database</td>
<td>The Development Assistance Committee (DAC) is the principal body through which the OECD deals with issues related to cooperation with developing countries. The DAC statistics database contains data on resource flows by origin and types of aid to over 180 countries. The data cover official development assistance (ODA), other official flows, and private funding from members of the DAC, multilateral organizations and other donors. The flow of resources to aid recipients covers: grants, long-term capital transactions and specific development-related internal transactions made by governments; private long-term capital transactions made by residents of DAC countries; and grants by NGOs. The DAC collects data on aid flows through two reporting systems: the annual aggregate DAC statistics and the activity-specific Creditor Reporting System (CRS). The DAC statistics provide an overall picture of the sectoral distribution of aid, and the CRS allows the quality and consistency of the data to be assessed. The DAC statistical definition of “aid to health” covers the following sectors: health policy and administrative management, medical education and training, research, medical services; basic health care / infrastructure / nutrition; population policy, RH care, family planning, STD control, personnel development. (RH care includes: promotion, prenatal and postnatal care including delivery, prevention and treatment of infertility, prevention and management of consequences of abortion, safe motherhood activities). For more information, please see <a href="http://www.oecd.org/dac">www.oecd.org/dac</a>.</td>
</tr>
<tr>
<td>Creditor Reporting System Aid Activity Database</td>
<td>The CRS Aid Activity database was estimated to cover 75–80% of DAC countries’ bilateral ODA to health in the 1990s. The 20% data gap was mainly related to technical cooperation</td>
</tr>
</tbody>
</table>
(TC) activities by France, Germany, and Japan. France and Germany started to report on their TC in 1999, which brought the coverage to more than 90%. Japan started reporting on TC in 2003, since when the coverage is complete.

Note: The definition of aid to health excludes aid to other sectors that may have direct or indirect effects on health status, e.g. water and sanitation. Medical assistance in natural disasters and other emergency situations is also excluded.

<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>USAID shipments of contraceptives</td>
<td>NEWVERN Database</td>
</tr>
<tr>
<td>Houses</td>
<td>Demographic and Health Surveys (DHS)</td>
</tr>
</tbody>
</table>
| | The DHS is a vital source of use data on most RH services and, in some cases, expenditure information, particularly for countries with poor information systems and a broad mix of provider types (public and private). Implemented in more than 75 countries, DHS are nationally representative household surveys with large sample sizes (usually between 5000 and 30 000 households). The DHS provides data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition. Typically, a country DHS is conducted every five years, to allow comparisons over time. Interim surveys are conducted between rounds of the DHS and have shorter questionnaires than the DHS. They collect information on key performance monitoring indicators but may not include data for all impact evaluation measures (such as mortality rates). They are nationally representative, but have smaller samples than the DHS (2000–3000 households).
|  | For more information, see http://www.measuredhs.com/.
| Living Standards Measurement Study (LSMS) | The LSMS was established by the World Bank in 1980 to explore ways of improving the type and quality of household data collected by government statistical offices in developing countries. The objectives of the LSMS were to develop new methods for monitoring progress in efforts to raise living standards, to identify the consequences for households of current and proposed government policies, and to improve communication between survey statisticians, analysts, and policy-makers. LSMS surveys have two specific characteristics: (i) multtopic questionnaires designed to study multiple aspects of household welfare and behaviour; and (ii) extensive quality control. The survey instrument has RH modules and provides limited data on deliveries and commodities, but not necessarily expenditure data.
|  | For further information, see http://www.worldbank.org/lsms/.
| World Health Survey | WHO has developed and implemented a Survey Programme and a World Health Survey (WHS) to compile comprehensive baseline information on: the health of populations and the outcomes associated with investment in health systems; the way health systems are currently functioning; and their ability to monitor inputs, functions, and outcomes. The WHS was launched in 2001, and is being implemented by 73 Member States. Its objectives are to: |
|  | • develop a means of providing low-cost, valid, reliable, and comparable information; |
|  | • build the evidence base to monitor whether health systems are achieving their goals; and |
|  | • provide policy-makers with the evidence they need to adjust their policies.
<table>
<thead>
<tr>
<th>Health care entity</th>
<th>Secondary data sources</th>
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<tr>
<td></td>
<td>strategies, and programmes as necessary.</td>
</tr>
<tr>
<td></td>
<td>The WHS provides data on a wide range of indicators, including health financing, health insurance, human resources for health, health state valuation, risk factors, mortality by cause, morbidity prevalence, reproductive and sexual health care, and health system responsiveness relating to inpatient and outpatient care. The sample size in each country is 5000 people, and the sample is expected to be representative of the adult population. The WHS uses a modular approach: two modules cover health insurance and health expenditure. The health insurance section includes: who is covered, what kind of health insurance they have (mandatory or voluntary), how much they pay, whether they are covered directly or because of their relationship to another person. The health expenditure section identifies how much households spend on health care and how many face catastrophic expenditures. Health expenditure is further divided into a range of categories: how much is spent for inpatient care, outpatient care, dentists, drugs, medical goods, ambulatory care, and other services. The WHS does not provide as much information as most expenditure surveys. More information, results by country and guidelines on sampling, training and related documents are available at <a href="http://www.who.int/healthinfo/survey/en/">http://www.who.int/healthinfo/survey/en/</a>.</td>
</tr>
<tr>
<td>Providers</td>
<td>Service Provision Assessment (SPA) survey.</td>
</tr>
<tr>
<td></td>
<td>Conducted by the group responsible for the DHS (ORC Macro), the SPA survey aims to obtain information about the health and family planning services available in a country. It includes a nationally representative sample of more than 400 facilities, covering all types of health service sites, from hospitals to health posts. Public, private, and faith-based institutions are represented. The SPA survey offers a comprehensive assessment of a country’s health care services, including:</td>
</tr>
<tr>
<td></td>
<td>• costs,</td>
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<tr>
<td></td>
<td>• availability of services,</td>
</tr>
<tr>
<td></td>
<td>• infrastructure,</td>
</tr>
<tr>
<td></td>
<td>• quality of care,</td>
</tr>
<tr>
<td></td>
<td>• components of care,</td>
</tr>
<tr>
<td></td>
<td>• data for improvement.</td>
</tr>
<tr>
<td></td>
<td>As of March 2005, SPA surveys had been completed in Bangladesh, Egypt, Ghana, Kenya, Rwanda and Uganda. New surveys are under way or planned in Egypt, Guyana, Kenya, the United Republic of Tanzania and Zambia.</td>
</tr>
<tr>
<td></td>
<td>For more information, see <a href="http://www.measuredhs.com/">http://www.measuredhs.com/</a>.</td>
</tr>
</tbody>
</table>

### 5.4 Ongoing surveys

Another cost-effective method of obtaining data is to identify ongoing surveys that are targeting groups relevant to the RH subaccount. The team may be able to negotiate for questions on RH expenditure to be added to such surveys, allowing data to be collected at little or no extra cost to the subaccount study. In Rwanda, for example, expenditure questions were added to the 2004 DHS; it is anticipated that the report will provide valuable information on OOP spending on RH, as well as the usual DHS data on RH service use. Other ongoing surveys that could be considered are those for national accounts, although these statistical surveys are not exclusively concerned with health care.
If subaccounts are prepared at the same time as the NHA, questions can be included in the NHA surveys. This allows RH spending to be analysed in the context of overall health expenditure. Annexes 7 and 8 provide examples of donor and NGO survey instruments used in Rwanda that include modules on overall health spending and RH-related questions. Experience to date in countries with weak information systems, particularly at the provider level, has shown that it is most effective to add questions to NHA surveys targeting donors, NGOs, and the government – essentially those on programme expenditures. NHA surveys of providers have generally provided robust data on RH expenditures or even on use.

When determining whether to add RH questions to ongoing surveys, the team should consider the following questions:

- What is the sample size and sampling distribution of the survey? Will it be able to obtain national and annual estimates of RH spending by the entity of interest? Are there any differences between the survey’s target population coverage and the specific coverage needs of the RH subaccount? A survey of donors, for example, may not include all donors: the team should then make sure that the sample frame includes a representative group of donors who contribute to RH. If considering adding questions to a general national household survey, the sampling distribution should be closely reviewed, for example, to ensure that it includes enough women of reproductive age.

- How many questions need to be added in order to determine who spends what, and for which RH services? The team should keep in mind the need to avoid respondent fatigue. The goal should be to add as few questions as possible in order to obtain the data needed. Make sure that the questions are indeed additional and do not repeat those in the general NHA section.

- For what time period will respondents be reporting? Sometimes surveys like the DHS ask households about expenditures on the last outpatient visit. However, for health accounting purposes, it is difficult to estimate accurately annual outpatient expenditure from one visit. The team should investigate whether the survey includes a question on the number of visits in the past month, and whether there is any seasonal variation in the use rates of RH services among households. Alternatively, the survey may collect data on expenditure for a period that does not coincide with that being used for the RH subaccount (e.g. the fiscal year rather than the calendar year). While in many cases the reported amounts can be adjusted to the year of interest by allowing for inflation and other factors, the adjustment is usually based on the assumption that spending follows a steady trend, which may not be the case in practice, particularly for donors.

- What is the schedule for the survey? Does it allow the team to meet its deadline for producing the RH subaccounts? When can the team expect the data set from this survey? If the timeframe of the survey goes beyond that planned for the subaccount, it may be difficult to complete the tables on time.

5.5 Developing specific surveys for the RH subaccounts

When the RH subaccount is prepared at the same time as the general NHA, it is not usually necessary to conduct separate specific surveys of RH. However, if after reviewing information from the health information system, secondary sources, and questions added to ongoing surveys the team finds that it still has significant data gaps, more ambitious primary data collection efforts will be needed. At this stage, the team should take the following steps:
• Explore the possibility of obtaining information on a particular entity from data sources on other entities. For example, if a private for-profit clinic receives funding only from households, the data for the clinic may be available from the household data source, without having to conduct a separate survey.

• Assess the budget available for preparation of the subaccount, to determine whether a survey with a sufficient sample size is affordable.

• Consider the time it will take to carry out a separate survey. Many steps are involved in conducting a survey and each needs to be well coordinated. The main steps are:
  1) designing the questionnaire, including drawing up ethical guidelines when implementing household surveys;
  2) pre-testing the instrument;
  3) determining the sampling frame;
  4) obtaining approval from the national authority, particularly for surveys targeting households;
  5) administering the questionnaires and ensuring that they are properly completed (if this stage is not carefully monitored, response rates may be low and getting adequate responses will extend the data collection process);
  6) developing data entry screens, including consistency checks;
  7) entering data into a statistical software program (SPSS, Excel, Stata, etc.);
  8) cleaning the data; and
  9) documenting the process.

5.6 Household data: a few considerations

One of the assets of the NHA framework is that it includes data on private sector expenditure, in particular household data. In many developing countries, OOP spending for RH care is significant and of particular interest to policy-makers.

It is, therefore, critical to address the issue of estimating household spending at the beginning of the RH subaccount initiative. In doing so, it is useful to consider the volume of services requiring OOP payments, where such payments are made, the types of OOP payment made (formal and informal), and the technical team’s budget (can it afford to do a separate household survey?). Generally speaking, the technical team needs to be able to access data on OOP spending either from the provider side (when providers record their revenue from OOP payments) or from the household side. In countries where OOP payments can be linked to the type of service rendered, provider records may be useful data sources. However, this may not be the case in resource-poor settings. Thus, the team may need to rely on a household survey for such data. The household survey can also provide valuable estimates of RH expenditure on non-conventional health providers, such as traditional healers, traditional birth attendants, and shops selling contraceptive commodities. A good place to start the search for household data is by examining DHS data. If current, its household data will usually suffice. Although the DHS does not usually include expenditure questions, its use data can be combined with cost data to estimate expenditures.

An example of a separate household survey conducted for RH subaccount purposes is shown in Annex 9. When designing and implementing questionnaires for a separate survey, it is important to consider ethical issues. Sensitive areas may include issues relating to privacy, anonymity, consent of the spouse to respond to the survey, and questions concerning abortion (to name just a few). Useful information on this
Participants must be fully informed about the nature of the study, the research objectives, and the confidentiality of the data. In addition, the potential benefit in participating in the study should be explained to them. Full consent for participation in the study should be obtained from all respondents. This is usually done by having the participant read and sign a written informed consent form, an example of which is given in Annex 10. However, in some countries and cultures, oral consent is the general practice; a request for written consent could elicit a negative reaction from potential participants who may fear that signing a form will result in some unintended commitment. In those cases, the written form should be read out to the respondents to obtain verbal consent.

Interviews should be conducted in a private setting. Only the interviewer(s) and the respondent should be present during the interview. At the start of the interview, respondents should be informed that they can skip any question they do not wish to answer. Interviewers should terminate the interview or change the subject of discussion if someone interrupts the interview. At the end of the interview, the respondent should be given the opportunity to make comments or ask questions.

Protecting the confidentiality of all respondents is a priority. Questionnaires should therefore not include the respondent’s name, but only an identification number. No names should be entered into the computerized database. During the training, all researchers (interviewers, data entry clerks, and data analysts) should receive strict instructions about the importance of maintaining confidentiality. Only the core research team should have access to the master code that links the identification numbers to the respondents’ names. In addition, it is advisable for interviewers not to conduct interviews in their own community.

Finally, no individual data should be presented or disseminated. Depending on the institution’s research policy, questionnaires should be kept safely for a limited time and should then be destroyed.

5.7 Summary

Preparing an RH subaccount requires a thorough knowledge of the types of data available and a broad understanding of the financing and delivery of RH care. The data collection process will depend on the nature of existing information, the possibility of including additional questions in existing surveys, the availability of household data, and the budget for primary data collection. Understandably, the more primary data are required, the greater the cost and time needed to complete the RH subaccounts. Therefore, the technical team should examine all other options before embarking on specific surveys. Obtaining RH expenditure estimates in this way, with little added cost or extra effort, will also make it easier to institutionalize the subaccount as a regular process.
6 Data analysis

The analysis stage of the subaccount process involves a thorough review of the data collected and their assembly to provide a clear picture of RH funding flows. The two main objectives of the data analysis stage are to:

- populate at least the four basic NHA matrices with RH expenditures for the year studied:
  - FSxHF table
  - HFxHP table
  - HPxHC table
  - HFxHC table
- compute critical policy indicators for the subaccount report\(^{41}\) and for stakeholders.

Depending on country interests, more specific information can be tabulated, such as spending by resource cost, by geographical region, and by age and sex or by socioeconomic status of the beneficiaries (see section 4.3 and the Producers’ Guide (WHO, 2003), Chapter 4).

This chapter builds on the guidance given in Chapters 9–13 of the Producers’ Guide, focusing on RH-specific issues that may arise during data analysis.

6.1 Getting organized: what is needed?

Data analysis can be a protracted process, especially if the right types of data have not been collected. To avoid delays, it is useful first to assemble all needed data, including financial and non-financial information that may or may not be directly related to the RH subaccount tables. Drawing on the data collection methods described in Chapter 5, Table 6.1 provides examples of the types of data that should be available before the analysis is started. As mentioned earlier, the technical team should make every effort to triangulate and validate each data source and its estimates.

<table>
<thead>
<tr>
<th>Purpose of information</th>
<th>Examples of types of data needed</th>
</tr>
</thead>
</table>
| To populate the subaccount matrices | • Clean datasets from surveys  
| | • Secondary data (as listed in the data collection plan), such as the Ministry of Health’s financial records for the year of estimation |
| To weight primary datasets to national level | NHA-related surveys may have targeted a sample of the universe for a particular entity. To extract national estimates from such data, appropriate weights must be applied. Deriving these weights may require additional information such as:  
| | • total number of donors and NGOs that contribute to RH, and their relative size (to weight donor and NGO datasets) |

\(^{41}\) When done concurrently with the general NHA, it is recommended that the RH subaccount findings be presented as a chapter in the NHA report. If the subaccount is done as a stand-alone exercise, its findings should be presented as a separate report.
The analysis stage will be expedited if the template for the target subaccount tables has already been created. This template, which can be created in spreadsheets, should incorporate: (1) country-adapted classifications in the row and table headings; (2) formulas for summation of columns and rows; (3) links between tables for cross-checking purposes; and (4) links to an RH indicator sheet, so that once the estimates are entered in the subaccount table, policy indicators and charts can be automatically generated.

It is also useful to link the RH subaccount tables to the general NHA tables for the same year, in order to determine the proportion of overall health expenditure going to RH. This can serve as a gauge for assessing the “reasonableness” of the interim RH estimates. For example, is an institution, such as a bilateral donor or NGO, reporting greater expenditures on RH than on overall health? Is the OOP spending on medicines for RH care a reasonable proportion of general health spending? If the subaccount expenditures are larger than general health expenditures, the team will need to review and revise the estimates. This template, with minor revisions, can also be used for the following year’s subaccount.

It should be noted that the final scope of the subaccounts will depend on the quality of the data retrieved as well as the decisions of the team to include or exclude weak data. The Jordan NHA team, for example, had intended to obtain expenditure estimates for medical tourism, but the data collected were deemed

<table>
<thead>
<tr>
<th>Purpose of information</th>
<th>Examples of types of data needed</th>
</tr>
</thead>
</table>
| **To convert currencies** | • Official exchange rate from local currency to US$ for year of estimation (take average for the year)  
• Official exchange rate from donor-reported currencies to local currency  
• Conversion rate to obtain purchasing power parity (for comparison with other countries) |
| **To adjust datasets with earlier or later timeframes to year of estimation** | • Medical inflation rates (or consumer price index)  
• Population growth rates  
• Inflation rates (for time series comparisons) |
| **To compute key policy indicators** | • GDP  
• Total population (for per capita expenditure estimates)  
• Total number of women of reproductive age  
• Total number of births  
• Total government expenditure  
• Total donor expenditure |
| **To inform estimation techniques, particularly when disaggregated expenditure data are not available.** | • Use data (e.g. % of inpatient admissions attributed to RH, % of outpatient visits attributed to RH). These percentages may be used to estimate the amount of general (non-targeted) revenues that is used to deliver RH services (e.g. the salary of the doctor delivering RH care).  
• General expenditure breakdown at facilities between inpatients and outpatients. This ratio may be used to disaggregate expenditure at a given facility if functional data are not available.  
• Health commodity or service unit costs |
| **To verify expenditure estimates** | • Existing cost and use studies\(^a\)  
• Cost recovery data  
• Other studies on national or subnational RH expenditures (e.g. at selected providers) |

\(^a\)Caution should be used when considering the cost and use studies as a proxy for expenditures. See section 6.3.5 for an explanation of the issues involved.
unreliable. They were thus not included in the THE, implying that the \( \text{THE}_{\text{RH}} \) was underestimated. In Zambia, the team risked overestimating the THE by including unreliable data on traditional healers, because of their policy importance. The team should document their rationale for such decisions, because they have implications for the standard error of the final \( \text{THE}_{\text{RH}} \) estimate.

### 6.2 Conducting the analysis

The analysis involves two broad steps: (1) tallying the national annual amounts received and spent by each principal health care entity in accordance with NHA classifications, and (2) populating the matrices.

The first step entails a review of primary and secondary expenditure data for the entities concerned. As recommended in the Producers’ Guide (WHO, 2003, pp. 146–147), a T-account can be helpful in organizing this process. In a T-account, expenditures for an entity are listed in the left column and revenues on the right; the sum of entries on the left and right sides must always be equal. Thus, the guiding principle is that the team should capture only revenue that was spent during the year of estimation, according to the accrual definition of expenditures (see section 2.6 and Box 6.1). In creating T-accounts, the team should map each type of expenditure to the appropriate health accounts classification category.

#### Box 6.1. Converting cash-reported expenditures to accrual

In collecting data for health accounts, technical teams may encounter both cash and accrual reports of spending, depending on the data source. For example, insurance firms may report on a cash basis – reflecting when benefit payments are made to the provider or policy-holder or when premium payments are received. In health accounts, as stated in the Producers’ Guide, “figures should reflect when the covered services or goods are provided or when the months covered by the premiums occur”. As far as possible, the cash amounts should be converted to an accrual basis, as there can be significant differences between the two estimates. “Typically, incurred [accrued] figures are calculated by actuaries at the level of the individual insurance firm, but they may require some additional effort to obtain. As is always the case in health accounting, it is important to document the basis (cash or incurred) of the data used” (paragraph 7.30). The conversion of cash to accrued spending requires close examination of the period when services were rendered and scrutiny of the associated expenditure, regardless of when the financial transaction occurred. For example, if a hospital stay occurred during the last month of one fiscal year, but was paid for during the second month of the next fiscal year, it should be recorded as an expenditure in the old fiscal year.

For survey datasets, the team will need to: (1) weight the responses to the national level (according to the sample design, if the universe of entities was not interviewed), and possibly (2) adjust the responses to represent the full year of estimation. Finally, once the targeted spending has been determined, the team will need to estimate non-targeted spending on RH (this is discussed in detail in section 6.3.2).

When doing the analysis, the technical team should adopt several strategies.

- **Start with financing agents.** When starting the T-account process, it is recommended that teams begin with the financing agents – NGOs, Ministry of Health, households, and so forth – where there may be a lot of clearly identifiable detail on RH expenditure.
Document decisions about methodology. Of paramount importance is the need to document everything – assumptions, weighting procedures, and estimation techniques. This will not only facilitate the drafting of the methodology chapter of the report but, more importantly, inform and expedite subsequent NHA efforts.

Triangulate data estimates. Once the individual T-account summaries have been completed for each entity, the next step is to populate the RH subaccount matrices. This step involves triangulating data estimates, resolving data conflicts and data gaps, and avoiding double counting. Triangulation is useful for verifying data estimates. For example, if an expenditure transaction involves a transfer of funds between employers and insurance schemes, the team can try to obtain this estimate from at least three data sources: the employers themselves, the insurance schemes, and employees/households. Inevitably, no two data sources will report exactly the same expenditure estimate; the team will need to make a selection or compute an alternative estimate. The Producers’ Guide, particularly through its Appia case study (pp. 159-167, 178-195 and 203-212), offers guidelines on resolving a variety of data conflicts and data gaps. Some questions to consider during the data reconciliation process are as follows:

- Is one data source more reliable than another? Did one survey have a higher response rate than the others?
- Are all data sources measuring the same data and do they have the same boundaries? For example, one source may include data on spending on sanitation services while others do not.
- Do all data sources measure data for the same time period?
- How were the data measured, as cash or as accrual accounting?

Avoid double counting. Because data can be obtained from both the source and the recipient of the funds, care must be taken to avoid double counting. If the same data from both sources are entered in the tables, the amounts will be counted twice. For example, households in a survey often report their entire OOP spending, inclusive of the amounts reimbursed by their employers. In this case, care must be taken to avoid counting this reimbursed amount under both employer and household expenditures.

Weigh the time and effort needed to collect data against the likely utility of the findings and the level of detail needed. While expenditure data need to be accurate and comprehensive, they also need to be produced in a timely fashion, so that they can inform the policy process. The 2% rule can be a useful informal guide: this states that if no data can be found about a particular expenditure, and if the expenditure is likely to be less than 2% of THE$_{RH}$ and the transaction is not of significant policy interest, then the relevant cell in the tables can be left blank. This points to the important issue of a “time versus quality” trade-off.

Periodically consider the “big picture”. Analysts should occasionally step back from the data to make sure that the process is going well and that the interim findings seem reasonable.

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42 When filling out the subaccount tables, it is important to distinguish the reasons why certain cells may be empty, i.e. because there are no data or simply because the transaction does not occur. Where a transaction could potentially have occurred but no data are available, it is important to place a zero in the cell.
In addition, it is recommended that an interim HFxHPxHC “combination” table should be completed. This table can then be linked to the HFxHP and HPxHC tables, which can then be generated automatically. For example, the team may know the total amount that NGOs spend on a certain type of provider (such as public hospitals) but not the breakdown of those funds across RH functions (such as inpatient vs outpatient care). In this case, the team can use the same breakdown as was used for general health expenditures. That is, if the health management information system shows that 70% of NGO expenditure at public hospitals is for inpatient care and 30% for outpatient care, the team can assume the same breakdown for RH care.

Following the generation of the last two tables, it is relatively easy to work “upstream” and complete the HFxHP table and the FSxHF table. Nevertheless, different countries may use different strategies for filling out the tables, depending on the level of detail needed and the availability of data.

A more detailed description of the general approach to data analysis is given in the Producers’ Guide (WHO, 2003, Chapters 11, 12, and 13).

6.3 Specific issues that may arise with RH subaccounts

The issues discussed in this section illustrate some of the major challenges of data analysis for RH subaccounts, drawing on country experiences. The discussion is by no means exhaustive. Country teams that have additional methodological queries are invited to consult directly the international committee of NHA experts (nhaweb@who.int).

6.3.1 Boundary-related issues

Efforts to track resources for specific programmes or diseases face three common challenges: (1) health resources are often shared, rather than allocated to a single programme area; (2) health interventions and programmes may address multiple conditions concurrently; and (3) most expenditure records do not report expenditure by specific diagnosis. Thus, reported expenditures often encompass broad categories rather than specific areas, such as RH.

*How should overlaps with other subaccounts be handled?*

As described in Chapter 2, several subaccounts may be prepared within the NHA framework. Some of these subaccounts may have overlapping boundaries, e.g. RH may overlap with the child health, malaria, and HIV/AIDS subaccounts.

*Suggested strategy:* Where an expenditure on a health activity could be categorized in more than one subaccount, a decision needs to be made either to place all the expenditure in one subaccount, or to divide the amount among the various subaccounts. This will allow for the sum of the subaccounts to add up to an accurate THE. Total expenditure should not be included in more than one subaccount because this would overestimate spending. Decisions on where to include these overlap expenditures will depend largely on the local policy context. The technical team should carefully document what they do, so that appropriate adjustments can be made for purposes of international comparison (see section 2.4.1.3).

The technical team should be careful about disaggregating a single programme’s expenditures. Disaggregation should be used only if the RH share of the programme’s spending is significant, yet
including the entire spending in the RH subaccount would be a gross overestimate. (This might be the case, for example, with an MCH programme, which would have significant RH and child health expenditures.) Use of the technique should be kept to a minimum, to avoid expenditure “guesstimates”. The allocation ratio (RH versus other expenditures) used to estimate the RH share will differ from country to country, depending on available data and the country context. Again, the approach taken should be well documented in the RH subaccount report, identifying which figures have been extracted directly from original data sources and which have been derived using various estimation techniques.

6.3.1.1 RH overlap with HIV/AIDS subaccount

How should expenditures on HIV/AIDS that may overlap with RH be addressed? For example, should expenditure on condoms be placed in the HIV/AIDS subaccount, RH subaccount, or both?

*Suggested strategy.* The approach taken will depend on the local policy perception of RH and HIV/AIDS care. Some countries view HIV/AIDS interventions as components of RH care; in this case, expenditures associated with HIV/AIDS-related services can be included in the RH subaccount. However, for the sake of comparability, they should be clearly labelled in the T-accounts data summary files (for the particular financing agent) and the reasons for choosing this approach noted. This will allow the necessary adjustments when comparisons are made with countries that separate HIV/AIDS interventions from the RH programme.\(^{43}\) For example, in Rwanda, when the HIV/AIDS and RH subaccounts were prepared (for the same year), it was determined that STI programmes and services, including condoms, were more closely linked to HIV/AIDS than to RH. All these expenditures were therefore included in the HIV/AIDS subaccount and not in the RH subaccount. Because they were clearly labelled in the HIV matrices, they could still be extracted for inclusion in cross-country comparisons of RH accounts. Rwanda’s approach reflects one of the NHA cardinal rules, namely, the *assessment of the primary purpose* of the expenditure. If it is for family planning or RH, then the full amount should be included in the RH subaccount. If it is for HIV/AIDS – and the country considers HIV/AIDS to be separate from RH – then the expenditure should not be included in the RH subaccounts.

6.3.1.2 RH overlap with the malaria subaccount

How should expenditures on antimalarial chemoprophylaxis and intermittent preventive therapy (IPT) in pregnant women be treated in the RH subaccounts? Should these expenditures be included completely, in part or not at all?

*Suggested strategy.* Antimalarial chemoprophylaxis and IPT aim to prevent pregnant women developing severe malaria, which may have serious consequences for the developing fetus and the newborn. Many sub-Saharan African countries consider these services as part of the national malaria control programme, not of the RH programme. If this is the case, expenditure should be included in the malaria subaccount, not the RH subaccount. Whatever the country’s perspective on the expenditure, it is best to include the entire expenditure in the more appropriate subaccount rather than dividing it between the two. (If,

---

\(^{43}\) See the guidelines for HIV/AIDS subaccounts (De et al. 2004; SIDALAC, 2001). The potential overlaps with other subaccounts are discussed further in section 2.4.1.3.
however, the expenditures are divided, they should be clearly labelled to facilitate international comparisons).

**6.3.1.3 RH overlap with the child health subaccount**

How should integrated RH and child health care programmes be dealt with? When financing is targeted to an integrated MCH programme, should all of the expenditures be included in RH, or only some of them? Or should they be excluded altogether?

*Suggested strategy.* If each programme component (maternal health and child health) consumes a significant proportion of the programme funding, then including the entire MCH programme funding in the RH subaccount would overestimate RH expenditure, while excluding it would underestimate RH expenditure. In accordance with the guideline given above, the recommendation here is to disaggregate the two amounts. As always, regardless of the strategy chosen, the technical team should document all its assumptions and decisions in the T-accounts data summary files (for the particular financing agent), together with the reasons for choosing the particular approach.

**6.3.1.4 Surveillance targeting multiple health conditions**

How should surveillance activities that target multiple conditions be accounted for (e.g. the basic health information system)? Should an RH proportion be extracted?

*Suggested strategy.* It should first be determined whether extracting the RH share is worth the effort, i.e. is the expenditure likely to exceed 2% of the \( \text{THE}_{\text{RH}} \)? Generally speaking, investments in the information system tracking key health statistics are not significant enough to warrant specific inclusion in the subaccounts. Such expenditures may be included (but not explicitly) as part of the overall non-targeted expenditures of the Ministry of Health (see section 6.3.2).

**6.3.2 Non-targeted expenditures for RH**

The RH subaccount should include non-targeted, as well as targeted or earmarked, funds for RH. As seen above, targeted funds are easily identified from primary and secondary data sources. They are generally programme expenditures incurred by major RH financing agents (or sources), such as the Ministry of Health, NGOs, donors and households. Non-targeted expenditures refer to indirect spending on RH personnel and medical services; an example would be the proportion of medical staff wages going to public hospital staff who treat patients for RH-related issues. Non-market providers may use their general revenue (contributed by various financing agents for all health services) to pay for RH-related services.\(^{44}\)

Generally speaking, unless providers have cost-accounting systems, such information cannot readily be disaggregated, particularly in the information systems of middle- and low-income countries.

*Suggested strategy.* Non-targeted spending can be more easily determined in countries where providers are reimbursed (e.g. by health insurance schemes, employers, and governments) according to diagnosis or by diagnosis-related groups (DRGs) (Australian Institute of Health and Welfare, 2005). DRGs constitute

\(^{44}\) The full cost of intermediate inputs (including salaries, equipment and supplies) at private for-profit providers is embedded in the price charged to patients or insurance schemes. Thus, non-targeted expenditures do not need to be estimated separately for these providers.
a classification system that groups hospital patients according to their medical diagnosis and their use of hospital resources (Kielhorn & Graf von der Schulenburg, 2000); this level of detail may not be present in patient records in low-income countries. Rather than undertaking complex and sometimes costly studies to obtain non-targeted expenditure (such as time and motion studies), it is suggested simply to take a particular percentage of overall provider expenditures. This percentage can be derived from a number of sources: (1) RH costing studies at hospitals and health centres; (2) billing records for OOP payments to hospitals; and (3) admission records and outpatient visits for RH care.

For outpatient RH services in Jordan, the allocation factor was estimated using the ratio of RH-related visits to total outpatient visits to public hospitals (see below):

\[
\begin{align*}
\text{Number of outpatient visits for RH at a given provider} & \approx \frac{\text{Number of outpatient visits overall at a given provider}}{Y}\% \\
\end{align*}
\]

This factor \(Y\) was then multiplied by total outpatient expenditure to yield the RH portion. Obviously, this assumes that use rates correspond to expenditures – which may or may not be the case. If cost data are available then it is advisable to consider these as well.\(^{45}\) In Jordan, such data were not available for outpatient care, but were available for inpatient care. The inpatient allocation factor was derived by combining cost data and use data (see Banks et al., 2002; As-Sayaideh et al., 2002):

\[
\begin{align*}
\text{Average cost per admission for a RH-related service at public hospitals} & \text{X Number of patient days for RH care at public hospitals} \approx \text{Average cost overall per admission at public hospitals} \text{X Number of patient days for all care at public hospitals} \approx Z\%
\end{align*}
\]

The derived allocation factors, \(Y\)% and \(Z\)%, were then applied to the provider spending on all outpatient care and inpatient care, respectively. To determine the contributions of financing agents to non-targeted spending for RH, the same proportion can be applied to their overall health care spending (as shown in the general NHA tables; HFxHPXHC). This is illustrated in Table 6.2 for one provider type. Note that the allocation factor must be derived for each provider type.

**Table 6.2. Contribution of financing agents to non-targeted RH spending on outpatient care**

\(^{45}\) Note that costing data are not simply translated into expenditure by multiplying price and quantity. Rather, it is recommended that costing estimates be used (when actual expenditure data are not available) to estimate the proportion of provider expenditures that goes to RH. This is because average costs may vary across the country; differences may be related to the inputs used to derive an average cost estimate, which in practice may differ significantly according to mode of production, complexity of the health care unit, and a selective use at a given facility.
Similarly, to trace the non-targeted spending back to the financing source level, the proportional breakdown found in the general FSxHF NHA table can be applied to the financing agents that contribute to non-earmarked spending.

In Rwanda, a slightly different approach was taken. The unit cost for prenatal care (obtained from a costing report) was multiplied by the estimated number of prenatal care visits at the particular provider type (obtained from the DHS). This amount, minus the OOP spending for prenatal care (which is targeted spending), was taken as the total non-targeted amount for RH services. It was then apportioned across the various financing agents as in Table 6.2.

Like Jordan, Ukraine used use data to estimate its allocation factor for RH outpatient services at general hospitals. Ukraine’s technical team obtained from the Centre for Medical Statistics of the Ministry of Health the number of full-time equivalents (FTE) for obstetricians/gynaecologists and “doctors-geneticists”46 at public hospitals. The average number of RH outpatient visits per FTE was also known. Thus, the team was able to estimate the total number of RH visits at public hospitals. This number, divided by the total number of all outpatient visits at public hospitals, became the allocation factor that was applied to overall public hospital expenditure to estimate the non-targeted amount used for RH care.

### 6.3.3 Commodity-related issues

#### 6.3.3.1 OOP spending on commodities

How can OOP spending on contraceptive commodities be estimated using cost and use data (when expenditure information is not available)?

*Suggested strategy.* The DHS usually provides the number of women who use a given contraceptive commodity by provider type. From a mini-costing exercise, the cost at which the commodity is sold to patients can be determined for various provider types. Next, data are needed to determine the estimate of annual expenditure.

In Rwanda, key informants estimated that patients made approximately five visits per year to obtain the contraceptive pill. At the first visit, the patient purchases pills for one monthly cycle; at each subsequent visit, she purchases pills for three cycles. Therefore, to obtain 13 cycles (for the whole year),47 five visits

<table>
<thead>
<tr>
<th></th>
<th>Financing agents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public hospitals</strong></td>
<td></td>
</tr>
<tr>
<td>HF. 1.1.1.1 Ministry of Health</td>
<td>100</td>
</tr>
<tr>
<td>HF.2.3 Household OOP payments</td>
<td>50</td>
</tr>
<tr>
<td>HF.2.4 NPISH (NGOs)</td>
<td>100</td>
</tr>
<tr>
<td>HC.1.3 General outpatient expenditures (taken from the general HFxHC table)</td>
<td>Y% x 100</td>
</tr>
<tr>
<td>HC.1.3 RH non-targeted outpatient expenditures</td>
<td>Y% x 50</td>
</tr>
</tbody>
</table>

---

46 “Doctor-genetics” is a medical speciality in Ukraine; practitioners are mainly responsible for family planning services, screening for birth defects, etc.

47 In the absence of annual expenditure or use data, the Rwandan technical team had to assume that patients who used a particular method did so correctly and regularly.
are required. Total household OOP spending on birth control pills at public hospitals was estimated as follows:

\[
\text{Total number of women obtaining the pill at public hospitals} \times \text{Total number of visits per woman to obtain 13 cycles} \times \text{Unit cost of one cycle (inclusive of consultation fee)} = \text{Total household OOP expenditure on the pill at public hospitals}
\]

Note that the consultation fee at the given provider type was included in the average cost to obtain the pill. A similar approach was used to estimate household OOP spending on injectable contraceptives:

\[
\text{Total number of women obtaining injections at public hospitals} \times \text{Total number of visits per woman to obtain 4 injections} \times \text{Unit cost of one cycle (inclusive of consultation fee)} = \text{Total household OOP expenditure on injectable contraceptives at public hospitals}
\]

6.3.3.2 Commodities purchased multiple times

How should commodities that may be purchased more than once be accounted for? Commodities may be bought and sold multiple times as they pass through the health care system, e.g. through social marketing of donated goods. As the product is essentially purchased twice – for example, once by donors and once by households – should both expenditures be counted? Several scenarios can be envisaged regarding commodity transfers.

(a) Donors give US$100 worth of condoms (the value is the international market value at which the donors purchased the condoms). The Ministry of Health distributes these condoms free of charge to its providers. The providers in turn dispense them to patients free of charge.

Suggested strategy. This is a case of full subsidization of a commodity. Essentially, the full US$100 transfer between donors and the Ministry is shown (see Table 6.3).

| Table 6.3. Illustrative FSxHF and HFxHP tables when donated commodities are distributed completely free of charge* |
|-------------------|-------------------|------|
| **FSxHF** | **FS 3. Rest of the world** | **Total** |
| HF.1.1.1.1 Ministry of Health | $100 | $100 |
| **Total** | **$100** | **$100** |
(b) Donors give US$100 worth of condoms to the Ministry of Health. The Ministry distributes these condoms free of charge to its providers. The providers in turn dispense them to patients with a charge of US$10, which is retained at the facility as part of cost-recovery efforts. Should the full value of donor expenditure be included in the RH subaccount tables (US$100), or just the portion subsidized (US$90) to the household in addition to the amount paid by household (US$10)?

**Suggested strategy.** While this is a case of partial subsidization at the household level, it is more critical to discern the end use of the household OOP spending. In this case, the funds were used for health care, most likely during the year of estimation. In this sense, the suggested approach is similar to the general NHA treatment of user fee retention at the government facility level. The Producers’ Guide (paragraph 10.15) states, “if the [user] fees are retained as additional resources by providers, i.e. supplement ministry of health spending, they do not need to be subtracted from the ministry total.” Therefore, the full donor and household contributions are additive (see Table 6.4).

Table 6.4. Illustrative FSxHF and HFxHP tables when fully donated goods are ultimately dispensed to households for a fee

<table>
<thead>
<tr>
<th>FSxHF</th>
<th>FS.3. Rest of the World</th>
<th>FS.2.2 Households</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF.1.1.1.1 Ministry of Health</td>
<td>$100</td>
<td></td>
<td>$100</td>
</tr>
<tr>
<td>HF.2.3 Household OOP</td>
<td>$10</td>
<td></td>
<td>$10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$100</strong></td>
<td><strong>$10</strong></td>
<td><strong>$110</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HFxHP</th>
<th>HF.1.1.1.1 Ministry of Health</th>
<th>HF.2.3 Household OOP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP.1.1.1. Public hospitals</td>
<td>$50</td>
<td>$7</td>
<td>$57</td>
</tr>
<tr>
<td>HP.3.4.5.1 Public health centres</td>
<td>$50</td>
<td>$3</td>
<td>$53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$100</strong></td>
<td><strong>$10</strong></td>
<td><strong>$110</strong></td>
</tr>
</tbody>
</table>

*Note, this example shows an arbitrary distribution between providers.

If the household user fees had been returned to the Ministry of Health, then the recorded ministry expenditure should be net of those fees (US$100 – US$10 = US$90). As stated in the Producers’ Guide (paragraph 10.15), “it is essential that they not be included in the ministry’s outlays in order to avoid double counting those expenditures.” Consequently, tracing the expenditure back to the financing source, donors would be recorded as giving US$90 to the Ministry of Health.

Regardless of the end use of OOP revenue, the full value of the household OOP payments should always be recorded in health accounts.
(c) Donors give US$100 worth of condoms to the Ministry of Health. The Ministry of Health sells them to public providers for US$60. The US$60 is stored in the Ministry’s bank account and used the following year to buy various RH programme needs. Therefore, US$40 is the amount of the subsidy from donors to public providers. Households then buy the condoms from the facilities for US$70. Therefore, the providers make a profit of US$10, which can be used as they see fit (as part of cost-recovery). Should only the value of US$100 for the condoms themselves be counted? Or the full US$170, which includes the total contributions made by both the donors and the households?

*Suggested strategy.* It is critical to assess the end uses of the government monies that were retained (from the sale to providers), as well as of the household OOP revenue (generated from the sale of condoms). The amount retained by the Ministry from the sale to providers is channelled back into the health care system the following year. It should therefore be excluded from this year’s accounts and included in the following year’s accounts. Therefore, donors will be described as giving US$40 to the Ministry – the value of the condom subsidy that year. Since the household OOP revenue raised by the providers is retained in the facilities for health care use (presumably that year), it should be accounted for in the same way as in example (b) (see Table 6.5).

**Table 6.5. Illustrative FSxHF table when donated commodities are sold to public providers, which sell the commodities to patients**

<table>
<thead>
<tr>
<th>FSxHF</th>
<th>FS.2.2 Households</th>
<th>FS.3 Rest of the World (donors)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF. 1.1.1.1 Ministry of Health</td>
<td>40</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>HF 2.3 Household OOP payment</td>
<td>70</td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>40</td>
<td>110</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HFxHP</th>
<th>HF 1.1.1.1 MoH</th>
<th>HF 2.3 Households OOP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP.3.4.5.1 Public health centres*</td>
<td>40</td>
<td>70</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>70</td>
<td>110</td>
</tr>
</tbody>
</table>

*For illustration purposes, it is assumed that all government condoms are transferred to public health centres.

(d) Donors give US$100 worth of condoms directly to NGOs. These NGOs then sell the condoms to shopkeepers at a subsidized price of US$60. The funds received from the sale to shopkeepers are used by the NGOs to pack and distribute more condoms. The shops in turn sell the condoms to households for US$80. What donor amount should be recorded: the full contribution (US$100), the amount of the subsidy when sold to shops (US$40), or the ultimate subsidy, as reflected at the household purchase level (US$20)?

*Suggested strategy.* Beginning with the household contribution, as recommended by the Producers’ Guide (paragraph 10.15), the full amount paid (US$80) should be recorded in the tables. With respect to the donor contribution, the situation is analogous to the returning of public facility user fee revenue to the Ministry of Health. In this case, the NGO is equivalent to the Ministry of Health, and the shops the public providers. Shops send part of their “user-fee” revenue back to the NGO (to pay for the condoms); thus the amount actually contributed by the NGO should be recorded, net of those fees, in order to avoid double counting (see Table 6.6).
Table 6.6. Illustrative FSxHF and HFxHP table when donated commodities are sold in the private sector

<table>
<thead>
<tr>
<th>FSxHF</th>
<th>FS.2.2 Households</th>
<th>FS.3 Rest of the world (donors)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF. 2.4 NPISH</td>
<td></td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>HF 2.3 Household OOP</td>
<td>80</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>40</td>
<td>120</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HFxHP</th>
<th>HF 2.4 NPISH</th>
<th>HF 2.3 Household OOP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP4.1 Dispensing chemists</td>
<td>40</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>80</td>
<td>120</td>
</tr>
</tbody>
</table>

(e) Donors give US$100 worth of condoms to the Ministry of Health, which does not distribute them to its providers that year. Should the donor contribution to the Ministry of Health be included in the NHA matrices?

*Suggested strategy.* Because the service was not rendered to households, the donor contribution should be excluded from the subaccount for that year; it should be included in the year(s) in which the funds are spent and services rendered.

6.3.3.3 Commodity imports versus amounts used in the country

If only the import records of contraceptive commodities are available, how can the amount used be estimated?

*Suggested strategy.* This was the case in Rwanda. Discussions with some key informants involved in commodity distribution in the country provided estimates of how much of each shipment was dispensed in the study year. When such information was not forthcoming, the team assumed that shipments made during a certain period – say, from August 2001 to August 2002 – could be dispensed during 2002 (the year of estimation). The amount dispensed was then multiplied by the international procurement cost for each commodity type. This very crude assumption was thoroughly documented and noted as an area in need of better estimation for future rounds of RH subaccounts.

6.3.3.4 Conflicting reports of donor contributions to Ministry of Health due to in-kind transfers

Often, donors report a different value for their contributions to the government than what the government records as having received. Why is this the case and how can this data conflict be reconciled?

*Suggested strategy.* Often donors and other financing sources track disbursements of their funds, while recipients and users of those funds (namely, financing agents) are able to report on spending for actual services rendered. As with any transaction, the team first needs to investigate how much of the transfer of funds was ultimately rendered as a service for patients in the year of study. Only the amount ultimately
spent on a particular service should be included in the subaccount. The team should also remember that
government expenditure records sometimes do not include the full value of donated commodities,
whereas the donor records do. Thus, the adjustment should be made to the government expenditure
records, provided that the commodities were dispensed that year.

6.3.4 A fifth NHA matrix of possible interest to RH policy-makers

During presentations of health accounts data, policy-makers and other stakeholders often ask what
activities are financed by donor, government, and household funds. In many developing countries, there is
significant intermingling of resources at the financing agent level, and financing sources, particularly
donors, want a clearer picture of the end uses of their funds.

*Suggested strategy.* Although it is not included in the Producers’ Guide as a core NHA table, several
country teams have found it useful to complete an FSxHC table. This can be done after the FSxHF and
the HFxHC tables have been computed for both targeted and non-targeted spending, separately. An
FSxHC table should be calculated separately for each set of expenditures, before the two are added
together to obtain the overall distribution of financing sources funds by RH activities. To calculate the
interim FSxHC tables, start from the HFxHC table and trace the functional expenditures back to the
financing source using the FSxHF table. For example, if it is known that the Ministry of Health gives
US$50 to RH IEC programmes (from the HFxHC table) and that 50% of Ministry of Health funds come
from donors and the remainder from the Ministry of Finance (from the FSxHF table), then the FSxHC
distribution would be recorded as US$25 for cell showing funds from the Ministry of Finance to the RH
IEC programme, and US$25 for the cell showing funds from donors to the RH IEC programme. Figure
6.1 shows an example of a graph that can be generated from an FSxHC table (taken from the Rwanda
subaccount for 2002).

![Fig. 6.1. Financing sources of RH functions in Rwanda in 2002](image-url)
6.3.5 Relying on cost and use data

In the absence of expenditure data, technical teams may resort to using unit cost and use data as proxy measures of price and volume. This should be done with caution. Unless the costs have been derived from actual expenditures through cost-accounting systems, multiplying cost and use data is not ideal for estimating expenditure on curative care. This is because unit costs are often derived on the basis of an ideal or full set of services. If services are inefficiently provided, the actual unit cost will be higher. Rather than simply multiplying cost and use data, the information can be used to develop ratios of expenditures or weights that can then be applied to the total expenditure at facilities. Note that the more detail available in the cost estimates the better, because weights can then be generated for specific components of RH programmes.

On the other hand, multiplying cost (price) and use estimates is appropriate for deriving expenditures on commodities, because there is usually no variability in the services rendered when commodities are purchased. In this case, cost equals price in market goods. This is true not only for commodities but also for market services.

6.4 Summary

At the data analysis stage, the team will need to have access to a lot of directly and indirectly related NHA data, ranging from expenditure information, to cost, use, population, and prevalence data. Whenever possible, such information should be assembled ahead of time to avoid delaying the data analysis. Some guiding principles for the analysis itself, particularly for the RH subaccounts, are always to check the primary purpose of the expenditure in question, and to revisit the boundaries of the subaccounts. Specific estimation issues include: (1) boundary queries (particularly relating to overlaps with other subaccounts, and to distinguishing between health and health-related goods and services; (2) commodity transfers; and (3) whether or not to extract RH expenditures embedded in integrated activities.
The last issue can be one of the most challenging matters to deal with. It is best to keep the disaggregation of integrated activities to a minimum, in order to preserve expenditure data and to limit “guesstimates”. At times, it may be necessary to derive RH proportions for integrated activities (e.g. MCH programmes); this should be done only if the RH-related expenditure is thought to be sizeable and the full value of the integrated activity is likely to be a significant overestimate. Regardless of the approach used, all assumptions and estimation techniques should be thoroughly documented. Countries will find that, as their information systems improve and as data collection becomes routine, they will rely less on estimation techniques and more on actual expenditure data.
7 Reporting on RH subaccounts

Disseminating the RH subaccount results to both immediate stakeholders and a wider audience is important for two main reasons. First, the results support health policy and programme development, by providing evidence for decision-making. Second, they support the further development and institutionalization of the health accounts methodology. In addition, sharing results may help instil a culture of transparency and accountability in the health sector. The role of the NHA steering committee and stakeholders in the dissemination process is paramount (see Chapter 8).

Subaccount results may be presented orally or in writing, depending on the goal of the message and the target audience. This chapter offers guidance predominantly on written documents. The first section focuses on the audience, purpose, format, and timing of reporting. Annex 12 gives tips for making the writing readable and suggests how to use graphs and tables. Section 7.2 describes the organization and content of a comprehensive technical report on an RH subaccount exercise, while section 7.3 addresses the need for, and essential elements of, a detailed publication and dissemination plan.

The technical team, steering committee, and other stakeholders should agree on the timing and format of reporting before preparation of the subaccount begins, and include this in the dissemination plan (see section 7.3).

7.1 Who needs to know what, why, and when?

The application of some fundamental rules will increase the likelihood that subaccount results will actually be used. In summary, the information should:

- be communicated to the appropriate potential users;
- address issues that the users perceive to be important;
- be delivered in a form that is easily understood by the intended users; and
- be delivered in time to be useful.

7.1.1 The audiences: interests and policy questions

The use of subaccount results will depend partly on whether or not the team has identified the right audiences and the major issues confronting them in the health system, and whether the subaccount information can help them address those issues. Different users will read a report from different perspectives. For example, health care providers and managers will want to know how the new information can help improve the health of the population. Researchers, on the other hand, will want to know whether the results are valid and reliable, and will thus want information on study design, sampling, methods of data collection, and data analysis.

The primary audience for the RH subaccount results comprises the users whose information needs (evidence on financial flows and expenditure on RH) were the catalyst for the subaccount study. They

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48 Chapter 8 discusses the participation of stakeholders in the NHA and subaccount preparation process and in promoting use of the resulting information, as well as the formation of the steering committee, technical team, and RH groups.
usually include national policy-makers, donors, and other stakeholders that use expenditure data for strategic planning in the area of RH care. These may include public and private health insurance agencies, private companies, and national NGOs. Naturally, the primary audiences may differ by country or region.

While RH subaccounts may be prepared for a variety of reasons, for these primary users the ultimate purpose is to provide information for decision-making. In general, therefore, any report should be tailored to the policy questions that are relevant to these primary users.

Other audiences for the results consist of individuals, institutes, or groups that have an interest in the functioning and monitoring of the health system – in particular its RH programmes – and its financial structure. They may include representatives of the mass media, researchers, health service providers, local NGOs, community-based organizations, community leaders, and leaders of religious groups.

### 7.1.2 Reporting formats

Once the primary and other audiences, together with their main interests and policy questions, have been identified, the next step is to choose the formats in which the messages are to be delivered. Figure 7.1 lists different potential audiences for RH subaccount results and the types of reporting that will be most useful to each.

![Figure 7.1. Forms of communicating results to various audiences](image)

In most cases, a comprehensive technical report will be the primary reporting format (see section 7.2). However, as Figure 7.1 shows, such a long and detailed report is not the most appropriate format for audiences that do not need all the technical details. In fact, producing only such a report may dampen many audiences’ interest in and support for NHA.

Alternative formats for dissemination, as listed in Figure 7.1, serve different purposes. A policy report, for example, could address the implications for the health system, in particular the structure and organization of the RH sector, its efficiency, and cost containment, as well as sustainability issues. It may also look at what the RH subaccount results show about equity and equality in relation to, for example, gender, life course, socioeconomic status, and geographical location. The key results should also be presented in policy forums, involving policy-makers, programme managers, parliamentarians, and insurance company board members.

A follow-up report could discuss the institutionalization of the RH subaccount process and propose ways forward. The national government and funding agencies are the most likely audiences for such a report.
Other audiences may prefer to read an executive summary or a fact sheet highlighting the main RH subaccount indicators (see section 1.5). Still others, such as service providers or clients, may have little knowledge about or interest in health accounting practices, but would appreciate a brochure or poster with succinct messages about, for example, the volume of specific services provided and who pays for them. The general population may be reached through brief messages in the news media.

Few countries will disseminate findings in all these formats. Time and financial resource constraints usually limit the types of reports produced. Still, an effort should be made to reach as many audiences as possible.

Dissemination can also be done orally, for example, in seminars, press conferences, and workshops for health personnel.

In addition to reporting on subaccount results, it is equally important to document the methodology of the accounting process, either in a separate report, or as part of the technical report, or in a scientific article. Such a document should include:

- the boundaries of the RH subaccount;
- the NHA classifications used for the RH subaccount: financing sources, financing agents, providers, and functions;
- a mapping of budget classifications to NHA classifications;
- a description of the data sources used;
- a description of any surveys carried out, including the sampling frame, response rates, and survey instruments;
- the methodologies used for estimation, together with underlying assumptions and decisions, e.g. related to attribution of non-targeted expenditures, disaggregation of spending by functions, use of cost information, solution of data conflicts and data gaps, overlaps with other subaccounts;
- the concepts and definitions applied in the study; and
- problems encountered and lessons learned.

### 7.1.3 Timing the reporting to meet user needs

The timing of the report can be critically important to getting the information used. Key information should not be presented to primary audiences prematurely, i.e. before sufficient data have been properly estimated and analysed. Conversely, if it takes too long to analyse data and produce the report(s), the information may have become outdated and lost its impact. Reporting should, therefore, be timed to take into account the decision-making schedule of the primary users or the cycles of programming and funding.

It is also important to provide periodic updates on progress to those who commissioned the RH subaccount, so that they remain committed and can fine-tune the process to meet their needs. The technical team plays a pivotal role here; it may need to produce short progress reports, hold briefings, etc.
7.1.4 Guiding questions

The following questions can guide the preparation of a report:

- What audience will be served?
- To what extent and in what specific ways is the information relevant to the users’ interest in health issues?
- To what extent is the information practical from the users’ perspective?
- What information will the users consider credible and what reporting practices will support that credibility?
- To what extent is the information understandable to users?
- How might reporting practices ensure that the information is delivered in a timely fashion so that it is most useful?

Directly or indirectly, users apply these criteria to any message or reporting medium, and will accept or reject information accordingly.

7.2 An outline for the technical report

This section proposes a standard outline for the main technical report (Box 7.1). Use of this outline will contribute to documenting the development of the RH subaccount and using its results in an efficient and effective manner. It can, of course, be extended or adapted to meet an individual country’s context, policy priorities, and reporting needs.

Box 7.1. Outline for an RH subaccount technical report

**Front cover**
The front cover should be descriptive and attractive, with a title that will appeal to the intended audience. Besides the names and logos of the agencies that prepared the RH subaccount, major national and international financing partners should be credited.

**Preface, Acknowledgements, Contents, List of tables, List of figures, Abbreviations and acronyms**
The preface generally explains how the idea for the RH subaccount was developed. This is followed by an acknowledgement of institutions and individuals who were helpful to the authors during the accounting exercise. The contents and lists of tables and figures help readers to navigate the report. A list of abbreviations and acronyms helps the reader identify the names of stakeholders, programmes, etc. and new technical terminology.

**Executive summary**
The executive summary is usually the first section that readers look at, and is one of the most important parts of the report – if it does not capture readers’ interest, they will not continue to read. The executive summary is generally the last thing to be written. It should be a true summary and not simply text that is “cut-and-pasted” from the body of the report. It should be clear and to the point, and not more than 3–4 pages, highlighting the key findings and briefly summarizing other important chapters. It should as far as possible be jargon-free. Bullets and clear headings will make it easier to skim through, and a well-chosen graphic can emphasize a key point.

**Chapter 1. Introduction**
The introduction explains the rationale for the RH subaccount, its general characteristics, its objectives, and the organization of the technical report.

1.1. **Rationale for the study**. The first section of the introduction describes the reasons for and importance of conducting a RH subaccount, the added value to the general NHA, and the intended or potential use of the results.

1.2. **General characteristics**. The second section introduces the general characteristics of the RH subaccount, the methodologies applied, and the main stages of the implementation process. The reader should be informed about the context in which the RH subaccount has been undertaken: in this regard, reference should be made to the process of embedding the RH subaccount in the NHA (if the latter has been or will be conducted). Other existing or planned subaccounts (malaria, child health, HIV/AIDS, etc.) may also be mentioned.

1.3. **Objectives**. The third section should clearly and succinctly state the objectives of the RH subaccount, distinguishing between those related to the functioning of the health system and those addressing equity and equality in health. The main policy issues that the RH subaccount can inform should be addressed.

1.4. **Organization of the report**. The fourth section addresses the organization of the report itself, outlining the content of subsequent chapters.

**Chapter 2. Background of the study**
This chapter gives some background information about the country, describes the health sector, and outlines the international context of the RH subaccount.

2.1. **General background information**. The first section presents relevant demographic, economic, social, cultural, and political information about the country. If the subaccount exercise was carried out at a lower administrative level, such as a state or province, similar information should be provided for the area. The discussion should be based on a set of basic demographic, socioeconomic and health indicators (see Annex 13). The section also describes the national health and RH policy.

2.2. **Mapping of the health sector**. The second section maps the health sector, with a specific focus on RH entities. The organizational structure and the four principal vectors of health accounting – financial sources, financial agents, providers and functions – are described, as well as the financial flows between them.

2.3. **International context of the RH subaccount**. In the third section, the RH subaccount is situated in the international context. To date, a relatively small number of RH subaccount estimations have been conducted. If feasible, reference should be made to comparable initiatives in the region or elsewhere, and their similarities, differences, and lessons learned briefly discussed.

**Chapter 3. Implementation and methodology**
This chapter describes the implementation process. It defines the boundaries of the RH subaccount and the classifications used. Data collection, data processing and analysis, as well as enabling and constraining factors are elaborated.

3.1. **The implementation process**. The first section describes the formation and composition of the steering committee and technical team, and the tasks and responsibilities of the various team members. The planned and actual timeframe for implementation should be given special attention. The section also introduces the set of tables produced in the accounting exercise and the reasons for selecting these.

3.2. **Boundaries**. The second section discusses the general concepts of RH and RH care in the country context and, thus, the boundaries of the RH subaccount. This will help the technical team to decide on the inclusion or exclusion of direct health care, health-related functions, and non-health addendum functions that are relevant for policy purposes, and on other boundary issues such as space (within or outside the country), time (fiscal vs. calendar year, cash vs. accrual accounting), and monetary vs. in-kind expenditure transactions.
3.3. **Classifications.** This third section provides information on the classification schemes – financing sources and agents, providers, and functions – used to categorize each type of RH expenditure. It also describes the categorization of beneficiaries, if relevant.

3.4. **Data collection.** The fourth section discusses primary and secondary data collection. It describes the existing data sources used, including their limitations and drawbacks, and states the reasons for using them. If relevant, any specific RH subaccount surveys are described, including their sampling design, and the implementation and results evaluated. Specific survey instruments, in particular questionnaires, may be annexed to the report. As part of efforts to improve the RH subaccount instruments, the main methodological challenges are identified and possible solutions are discussed.

3.5. **Data processing and analysis.** The fifth section contains documentation on the adjustment of data to make them usable; a brief description of the data entry program and data validation procedures (e.g. consistency and quality checks); a brief description of the estimation procedures to address data gaps (including a brief description of approaches/strategies used to determine the RH component of non-targeted expenditures); and a description of the reconciliation of different data sets (triangulation). An exhaustive description of all these aspects should be annexed to the report.

3.6. **Enabling and constraining factors.** Finally, the sixth section reflects on general enabling and constraining factors, including political and sociocultural factors, that might have influenced the implementation process.

*Chapter 4. Results from the RH subaccount*

This chapter lists the results of the RH subaccount.

4.1. **Summary statistics of RH subaccount results.** The first section describes and reviews key summary indices.

4.2. **Tables on the flow of funds for RH.** The second section, on the flow of RH funds and expenditures, addresses the principal questions about who pays, how much, and for what within the RH boundaries. Data should preferably be tabulated in at least four main matrices, namely:
- flow of funds from financing source to financing agent,
- flow of funds from financing agent to provider,
- flow of funds from provider to function,
- flow of funds from financing agent to function.

Each matrix further highlights the main results and is viewed in a wider perspective of the country’s health sector, health conditions, and data evaluation.

Results also can be discussed in terms of the following general policy questions:

*Resource mobilization*
- Who in the country finances RH activities? What activities are paid for?
- How much do individuals or families pay for RH care?
- How are funds mobilized? How do public and private sources compare?

*Resource allocation*
- How are resources allocated to RH services and goods?
- Which areas of the health system need additional funding?

*Resource use*
- Who provides RH services and goods? What resources do they use?
- How do preventive and curative services compare?
- Are resources used efficiently (low costs of producing services and goods and low transaction costs) and cost-effectively?
4.3. Beneficiary analysis. If a beneficiary analysis was included in the study, this third section provides the results on the distribution of spending across subpopulations that are relevant from a policy perspective.

Chapter 5. Conclusions and recommendations
This chapter gives the main conclusions of the study. Using national (e.g. NHA) and international references, the RH subaccount results are looked at from the wider perspective. The section also presents main recommendations (e.g. ways to improve the implementation of future RH subaccount estimations). Lastly, it proposes follow-up research on specific issues identified in the study.

References
To substantiate the content of the technical report, acknowledge external sources, and help the reader search for additional information, important references should be included. These should be presented in accordance with internationally accepted formats.

Annexes
- Country characteristics: population and demographic, socioeconomic and general health indicators (see Annex 13).
- RH subaccount classification schemes.
- Methods of data adjustment and estimation.
- Set of tables (if not included in the main text of the report).
- Survey questionnaires.

7.3 Publication and dissemination plan

The extent to which results of the RH subaccount exercise will be used depends not only on the structure, contents and appearance of the various reports, but also on how the main results are disseminated.

A thorough and realistic dissemination plan should be designed. The dissemination strategy, concrete activities, timeline and frequency of updates will be determined, above all, by the scope of the RH subaccount, the primary audiences, and their main policy questions. It is of utmost importance that dissemination events and messages be tailored to the information needs, time availability, and level of knowledge and understanding of the potential users. The NHA steering committee – and to some extent the technical team – should be assigned clearly defined tasks and responsibilities in relation to the communication of the RH subaccount results.

Dissemination planning should start at the beginning of the RH subaccount exercise, not at the end. The following are elements of an effective dissemination plan.

- **Goals:** Determine and document the goals of the dissemination effort for the RH subaccount estimates.
- **Objectives:** Associate each goal with one or more objectives that clarify what you are trying to accomplish through your dissemination activities.
- **Users:** For each objective, describe the scope and characteristics of the potential users that your dissemination activities are designed to reach.
- **Content:** Identify the basic elements of the projected content needed by each identified user group.
- **Source(s):** Identify the primary sources of information that each potential user group is already linked to or is likely to respect. Look for ways to partner with these sources in your dissemination efforts.

- **Medium:** Identify the medium or media through which your message can best be delivered to your potential users. For each medium, describe the capabilities and resources that potential users will need to access the content.

- **Success:** Describe how you will know whether your dissemination activities have been successful. If data are to be gathered, specify how, when, and who will gather them.

- **Access:** Describe how you will facilitate access to your information and how you will archive information that may be requested at a later date. Remember that most people will use your RH subaccount information when they perceive a need for it, not necessarily when you have completed your project.

- **Availability:** Identify strategies for promoting awareness of the availability of your information and the different report formats.

- **Barriers:** Identify potential barriers that may interfere with access to or use of your information, and develop actions to reduce or overcome these barriers.

For more in-depth information on the different audiences and dissemination strategies, see section 7.1. An RH subaccount dissemination list, containing information on potential primary and other users, should be developed and updated during the preparation of the subaccount. In addition to relevant national and local stakeholders, representatives of international or regional organizations that might be interested in the RH subaccount should be approached and adequately informed about the findings and follow-up steps. Interested organizations might include UN system organizations, such as UNFPA, UNICEF, UNDP, UNAIDS, the UN Fund for Women (UNIFEM), WHO and the Pan American Health Organization (PAHO); international development banks, such as the World Bank and IADB; bilateral donors and international foundations; and international policy and research institutes.

To ensure efficient and effective dissemination of the results of the RH subaccount, a detailed budget covering all expected costs for events, communication, staff, and printing needs to be developed as an integral part of the dissemination plan.
8 Preparing RH subaccounts

8.1 Introduction

The preparation of an RH subaccount involves a large number of activities and stakeholders, which must be coordinated if results are to be produced in an efficient and timely way.

To be successful, the RH subaccount exercise needs to be anchored in the health development context of the country.

- The importance of information on RH expenditures and resource tracking to the implementation and improvement of RH policies and programmes should be clearly demonstrated.
- It is important to show that interest in this information extends beyond the Ministry of Health and even the public sector. The timely and systematic involvement of relevant key players in the health sector and among the producers of financial data will help build support for the RH subaccount exercise, and increase the quality and use of the end product.
- The RH subaccount process should be institutionalized, so that it can respond to the need for continuous, high-quality information. This implies building local capacity for conducting the subaccount, accommodating its organizational structure, assigning structural responsibility to a lead agency, and promoting routine provision of data.
- The RH subaccount should preferably be part of a general NHA estimation rather than a stand-alone study. Integrating the subaccount into the NHA will allow the results to be put in the context of overall health spending, and will cost less in financial and human resource terms than the two studies separately.

This chapter addresses the various steps and operational requirements of the RH subaccount exercise, taking into account the needs and contributions of stakeholders, as well as the constraints, such as budget and staff limitations and lack of data. Special attention is given to the benefits of institutionalizing the process.

8.2 Involving stakeholders

8.2.1 Why, who, and how

It is common for RH subaccounts to have a large number of stakeholders, either as users of the results or implementers of the process. Their different interests, needs, resources, and constraints should be considered in defining the aims of the subaccount exercise and mobilizing human, logistic, and financial resources. Their involvement may also affect the feasibility of planned subaccount activities, or reveal duplication of efforts, crucial gaps, and caveats. Involving and informing a wide range of stakeholders can increase the policy relevance of the RH subaccount findings, as well as the efficiency and effectiveness of the implementation process. Moreover, it tends to build support for the subaccount process and expands local expertise in health accounting.
Stakeholder involvement starts with an NHA “champion”. This champion informs a wide circle of potentially interested agencies about the intended RH subaccount exercise, its basic principles, and anticipated results. From this circle should emerge key stakeholders that can make a crucial contribution to the implementation process and to how results are used. Depending on their expertise and interests, these agencies should be invited to participate in consultative bodies, in particular the RH subaccount group within the NHA steering committee and the RH subaccount technical team (see section 8.3). The formation of the subaccount group and its entry into the broader NHA steering committee could be considered the start of the subaccount project proper.

8.2.2 Data users

The stakeholders who use the RH subaccount data are primarily financiers, developers, and implementers of RH policies and programmes. As such, they are interested in using the results of the RH subaccount analysis to design, implement, and monitor those policies and programmes, to improve health sector efficiency and effectiveness, and to conduct advocacy activities. Among the most important contributions these stakeholders can make is ensuring that the RH subaccount is tailored to provide information on the most relevant policy questions. This supervisory and advisory role is essential when the RH subaccount project is being designed, but also extends throughout the implementation phases. This group should also be involved in disseminating results and recommending new policies and programmes once the RH subaccount analysis has been completed.

These stakeholders are usually people and institutions operating at the national level, but may also be equivalent entities operating at the regional, provincial and municipal levels. More specifically, they may include:

- policy-makers in the general health sector;
- programme managers responsible for maternal health, family planning, and other RH programmes, and managers of related programmes, such as child health and HIV/AIDS (if they are relevant to RH policy);
- financing sources and financing agents for RH, including insurance schemes, donors (UN, multilateral, bilateral), and major non-profit institutions serving households;
- providers of goods, services, and IEC for RH, such as hospitals, clinics, MCH units, family planning centres, specific professional groups in ambulatory care (midwives, traditional birth attendants, village health workers), producers of pharmaceuticals, contraceptives, and condoms, and NGOs involved in RH activities (care, IEC, advocacy); and
- research agencies involved in health policy and health systems research.

8.2.3 Implementing agencies

This second group of stakeholders comprises agencies, working at subnational, national, or even international level, that collect and provide data for the RH subaccount. They are usually well placed to provide insight into the availability, coverage, and quality of data, as well as the procedures, concepts, and definitions that underlie the collected data, and offer opportunities to link up with parallel data collection activities. They are primarily involved in processing and analysing data, including comparing
data sources, assigning the RH share in aggregate data, making estimations, designing and filling the matrices, constructing indicators, interpreting the results and drafting reports.

Some of these stakeholders may play a pivotal role in supplying both relevant data and technical input to the implementation process. They include national census and statistics offices, statistical and financial units in health departments, relevant units of finance departments and the central bank, and various actors in the RH sector (financing sources, financing agents and health care providers). Finally, independent research agencies with expertise in health accounting and RH can provide crucial technical inputs.

8.3 Project responsibility, management, and structure

It is recommended that a steering committee and a technical team be established to prepare the NHA. In general, the steering committee is managerial and policy-oriented; the technical team is operations-oriented.

If it is planned to prepare an RH subaccount, the RH sector needs to be represented on both the NHA steering committee and the technical team. RH experts should help guide the NHA and subaccount processes and help formulate the policy focus of the RH subaccount.

8.3.1 The NHA steering committee and RH subaccount group

Composition of the NHA steering committee
The NHA steering committee members should include representatives of each of the major stakeholders in the health financing system – providers, financing agents, and financing sources. It is advisable also to include a representative from an RH-related organization (RH NGO, umbrella for RH community-based organizations). The key statistical entities and agencies involved in data processing and analysis should also be represented. A general recommendation is to invite a large number of stakeholders into the steering committee and have an open and participatory process as a way to build broad ownership and reduce reservations about participation or the RH subaccount process.

Steering committee members should be senior enough in their organization’s hierarchy to wield influence, but not so senior that they cannot devote time and effort to the project. Members should have the mandate to request – or even require – their organization to produce needed information or to validate available figures. Members should also preferably be relatively conversant with the “numbers” side of health policy, so that they can actively support the health accounts project.

Examples of agencies that could be represented in the steering committee are:

- ministries of health (including the ministry’s RH department, if one exists), finance, and planning;
- national population council;
- national statistics office;
- donors;
- central bank;

49 If the country decides to include HIV/AIDS accounting in the RH subaccount, HIV/AIDS expert(s) also would need to be on the NHA steering committee and technical team.
• social or health insurance organizations;
• academic groups and medical associations;
• private provider and consumer organizations;
• RH NGOs.

The committee should be headed by a high-ranking representative of the Ministry of Health, to underline the importance of the NHA and encourage the commitment of other organization heads, for example, a director of finance or secretary-general. The Ministry of Health is also usually the executing or lead agency for the health accounting project, with overall responsibility for its development, financial management, and implementation.

**Purpose and main tasks of the NHA steering committee**

The NHA steering committee manages the national health account and subaccount processes. Specifically, the committee:

• supervises and monitors the NHA and subaccount process;
• ensures that relevant policy issues are addressed;
• secures access to relevant existing data sources and advocates for the collection of new data, if needed;
• if necessary, acts as intermediary between the technical team and third parties;
• serves as an authoritative conduit for communicating results of the RH subaccount (in meetings with stakeholders, workshops, etc.);
• distils policy recommendations from the results of the RH subaccount; and
• facilitates the institutionalization of NHA and subaccounts, by promoting ownership among major stakeholders at the highest level and advocating for a sustainable health accounting system.

**Tasks and responsibilities of the RH subaccount group**

The RH subaccount group within the NHA steering committee helps guide the NHA process and define the policy focus of the RH subaccount. It is also responsible for all RH-related issues. In addition to taking part in the general tasks and responsibilities of the steering committee, the RH subaccount group may also:

• liaise with policy-makers, and advise on policy priorities that relate to RH;
• advocate for an adequate budget for the RH subaccount study;
• advise on the structure of the RH sector within the general health system;
• facilitate access to data by identifying potential data sources for RH expenditures. For example, a well-connected steering committee member can help to identify import volumes and prices for condoms;
• advocate with the statistical authority and budget authority for the collection of new data on RH;
• ensure that the technical team focuses on the appropriate RH policy issues throughout the process;
• give feedback to the technical team on results that relate to RH;
• assist in interpreting the RH subaccount results and drawing policy recommendations;

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50 If an HIV/AIDS subaccount is also conducted within the framework of the NHA, the tasks and responsibilities of the RH and HIV/AIDS subaccount groups would need to be harmonized.
• assist the Ministry of Health in translating RH policy into action, if needed;
• support the institutionalization of the RH subaccount as a routine exercise together with NHA by establishing ownership at the highest levels of policy-making; and
• keep abreast of the concerns of all RH stakeholders, keeping them informed of progress, and disseminating to them preliminary and final RH subaccount results through meetings and workshops.

8.3.2 The NHA technical team and RH subaccount group

While the NHA steering committee supervises the implementation process and is closely linked to the political arena, the NHA technical team is responsible for preparing the health account. Its main purpose, therefore, is to produce results for financial flows in the health system that are of the best possible quality given the available financial and human resources. To do so, the NHA technical team designs and implements the NHA process, reporting findings and constraints encountered to the NHA steering committee.

Composition of the NHA technical team, including the RH subaccount group
The NHA technical team should comprise a small group of experts with different backgrounds (Box 8.1). The multidisciplinary composition of the team will be helpful in accessing the many different data sources and will facilitate critical appraisal of team results. It is critical that at least one health economist should be on the team, if only as a consultant. The NHA technical team may consist of:
• a health economist or a health financing analyst (or accountant);
• experts on data collection, data entry, and data manipulation; and
• experts on data analysis and estimations.

In addition, because the accounting process requires in-depth understanding of RH interventions – including prevention, cure, and care in both the public and private sectors – the technical team should include one or more RH experts. The team may also wish to involve or consult with other experts, such as epidemiologists, demographers, and clinicians.

To ensure the participation of highly qualified staff, two strategies might be in order: recruit qualified in health accounts staff from stakeholder organizations or from external consultancy agencies, and provide additional training before the project begins, so that they fully comprehend the substance and process of RH accounting.

Box 8.1. Required competences of the technical team
To prepare RH subaccounts, the technical team should include people with the following skills and knowledge:
- familiarity with national economic statistics and accounting practices;
- in-depth knowledge about the national health system and health policies;
- specific knowledge about actors in the RH system;
- in-depth knowledge about and experience with RH programmes;
- experience with using data and information generated by different entities in the health system;
- affiliation with numbers and willingness to question numbers;
- willingness to look for and consider alternatives to existing data sources.
If the team lacks the competences mentioned in Box 8.1, training and other capacity-building activities in the relevant areas, including RH, are recommended. In addition to this guide, the Producers’ Guide (WHO, 2003) should be used as a resource throughout the project. Close adherence to the principles and methods recommended can help ensure output of a consistently high quality.

Often, members of the NHA technical team are from the public sector; the team may be strengthened by a private consultant who has auditing experience in the private and public health sectors and, with, access to data. Overall, team members may be recruited from the following organizations:

- Ministry of Health department of finance;
- Ministry of Health department of planning;
- representatives from national offices of RH (e.g. family planning);
- Ministry of Finance;
- national statistics agency;
- local research consulting firm;
- university.

**Tasks and responsibilities of the RH subaccount group**

The tasks and responsibilities of the technical team specific to the RH subaccount estimation may be summarized as follows:

- Describe the RH subsystem by identifying specific RH stakeholders and mapping the financial flows between them. This activity is complementary to the mapping of the health system for the NHA. RH entities should be identified among financing sources, financing agents, providers and users in the public and private health sectors, for example, family planning centres, sterilization camps, condom producers, maternal health centres, and youth clubs with an RH service component.
- Undertake an inventory and assessment of existing data for the RH subaccount, identify data gaps, and promote any needed additional primary data collection.
- For each RH entity, define the data collection process, and prepare an overall data collection plan. The plan should be submitted to the steering committee for approval.
- Conduct the data collection activities.
- Validate, enter, and analyse financial data specific to the RH system, and produce RH subaccount tables.
- Document specific data collection methodologies, data sources, and estimation techniques used for the RH subaccounts, and any constraints encountered.
- Report on a regular basis, depending on progress and needs, to the NHA steering committee through organized meetings or written reports; reporting should cover methodological issues, preliminary estimates, and general work progress.
- Write the final report on the RH subaccount and present this to the NHA steering committee.
8.4 Planning and budgeting

8.4.1 Project workplan

The preparation of health accounts consists of the five overlapping steps described in earlier chapters:
- initiation;
- development and inventory;
- data collection and processing;
- analysis and reporting;
- dissemination.

The comprehensiveness of the exercise, the number of activities, and the level of detail of each activity – and, therefore, the duration of the exercise and the resources needed – will depend on how it is planned to use the subaccount results for policy-making. Will a full set of NHA tables be produced or will output be limited to the core set of tables (see section 4.3)? What is the status of existing accounting systems and data availability and accessibility? Doing a household expenditure survey or other primary data collection exercise will substantially lengthen the timeframe and increase costs. Has a subaccount been prepared earlier? If so, stakeholders who used those results are likely to support the current exercise and help the team gain access to data, which will reduce time and costs. Having technical team members with relevant expertise and experience will also accelerate implementation. In contrast, a first subaccount with an inexperienced team, even a well-trained one, will need much more time. Is the RH subaccount part of a general NHA? A stand-alone exercise will consume more time and resources.

Once the likely timeframe has been estimated, a budget should be prepared, reflecting the foreseen range of activities, and funds should be obligated.

If the RH subaccount has a restricted scope and depends only on available secondary data, and if highly qualified and experienced staff can be recruited, the exercise may be completed in less than nine months. If not, or if there are unanticipated obstacles, the exercise could last up to two years. This is undesirable, of course, because by then the results could be out of date and no longer relevant to policy-making.

Figure 8.1 charts the general phases and activities of the subaccount process. A workplan should be drawn up to elaborate on this, setting out detailed activities, important milestones, and staff and resources assigned to each activity. Ideally, the workplan should also identify the project’s critical path, i.e. the sequence and duration of the activities that determine the minimum time needed to complete the project. If the timeline needs to be compressed, or lost time compensated for, the critical path assessment indicates which activities should be accelerated to achieve timely completion and which may temporarily be delayed, e.g. by reallocating staff.51 The detailed plan should identify which activities can commence only when others have been completed. For example, survey data entry can only start once a data entry program is in place. Similarly, a data collection strategy can be developed only when the existing data have been inventoried and assessed.

51 Specialized project management software is available to assist in these planning tasks. A list of useful project management software packages, information on free software, and other information can be found on http://infogoal.com/pmc/pmcswr.htm (accessed on 10 August 2008).
Throughout the process, the technical team must continually and fully document its activities, decisions, assumptions, definitions, etc., so that stakeholders and future technical teams can understand what was done and assess the quality and comparability of the results. This understanding will allow subsequent improvement of activities and is an essential element in the institutionalization of RH accounting.

### 8.4.2 Phases and milestones

Previous chapters describe in detail the various activities listed in Figure 8.1. The timeframe and the brief elaboration below should be read in close conjunction with the relevant chapters.

**Initiation**

While there may initially be a lengthy period of communicating with potential stakeholders to inform them about the NHA and subaccounts, and to encourage them to take part, formation of the steering committee is considered the start of the project and the first major milestone. The formation of this committee and, subsequently, the technical team should be well thought-out, so that they bring authority, legitimacy, and expertise to the subaccount process.

Technical team members should receive intensive training on the principles and preparation of health accounts. The present guide can be used as resource material for this training, which may make an important contribution to the sustainability of health accounting in the country.

The lead agency should develop the project workplan, under the close guidance of the steering committee and with input from the technical team. The workplan will guide the process, with the aim of producing well-defined results, and should contain a strategy for disseminating these results to the stakeholders. Finalization of the workplan is the second major milestone and concludes the initiation phase. The final step should be to obtain approval of the plan from the national authorities.

This phase calls for broad consultation with stakeholders, and will take at least two months to complete under favourable conditions, i.e. stakeholders are already committed to the process, tasks and responsibilities have been clearly divided among participants, and the steering committee and technical team incorporate qualified senior representatives. If conditions are not so favourable, this initial phase may take considerably longer.

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**Figure 8.1 Schedule of activities in preparing an RH subaccount**
Development and inventory

In this phase, the technical team identifies the building-blocks of the project. It should make a thorough inventory of the actors in the RH sector – financing sources, financing agents, and care providers – and RH care functions. This inventory should also map the flow of funds between entities, to show where the funds are going and who is funding what. The mapping information, together with the definition of (functional) boundaries (Chapter 2), will feed into the development of classifications (Chapter 3) and formats of the tables (Chapter 4) to be included in the final analysis.

A search for existing data on expenditure, RH indicators, use rates, costing, etc., is the second major step in this phase. The review should include an assessment of data gaps and the utility of existing data sources on the basis of criteria such as accessibility (including cost considerations), reliability, validity,
coverage and periodicity (see Chapter 5). To a considerable extent, this activity is related to the mapping of the RH sector, and provides the basis for the data collection plan.

The finalization of the data collection strategy is a critical milestone. It is important to lay out a detailed plan for obtaining relevant information, and also adequately to document the foundations of the strategy, for example, decisions about incorporating or excluding certain data sources, and assumptions about timeliness of acquisition of data. The division of tasks and responsibilities with regard to specific data retrieval and collection activities should be specified. Logistics planning should be part of the strategy.

It is also recommended that the workplan should be reviewed at this point, because the detailed assessments carried out in this phase may require the timeline or budget to be adjusted.

This phase will take a minimum of two months.

Data collection and processing
This is usually the most time-consuming phase. Collection of both secondary and primary data may encounter administrative and practical obstacles, and extensive investment, authority, planning, and preparation may be needed (see Chapter 5).

Data mining from existing sources is the main activity in this phase, but primary data collection, in the form of surveys, may also be needed. Conducting a survey involves developing a sample frame, designing and testing the survey instrument, training interviewers, getting local authorization, collecting data, developing data processing programs, and entering and scrutinizing the data. Each of these activities should be carefully documented.

Surveys usually also involve considerable logistics and materials, related to, for instance, training, transport, interviewing, computer hardware, and accommodation. For fieldwork and data processing, the technical team may be able to rely on additional staff from participating stakeholders or may need to hire personnel from external agencies.

Intermediate milestones in this phase relate to the data collection process, and especially the various steps of any surveys carried out. The major milestone is the delivery of the full set of usable data. The duration of the phase will depend mainly on whether primary data collection was needed. Other factors that can influence the duration are the extent of collaboration of the entities providing the secondary sources, and any legal restraints to data access. Taking all this into account, this phase may last from three months to a year or more.

Analysis and reporting (Chapters 6 and 7)
The original plans for analysis and final reporting should be reviewed and adjusted as the data collection phase proceeds. For example, if the data collected do not meet expected criteria, alternative estimation techniques may need to be applied. Emerging data gaps or conflicts between datasets may need to be resolved. A detailed analysis plan should be drawn up at the start of this phase, which may start even before the primary and secondary data have been delivered.

A small group of highly qualified staff within the technical team should be responsible for filling the tables, carrying out any further analysis, and translating the results into a report. It is critical that all
assumptions and estimation methodologies applied should be thoroughly documented. Depending on the expertise of the technical team and the amount, quality, and complexity of the data, the analysis phase may range from four to eight months.

Once the analysis has been completed, a draft technical report (see section 7.2) should be written and submitted to the steering committee for review. As the principal output of the accounting process, the finalization of this report constitutes a major milestone. The entire subaccount process should be documented in an accompanying report or alternative dissemination format, such as a tailor-made database (see section 7.1.2.).

Dissemination
This final phase is crucial for broadening the impact of the RH subaccount. A wide variety of stakeholders – local, national, and international – should be informed of the results. Different dissemination formats should be considered in order to reach different target audiences. The project workplan should include a section about how to disseminate what kind of information to whom (stakeholders) and by whom (representatives of the technical team and the steering committee). Chapter 7 and section 8.6 elaborate on this issue.

The major impact of the RH subaccount will be through the evidence base it provides for new or existing policies and programmes. Steering committee members are ideally placed to translate project findings into specific RH policy recommendations and present these to policy-makers at different levels in the health sector.

Finally, attention should be paid to the follow-up of the health accounting activities. In particular, the development or strengthening of a routine and sustainable mechanism for RH accounting should be pursued (see section 8.6). Depending on the evolution of the epidemiological profile of a country, a continuous or recurrent approach might be chosen.

8.4.3 Budgeting

The project workplan and the project budget influence each other. Both should realistically reflect the activities that will be implemented during preparation of the RH subaccount. The budget will depend on, and set limits to, the number, types, and magnitude of activities in the different phases of the project. When the RH subaccount is part of an NHA, specific funds may need to be allocated for the subaccount activities during the financial planning.

The cost for RH subaccounts depends on several factors, including:

- Whether the subaccount is integrated into NHA or implemented as a stand-alone study. If it is integrated, costs will be less because of economies of scale and sharing of the financial burden with the umbrella NHA.
- Whether accounting exercises are part of a routine resource tracking system. If this is the case, substantial savings can be made in the data retrieval phase.
- The costs involved in accessing available data. Although full commitment of stakeholders should keep these costs down, the cost of accessing data should be part of the project costs.
- The need to add specific surveys. This can necessitate a major budget increase.
• The need to rely on external technical assistance. Market prices of external consultants may be relatively high.

In the Producers’ Guide (WHO, 2003) the average cost of a one-year general NHA in low-income countries, without additional survey activities, was estimated at between US$50 000 and US$75 000. If the RH subaccount is implemented as a stand-alone study, the cost will probably be similar. If an RH subaccount exercise is integrated into the NHA, the additional costs for the subaccount should be significantly less.

Three major budget lines can be distinguished: personnel, materials, and other direct costs. The consolidated project budget should outline expected expenses for each project activity along these budget lines.

**Personnel costs**
Personnel costs will depend on the type of personnel, the number required, their salary rate, and the duration of their involvement in the health accounts project. The core team for the implementation is usually small. Nevertheless, personnel costs may be a major budget line, especially if a survey is required. The project may include a wide variety of staff, ranging from, for instance, highly qualified and well paid technical experts to less costly drivers and field workers. Some stakeholders – in particular those participating in the technical team and steering committee – may be able to second staff with needed expertise to the subaccount at no cost, for example, financial or RH experts may be seconded from the Ministry of Health. In addition to salary, the budget line item for personnel may include various allowances and insurance premiums to which staff are entitled.

**Materials costs**
These include the cost of office supplies, printing, photocopying, computer and telecommunication hardware, and program software (word processing and database software, and a spreadsheet program with graphics facilities) for day-to-day tasks and data processing. For specific activities, such as surveys, additional supply costs will need to be estimated (e.g. for manuals, questionnaires, stationery). An overhead projector or beamer may be required for presentations. Usually, the executing agency and other stakeholders involved in the process can supply many of the materials.

**Other direct costs**
This budget line may include costs for travel and transportation, accommodation, venue rental, computer time, communications, and contingencies.

### 8.5 RH subaccounts as a stand-alone study

In some circumstances, RH subaccounts may be implemented as stand-alone studies. If this occurs where NHA have already been prepared – for instance, as a one-time exercise – links can be established afterwards to foster the subaccount’s value as a policy and monitoring tool. A concomitant advantage is that some preparatory work will have already been done, for instance, networking among stakeholders, identification and training of local experts, mapping of the health sector, inventory of existing data, and development of boundaries, classifications, and table formats. This means that the implications of conducting a stand-alone RH subaccount in terms of funds, human resources, and time can be modest.
However, all the ground already covered in the general NHA needs to be evaluated for its relevance for RH and, if necessary, adjusted. The foundations established by previous (or parallel) accounting exercises could include a workplan, report layout and, possibly, newly collected expenditure data. If the RH subaccount is prepared as a stand-alone study in these circumstances, it is highly recommended that the NHA principles, i.e. the boundaries and classification systems, should be applied as far as possible.

If an NHA has not previously been prepared in the country, the RH subaccount will bear the full burden of developing and implementing a health accounting system, in accordance with recommended NHA principles. In terms of required funds, human resources, and time, the project will resemble a full-scale NHA. Stand-alone studies can have some advantages, including lower transaction costs because of the smaller number of stakeholders involved, simpler political approval processes and greater flexibility, for instance in terms of defining boundaries, detailing classifications, and focusing on actors in the health system that are specifically relevant for RH. From the point of view of integrated health policies and programmes, stand-alone studies lack the relevant contextualization of the comprehensive NHA, which will impede the translation of results into effective overall priority-setting for health. In addition, NHA estimates of total health expenditure will not be available, which makes the assignment of non-targeted RH expenditure more difficult.

8.6 Advocacy and dissemination

While many health accounting teams see the results of the accounting exercise as the endpoint, the real result of an NHA or subaccount exercise is its impact on policy, programmes and support for NHA. This implies that the product should be received by as large an audience as possible, should be used in policy and programme development where feasible, and should be followed by steps to establish a sustainable system of health accounts. Because of the restricted timeframe and limited resources of an NHA or subaccount exercise, dissemination activities are often insufficient. Nevertheless, they deserve proper attention.

8.6.1 Expanding the audience

The dissemination of the RH subaccount results is crucial, because it will increase the likelihood that the results will have an impact on RH policies and programmes. It is important that as many actors as possible are acquainted with the accounting exercise.

First, the primary data users need to be reached: these are national policy-makers and other (national and international) stakeholders involved in the development and execution of RH care programmes. If they are convinced of the usefulness of RH subaccounts for evidence-based decision-making, advocate for their application, and, ultimately, participate in their preparation, the accounting exercise will have achieved its major goals. In addition, the foundation will have been laid for a sustainable routine endeavour.

The secondary audience, which also plays a significant role in the impact of the project, comprises, among others, NGOs, community-based and faith-based organizations, universities and research centres, mass media, health service providers, and associations of patients and citizens. They are often critical observers of the performance of the RH sector and can be instrumental in advocating for the development of monitoring and evaluation instruments, such as the RH subaccount.
8.6.2 Publication formats and access to data

A comprehensive dissemination plan is needed to ensure that primary and secondary audiences receive the appropriate message at the appropriate moment. As already noted, this should be included in the overall workplan for the RH subaccount. It should envisage diffusion activities, strategies, responsibilities, timelines, and expected costs. Section 7.1.1 discussed the potential audiences for RH subaccount results and formats for communicating information to them; section 7.3 listed the essential elements of an effective dissemination plan.

Data storage and data access are issues that deserve special attention from the perspective of dissemination. It is suggested that a specific policy should be designed in this regard. To maximize the use of RH subaccount results, qualified researchers need to have access to the data, with appropriate confidentiality safeguards in place. As the data are a public good, access should, in principle, be free of charge. However, in some countries, a modest fee might be charged to cover operational costs. The data policy should:

- indicate where the RH subaccount database will be kept (in most cases, the lead agency of the RH subaccount exercise will be responsible for storing and maintaining the database);
- delineate the conditions for access to the data, such as the submission of a concrete research proposal or the reputation or position of the organization making a request;
- define which data will be made available; and
- determine when the data will be made accessible.

8.6.3 Institutionalization: promoting a sustainable information structure

The usefulness of health accounting exercises is increased if the results are continuously updated. This permits policies and priority setting to be monitored, and helps to measure programme impact. A health account should, therefore, be an ongoing process, rather than a one-time exercise. A sustainable information structure on RH expenditures – preferably within the framework of NHA – is therefore desirable.

Setting up a sustainable system for the RH accounts means retaining some members of the technical team produce additional results and implement new rounds of estimation. This group, which should represent a range of expertise, could be complemented by members of the RH group in the steering committee, in order to maintain the policy relevance of the activities.

Preferably, the group should be accommodated as a national NHA “cell”, in an environment that supports the objectives of health accounting as well as ongoing operations in this area. This could be the statistical or financial unit of the Ministry of Health or the Ministry of Finance. It is recommended that an RH subcell should be created to represent specific RH issues in NHA exercises.

The steering committee is responsible for facilitating the transition to routine implementation. It should also advocate for the allocation of appropriate resources or design a plan for funding.
8.7 Summary

This chapter has underscored the importance of stakeholder involvement in facilitating the implementation process and increasing the impact of RH subaccounts. This involvement can be sought by informing stakeholders about the accounting exercise, and by incorporating key stakeholders in the steering committee (including the RH group) and the technical team. The composition of these two bodies needs to be well considered so as to represent the wider stakeholder audience and to have the required authority and expertise. In general, the steering committee is managerial and policy-oriented, while the technical team is operations-oriented.

The chapter has also outlined the various steps to be taken in preparing an RH subaccount and highlighted some budgetary considerations. As a general rule, it is recommended that subaccounts should be prepared within the general framework of NHA, rather than as stand-alone studies. Careful planning of project time and staff is essential for timely completion of the study and high-quality results. Specific attention should be given to the critical path determining the total duration of the project.

Finally, the chapter argued that the production of the technical report is not the final stage of the effort. Rather, aided by informing and lobbying of the stakeholders, and providing data for the development of policies, the project should evolve into a self-sustaining programme of RH accounting. Whether it is run on a continuous or recurrent basis depends, among other factors, on epidemiological developments in the country.
References


WHO (2006b) *Socio-demographic indicators.*
(http://w3.whosea.org/LinkFiles/Health_Situation_indicators04-socio.pdf; accessed on 29 May 2006).

Annex 1. ICD-10 categories that are relevant for the RH subaccount

A. Direct obstetric conditions

1. Improving antenatal, delivery and postpartum care

*ICD-10 Chapter XV. Pregnancy, childbirth and the puerperium*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>O00-O08</td>
<td>Pregnancy with abortive outcome</td>
</tr>
<tr>
<td>O10-O16</td>
<td>Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium</td>
</tr>
<tr>
<td>O20-O29</td>
<td>Other maternal disorders predominantly related to pregnancy</td>
</tr>
<tr>
<td>O30-O48</td>
<td>Maternal care related to the fetus and amniotic cavity and possible delivery problems</td>
</tr>
<tr>
<td>O60-O75</td>
<td>Complications of labour and delivery</td>
</tr>
<tr>
<td>O80-O84</td>
<td>Delivery</td>
</tr>
<tr>
<td>O85-O92</td>
<td>Complications predominantly related to the puerperium</td>
</tr>
<tr>
<td>O94-O99</td>
<td>Other obstetric conditions, not elsewhere classified</td>
</tr>
</tbody>
</table>

*ICD-10 Chapter XVI. Certain conditions originating in the perinatal period*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>P00-P04</td>
<td>Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery</td>
</tr>
<tr>
<td>P05-P08</td>
<td>Disorders related to length of gestation and fetal growth</td>
</tr>
<tr>
<td>P10-P15</td>
<td>Birth trauma</td>
</tr>
<tr>
<td>P20-P29</td>
<td>Respiratory and cardiovascular disorders specific to the perinatal period</td>
</tr>
<tr>
<td>P35-P39</td>
<td>Infections specific to the perinatal period</td>
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<td>P90-P96</td>
<td>Other disorders originating in the perinatal period</td>
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*ICD-10 Chapter V. Mental and behavioural disorders*

<table>
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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>F53</td>
<td>Mental and behavioural disorders associated with the puerperium, not elsewhere classified</td>
</tr>
</tbody>
</table>

This category includes only mental disorders associated with the puerperium (commencing

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52 As they pertain to the mother. The terms “perinatal” and “newborn care”, as given in the global reproductive health strategy, have been excluded here. These services should be included in child health subaccounts. Care should be taken clearly to distinguish expenditures associated with services that may be perceived to overlap with other subaccounts.
within six weeks of delivery) that do not meet the criteria for disorders classified elsewhere in this chapter, either because insufficient information is available, or because it is considered that special additional clinical features are present that make their classification elsewhere inappropriate.

F53.0 Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified
- Depression:
  - postnatal NOS
  - postpartum NOS

F53.1 Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified
- Puerperal psychosis NOS

F53.8 Other mental and behavioural disorders associated with the puerperium, not elsewhere classified

F53.9 Puerperal mental disorder, unspecified

ICD-10 Chapter XV. Pregnancy, childbirth and the puerperium

O99 Postpartum suicide NOS
O90 Disruption of cesarean section wound

ICD-10 Chapter XXI. Factors influencing health status and contact with health services

Z32-Z39 Pregnancy: supervision, antenatal and postpartum care
Y41 Complications of anti-retroviral therapy
Y40 Anaphylaxis due penicillin
Y60 Haemorrhage during cesarean section (not the result of other causes)
Y70-Y82 Medical devices associated with adverse incidents in diagnostic and therapeutic use
Y87 Sequelae of intentional self-harm (e.g. antenatal suicide)

2. Providing high-quality services for family planning, including infertility services

ICD-10 Chapter XXI. Factors influencing health status and contact with health services

Z30-Z31 Contraception and procreative management
Z41.1 Other plastic surgery for unacceptable cosmetic appearance
  - Breast implant
  - Excludes: plastic and reconstructive surgery following healed injury or operation (Z42.-)

Z64.0 Problems related to unwanted pregnancy

53 Note: In complications of treatment codes 099 must precede the code to indicate the woman was pregnant.
Problems related to multiparity

ICD-10 Chapter XIV. Diseases of the genitourinary system

N46 Male infertility

N97-N98 Female infertility and complications associated with artificial fertilization

3. Eliminating unsafe abortion

ICD-10 Chapter XV. Pregnancy, childbirth and the puerperium

O00-O08 Pregnancy with abortive outcome

4. Combating sexually transmitted infections, reproductive tract infections, cancers of the reproductive system and other gynaecological morbidities

ICD-10 Chapter I. Certain infectious and parasitic diseases

A50-A64 Infections with a predominantly sexual mode of transmission

B20-B24 Human immunodeficiency virus [HIV] disease

ICD-10 Chapter II. Neoplasms

C50 Malignant neoplasm of breast

C51-C58 Malignant neoplasms of female genital organs

C60-C63 Malignant neoplasms of male genital organs

ICD-10 Chapter XIV. Diseases of the genitourinary system

N40-N51 Diseases of male genital organs

N60-N64 Disorders of breast

N70-N77 Inflammatory diseases of female pelvic organs

N80-N98 Noninflammatory disorders of female genital tract
5. Promoting sexual health

**ICD-10 Chapter V. Mental and behavioural disorders**

F52 Sexual dysfunction, not caused by organic disorder or disease
SEXUAL DYSFUNCTION COVERS THE VARIOUS WAYS IN WHICH AN INDIVIDUAL IS UNABLE TO PARTICIPATE IN A SEXUAL RELATIONSHIP AS HE OR SHE WOULD WISH. SEXUAL RESPONSE IS A PSYCHOSOMATIC PROCESS AND BOTH PSYCHOLOGICAL AND SOMATIC PROCESSES ARE USUALLY INVOLVED IN THE CAUSATION OF SEXUAL DYSFUNCTION.

Excludes: Dhat syndrome (F48.8)

F53 Mental and behavioural disorders associated with the puerperium, not elsewhere classified

This category includes only mental disorders associated with the puerperium (commencing within six weeks of delivery) that do not meet the criteria for disorders classified elsewhere in this chapter, either because insufficient information is available, or because it is considered that special additional clinical features are present that make their classification elsewhere inappropriate.

F53.0 Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified

· Depression:
  · postnatal NOS
  · postpartum NOS

F53.1 Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified

Puerperal psychosis NOS

F53.8 Other mental and behavioural disorders associated with the puerperium, not elsewhere classified

F53.9 Puerperal mental disorder, unspecified

**ICD-10 Chapter XX. External causes of morbidity and mortality**

Y05 Sexual assault by bodily force

· rape (attempted)
· sodomy (attempted)

Y07 Other maltreatment syndromes

· sexual abuse

Y87.1 Sequelae of assault

Y60 Haemorrhage during caesarean section (not the result of other causes)

Y60 Bowel injury during caesarean section

**ICD-10 Chapter XXI. Factors influencing health status and contact with related services**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>Z61.4-Z61.5</td>
<td>Problems related to alleged sexual abuse of child</td>
</tr>
<tr>
<td>Z70</td>
<td>Counselling related to sexual attitude, behaviour and orientation</td>
</tr>
<tr>
<td>Z70.0</td>
<td>Counselling related to sexual attitude</td>
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<tr>
<td></td>
<td>Person concerned regarding embarrassment, timidity or other negative response to sexual matters</td>
</tr>
<tr>
<td>Z70.1</td>
<td>Counselling related to patient's sexual behaviour and orientation</td>
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<tr>
<td></td>
<td>Patient concerned regarding:</td>
</tr>
<tr>
<td></td>
<td>· impotence</td>
</tr>
<tr>
<td></td>
<td>· non-responsiveness</td>
</tr>
<tr>
<td></td>
<td>· promiscuity</td>
</tr>
<tr>
<td></td>
<td>· sexual orientation</td>
</tr>
</tbody>
</table>
Z70.2  Counselling related to sexual behaviour and orientation of third party
Advice sought regarding sexual behaviour and orientation of:
  · child
  · partner
  · spouse

Z70.3  Counselling related to combined concerns regarding sexual attitude, behaviour and orientation

Z70.8  Other sex counselling
  Sex education

Z70.9  Sex counselling, unspecified

Z92.0  Personal history of contraception
  Excludes: counselling or management of current contraceptive practices (Z30.-)
  presence of (intrauterine) contraceptive device (Z97.5)

6. Other categories (as addendum items)

Z41   Procedures for purposes other than remedying health state

Z41.2  Routine and ritual circumcision

B. Indirect obstetric conditions (aggregated by pregnant status)\textsuperscript{55}

This list includes common indirect causes of maternal death. There is an ICD code for most medical and surgical conditions. In all cases 099 must be included in the coding to relate them as complicating pregnancy, childbirth and the puerperium.

*ICD-10 Chapter I. Certain infectious and parasitic diseases (non-pregnancy-related infections)*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>A34</td>
<td>Obstetrical tetanus</td>
</tr>
<tr>
<td>A15</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>B54</td>
<td>Malaria</td>
</tr>
<tr>
<td>B06</td>
<td>Rubella [German measles]</td>
</tr>
<tr>
<td>B58</td>
<td>Toxoplasmosis</td>
</tr>
<tr>
<td>A00</td>
<td>Cholera</td>
</tr>
<tr>
<td>B19</td>
<td>Hepatitis</td>
</tr>
<tr>
<td>A90</td>
<td>Dengue</td>
</tr>
<tr>
<td>A01</td>
<td>Typhoid</td>
</tr>
<tr>
<td>A09</td>
<td>Gastroenteritis</td>
</tr>
<tr>
<td>B24</td>
<td>HIV related wasting syndrome</td>
</tr>
<tr>
<td>B02</td>
<td>Varicella</td>
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</table>

*ICD-10 Chapter II. Neoplasms*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>C50</td>
<td>Breast</td>
</tr>
<tr>
<td>C15</td>
<td>Oesophageal</td>
</tr>
<tr>
<td>C16</td>
<td>Stomach</td>
</tr>
<tr>
<td>C23</td>
<td>Gall blader</td>
</tr>
<tr>
<td>C56</td>
<td>Ovarian</td>
</tr>
<tr>
<td>C53</td>
<td>Cervical</td>
</tr>
</tbody>
</table>

\textsuperscript{55} NOTE: Only common diseases have been listed
C58    Gestational trophoblastic disease
C95    Leukaemia

ICD-10 Chapter III. Diseases of the blood and blood forming organs (Haematological)
D57    Sickle-cell disorders
D56    Thalassaemia
D50    Iron deficiency anaemia

ICD-10 Chapter IV. Endocrine, nutritional and metabolic disorders
024    Diabetes mellitus
E00-07 Thyroid

ICD-10 Chapter V. Mental and behavioural disorders
Y87    Antenatal suicide
       Chronic psychiatric disease
F99    Unspecified mental disorders

ICD-10 Chapter VI. Diseases of the nervous system
G40    Epilepsy

ICD-10 Chapter IX. Diseases of the circulatory system
I05-I09 Chronic rheumatic heart diseases
I20-I25 Ischaemic heart diseases
I30-I52 Other forms of heart disease
T82    Artificial valve complications
Q20-28 Congenital heart disease
I61    Cerebrovascular accident
I64    Stroke

ICD-10 Chapter X. Diseases of the respiratory system
J85    Asthma
J18    Pneumonia

ICD-10 Chapter XI. Diseases of the Digestive System
K35    Appendicitis
K85    Pancreatitis

ICD-10 Chapter III. Diseases of the musculoskeletal system and connective tissue
M32    Systemic lupus erythematosis
M40    Kyphoscoliosis

ICD-10 Chapter IV. Diseases of the genitourinary system

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C. Complications of treatment (during pregnancy)

In these complications of treatment codes 099 must precede the code to indicate the woman was pregnant.

- 074 Aspiration pneumonitis
- 074.1 Other pulmonary complications
- 074.2 Cardiac complications
- 074.4 Toxic reaction to local anaesthesia
- 074.6 Other complications of spinal and epidural anaesthesia
- 074.7 Failed or difficult intubation
- 074.8 Other complications of anaesthesia
- 074.9 Complications of anaesthesia unspecified
- Y41 Complications of anti-retroviral therapy
- Y40 Anaphylaxis due penicillin
- 090.0 Disruption of cesarean section wound
- Y60 Haemorrhage during caesarean section (not the result of other causes)
- Y60 Bowel injury
- Y70-Y82 Medical devices associated with adverse incidents in diagnostic and therapeutic use
  - Hospital acquired infection

D. Unknown disease categories.

Underlying cause ICD-10:

<table>
<thead>
<tr>
<th>095</th>
<th>Death at home/outside health services</th>
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</thead>
<tbody>
<tr>
<td>095</td>
<td>Death while pregnant and not in labour</td>
</tr>
<tr>
<td>095</td>
<td>Death while pregnant and in labour</td>
</tr>
<tr>
<td>095</td>
<td>Death during labour and delivered within 1 day</td>
</tr>
<tr>
<td>095</td>
<td>Death during post-partum period (after 1 day)</td>
</tr>
<tr>
<td>095</td>
<td>Acute collapse before labour, cause unknown</td>
</tr>
<tr>
<td>095</td>
<td>Acute collapse in labour, cause unknown</td>
</tr>
<tr>
<td>095</td>
<td>Acute collapse in the puerperium, cause unknown</td>
</tr>
</tbody>
</table>

E. Memorandum/addendum functions

Also included in addendum functions are the following two activities from the UN’s Classification of the Functions of Government (COFOG):

- Programmes addressing sexual trafficking (COFOG 10.9/10.4 [social protection, family and children])
- Programmes addressing exploitation of minors (COFOG10.9/10.4).
## Annex 2. Proposed classification scheme for financing sources

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>FS.1</td>
<td>Public funds</td>
</tr>
<tr>
<td>FS.1.1</td>
<td>Territorial government funds</td>
</tr>
<tr>
<td>FS.1.1.1</td>
<td>Central government revenue</td>
</tr>
<tr>
<td>FS.1.1.2</td>
<td>Regional and municipal government revenue</td>
</tr>
<tr>
<td>FS.1.2</td>
<td>Other public funds</td>
</tr>
<tr>
<td>FS.1.2.1</td>
<td>Return on assets held by a public entity</td>
</tr>
<tr>
<td>FS.1.2.2</td>
<td>Other</td>
</tr>
<tr>
<td>FS.2</td>
<td>Private funds</td>
</tr>
<tr>
<td>FS.2.1</td>
<td>Employer funds</td>
</tr>
<tr>
<td>FS.2.2</td>
<td>Household funds</td>
</tr>
<tr>
<td>FS.2.3</td>
<td>Non-profit institutions serving individuals</td>
</tr>
<tr>
<td>FS.2.4</td>
<td>Other private funds</td>
</tr>
<tr>
<td>FS.2.4.1</td>
<td>Return on assets held by a private entity</td>
</tr>
<tr>
<td>FS.2.4.2</td>
<td>Other</td>
</tr>
<tr>
<td>FS.3</td>
<td>Rest of the world funds</td>
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</table>
Annex 3. Proposed classification scheme for financing agents

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>HF.A</td>
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<tr>
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<td>Territorial government</td>
</tr>
<tr>
<td>HF.1.1.1</td>
<td>Central government</td>
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<tr>
<td>HF.1.1.2</td>
<td>State/provincial government</td>
</tr>
<tr>
<td>HF.1.1.3</td>
<td>Local/municipal government</td>
</tr>
<tr>
<td>HF.1.2</td>
<td>Social security funds</td>
</tr>
<tr>
<td>HF.2.1.1</td>
<td>Government employee insurance programmes</td>
</tr>
<tr>
<td>HF.2.5.1</td>
<td>Parastatal companies</td>
</tr>
<tr>
<td>HF.B</td>
<td>Nonpublic sector</td>
</tr>
<tr>
<td>HF.2.1.2</td>
<td>Private employer insurance programmes</td>
</tr>
<tr>
<td>HF.2.2</td>
<td>Private insurance enterprises (other than social insurance)</td>
</tr>
<tr>
<td>HF.2.3</td>
<td>Private households’ out-of-pocket payment</td>
</tr>
<tr>
<td>HF.2.4</td>
<td>Non-profit institutions serving households (other than social insurance)</td>
</tr>
<tr>
<td>HF.2.5.2</td>
<td>Private nonparastatal firms and corporations (other than health insurance)</td>
</tr>
<tr>
<td>HF.3</td>
<td>Rest of the world</td>
</tr>
</tbody>
</table>
Annex 4. Proposed classification scheme for providers

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>HP.1</td>
<td>Hospitals</td>
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<tr>
<td>HP.1.1</td>
<td>General hospitals</td>
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<tr>
<td>HP.1.2</td>
<td>Mental health and substance hospitals</td>
</tr>
<tr>
<td>HP.1.3</td>
<td>Specialty (other than mental health and substance abuse) hospitals</td>
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<tr>
<td>HP.1.4</td>
<td>Hospitals of non-allopathic systems of medicine (such as Chinese, Ayurveda, etc.)</td>
</tr>
<tr>
<td>HP.2</td>
<td>Nursing and residential care facilities</td>
</tr>
<tr>
<td>HP.2.1</td>
<td>Nursing care facilities</td>
</tr>
<tr>
<td>HP.2.2</td>
<td>Residential mental retardation, mental health and substance abuse facilities</td>
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<tr>
<td>HP.2.3</td>
<td>Community care facilities for the elderly</td>
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<tr>
<td>HP.2.9</td>
<td>All other residential care facilities</td>
</tr>
<tr>
<td>HP.3</td>
<td>Providers of ambulatory health care</td>
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<tr>
<td>HP.3.1</td>
<td>Offices of physicians</td>
</tr>
<tr>
<td>HP.3.2</td>
<td>Offices of dentists</td>
</tr>
<tr>
<td>HP.3.3</td>
<td>Offices of other health practitioners</td>
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<tr>
<td>HP.3.4</td>
<td>Outpatient care centres</td>
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<td>HP.3.4.1</td>
<td>Outpatient mental health and substance abuse centres</td>
</tr>
<tr>
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<td>Free-standing ambulatory surgery centres</td>
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<td>HP.3.4.4</td>
<td>Dialysis care centres</td>
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<td>HP.3.4.5</td>
<td>All other outpatient multi-specialty and cooperative service centres</td>
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<tr>
<td>HP.3.4.9</td>
<td>All other outpatient community and other integrated care centres</td>
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<td>Medical and diagnostic laboratories</td>
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<td>Providers of home health care services</td>
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<td>HP.3.9</td>
<td>Other providers of ambulatory health care</td>
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<td>Ambulance services</td>
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<td>Blood and organ banks</td>
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<td>Alternative or traditional practitioners</td>
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<td>All other ambulatory health care services</td>
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<td>Dispensing chemists</td>
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<td>Retail sale and other suppliers of optical glasses and other vision products</td>
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<td>Retail sale and other suppliers of hearing aids</td>
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<td>HP.4.4</td>
<td>Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids)</td>
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<td>All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods</td>
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<td>Provision and administration of public health programmes</td>
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<td>General health administration and insurance</td>
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<td>Establishments as providers of occupational health care services</td>
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<td>Private households as providers of home care</td>
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<td>Education and training institutions</td>
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Annex 5. Proposed classification scheme for health care functions

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<tbody>
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<td>Inpatient curative care</td>
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<td>HC.1.2</td>
<td>Day cases of curative care</td>
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<td>HC.1.3</td>
<td>Outpatient curative care</td>
</tr>
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<td>Basic medical and diagnostic services</td>
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<td>All other outpatient curative care</td>
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<td>Services of rehabilitative care</td>
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<td>Day cases of rehabilitative care</td>
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<td>HC.2.3</td>
<td>Outpatient rehabilitative care</td>
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<td>Services of rehabilitative home care</td>
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<td>Diagnostic imaging</td>
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<td>HC.4.3</td>
<td>Patient transport and emergency rescue</td>
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<td>Therapeutic appliances and other medical durables</td>
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<td>Glasses and other vision products</td>
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<td>Orthopaedic appliances and other prosthetics</td>
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<td>HC.5.2.4</td>
<td>Medico-technical devices, including wheelchairs</td>
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<tr>
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<td>Prevention and public health services</td>
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<td>Maternal and child health; family planning and counselling</td>
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<tr>
<td>HC.6.2</td>
<td>School health services</td>
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<tr>
<td>HC.6.3</td>
<td>Prevention of communicable diseases</td>
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<tr>
<td>HC.6.4</td>
<td>Prevention of noncommunicable diseases</td>
</tr>
<tr>
<td>HC.6.5</td>
<td>Occupational health care</td>
</tr>
<tr>
<td>HC.6.9</td>
<td>All other miscellaneous public health services</td>
</tr>
<tr>
<td>HC.7</td>
<td>Health administration and health insurance</td>
</tr>
<tr>
<td>HP.7.1</td>
<td>General government administration of health</td>
</tr>
<tr>
<td>HC.7.1.1</td>
<td>General government administration of health (except social security)</td>
</tr>
<tr>
<td>HC.7.1.2</td>
<td>Administration, operation and support of social security funds</td>
</tr>
<tr>
<td>HP.7.2</td>
<td>Health administration and health insurance: private</td>
</tr>
<tr>
<td>HC.7.2.1</td>
<td>Health administration and health insurance: social insurance</td>
</tr>
<tr>
<td>HC.7.2.2</td>
<td>Health administration and health insurance: other private</td>
</tr>
<tr>
<td>HC.nsk</td>
<td>HC expenditure not specified by kind</td>
</tr>
<tr>
<td>HCR.1-5</td>
<td>Health-related functions</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>HC.R.1</td>
<td>Capital formation for health care provider institutions</td>
</tr>
<tr>
<td>HC.R.2</td>
<td>Education and training of health personnel</td>
</tr>
<tr>
<td>HC.R.3</td>
<td>Research and development in health</td>
</tr>
<tr>
<td>HC.R.4</td>
<td>Food, hygiene and drinking-water control</td>
</tr>
<tr>
<td>HC.R.5</td>
<td>Environmental health</td>
</tr>
<tr>
<td>HC.R.nsk</td>
<td>HC.R expenditure not specified by kind</td>
</tr>
</tbody>
</table>
### Annex 6. Proposed classification scheme for resource costs

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC.1</td>
<td>Current outlays</td>
</tr>
<tr>
<td>RC.1.1</td>
<td>Compensation of employees and owners</td>
</tr>
<tr>
<td>RC.1.1.1</td>
<td>Wages</td>
</tr>
<tr>
<td>RC.1.1.2</td>
<td>Social contributions</td>
</tr>
<tr>
<td>RC.1.1.3</td>
<td>Non-wage labour income</td>
</tr>
<tr>
<td>RC.1.2</td>
<td>Supplies and services</td>
</tr>
<tr>
<td>RC.1.2.1</td>
<td>Material supplies</td>
</tr>
<tr>
<td>RC.1.2.1.1</td>
<td>Drugs and pharmaceuticals</td>
</tr>
<tr>
<td>RC.1.2.1.2</td>
<td>Other supplies</td>
</tr>
<tr>
<td>RC.1.2.2</td>
<td>Services</td>
</tr>
<tr>
<td>RC.1.3 I</td>
<td>Consumption of fixed capital</td>
</tr>
<tr>
<td>RC.1.4</td>
<td>Interest</td>
</tr>
<tr>
<td>RC.1.5</td>
<td>Subsidies to providers</td>
</tr>
<tr>
<td>RC.1.6</td>
<td>Transfers to households</td>
</tr>
<tr>
<td>RC.1.9</td>
<td>Other current expenditure</td>
</tr>
<tr>
<td>RC.2</td>
<td>Capital expenditure</td>
</tr>
<tr>
<td>RC.2.1</td>
<td>Buildings</td>
</tr>
<tr>
<td>RC.2.2</td>
<td>Movable equipment</td>
</tr>
<tr>
<td>RC.2.2.1</td>
<td>Vehicles</td>
</tr>
<tr>
<td>RC.2.2.2</td>
<td>Other</td>
</tr>
<tr>
<td>RC.2.3</td>
<td>Capital transfers to providers</td>
</tr>
</tbody>
</table>

*These categories are not applicable when classifying resource costs faced by providers.*
Annex 7. Example of NGO survey instrument from Rwanda
Annex 8. Example of donor survey instrument from Rwanda
Annex 9. Karnataka survey
Annex 10. Sample consent form from Bangladesh

<table>
<thead>
<tr>
<th>Consent Form: 'Explanation of the study' &amp; 'Your rights as a research participant'</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of study</strong></td>
</tr>
<tr>
<td><strong>Person(s) in charge</strong></td>
</tr>
<tr>
<td><strong>Explanation of study</strong></td>
</tr>
<tr>
<td>This study in which we ask you to participate is part of a research project that studies the reproductive health status of adolescents. The study takes physical and mental maturity processes, as well as socio-cultural, economic and demographic conditions, into account. With this research we hope to gain more insight into adolescents' reproductive health status and its determinants and to contribute to further research and action in this field. You are selected for this study because you were also enrolled in a study that was conducted by Dr. Baqui in 1988-1989, when you were still a little boy/girl. Today we want to study how you are doing and how your nutritional status is almost 13 years later.</td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
</tr>
<tr>
<td>If you agree to participate in this research you will be asked to answer questions about your socio-economic, marital and nutritional status. If applicable, we also ask you about your fertility history, and your knowledge, perceptions, attitudes, and expectations with regard to reproductive and family life matters. In order to have an idea of your nutritional status, we will take anthropometric measurements: weight, height and mid-upper arm circumference. By comparing your current nutritional status with your nutritional status during early childhood, we hope to gain more insight into adolescents' reproductive health and the factors that are associated with it. Your participation in this research will take a total of about 1-1.5 hours.</td>
</tr>
<tr>
<td><strong>Your rights as a research participant: confidentiality, risks and benefits</strong></td>
</tr>
<tr>
<td>You may ask any question about the research project and the procedure. Questions will be answered as long as they do not refer to information pertaining to other participants. Your participation in this research is confidential. We will make every effort to minimise the risks of your answers being made known to others. We therefore promise that publications based on the research will not include your name, ID-number, or any other information that may reveal your identity. Your participation in this research is voluntary, which implies that you are free to stop participating in the research at any time or to refuse to answer a question. We assure you that there is no possibility that your participation in this research will harm you or your family. Also, if you refuse to participate or withdraw at any time, no harm will come to you or your family. Participating in this study has no direct benefit to you or your family. The results of this research may however help us further address the needs of adolescents in your community, e.g. by setting up a health education campaign, especially aimed at improving the reproductive health status of adolescents and the generations that follow.</td>
</tr>
</tbody>
</table>

**[Interviewer: read out to the participant:]**

1. I, participant/name of respondent:
   - agree to participate in a scientific research project entitled "Adolescents' reproductive health in rural Bangladesh: the impact of early childhood nutritional anthropometry."
   - understand the information given to me and I have received answers to any questions I had about the research project or the procedure.
   - understand and agree to the conditions of this study as read out to me.
   - have, to the best of my knowledge and belief, no physical or mental illness or difficulties that would pose any risk to me because of participation in this study.
   - understand that I will receive no compensation for my participation.
   - understand that my participation in this research is voluntary and that I may withdraw from this study at any time by notifying one of the persons in charge and/or the interviewer.
   - understand that I can receive a signed copy of this document.

<table>
<thead>
<tr>
<th>Signature of participant:</th>
<th>……………………………….</th>
<th>Date</th>
<th>Day</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature of guardian:</td>
<td>……………………………….</td>
<td>Date</td>
<td>Day</td>
<td>Month</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copy of verbal consent form given to participant (if requested):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
</tr>
<tr>
<td>2 No</td>
</tr>
<tr>
<td>[To be filled in by the interviewer:] I certify that the informed consent procedure has been followed and that I have answered any questions of the participant and/or his guardian - see above - as fully as possible.</td>
</tr>
</tbody>
</table>

| Signature of interviewer: | ………………………………. | Date | Day | Month |

This informed consent form has been translated into Bangla by an interpreter of ICDDR,B.
Annex 11. Classifications used in Karnataka: reproductive health functions and reproductive health providers
Annex 12. Practical guidelines for writing RH subaccount documents

Below are some practical tips for writing documents and designing graphs and tables.

Making your writing readable

In order to ensure that all documents related to the RH subaccount – from news releases to comprehensive technical reports – are used to the full, they should:

- be clearly structured;
- be as comprehensive as possible;
- be written in clear and consistent language, adapted the primary target audience;
- adhere to common reporting structures and formats as far as possible;
- introduce additional, case-specific sections, where appropriate;
- use illustrations, including graphs and tables, appropriately (see also section 7.2.2).

### Layout of a report

A good layout is important, as it will:
- make a good initial impression;
- encourage readers to read the text;
- give an idea of how the material is organized, so that readers can quickly decide what to read first.

Particular attention should be paid to the following:
- the title page should have an attractive layout;
- there should be a clear table of contents;
- headings and subheadings should be consistent;
- drafts should be carefully checked for spelling and other errors, and read critically for clarity, both by other team members and, if possible, outsiders;
- figures, graphs and tables should be clearly numbered, and have clear and consistent titles; table columns and rows should have clear and consistent headings;
- all quotations and references should be accurate and consistent;
- margins and spacing should be consistent;
- printing and photocopying should be of good quality.
Using tables and graphs to present data

Many people find it difficult to understand arrays of numbers; it is therefore important to find ways of presenting RH subaccount findings in visually attractive and easily comprehensible ways, remembering that “a picture is worth a thousand words”. Of course, some audiences may be specifically interested in seeing tables with many numbers; for example, a scientific report that is intended for the research community may have more comprehensive tables and fewer graphs than a report meant for policymakers.

Some general remarks apply to all kinds of reports. Remember that some readers may look only at the graphs and tables in the report, without reading the surrounding text. Every graph and table, therefore, should be self-explanatory. There should be a clear title, full labelling, a key to symbols, and footnotes with relevant information, such as data sources and missing data. On the other hand, not everyone will read the tables and graphs; some people will rely on the text. For that reason, the text should describe and discuss at least the key results presented in the visuals, mentioning the vital numbers, means, percentages and the like. In addition, and more importantly, the text should explain how the findings are to be interpreted; simply repeating the figures is not enough.

It is recommended that the most important graphs and tables should be included in the main text, with others in the appendices. All the accounting matrices should be incorporated into the text of the main report.

The main forms of visual presentation are:

---

**Style of writing**

Remember that the reader:
- is short of time;
- has many other urgent matters demanding his or her interest and attention;
- may not be familiar with “research jargon”.

Therefore, in general:
- Simplify: keep to the essentials.
- Justify: make no statement that is not based on facts and data.
- Quantify when you have the data to do so. Try to avoid using “large” or “small”; instead, say “50%”, “one in three”, etc.
- Be precise and specific in your phrasing of findings.
- Aim to inform, not to impress. Avoid exaggeration.
- Use short sentences.
- Use adverbs and adjectives sparingly.
- Be consistent in the use of tenses (past or present tense). Avoid the passive voice, if possible, as it can be vague and repeated use can make for dull reading.
- Aim to be logical and systematic in your presentation.
- **Bar charts**: these are particularly suitable for expenditures that can be split into different components.
- **Line graphs**: these are best used to show trends over time in the value of a single expenditure indicator.
- **Pie charts**: these are useful for illustrating expenditure components that add up to 100%.

In reviewing drafts of a report, check the following:

- For each graph, does the title provide a comprehensive description? Could someone browsing through the report understand the graph?
- Are both axes of every graph clearly labelled?
- Is the scale marked on all axes of graphs?
- Are tables and figures labelled and numbered throughout the report?
- If the report is a lengthy one, have you provided a list of tables and figures following the table of contents?

### Revising and finalizing texts

Once a first draft of findings, discussion, and conclusions has been completed, check the following

- Have all important findings been included?
- Do the conclusions follow logically from the findings? If some of the findings contradict each other, has this been discussed and, if possible, explained? Have any weaknesses in the methodology been discussed?
- Are there any overlaps in the draft that have to be removed?
- Is it possible to condense the content? In general, a text gains by shortening. Parts that are not directly relevant for action may be included in annexes. Check whether descriptive paragraphs can be shortened and introduced or finished by a concluding sentence.
- Do the data in the text agree with the data in the tables? Are all tables numbered in sequence, and do they have clear titles and headings?
Annex 13. Country characteristics: population and demographic, socioeconomic, and general health indicators

**Population and demographic indicators**

- Total population, by urban/rural, age and sex
- Median age
- **Population growth**
- Sex ratio
- **Proportions of the currently married and never married populations, by sex and age group**
- Number of households and average household size
- Crude birth rate
- Life expectancy at birth, total and by sex
- Crude death rate
- Infant mortality rate, total and by sex
- **Age-specific mortality rates, by sex**
- Percentage distribution of deaths by cause
- Rate of natural increase
- **Age-specific fertility rates, total and for married women**
- Contraceptive prevalence rate (all methods and modern methods)
- Unmet need for contraception
- Net migration rate

**Socioeconomic indicators**

- Gross national income per capita
- Gross domestic product per capita growth rate
- Average annual change in consumer price index
- Inflation rate
- Exchange rate
- Human development index
- Adult literacy rate
- Gross primary school enrolment ratio, by sex
- Gross secondary school enrolment ratio, by sex
- Unemployment rate (%), by sex

**Basic health indicators**

**Facilities:**

- Number of hospital beds
- Population per hospital bed
- Number of emergency obstetric centres per 500 000 population
- Hospital beds per 10 000 population
- Number of health centres

**Human resources:**
- Population per physician
- Number of physicians per 10,000 population
- Number of nurses per 10,000 population

**General health services:**

- % of births attended by skilled health personnel
- % of births in a medical facility (institutional deliveries)
- % of men aged 15–49 years reporting ever having been treated for urethritis
- % of women immunized with tetanus toxoid (TT) during most recent pregnancy
- Number of abortions per 1000 births

**Financial resources:**

- Total expenditure on health as % of gross domestic product
- Public expenditure on health as % of total expenditure on health
- Private expenditure on health as % of total expenditure on health
- Public expenditure on health as % of general government expenditure
- Social security expenditure on health as % of public expenditure on health
- Tax-funded health expenditure as % of public expenditure on health
- External resources for health as % of public expenditure on health
- Private insurance for health risks as % of private expenditure on health
- Out-of-pocket spending on health as % of private expenditure on health