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Guide to Producing Child Health Subaccounts

within the national
health accounts
framework

World Health Organization

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Acronyms

AIDS	acquired immunodeficiency syndrome
ARI	acute respiratory infection
ART	Antiretroviral treatment
BFHI	Baby-Friendly Hospital Initiative
CB	central bank
CD	central dispensaries
CFS	Central Bank consumer finance surveys (Sri Lanka)
CH	child health
CHA	child health subaccount
CHW	community health worker
CNAPT	Ceylon National Association for the Prevention of Tuberculosis
CRC	Convention on the Rights of the Child
CSP	Child Survival Partnership
DH	district hospital
DHS	Demographic and Health Survey
DRG	diagnosis-related group
EFY	Ethiopian fiscal year
EPI	Expanded Programme on Immunization
ESHE	Essential Services for Health in Ethiopia
FS	financing sources
GDP	gross domestic product
GH	general hospital
HA	health accounts
HFS	health facility survey
HIS	health information system
HIV	human immunodeficiency virus
HMIS	health management information system
ICD	International Classification of Diseases
ICHA	International Classification of Health Accounts
IDS	international development statistics
IEC	information, education and communication
IHP	Institute for Health Policy, Sri Lanka
IMCI	integrated management of childhood illness
IP	inpatient
ITN	insecticide-treated nets
IYCF	infant and young child feeding
LG	local government
LSMS	Living Standards Measurement Study

MCH	maternal and child health
MNCH	maternal, newborn, and child health
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MK	Malawi Kwacha
MoH	Ministry of Health
MPS	Making Pregnancy Safer
MTEF	medium-term expenditure framework
NGO	nongovernmental organization
NHA	national health accounts
NHE	national health expenditure
NHE-CH	national health expenditure on child health
NHIF	National Hospital Insurance Fund (Kenya)
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket
OP	outpatient
ORS	oral rehydration salts
PC	provincial council
PER	public expenditure review
PG	Producers' Guide
PHCU	primary health care unit
PHR	Partners for Health Reform
PMNCH	Partnership for Maternal, Newborn and Child Health
PMTCT	prevention of mother-to-child transmission (of HIV)
PRSP	Poverty Reduction Strategy Paper
RH	reproductive health
SHA	System of Health Accounts
SNA	System of National Accounts
SNNPR	Southern Nations, Nationalities, and People's Region
SPA	service provision assessment
SPR	short programme review
SWAp	sector-wide approach
Tar-HE-CH	targeted health expenditures on child health
TB	tuberculosis
TCHE-CH	total current health expenditures on child health
THC	Thana Health Complex
THE	total health expenditure
THE-CH	total health expenditure on child health
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WB	World Bank

Foreword

Every year, more than eight million children under the age of five die; while many more suffer lifelong consequences of ill-health during childhood (UNICEF, 2010). A number of programmes and partnerships have been set up to improve the delivery of simple, affordable and life-saving interventions for the management of major childhood illnesses and malnutrition. They include the Partnership for Maternal, Newborn and Child Health (PMNCH) and the Expanded Programme on Immunization (EPI), as well as country-based programmes delivering integrated management of childhood illness (IMCI), insecticide-treated nets (ITNs), and interventions linked to the prevention of mother-to-child transmission (PMTCT) of HIV. Outside the programme framework, many public and private-sector providers deliver essential care for children in developing countries. All these efforts address different aspects of child survival, and many have succeeded in reducing deaths from common and preventable conditions.

In 2000, countries pledged to scale up the coverage of their health services as part of efforts to achieve the Millennium Development Goals (MDGs). In the fourth goal (MDG4), countries committed themselves to reduce under-five mortality by two-thirds from the 1990 baseline by 2015. Scaling up

the delivery of interventions to reduce child mortality will require additional investments in commodities, equipment, and human resources, as well as the strengthening of the operational health system.

National policy-makers need precise information on the gap between the resources currently available for child health and the investments required to achieve national targets. In addition, they need to assess whether current child health expenditure is going to the interventions with the greatest impact on child survival, to determine the sources of funding, and to understand how funds flow within the health system. There is also a need for information on the financial burden of child health expenditure on households. This information provides the evidence necessary to make informed decisions, allocate resources between competing needs, help set strategic priorities, and ensure sustainable funding for child health programmes and strategies.

The national health accounts (NHA) framework is an internationally accepted methodology that provides a comprehensive estimate of all national health expenditures, whether from donors or from domestic public and private sources. An NHA subaccount is a more detailed reporting of spending levels

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1   The implementation in Rwanda was led by the Ministry of Health, with technical support from the USAID PHR*plus* project. The implementation in the Philippines was led by the Department of Health with technical support from WHO.

and patterns for a particular component of health care. Subaccounts report expenditure in accordance with the NHA framework, but with a focus on specific relevant programs, disease or population categories. The child health subaccounts are intended to provide financial information to policy-makers, programme managers and service providers on the resources spent on child health interventions. Expenditure on child health is defined as expenditure on goods, services and activities delivered to the child after birth or to its caretaker. Only those goods, services and activities whose primary purpose is to restore, improve or maintain the health of children from birth until the fifth birthday are included.

Child health subaccounts can be used in various ways to inform child health policy and programming. They provide answers to specific questions regarding child health financing, in the same way that general NHA answer questions on overall health care financing. For example, the child health subaccounts reveal how much is being spent, who is paying, and what services and products are purchased for whom. Because the subaccounts use the internationally recognized NHA framework, findings can be compared across countries. If a country prepares subaccounts at regular intervals, trends in expenditure can be tracked,

patterns of resource use monitored, and the relation to the achievement of child health programme goals assessed. Ultimately, such assessments can be used to adjust and inform the financing of strategies to scale up key child survival interventions.

Intended for both NHA country experts and novices, this guide aims to help countries obtain a clearer picture of resource flows for child health, through regular estimations that can inform the policy process. This guide has benefited from the participation and contribution of numerous experts on child health programmes and NHA, and from experiences in implementing the methodology in four countries.Although efforts have been made to ensure that it is consistent with existing WHO guidelines on child health care and prevention and on producing national health accounts, protocols and standards will evolve in the future and updates will be issued as needed.

The recently released System of Health Accounts 2011 (OECD, EU, WHO, 2011) may necessitate an updated view of the guidelines (see Annex 7 on Developments on health accounts).

Acknowledgements

Chapter 1
Introduction

1.1 Background

Countries around the world have pledged to scale up their health services to reach the Millennium Development Goals.[1] National strategic plans for health include specific targets for expanding services and reducing disease. However, in many countries insufficient funding remains a major constraint to scaling up delivery of priority interventions.

Policy-makers are, as a result, constantly faced with difficult decisions in selecting policies and strategies that will help them achieve their public health targets. Information on how much is being spent on the different aspects of population health is a key element in supporting solid decisions and policy-making. Information on expenditure can be useful to:

- monitor whether funds are directed towards effective and efficient strategies;
- assess the accountability of policy-makers;
- determine the gaps between current expenditure and the financial resources needed to achieve health sector goals;
- assess the current flows of funds from various financial sources, to inform fund-raising strategies.

Information on health expenditure flows can be useful for assessing the accountability of governments with regard to their commitments to channel resources towards health.[2] However, studies have shown that, even in countries where total health expenditure is increased to respond to health sector needs, the specific expenditure patterns may not be in line with policy priorities (see, for example, De Savigny et al., 2004). Policy-makers therefore need detailed information on expenditure for specific diseases, programmes or age groups to be assessed in relation to health system outputs and population health outcomes, as a means of tracking progress towards global and national targets.

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1 In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets – with a deadline of 2015 – that have become known as the Millennium Development Goals (http://www.un.org/millenniumgoals/bkgd.shtml).

2 For example, in the Abuja declaration, African leaders pledged to set a target of allocating at least 15% of public budgets to the improvement of the health sector: http://www.uneca.org/adf2000/Abuja%20Declaration.htm.

Maputo 2003 declaration: http://www.africaunion.org/Official_documents/Decisions_Declarations/Assembly%20final/Assembly%20%20DECLARATIONS%20%20-%20Maputo%20-%20FINAL5%2008-08-03.pdf

Gaborone 2005 declaration, http://www.africaunion.org/root/au/Conferences/Past/2006/March/SA/Mar6/GABORONE_DECLARATION.pdf

For some countries, assessing whether policy priorities are met may also include looking at the financial burden on households. There is evidence that direct household out-of-pocket payments can have a major negative effect on the use of health care services, especially for the poor. Household surveys suggest that, each year, as many as 150 million people face severe financial hardship as a result of out-of-pocket health payments, and that 100 million could be forced into poverty simply because of health expenditures (Xu et al., 2007).

Programme managers also need to estimate the financial resources required to reach programme targets. The use of cost estimates for future resource needs should be compared with current expenditure in order to assess the resource gap and identify the funds that need to be raised.

All of the above considerations are relevant for child health and child survival. The global burden of child illness is high, with nearly 9 million children in low- and middle-income countries dying each year before the age of five (WHO, 2010). In the 75 countries that account for about 95% of the global burden of maternal, newborn and child ill-health, 57% of mothers and children do not have access to the care they need because of insufficient supply, financial barriers, or other reasons (WHO, 2005a). Many of the remaining 43% do not receive the full range of care they need.

The fourth Millennium Development Goal (MDG4) commits countries to reduce under-five child mortality by two-thirds from the 1990 baseline (UNGA, 2001). To attain this goal, efficient, low-cost interventions are needed. To assess the adequacy of expenditures, it is necessary to collect relevant and sound information on how much is being spent on child health and how the funds are flowing within a country's health system. Knowledge generated from such information, together with evidence on the effectiveness of interventions at different levels of the health system, allows informed decisions and appropriate allocation of resources among competing needs. Analysis of the organization and financing of child health services will lead to an understanding of how much is being spent and by whom, which will help in setting strategic priorities.

Within the international community there is growing interest in discovering how much is being spent on child health. For example, one of the aims of the Partnership for Maternal, Newborn and Child Health (PMNCH) is to raise awareness of the gap between the resources currently available for child health and those required to achieve MDG4 (Powell-Jackson et al., 2006). This information is likely to become an important policy and advocacy tool in raising resources, monitoring progress in reducing child mortality, and holding stakeholders accountable.

One widely used methodology 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 child health context and, specifically, the development of an NHA child health subaccount. It is intended for NHA practitioners in middle- and low-income countries, though policy-makers and analysts will find the introductory and final chapters useful for understanding the policy motivation for this analysis. The guidelines have been designed to be flexible enough for each country to adapt them to their own needs, while maintaining comparability. It is strongly recommended that users of this guide should already be familiar with the basic principles of producing health accounts, as outlined in the *Guide to producing national health accounts* (WHO, 2003) (hereafter referred to as the Producers' Guide).

1.2   The NHA concept

National health accounts are a tool to monitor flow of funds and estimate national expenditure on health. The NHA methodology has been used in more than 100 countries to date. NHA capture the total expenditure on health in a given country in a defined period of time, tracking both the amount spent and the flow of funds across the health system.

The flows of funds are presented in a series of two-dimensional tables that together provide a comprehensive overview of the financing of the health system. In this way, NHA track the annual flow of funds through the health system, principally along the following core dimensions:

● from the financing sources (FS), such as the ministry of finance, donors, and households;

● through the financial agents (HF), 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 (HP), such as hospitals, clinics, dispensaries, pharmacies, and traditional healers; and

● for functions (HC), 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 and various beneficiary vectors. Classified as "resource costs", this dimension includes items such as labour, non-labour services, medical equipment, pharmaceuticals, and capital goods; and

● various beneficiary populations, defined by for example age, sex, socioeconomic status, and place of residence (district, region, province, etc.).

In the 1950s, the United Nations developed a system of national accounts (SNA) as a broad structure for economic accounting.[3] The system of health accounts (SHA), developed by the Organisation for Economic Co-Operation and Development (OECD, 2000), shares the underlying principles of the SNA, in that it constitutes a system of comprehensive, internally consistent and internationally comparable accounts of the health sector for a given country in a specified period of time.[4] The Producers' Guide (WHO, 2003) is itself grounded on the OECD SHA principles.

1.3   Overview of the child health subaccounts

This guide presents a methodology for tracking expenditure on child health within the general NHA framework. Expenditure on child health is defined as expenditure on goods, services and activities delivered to the child or its caretaker after birth, the primary purpose of which is to restore, improve or maintain the health of the child from birth up to five years of age.

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3   The SNA has undergone various rounds of revision, with input from countries and a number of international organizations. Most industrialized countries use the latest version of SNA (updated in 1993) as a planning tool. Different "satellite accounts" have been proposed, focusing on particular sectors of the economy, such as tourism or education. National accounts track factors of production and types of goods and services produced.

4   There are many similarities between the SHA and the SNA93 satellite accounts. For example, both types of accounts use a similar concept of output, have the same production boundary, and the same approach to placing value on output. Some of the differences between the two accounts refer to the different perspective on the economic activity of a society, reflecting the different purposes of the accounts. Gaborone 2005 declaration, http://www.africaunion.org/root/au/Conferences/Past/2006/March/SA/Mar6/GABORONE_DECLARATION.pdf

The child health subaccounts provide information useful for measuring expenditure flows between financing sources, financing agents, providers and functions particular to child health interventions and activities for both the public and private sectors. It may also be particularly relevant for some countries to track the expenditure on child health from multilateral, bilateral and donor agencies, which is also captured by the NHA methodology.

It is recommended that, whenever possible, child health subaccounts are prepared at the same time as the general NHA. This approach has several advantages. First, the child health subaccounts can benefit from the routine data collection efforts set in place for the general NHA. It is therefore more cost-effective to do the two analyses concurrently. Second, the estimation methods used for missing data that cannot be directly obtained from secondary and primary sources (see Chapter 4) can be consistent with the sectorwide approach, therefore ensuring consistency in reporting of health expenditures. Third, preparing specific subaccounts builds on existing technical capacity, and provides a platform for dissemination of results. Fourth, conducting the subaccounts as part of the general NHA effort allows identification of expenditures that fit into more than one programme and therefore of possible overlaps. Fifth, the general NHA will benefit from the different subaccounts, because they more clearly expose the need for detailed information and can be used to lobby for information to be disaggregated. Finally, the suggested approach will help to place a country's pattern of expenditure on child health within the context of overall health spending. In all, it is a symbiotic endeavour.

1.4   Policy purpose of child health subaccounts

Improving the health of children is key to improving population health worldwide (WHO, 2005a). Recent years have seen a shift in the way child health is viewed, from a technical issue pertaining to the delivery of certain programmes, to a moral and political concern for all.

Despite the moral concerns of child mortality, and the attention given by the media, policy-makers and civil society to this subject, many child health programmes remain underfunded. Understanding the resource flows in child health is essential for advocating for increased investment in child health, including the health of newborns. This investment is not only a priority for saving lives, but is also critical in advancing other goals related to human welfare, equity and poverty reduction (Tinker et al., 2005). Access to appropriate health services is also a human right, protected in the Convention on the Rights of the Child (CRC).[5] Improving child health requires political will and leadership.

The Bellagio Study Group on Child Survival (2003) identified 23 priority interventions for child survival. A recent study on the cost associated with delivering these 23 interventions (Bryce et al., 2005a) suggested that effective strategies for achieving the Millennium Development Goal for child survival would include: a focus on prevention, in order to decrease treatment costs; use of integrated delivery strategies; and expanded coverage through improved delivery of existing care. Furthermore, Darmstadt et al. (2005) identified 16 interventions that have been shown to improve neonatal survival. At the same time, they recognized that improving neonatal care requires not only the identification of effective interventions, but also a clear process and framework for applying such interventions within existing programmes. In order to put these strategies into practice, information is needed about, inter alia, the way resources for child

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5   CRC Article 24 states that "States Parties shall take appropriate measures to diminish infant and child mortality, and
      to ensure the provision of health care to all children with emphasis on primary health care."

health are allocated, the amount spent on preventive and curative care, and the contribution of household expenditures.

Child health subaccounts encourage disaggregation of expenditures by priority interventions and activities aimed at reducing child mortality. Obtaining such a detailed disaggregation can be technically difficult, because of limitations in existing information systems. However, any information produced, even at a more aggregate level, will help policy-makers assess expenditure patterns. The level of disaggregation can be gradually improved as the health information system is strengthened. Country teams are therefore encouraged to work on the subaccounts, even if the ideal level of detail cannot be achieved.

By providing information on the flow of funds, child health subaccounts can help answer the following policy-relevant questions:

- What is the current level of funding for child health at national level?
- What are the current sources of funding for child health and who manages these funds?
- What is the direct contribution of households for child health?
- What is the distribution of child health resources between various interventions and what is the total expenditure on core child health interventions?
- How much is spent on preventive and curative services?
- What proportion of child health expenditure is for treatment in hospital and what proportion for outpatient care?
- Who provides child health care services and with what resources?
- What is the difference in per capita expenditure on child health between insured and uninsured individuals?
- To what extent is child health expenditure dependent on foreign aid?
- What has been the trend in child health expenditure over recent years?

In each country, decisions must be made about the specific questions that the subaccounts should address. For example, one country may want to determine the difference in per capita expenditure on child health between insured and uninsured individuals, or the difference in spending on preventive and curative care. Other countries may want to focus on geographical inequities in financing of child health interventions (WHO, 2008). The team preparing the child health subaccounts will then focus on obtaining sufficient data to provide this information.

While only recently introduced as a tool for assessing the performance of health systems, subaccounts have already begun to have an impact on policy, as outlined in Box 1.1.

1.5   Indicators produced by child health subaccounts

Public health goals can only be attained if financial resources are adequate and well targeted (Bellagio Study Group on Child Survival, 2003). In many countries, insufficient funding remains a major constraint to the scaling-up of child survival interventions. The additional per capita expenditure required in a given country depends on the health system and the epidemiological situation. Estimates presented in the World Health Report 2005 (WHO, 2005a) suggested that an additional US$ 50 billion was required for the period 2006–2015, in order to reach 95% coverage with 16 priority child health interventions in 75 countries. This represents an average increase in per capita health expenditure of about US$ 1.50 by 2015, equivalent to increasing average general government health expenditure by 26% over 2005 levels. In countries with the

Box 1.1 Policy impact of programme subaccounts

At global level

The age- and disease-related breakdowns from the ongoing health accounts work have been picked up in the UN's recommendations on social and economic development issues, such as the World Economic and Social Survey (UN, 2007). The UN MDG summit in September 2010 estimated future funding requirements for maternal and newborn health using NHA data series and GDP projections. US$ 40 billion were pledged in resources for women's and children' health at the summit (WHO 2010).

At regional level

Reproductive health (RH) subaccounts were adopted by African Ministers of Health in Maputo, September 2006, as a policy tool to advocate for increased resources for reproductive health.

At national level

In Rwanda, the reproductive health subaccounts showed that 80% of RH expenditure was financed by donors; this was used by the Ministry of Health to advocate for greater domestic policy and financial support to family planning.

In Kenya, subaccounts for acquired immunodeficiency syndrome (AIDS) showed that the Government did not contribute to provision of antiretrovirals (ARV), and that spending was largely on prevention. Civil society organizations are using this finding to lobby the Government to include a budget line item for ARV.

In other countries where subaccounts have been produced, the results have been used to develop the medium-term expenditure framework (MTEF), which indicates fiscal targets for public subsidies, particularly for priority areas, such as child health.

At the time of writing of this guide, child health subaccounts had been prepared in four countries (Bangladesh, Ethiopia, Malawi, and Sri Lanka. The results of the analysis of child health expenditures in Bangladesh and Sri Lanka have been presented at regional meetings of health accounts experts, and have been used within the countries in discussions on resource allocation between the ministries of health and donors.

weakest health systems, scaling up will require considerable increases in public expenditure on health – it has been estimated that increasing coverage with key child survival interventions may require resources equivalent to raising public spending by 75%. Another estimate, by Bryce et al. (2005a), was that an extra US$ 5.1 billion are needed annually to avoid 6 million child deaths.

Information on the flow and amount of domestic and international investments in child health needs to be assessed together with information on progress in health services outputs and health outcomes in order to evaluate the appropriateness, equity and efficiency of the delivery of child health care. Some suitable indicators are:

- child health expenditure as a percentage of total health expenditure;
- government expenditure on child health as a percentage of total child health expenditure;
- external funds for child health as a percentage of total health expenditure;
- out-of-pocket spending on child health as a percentage of total child health expenditure;
- expenditure on preventive and curative services for child health as a percentage of total child health expenditure;;

- total child health expenditure per child.

- total child health expenditure per child by region or population group;

A complete set of indicators, with detailed definitions and explanations, is presented in Chapter 7.

1.6 Methodological approach and structure of the guide

The approach used in this guide adheres to the one described in the Producers' Guide (WHO, 2003). When a country decides to produce NHA, local organizational and political considerations must be taken into account, and the general methodology adapted to the particular context. For example, issues such as the nature of provision of services, the specific arrangements for the age group under study, the availability of information, and the availability of output indicators will affect the NHA implementation strategy.

As an initial step, the purpose of the child health subaccounts must be defined. This will help establish the boundaries for the subaccounts. For example, what types of goods and services related to the improvement of child health will be included in the analysis? These issues are discussed in Chapter 2.

Once the purpose and boundaries of the subaccount have been established, the expenditures need to be classified. Chapter 3 outlines the classification scheme for the specific dimensions of child health, based on the classification recommended in Chapters 3 and 4 of the Producers' Guide (WHO, 2003). The main difference from the general NHA classification scheme is in the level of detail relating to child health functions. This chapter also presents a mapping of classifications, which provides the names and codes that will be the row and column headings of the core NHA tables.

Chapter 4 outlines the data that are most relevant for child health subaccounts and suggests various methods of obtaining them. Consideration is given to the use of available information, as well as the possibility of adding specific questions to surveys that are being done to obtain data for the general NHA. It is important that the team has a clear understanding of how child health is delivered and obtained in the national context. This understanding will facilitate the planning process.

Once the data have been collected and their quality assessed, the NHA tables need to be completed. The data should be thoroughly examined to identify gaps and resolve possible conflicts; estimation techniques must be agreed and clearly documented. Chapter 5 describes some of these issues, with particular applicability to child health subaccounts.

Chapter 6 presents a suggested process for institutionalizing the production of information on child health expenditures, making it a part of routine health information system outputs. This will require the commitment of the political stakeholders, and of technical experts to produce, analyse, disseminate and use sound information. This chapter also suggests a timeframe for the development of child health subaccounts and estimates the resources needed. Finally, Chapter 7 presents the various indicators that can be produced by child health subaccounts and that are important for policy purposes.

Chapter 2

Definition and scope of child health subaccounts

2.1 Child health interventions and programmes involved in their delivery

Children bear an undue share of the global burden of disease. Annually, approximately 10 million children under five years of age die; many more will suffer lifelong consequences of inappropriate care and ill-health during childhood.[6] The vast majority of neonatal and child deaths occur in developing countries.

The brief background presented here, on child health in developing countries, is intended to help readers understand the range of activities and expenditures included in child health subaccounts.

Diarrhoea, pneumonia, and neonatal conditions are the most important direct causes of childhood mortality worldwide. Malaria and human immunodeficiency virus (HIV) infection are also important in some countries (Figure 2.1). The relative importance of different conditions will vary across countries and over time. For example, neonatal mortality currently accounts for between 31% and 98% of infant deaths. Where child deaths from common illnesses, such as pneumonia and diarrhoea, have been reduced, the proportional contribution of neonatal mortality to under-five mortality is increased.

Malnutrition is the single most important underlying cause of child mortality, and is associated with 35% of all child deaths (Black et al., 2008). In low-income countries, one in every three children suffers from stunted growth. The effects continue throughout life, contributing to poor school performance, reduced productivity, and impaired intellectual and social development.

It is well known that proven interventions, properly implemented, could prevent millions of child deaths every year (Jones et al., 2003). For example, effective nutrition interventions, including promotion of appropriate breastfeeding and complementary feeding, vitamin A and zinc supplementation, could save 2.4 million children each year, or 25% of deaths.

A number of programmes seek to address the major causes of child mortality and morbidity. The Expanded Programme on Immunization (EPI), for example, aims to increase immunization coverage. Thanks to sustained efforts to promote immunization, deaths from measles decreased by 39% between 1999 and 2003, reaching a level that was 80% lower than that in 1980. Widespread introduction of oral rehydration therapy through national programmes for control of diarrhoeal disease has contributed to reducing the number of diarrhoeal deaths from 4.6

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6   See the WHO mortality database: http://www.who.int.whosis/en

million per year in the 1970s to 3.3 million in the 1980s and 1.3 million in 2008. The distribution of insecticide-treated nets (ITNs) through malaria control programmes, programmes for the care and treatment of HIV-positive children or children with malaria, neonatal and continuum-of-care programmes, and the prevention of mother-to-child transmission (PMTCT) of HIV address other aspects of child survival. These programmes have reduced deaths from common and preventable conditions through the use of simple and cost-effective interventions.

Figure 2.1. Causes of child and neonatal deaths worldwide 2008

Deaths among children under five*

Neonatal deaths

Noncommunicable diseases (postneonatal) 4%

Other 13%

Injuries (postneonatal) 3%

HIV/AIDS 2%

Measles 1%

Malaria 8%

Diarrhoeal diseases (postneonatal) 14%

Pneumonia (postneonatal) 14%

Neonatal deaths 41%

Other 11%

Congenital anomalies 8%
Neonatal tetanus 2%
Diarrhoeal diseases 2%

Neonatal infections 25%

Birth asphyxia and birth trauma 23%

Prematurity and lowbirth weight 29%

Source: WHO, 2010; Black et al., 2008.

* 35% of under five deaths are due to the presence of undernutrition

In developing countries, children brought for medical treatment are often suffering from more than one condition. The common occurrence of multiple conditions at the same time has highlighted the need for integrated delivery approaches. One such approach is the integrated management of childhood illness (IMCI), which comprises a set of simple, affordable and effective interventions for the combined management of the major childhood illnesses and malnutrition (Gove, 1997). IMCI includes core curative interventions, such as management of diarrhoea and dysentery, pneumonia, malaria and neonatal sepsis, along with preventive care focusing on growth monitoring, nutrition counselling and administration of micronutrients and essential vaccines. The three main components of the IMCI strategy are: improving case management skills of health care staff; improving family and community health practices; and improving overall health system support. Expenditures related to this strategy will therefore occur at the family/community, facility and health system levels. Correctly managed, IMCI can reduce childhood mortality at a lower cost per child than other approaches to care (Adam et al., 2005).

A recent analysis showed that coverage with key child survival interventions – whether delivered through vertical or more integrated approaches – remains unacceptably low (Bryce

et al., 2006). Lack of political will and insufficient financial commitment are among the major reasons. In response, WHO and UNICEF are supporting regions and countries in developing long-term child survival strategies and operational plans. Increasingly, such strategies and plans are convincing policy-makers of the need to revisit their health investment strategies and to give due attention to the unacceptably high burden of child mortality and morbidity.

NHA, and more specifically child health subaccounts, are important tools for analysing and possibly redirecting current health investments. Child health expenditures should be assessed at the national level in vertical and integrated programmes for the treatment and prevention of child diseases, as well as in programmes that promote child development, including mental development. These areas of health concern provide general indications of the scope of expenditures that should be included in the child health subaccounts.

2.2 Boundaries of the NHA child health subaccounts

2.2.1 Child health expenditures in the NHA

The NHA framework considers the value, in monetary terms, of goods and services consumed and activities carried out whose primary purpose is to restore, maintain or improve the health status of the population over a given period of time. The health care function is the primary reference for defining health expenditures.

For the purposes of classification, health expenditures are grouped into two main types: direct health expenditures –sometimes referred to as core health expenditures – and health-related expenditures. The first type is associated with certain functions of a health system: provision of care, prevention and public health, stewardship, and general administration. The health-related expenditures are associated with activities, goods or services that relate to other functions of the health system, such as capital formation,[7] education and trainingof health personnel, research and development, food, hygiene and water control, and environmental health. The sum of direct health expenditure and capital formation is referred to as total health expenditure

Figure 2.2. Expenditure boundaries of NHA

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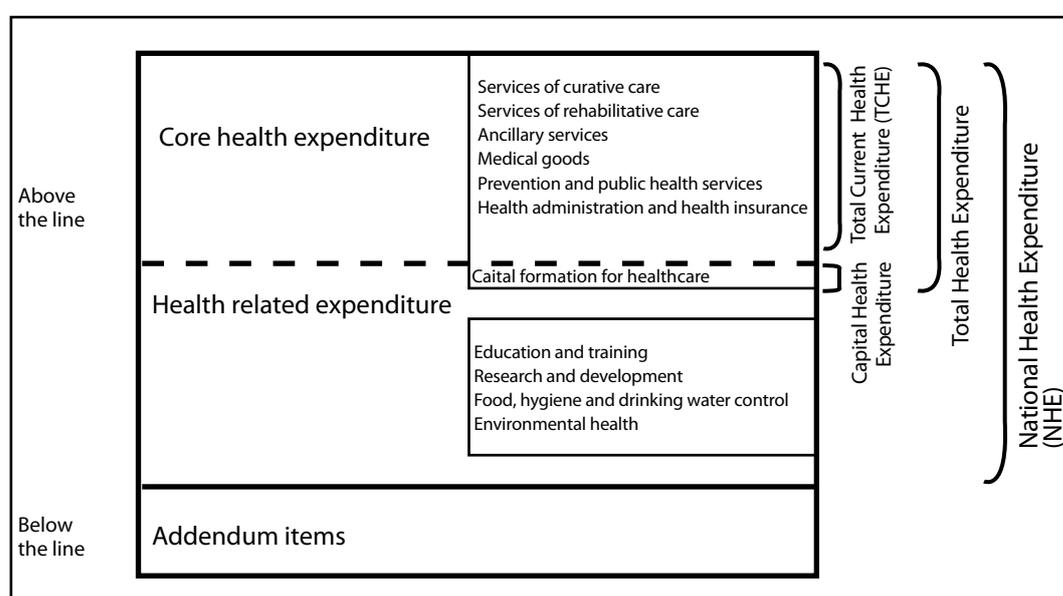
7   Capital formation refers here to the physical assets (land, buildings and equipment) owned by or available to the
   health sector acquired during one year.

(THE). The sum of direct health expenditure and expenditure on all health-related functions is known as the national health expenditure (NHE). The core health expenditure does not include the depreciation of buildings and equipment. A further distinction is made between capital expenditure and recurrent expenditure.

The NHA literature sometimes refers to expenditures "below" and "above" the line (Figure 2.2). The expenditures considered "above the line" are those on health and health-related functions. Expenditures "below the line" are items that are not generally considered to be part of the NHA framework. An example of below-the-line expenditure would be payments by a social insurance agency for loss of income due to illness. However, for some countries, tracking the below-the-line expenditures may be an important policy issue.

In line with the Producers' Guide (WHO, 2003, p.20), for the purposes of the child health subaccounts, expenditure on child health is defined as expenditure during a specified period of time on goods, services and activities delivered to the child or its caretaker after the birth of the child and whose primary purpose is to restore, improve and maintain the health of children of the country between zero and less than five years of age.

Many of the interventions delivered to children between birth and five years of age will have an impact on the child's health many years later. However, these guidelines recommend the inclusion only of interventions that are delivered to the child during the first five years of life, with the main purpose of restoring, improving or maintaining child health. Care delivered to the mother before the birth is not included as part of child health expenditures; it will be captured in the reproductive health subaccounts. There is a need to define a cut-off that makes sense from policy and programme perspectives; maternal care focused on the mother's well-being does not fall under child health programmes. Care delivered to the mother after the birth, and expected to affect the health of the newborn child, such as breastfeeding campaigns, is included as part of child health expenditure. On the other hand, expenditures for social care, where the primary purpose is not to restore, improve or maintain the health of children – such as social care of orphans – are not included.

The boundaries established for defining what is considered an expenditure on child health must be relevant from a policy perspective, while remaining within the framework of the general NHA. To be politically relevant, estimates should be disaggregated, so that child survival needs are documented and total expenditure on child health is linked to the total health expenditure in the country. A key set of interventions that can serve as disaggregation criteria are presented in Table 2.1. These will allow, for example, comparison of intermediate outcomes, such as mortality reduction, from different interventions, as recommended by the Bellagio Study Group on Child Survival (2003), or measurement of expenditure to track investments related to reaching MDG4 on the key interventions identified for child survival.

Included in the expenditures for child health are those for treatment and prevention of diseases, as well as the promotion of child health. These expenditures reflect interventions delivered directly to the child or the caretaker, such as curative interventions (surgery, provision of antibiotics), preventive interventions (vaccines), promotional activities (counselling, and information, education and communication (IEC) activities), overall programme management (e.g. the development of treatment guidelines), community interventions (see Box 2.1), targeted nutritional supplementation (vitamin A or other specific nutrition programmes, such as infant and young child feeding (IYCF)), and treatment of severe malnutrition

Table 2.1 Examples of what should and should not be included in the child health subaccounts

Included as child health expenditure	Not included as child health expenditure
• Treatment of childhood illness, including integrated management of childhood illness (IMCI)	• Family planning and birth-spacing-related activities and programme support
• Antimalaria activities targeting children under 5, Including all preventive activities, treatment with antimalarial drugs and programme support	• Maternal and reproductive health-related activities and programme support, including antenatal care, basic, comprehensive and emergency obstetric care, delivery, and all other care given directly to the mother
• Management of children with symptomatic HIV/AIDS and HIV/AIDS-exposed children, including testing	• PMTCT activities that target the mother [a] • Postnatal care for the benefit of the mother
• Care of the newborn	• General food supplementation activities
• Control of diarrhoea and respiratory tract infections	• Care of orphans
• All immunization activities for children under five (including new and underused vaccines, e.g. Hib, rotavirus, pneumococcal conjugate). Includes procurement of vaccines, materials and cold chain equipment as well as programme support	• Water and sanitation activities, except those targeting the elimination of waterborne diseases and air pollution control
• Services for child health provided at the community level (preventive and curative interventions)	• General education, schooling and day care
• Promotion of breastfeeding and complementary feeding	
• PMTCT activities targeted to the child and provided after birth[a]	
• Postnatal care for the benefit of the child	
• Micronutrient supplementation given to children under five (e.g. vitamin A, iron, zinc)	
• Fortification of food.[b] Includes activities related to iodized salt and vitamin A fortification as well as support to government programmes	

[a] The UN strategy for the prevention of HIV transmission from pregnant women and mothers to their children takes a comprehensive four-pronged approach: (1) prevention of HIV infection in general, especially in young women and pregnant women; (2) prevention of unintended pregnancy among HIV-infected women; (3) prevention of HIV transmission from HIV-infected women to their infants; and (4) provision of care, treatment and support to HIV-infected women, their infants and families. Activities under item 3 that are delivered after the birth of the child should be included as child health expenditures. These include: antiretroviral treatment (ART) given to the baby; counseling on infant feeding, including breast milk substitutes; and testing of the child at 6–8 weeks or 18 months of age. The following activities under item 3 should be excluded, because they are delivered before the birth of the child: ART given to the pregnant woman; HIV testing and counselling of the pregnant woman during antenatal care visit or at the birth; safe delivery (skilled attendant).

[b] Only if these activities are an integral part of child survival programmes.

Included as child health expenditure	Not included as child health expenditure
• Treatment of severely malnourished children	
• Water and sanitation activities targeting the elimination of waterborne diseases and air pollution control*	
• Training of community health workers and in-service training of health facility staff for the delivery of child health services (e.g. EPI, IMCI, IYCF) and training of mid-level managers	
• Oral health for under-fives	
• Inpatient treatment of children under five	

Source: Author's analysis

The availability of data will determine the extent to which expenditures under the broader activities can be disaggregated for inclusion as child health expenditures. It is important to note that, in some cases, data will be available as targeted expenditure for child health; in other cases, the proportion of an activity that is aimed at child health will have to be determined. The criteria for allocation of expenditures to child health will be determined by a relevant measure, such as the under-five population as a percentage of the total population benefiting from an activity. This is discussed further in later chapters.

2.2.2. Child health and other NHA subaccounts and distributional accounts

Subaccounts may be prepared for specific diseases and programmes, or for different demographic groups.

● Disease subaccounts deal with specific health or disease conditions, such as malaria, HIV infection and tuberculosis. For each of these conditions, tables identifying financing flows for agents, providers and functions can be created.

● Programme accounts deal with specific programmes, such as child health or reproductive health, identifying all flows from financing sources to agents, providers and functions for the specific programme.

● Distributional accounts classify expenditures by demographic characteristics, such as sex and age group (see the Producers' Guide (WHO, 2003, p. 44) and IGSS/CEPS (2003)). Classifications for disease distributional accounts are still being developed. Experience to date suggests that disease-specific categories can follow the WHO Global Burden of Disease classification (see the Producers' Guide (WHO, 2003, p. 45-46) or the International Classification of Diseases (ICD-10) (Polder et al., 2005).

It is common to classify health expenditures in more than one way. For example, a country may prepare both disease-specific and age-specific accounts at the same time. The results obtained for child health subaccounts will not be the same as the distributional accounts for children aged up to 5 years. The expenditures registered in the child health subaccount cut across all three classifications. This means that there will be overlap between the different accounts. For example:

- Expenditure on insecticide-treated bednets is recorded in the malaria subaccounts. However, a proportion of these funds is spent for the prevention of malaria in children under five years; this percentage has to be included in the child health subaccounts as well. There is thus overlap between the child health programme subaccount and the malaria disease (or programme) subaccount.

- Expenditure on newborn care at birth and PMTCT is recorded in the reproductive health subaccount. However, these activities also benefit the child, and a proportion should therefore be allocated to child health.

- If age-specific accounts are prepared, all expenditures on children under 5 years will be recorded under the age category 0–4 years. The same expenditures will also be part of child health programme subaccounts. The child health subaccounts, however, will be broader in scope than the age-specific accounts, since they will include other relevant expenditures, such as breastfeeding counselling provided to the mother. In the age-specific accounts, expenditure on breastfeeding counselling will be recorded under the age group of women of reproductive age. Note that this expenditure may also appear in the reproductive health subaccounts.

When preparing subaccounts, it is essential to establish clearly what is to be included and to identify any possible overlap with other subaccounts. Subaccounts for vertical programmes should clearly list which services are included, and overlapping expenditures should be clearly stated when results are presented for two or more subaccounts, for example for child and reproductive health accounts. Table 2.2 shows examples of possible overlapping services in different programme subaccounts, as indicated by the crosses. Clear identification of potential double counting is recommended as standard practice, especially when findings for more than one subaccounts are presented relative to total health expenditure.

Table 2.2. Possible overlapping services in child health and other subaccounts

Overlapping service	Subaccounts that could include overlapping services with the child health subaccounts			
	Child health subaccounts	Reproductive health subaccounts	HIV/AIDS subaccounts	Malaria subaccounts
PMTCT services	X	X	X	
Intermittent preventive therapy and antimalarial chemoprophylaxis (given to pregnant women for malaria prevention)		X		X
Care during the perinatal period, a before birth		X		
Basic newborn health care during the perinatal period,a age 0–7 days	X	X		
Breastfeeding counselling	X	X		

a The perinatal period commences at 22 completed weeks of gestation, and ends seven completed days after birth.

There are particular challenges relating to the measurement of health expenditures on newborn care, including routine and well-baby care given up to 28 days after birth. In many settings, newborn care is delivered in conjunction with maternal care, and it may be difficult to disentangle the expenditures for the child. 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;

● newborn care at birth;

● breastfeeding counselling.

As noted in section 2.2.1, only activities delivered to the child or its caretaker after the birth, whose primary purpose is to restore, improve or maintain the health of the child, should be included in the child health subaccount. The question then arises 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 ITNs), or those delivered to both mother and child, that are primarily aimed at protecting the child (such as PMTCT). The recommendation here is to classify expenditures according to the type of service and the manner in which it is delivered. Thus, only expenditures that target the child and that are provided after birth are included in the child health subaccount. Annex 5 (section A5.5) provides more details on newborn health expenditures.

2.2.3 Geographic boundaries

As defined in the general NHA framework (WHO, 2003), the geographic boundary refers to the country of usual residence of the beneficiary of the expenditure. Therefore, the subaccounts should include all expenditures that benefit the residents of the given country, whether they are made in the country or abroad. Expenditures on child health to the benefit of foreigners residing temporarily in the country should be excluded. If these expenditures cannot be excluded, it should be noted.

Interventions that are considered public goods[8] should be included, even though they also benefit foreigners temporarily residing in the country; this non-excludability is inherent in the nature of a public good.

2.2.4 Time boundaries

The time frame suggested by the general NHA framework is one calendar year (WHO, 2003). If the country chooses a different time period (e.g. the fiscal year), care must be taken to ensure consistency for all the expenditures in the subaccounts; any adjustments made for comparison purposes must be clearly identified.

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8   A public good is a good that the free market will not provide because it is non-excludable (i.e. the benefits of the good are available to all) and non-rival in consumption (i.e. the consumption of a public good by one person does not prevent consumption by others). An example of a public good would be street lighting or, in the case of health care, tuberculosis control. The benefit of tuberculosis control is both non-rival (each person can benefit from the reduced risk of infection without affecting another's risk of infection) and non-excludable (reduced environmental exposure affects everyone in the community and no one can be excluded) (Woodward & Smith, 2008).

Because the general NHA apply the accrual accounting method, the expenditures included refer to obligations incurred for goods and services consumed and provided during the reference time period, and not to actual cash payments. This means that expenditures are recorded at the time when the obligation is made rather than the actual payment. If monetary transactions are not registered in accrual terms, a note explaining the difference must be included.

2.2.5 NHA and the health information system

Linking NHA to the health information system (HIS) serves two main purposes. First, the HIS provides data that can be used to apportion expenditure (for example, data on the allocation of human resources to paediatric wards, the percentage of outpatient consultations that relate to children under five, or the distribution of expenditures in facilities that care for children). This aspect is discussed in more detail in Chapters 4 and 5.

Secondly, relating information on expenditure to the outputs of the health system provides information on aspects such as the efficiency and equity of the system. NHA information is also an important component of the WHO framework for the assessment of health system performance.

Chapter 3
Approach to classification

3.1 Dimensions of NHA and their codes

This guide classifies child health expenditure in line with the basic NHA framework. The main difference is a more detailed disaggregation of the functions of the health system that apply to child care (see section 3.4).

The NHA framework organizes data into four principal dimensions: financing sources, financing agents, providers and functions. Each dimension consists of a series of standardized entities or activities that allow data to be organized in a coherent way. The dimensions are identified by a two-letter code, and the entities and activities within each dimension by a numeric code. The nomenclature used is an adaptation of the ICHA (OECD, 2000). The dimensions and codes for tracking child health expenditure are consistent with the framework presented in the Producers' Guide (WHO, 2003).

- **Financing sources,** denoted by the code FS, are the origin of the funds spent on child health. Examples include the Ministry of Finance, households and donors.
- **Financing agents,** identified by the code HF, pool funds from different sources and use those funds to pay for or purchase services. They have programme control over how funds for child health are spent . These entities are the recipients of funds from the financing sources, but are the origin of funds for the providers, in the sense that they purchase their services directly. Examples include the child health programme within the Ministry of Health, insurance schemes and NGOs.
- **Providers**, identified by the code HP, deliver the goods and services in child health. They include hospitals and clinics where care is offered, but also laboratories, pharmacies and the offices that provide management and stewardship of child health programmes.
- **Functions** are the services and activities that are delivered for child health. They include core health activities, such as delivery of curative and preventive care, stewardship, and administration-related activities, capital formation, and health-related activities, such as research and development in child health (Table 3.1). The core functions are denoted by the code HC and the health-related functions by the code HCR. The availability of data for this dimension tends to drive the health accounts.

3.2 Approach to classification

Each NHA dimension comprises a series of entities, classified with an alphanumeric code as suggested in the Producers' Guide (WHO, 2003) (see Figure 3.1). This classification scheme is as follows:

- letter code for the principal health dimension;
- numerical code;
- name.

Figure 3.1. Construction of classification codes in the ICHA
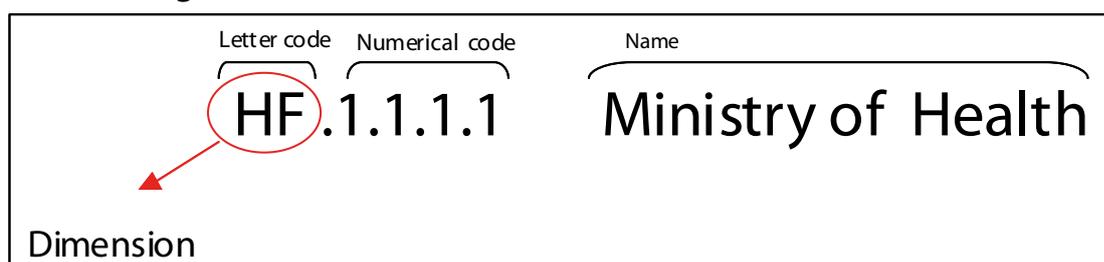
Author's analysis

In the case of the numerical codes, each additional number relates to a further level of disaggregation within the category.

The categories chosen for the NHA satisfy a number of criteria: they are relevant from the policy point of view, are mutually exclusive, and reflect international standards (WHO, 2003). The classification, however, is flexible enough to allow for country-specific categories and subcategories to be added for each dimension, as long as this is done in the general framework of the NHA classification scheme. The possibility of adding more codes, and thus distinguishing subcategories, is useful when a more detailed level of analysis is required by a particular policy concern. It is also possible to eliminate categories that are irrelevant to the study of child health expenditures in a particular country.

For example, the original ICHA code for hospitals as providers is HP.1.1 General hospitals. If a country wishes to distinguish between public and private hospitals, a subcategory must be added to the classification, as follows.

Original code:

HP.1.1 General hospitals

New subcategories:

HP.1.1.1 Publicly owned general hospitals

HP.1.1.2 Privately owned general hospitals

When new subcategories are introduced as above, the first two digits of the code should match the ICHA category. Some possible new subcategories are shown in Tables 3.2–3.4.

3.3   NHA tables and the child health subaccounts

The NHA tables provide information on the flow of funds from one dimension to another. In order to have a complete picture of the flows in the health system, four basic tables are recommended:

(1) child health expenditure by financing source and financing agent (FS x HF);

(2) child health expenditure by financing agent and provider (HF x HP);

(3) child health expenditure by financing agent and health care function (HF x HC); and

(4) child health expenditure by provider and health care function (HP x HC).

Other tables may be constructed to meet the specific needs of policy-makers, if data are available. Chapter 5 of the Producers' Guide (WHO, 2003) contains descriptions of other tables, which include expenditures: by provider and resource input; by financing agent and resource input; by financing agent and population grouped by age and sex; by financing agent and population grouped by income; by financing agent and disease group; and by financing agent and population grouped by geographic location.

The NHA tables are linked to each other through the entities that make up the rows and columns of each table. The recipients in one table (e.g. the financing agents in the FS x HF table) may make up the originators of funds in another table (e.g. the financing agents in the HF x HP table). Different tables may also have the same originators (e.g. financing agents in HF x HP and HF x HC tables).

Figure 3.2 NHA tables

Table 1

Financing agent	Financing Sources				
	Ministry of Finance	**Donors**	**Employers**	**Households**	**TOTALS**
Ministry of Health	A	B			**A+B**
Ministry of Education	C				**C**
Insurers		D	E		**D+E**
Households				F	**F**
TOTALS	**A+B**	**B+D**	**E**	**G**	**G**

Table 2

Providers	Financing Agents				
	Ministry of Health	**Ministry of education**	**Insurers**	**Households**	**TOTALS**
Public hospitals	W		X		**W+X**
Private hospitals		C			**C**
Public clinics			Y		**Y**
TOTALS	**W=A+B**	**C**	**X+Y=D+E**	**F**	**G**

Source: Author's analysis

In Table 1 of Figure 3.2, the funds transferred from the Ministry of Finance ("originator") to the Ministry of Health ("recipient") are A, and the funds transferred between the Ministry of Finance and the Ministry of Education are C. That is, the amount in each cell represents a given transaction or "flow" within the system. The total amount spent by each originator is shown at the bottom of the column. Similarly, the total amount received by a given recipient appears at the end of the row.

Links between the NHA tables reflect the flow of funds between the different dimensions. As shown in Tables 1 and 2 of Figure 3.2, the row headings from one table (financing agents in Table 1) become the column headings in the other table. The total expenditure, represented by the bottom right cell, has to be the same in all the tables.

3.3.1 Basic tables for child health subaccounts

As with the NHA, four basic tables are recommended for child health subaccounts. As a minimum, countries should aim to produce the tables HF x HP and HF x HC, distinguishing the public and private actors in the HF dimension, and using at least one digit in the HC and HP dimensions. If FS x HF matrix is not being prepared, at the minimum the external funds used for financing child health care, if any, must be reported.

The formats of the first three main child health subaccount tables are shown in Tables 3.2 to 3.4. The fourth table, showing providers and functions, uses the provider dimensions from Table 3.2 and the function dimensions from Table 3.3. The category codes are the standard codes in the NHA (WHO, 2003). Codes are provided to be used as a common reference when examining subaccount tables for different countries and when comparing subaccount results to the country's NHA.

Other tables may be constructed for the subaccounts, depending on the expressed needs of policy-makers and other users in the country and, of course, on availability of data.

3.3.2 Aggregates

Aggregates or totals for child health expenditure should be compiled equivalent to three NHA totals: the total current health expenditure (TCHE); the total health expenditure (THE); and the national health expenditure (NHE). These three aggregates were presented in Figure 2.2.

The equivalent measures for child health expenditure are as follows:

- Total current health expenditure on child health (TCHE-CH). This is the most important estimate as it represents expenditure on core child health activities, goods and services. This total will be comparable with estimates from other countries and with the TCHE from the general NHA.
- Total health expenditure on child health (THE-CH). This represents expenditures on core child health activities, goods and services (i.e. TCHE-CH) plus capital formation for child health. This total will be comparable with estimates from other countries and with the THE from the general NHA.
- National health expenditure on child health (NHE-CH). This total includes THE-CH plus health-related expenditures. These additional components include, for example, expenditure for medical education on child health activities, for research and development on child health, and some aspects of food hygiene and drinking-water control.

A more detailed description of the suggested aggregates and the indicators produced is given in Chapter 5.

3.4   Illustrative examples of child health expenditure

The classification of child health activities is based on the International Classification of Health Accounts, the functional classification of NHA (WHO, 2003). A general list of these activities is presented in Table 3.1 Activities that do not appear in this list can be added, provided that the basic classification scheme is followed.[9] While the one-digit and two-digit codes shown in Table 3.1 are standardized NHA codes and should not be changed, the 3-digit codes are suggestions, and can be adapted to the local policy environment by the national subaccounts team. More explanation is given in Chapter 5.

Table 3.1 Classification of child health functions

ICHA code	Description
HC.1–HC.5	**Personal health services and goods**
HC.1	**Services of curative care (inpatient and outpatient)**
HC.1.1	Inpatient curative care
H C.1.1.1	• *Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and infections, including sepsis*
HC.1.1.2	• *Management of childhood illness – in children aged 29 days to 59 months (e.g. intravenous infusion for severe dehydration; treatment of cerebral malaria; severe malnutrition and severe pneumonia)*
HC.1.1.3	• *Management of children exposed to HIV/AIDS*
HC.1.1.4	• *All other curative inpatient services provided to children aged 0–5 years (e.g. injuries)*
HC.1.2	Day cases of curative care
HC.1.3	Outpatient curative care
HC.1.3.1	• *Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and infections including sepsis*
HC.1.3.2	• *Management of childhood illness – in children aged 29 days to 59 months (e.g. treatment of malaria with antimalarial, malnutrition, pneumonia and diarrhea)*
HC.1.3.3	• *Management of children with symptomatic HIV/AIDS or exposed to HIV/AIDS*
HC.1.3.4	• *All other curative outpatient services provided to children aged 0–5 years*
HC.1.4	Services of curative home care
HC.2	**Services of rehabilitative care**
HC.3	**Services of long-term nursing care**
HC.4	**Ancilliary services to medical care**
HC.5	**Medical goods dispensed to outpatients [a]**

9   A classification scheme should satisfy the following criteria (WHO, 2003):

- It should represent an important, policy-relevant dimension, and should partition the dimension in policy-relevant ways.

- It should partition the dimension in a mutually exclusive and exhaustive way, so that each transaction of interest can be placed in one – and only one – category.

- It should respect and reflect, to the extent possible, existing international standards and conventions.

- It should be feasible to implement using the data available.

ICHA code	Description
HC.5.1	Pharmaceuticals and other medical nondurables
HC.5.1.1	• *Prescribed medicines*
HC.5.1.2	• *Over-the counter medicines*
HC.5.1.3	• *Other medical nondurables*
HC.5.1.4	• *Oral rehydration salts*
HC.5.1.5	• *Breastmilk substitutes for HIV/AIDS-exposed children*
HC.5.1.6	• *Vaccines*
HC.5.1.7	• *Micronutrient supplements given directly to all under five-year-olds (e.g. vitamin A programme, iodized salt etc)*
HC.5.2	• *Therapeutic appliances and other medical durables*
HC.5.2.9	• *Insecticide-treated nets for child health*
HC.6–7	**Collective health services**
HC.6 [b]	**Prevention and public health services**
HC.6.1	Promotion of child health (information, education and communication (IEC), social mobilization)
HC 6.1.1	• *Promotion of breastfeeding, including counselling*
HC 6.1.2	• *Promotion of complementary feeding, including counselling*
HC 6.1.9	• *Other activities aimed at promoting health of children up to the age of 5 years, including general IEC to promote care-seeking, specific IEC for vaccines and other campaigns, promotion of child health days, activities aimed at prevention of injuries and violence, and support to early child development*
HC.6.2.	School health services
HC.6.3.	Prevention of communicable diseases[d]
HC.6.3.1	• *PMTCT*
HC.6.3.2	• *Immunization programme*
HC.6.3.3	• *Water and sanitation activities targeted at eliminating waterborne • disease, when delivered as part of a child survival programme*
HC.6.3. 4	• *Insecticide-treated materials/ insecticide-treated net activities*
HC.6.3.9	• *Other preventive health services provided to children up to the age of 5 years (e.g. deworming)*
HC.6.4.	Prevention of noncommunicable diseases
HC.6.4.1	• *Targeted food fortification*
HC.6.4.2	• *Micronutrient supplementation to malnourished children*
HC.6.4.9	• *Other preventive health services provided to children up to the age of 5 years (e.g. prevention of injuries and violence*

ICHA code	Description
HC.6.6.	Central level management functions for child health
HC.6.6.1.	*Guideline development*
HC.6.6.2.	*In-service training*
	• *In-service training of health centre staff for the delivery of child health services*
	• *In-service training of hospital staff for the delivery of child health services*
	• *Training of community health workers to deliver specific child health activities, such as immunization*
HC.6.6.3	Monitoring and surveillance
HC.7	**Health administration (stewardship) and health insurance**
HC.7.1	General government administration of health (e.g. formulation, coordination, administration and monitoring of child health policies, programmes and plans, preparation of legislation, production and dissemination of information)
HCR.1–HCR.5	**Health-related functions**
HCR.1	Capital formation of health care provider institutions
HCR.2	Education and training of health personnel
	• *Pre-service training for the delivery of child health services*
HCR.3	Research and development in child health
HCR.5	Environmental health
	• General water and sanitation activities, not specifically delivered as part of a child survival programme,
	• Programmes aimed at reducing indoor air pollution

a   HC 5.1 refers to medicines and non durables self-purchased through direct OOP spending or provided to the outpatients through public or other non governmental system. Medical goods and durables purchased for inpatient curative and rehabilitative programmes must be listed under HC,1 and HC.3 respectively and for those under public health programmes should be listed under HC6.

b   Code HC6.5 is occupational health, which is not applicable in the child health subaccount. HC 6.2 is school health services, i.e health services generally delivered within school premises. These should be included only to the extent that they apply to children less than 5 years old.

c   Category HC.6 includes expenditure on services specifically intended to enhance the health status of the population or of specific population subgroups, as distinct from personal medical services, which repair health dysfunction. This category includes the running of collective government programmes to carry out both preventive and curative functions. Much of the expenditure on these services may be incurred by general medical institutions as part of their normal activities. Typical examples are vaccination services, campaigns and some components of malaria programmes.

Table 3.2 Flow of funds from financing sources (FS) to financing agents (HF)

		Financing agent (FS)									
		FS 1 Public Funds			FS 2 Private Funds				FS.3	FS.nsk	
Code	Financing Agent (HF)	FS.1.1.1 Central govt revenue	FS.1.1.2 Regional and munipal government revenue	FS.1.2 Other public funds	FS 2.1.1 Parastatal employer funds	FS 2.1.2 Private employer funds	FS 2.2 Household funds	FS 2.4 Other private funds	Rest of the world funds	Not specified by any kind	Row total
HF .1.1.1	Ministry of Education										
HF .1.1.2	Regional ministries of health										
HF .1.1.3	Other ministries										
HF .1.2	Social security fund										
HF .2.1											
HF .2.5.1	Parastatals										
HF .2.2	Private insurance enterprises (othret than social insurance)										
HF 2.3	Private households out of the pocket payment										
HF 2.4	Non profit institutions										
HF .2.5.1	Private firms and corporations (other that health insurance)										
HF .3	Rest of the world										
HF .nsk	Not specified by any kind										
	Column total (THE-CH)										
HF .4	Financing agents spending on health related items										
	Column total (NHE-CH)										

Source: Author's analysis

Table 3.3 Flow of funds from financing agents (HF) to providers (HP)

		Financing agent (FS)												
		HF .A Public Sector										HF .3 ROW	HF .nsk	
		HF .1.1.1	HF .1.1.2	HF .1.1.3	HF .1.2	HF .2.1	HF .2.5.1	HF .2.2	HF .2.3	HF .2.4	HF .2.5	HF .3	HF .nsk	Total
	Provider	Ministry of Health	Regional ministries of health	Other ministries	Social security fund	Employer insurance programme	Parastatals	Private insurance enterprises (other than social insurance)	Private household out-of-pocket payments	Non-profit institutions	Private firms and corporations (other than health insurance)	Rest of world	Not specified by any kind	Total
HP .1	Hospitals													
HP .3	Providers of ambulatory health care													
HP .3.1	Offices of physicians													
HP .3.2	Offices of dentists													
HP .3.3	Offices of other health practitioners													
HP .3.4	Outpatient care centres													
HP .3.5	Medical and diagnostic laboratories													
HP .3.9.1	Ambulance services													
HP .3.9.2	Blood banks													
HP .3.9.9	All other ambulatory health care services													
HP .4	Retail sale and other providers of medical goods													
HP .4.1	Dispensing chemists													
HP .5	Provision and administration of public health programmes													
HP .6	General health administration and insurance													
HP .nsk	Providers not specified by any kind													
	Total (THE-CH)													
HP .8	Providers of health-related services													
HP .8.1	Research institutions													
HP .8.2	Education and training institutions													
	Subtotal (health-related)													
	Total (NHE-CH)													

Source: Author's analysis

Table 3.4 Flow of funds from financing agents (HF) to functions (HC)

					Financing agent (FS)									
			HF.A Public Sector					HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3 ROW	HF.nsk	
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.1	HF.2.5.1					HF.3	HF.nsk	Total
	Function	Ministry of Health	Regional ministries of health	Other ministries	Social security fund	Employer insurance programme	Parastatals	Private insurance enterprises (other than social insurance)	Private household out-of-pocket payments	Non-profit institutions	Private firms and corporations (other than health insurance)	Rest of world	Not specified by any kind	Total
HC.1	Services of curative care													
HC.1.1	Inpatient curative care													
HC.1.2	Day cases of curative care													
HC.1.3	Outpatient curative care													
HC.1.4	Services of curative home care													
HC.2	Services of rehabilitative care													
HC.3	Services of long-term nursing care													
HC.4	Ancilliary services to health care													
HC.5	Medical goods dispensed to outpatients													
HC.6	Prevention and public health services													
HC.7	Health administration and and health insurance													
	Total (THE-CH)													
HCR.1	Capital formation for health care provider													
HCR.2	Education and training of health personnel													
HCR.3	Research and development in child health													
HCR.5	Environmental health													
	Total (NHE-CH)													

Source: Author's analysis

Chapter 4
Data identification and collection

Before trying to identify the needed data and the best methods for collecting them, it is important to specify the policy questions that it is hoped to answer, and to decide which tables will be produced and how much detail is needed. The team also needs to consider what it is feasible to obtain, given the available resources, and what the trade-offs might be in the information-gathering exercise. Once the initial identification of data and sources is complete, the team should create a data collection plan. The plan will depend on whether the country has already prepared NHA, age-, sex- or disease-specific accounts, or other subaccounts, or if the subaccount is being done as part of the NHA exercise. The team should also determine whether primary data collection is necessary or if data can be extracted from secondary sources. The collection of data may take several months and a good data collection plan will help ensure that the process is carried out in an organized way.

At the time of developing the methodology outlined in this report, child health subaccounts had been prepared in four countries: Bangladesh, Ethiopia, Malawi and Sri Lanka.[10] The description here is based on the different approaches used in the four countries.[11] It is expected that the methodology will be updated over time, in line with updates to the general NHA framework. As the preparation of subaccounts becomes more widespread, the lessons learned should be shared between countries.

4.1 Approaching the data identification process

In preparing child health subaccounts, comprehensive data need to be assembled from all parts of the health care system – public, private, and donor. The time and resources needed for this task will depend on many factors, including: availability of data, access to those data, availability of financing, expertise for surveys (if 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.

This chapter focuses on the specific data collection issues and processes relevant to the child health subaccount. As a general rule, for both NHA and child health subaccounts, every effort should be made to obtain each piece of data from more than one source, i.e. to triangulate the data. For example, when estimating the funds for child health provided by donors to the MoH,

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10 Since then additional countries such as Tanzania have also implemented child health subaccounts.

11 In Bangladesh and Sri Lanka, the team started with the existing NHA estimates of health expenditure, and applied a variety of methods to allocate an appropriate portion to child health. In Ethiopia and Malawi, the subaccounts were prepared in conjunction with the general NHA analysis. The main method of data collection was through NHA questionnaires, which contained a section on total health expenditure and a section on child health expenditure; secondary data were also used.

the team should examine what donors report giving to the MoH and also what the MoH reports receiving from donors.[12] Further descriptions of triangulation and data retrieval are provided in Chapter 6 of the Producers' Guide (WHO, 2003). Understanding the importance of triangulation influences the process of data identification and hence the data collection.

4.1.1 Understanding what you need and why you need it

The starting-point for the data collection process is to understand what data are needed and why. In practical terms, this means identifying who is funding whom and the purpose for which those funds are used. The team should list all known entities – financing agents, financing sources, providers and functions – associated with child health and then map the flow of funds between them (see Figure 4.1). In countries that already have NHA, the team could use the flow of funds developed for the health sector. Generating this map of health expenditure is very useful because it offers a reference point from which data collection can start. For example, Figure 4.1 shows that the regional government revenues are channelled through the regional health bureaus, which then transfer the funds to different providers. In this case, the providers are regional hospitals and private and public primary health care units.

Figure 4.1 Example of a map of the flow of funds for child health

Financing Sources

Financing Intermediaries

Providers

FS. 1.1.1 Central government revenue

FS. 1.1.2 Regional government revenue

FS. 2.1 Private employer funds

FS. 2.2 Household funds

FS. 2.3 Non-profit institutions funds

FS. 3 Rest of the world funds

HF. 1.1.1 Ministry of health

HF. 1.1.2 Ministry of education

HF. 1.1.3 Other ministries

HF. 1.1.2 Regional health bureaus

HF. 2.2 Private insurance enterprises

HF. 2.3 Households' OOP payment

HF. 2.4.1 NGOs

HF. 3 Rest of the world

HP. 1.1.1 Federal hospitals

HP. 1.1.2 Regional hospitals

HP. 1.1.3 Private (for-profit and not-for-profit) hospitals

HP. 3.4.5.1 Public Primary Health Care Units

HP. 3.4.5.2 Private (for-profit and not-for-profit) primary health care units

University and teaching facilities

Pharmacies

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12 If the two sources report a different amount, it is recommended to verify if the sources have an audit document that could back up the data. If one of the sources has such a document, then that source should be privileged over the other. If none, or both sources, have an audit document, then the differences between the two reported amounts should be reconciled by identifying the source of difference, by looking at the methodology used to arrive at those amounts.

Mapping the flow of funds for child health is a good exercise for determining possible data sources for the child health subaccounts, and for identifying areas where double counting could occur if data are collated directly. This also helps the process of triangulation of data.

4.2   Data collection

Once the map of funding flows has been prepared, the team will be able to identify the entities from which data estimates are needed. It is important that the team understands why the different estimates are needed, i.e. how they will inform the NHA tables. Table 4.1 provides a generic listing of entities involved in child health care, the types of child health subaccount-related questions that can be addressed from the data they provide, and the potential sources of the data.

4.2.1 Types of data

The objective of the child health subaccounts is to capture what has been spent on child health, how it has been spent, and to where the funds were directed. The team should make every effort to obtain actual expenditure data and not budget or cost estimates.[13]

In some cases, such expenditure data are not readily available or retrievable from secondary data sources; alternative data will then be needed. Experience has shown that information on child health expenditure can be obtained from surveys of financing agents and intermediaries; alternatively, surveys of providers of child care can give estimates of receipts of funds. It is also useful to obtain unit cost estimates from indicators of expenditure and use, in order to estimate government expenditures that cannot be broken down by specific programme. This process, and other uses of cost and utilization data, are described further in Chapter 5.

The data available to the team for the child health subaccount will determine the different expenditure estimation techniques that must be employed during the analysis phase.

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13 The Producers' Guide (WHO, 2003) recommends using estimates calculated using an accrual methodology rather than a cash-based accounting system. Thus, in addition to actual cash disbursements made during the year of estimation, the team should also include obligated amounts in their expenditure estimate. For example, if health care equipment was obtained in December 2008, but the actual cash transfer did not take place until February 2009, the value of the equipment should still be included in the 2008 estimate.

Table 4.1. Examples of data sources used in the construction of child health subaccounts

Child health care entities[a]	Child health subaccount questions addressed by data estimates from each entity[b]	Potential data sources
Government entities Ministry of Finance, Ministry of Health, and others	• Government as financing source: 　○ To which financing agents does the Ministry of Finance give child health funds and how much? *(FSxHF table)* • Government as financing agent: 　○ From which financing sources do the various ministries (excluding the Ministry of Finance) receive their child health funds? How much is received? *(FSxHF table)* 　○ How do the various ministries (excluding the Ministry of Finance) allocate their child health funds across each type of provider and function? *(HFxHP, HPxHC and HFxHC tables)*	• Budget and expenditure books, audited government accounts, expenditure print-out copies • HIS reports – utilization data by age: outpatient visits, admissions, inpatient days by age, average length of stay by facility type, etc. • Existing unit cost studies by type of intervention or facility • Special survey of selected providers by level of care, region, etc.
Insurance companies and schemes	• Insurance companies as financing agent: 　○ Do insurance schemes offer child health benefits? If so, how much was paid out in the year of estimation? For what services and providers? *(HFxHP, HFxHC and HPxHC tables)*	• Insurer records, preferably by age group • Special national sample survey of firms and corporations • National sample survey of health insurers or census of health insurers
Employers	• Employer as financing source • To whom (such as insurance schemes) do employers give funds that are ultimately used for child health care and how much do they give? *(FSxHF table)* • Employer as financing agent and provider 　○ How much do employers spend on child health in their on-site facilities? *(HFxHP and HFxHC)*	• Existing reports of firms' expenditures on health or use of their health services by age group • Special national sample survey of firms and corporations

a Note that each entity listed can be a financing agent or a financing source or a provider.

b The questions asked to each entity will depend on the entity's role (financing agent, financing source, provider).

Child health care entities[a]	Child health subaccount questions addressed by data estimates from each entity[b]	Potential data sources
NGOs	• NGOs as financing source 　○ Do NGOs serve as financing sources for child health by generating their own revenue locally (e.g. from church groups)? If so, how much is generated in this way? • NGOs as financing agent: 　○ From which financing sources do NGOs receive their child health funds? How much do they receive? *(FSxHF table)* 　○ How do NGOs allocate their funds across each type of provider and function? *(HFxHP, HPxHC and HFxHC tables)*	• Existing NGO reports on health expenditure or use of their services, by age group, etc. • Special national sample survey of NGOs or census of all NGOs involved in financing and delivery of child health services and goods.
Households	• Households as financing agent: 　○ How much do households pay out-of-pocket to various providers for inpatient and outpatient services, including drugs and vaccines? *(FSxHF, HFxHP, HFxHC and HPxHC tables)*	• Existing household health expenditure and utilization reports containing data on expenditure and utilization, by age group e.g. 0–4 years old • Existing household health utilization surveys and databases, by age group, etc. e.g. Demographic and Health Survey • Existing provider records and survey reports • Special household health expenditure and utilization surveys with a special module for child health
Donors	• Donors as financing source: 　○ To which financing agents do donors give their child health funds? How much do they contribute? *(FSxHF table)* • Donors as financing agent: 　○ Do donors transfer their funds directly to providers? If so, to which ones? How much, and for which functions? *(HFxHP, HPxHC, and HFxHC tables)*	• Existing public health expenditure review reports • Existing donor health expenditure/disbursement reports and databases • Special survey of all donors involved in funding child health services and goods • Ministry of Finance or central bank records of funds received from donors, by function

Child health care entities[a]	Child health subaccount questions addressed by data estimates from each entity[b]	Potential data sources
Providers hospitals (HP.1), nursing and residential care facilities (HP.2), providers of ambulatory health care (HP.3), retail sale and other providers of medical goods (HP.4)	• How much does each provider receive from each financing agent? (*HFxHP tables*) • How do providers spend their funds across each function? (*HPxHC table*)	• Existing provider records on health expenditures or use by age • HMIS reports – utilization data by age: outpatient visits, admissions, inpatient days by age, average length of stay by facility type, etc. • Existing unit cost studies by type of intervention or facility • Special national sample survey of selected facilities (1) by ownership: MOH, private not-for-profit, private for-profit; (2) by level of care: health centre, district hospital, central hospital; and (3) by region
Providers of public health programmes (HP.5)	• From which financing agents do the providers of public health programmes receive their funds? How much do they receive? (*HFxHP and HPxHC tables*)	• Budget and expenditure books, audited government Accounts, district accounts • Survey of nongovernmental organizations

Source: Author's analysis

Of course, the ideal situation is to have detailed data on all child health expenditure, including inpatient and outpatient care in public and private hospitals and clinics, and out-of-pocket spending for drugs. Experience to date, however, has shown that this information is not readily available, and primary surveys need to be conducted. Information on out-of-pocket spending, by age group, is available in facilities registers in some countries, e.g. in Malawi, but is not generally compiled as part of the Health Information System national records. In the four countries where child health subaccounts have been prepared (Bangladesh, Ethiopia, Malawi and Sri Lanka), it was necessary to make several assumptions and to use unit cost, utilization data or population data to apportion expenditures. Also, in each of the four countries the child health subaccounts were estimated using the general NHA as a starting-point, and using utilization data to determine, for each financing agent and provider, the proportion of expenditure going to child health. This topic is further developed in Chapter 5.

In the data analysis phase, additional data will be needed to compute key policy indicators for the child health subaccount report. Examples of such additional data include total health expenditure, total general government expenditures, general government health expenditures, numbers of children under five and under one year, number of immunized children, and annual number of deaths among children under five. Chapter 7 presents a detailed list of suggested indicators for which data need to be collected.

4.2.2 Identifying data sources

After identifying all the types of data needed, the next step is to determine where they can be obtained (see also the Producers' Guide (WHO, 2003), Chapters 6 and 7).

Data sources can be divided into two broad categories: primary and secondary sources. The data can be obtained through various methods: sample surveys or census for primary sources, and desk review or internet searches for secondary sources. To minimize costs for the data collection phase and to avoid unnecessary duplication of efforts, the team should first search for secondary sources for all the information listed in Table 4.1. If secondary sources are clearly unavailable or inadequate, primary data should then be collected using child-health-specific surveys and questionnaires.

4.3 Secondary sources

4.3.1 Routine data reports

Financial information. In most low- and middle-income countries, a number of budgets and expenditure reports will be available, e.g. government budgetary records; annual expenditure reports of the Ministry of Health or other ministries; executed financial operations of social security schemes; insurer financial reports and budgets; provider reports and budgets; and annual reports of private companies. For more details on the strengths and weaknesses of these secondary data sources, see Chapter 6 of the Producers' Guide (WHO, 2003).

Table 4.2. Examples of sources of financial information

Health care entity	Secondary data source (existing studies/reports)
Government	Bangladesh
	Annual Government Budget; Government Development Budget
	Ethiopia
	Ministry of Finance and Economic Development executed budget
	Health and health-related Indicators 1997. Planning and Programming Department, Federal Ministry of Health.
	Malawi
	Government budget books
	Sri Lanka
	Electronic records from Sri Lanka NHA phase 3 study

Source: Author's analysis

Non-financial information. The most accessible data source for non-financial information is likely to be the health information system (HIS). At the outset, the team should list the data that are available through the HIS and assess how these data can be used for the child health subaccount. One way of doing this is to analyse the form that the facilities use to report their outpatient and inpatient activities (see Box 4.1 for an example). Examples of the data that should be collected are given in Table 4.3.

Table 4.3. Information needed from the health information system

To inform estimation techniques, particularly when disaggregated expenditure data are not available.	• Use data, e.g. percentage of inpatient admissions, outpatient visits, inpatient days, or hospital discharges attributable to children. These proportions may be used to estimate the amount of general (non-targeted) revenue that is used to deliver child health services. Information on the average length of inpatient stay by patient classification may also be relevant for determining the inpatient expenditures that are attributable to children. • Number of admissions by age group (if information available, broken down by diagnosis) per type of facility. • General expenditure breakdown at facilities between inpatient and outpatient care. The same ratio may be used to disaggregate expenditure at a given facility if functional data are not available. • Health commodity or service unit costs.

Source: Author's analysis

Health information systems can provide helpful data, such as use rates by population group or by types of facility, and sometimes diagnosis or cause of illness data. For example, when information about expenditure for inpatient care in public hospitals is not readily available, the hospital discharge data on number of inpatient-days for children under five can be used to estimate the share of inpatient days that related to child health care. Hospital discharge forms often contain information on the patient's age, sex and length of stay. This information is then condensed into a report that provides figures on average length of inpatient stay by age and sex. From this, it is possible to identify the percentage of hospital discharges that concern children. If the total amount spent on inpatient care at the hospital is known, the same percentage can be applied to give an estimate of total expenditure on inpatient care for children. One limitation of this method is that it assumes that the expenditure for an inpatient stay is the same across age groups and diseases. Estimates can be improved if variations across the diseases and age groups are known.

Other non-financial information that can be useful in allocating expenditures for the child health subaccounts includes the number of tests done in laboratories, the number of operations performed, the number of X-rays done, proportion of staff time spent on pediatric wards, and the number of ambulance trips or mileage clocked for children under 5. For more details on the use of these data in estimating child health expenditures, see Chapter 5.

The level of detail and the quality of data in these systems will differ from country to country; low-income countries may have less developed information systems. In some cases, many data may be collected but not reported. Experience to date indicates that existing country information systems have deficiencies in terms of both the type of data reported and the number of facilities reporting to the central level. One factor that may limit reporting from health facilities is the degree of decentralization of the health care system. In Ethiopia, for example, most data are managed at the regional level and there are no clearly established procedures for transmitting data from the regions to the central level. In this situation, it is necessary to collect data at both the regional level and the central level. If there are a large number of regions in the country, this can be very time-consuming.

Box 4.1. Example of hospital discharge form (Ethiopia)

Report on discharged patients from all hospitals in the region

Diagnosis	Total discharged patients		Total discharged patients by age group						Total length of stay (days)	No. of inpatients by length of stay				No. of deaths
	Male	Female	< 1 year	1–4 years	5–14 years	15–44 years	45–64 years	65+ years		1–2 days	3–7 days	8–14 days	>15 days	

Summary report of discharged patients by department/ward/type of case

Department/Ward/Type of case	No. of beds	Total discharges	Total length of stay in days	No. of deaths	No. referred elsewhere
Medical					
Surgical					
Pediatrics					
Obstetrics-Gynaecology					
Other (specify)					

Source: Author's analysis

While using HIS data may not be perfect, it can provide information on the distribution of expenditure within facilities that have child health services. Reviewing the data provided by the country's health information system will also allow gaps to be identified, as well as areas that could be improved if the child health subaccounts were to be prepared on a regular basis.

4.3.2 Non-routine data reports

Existing reports and databases from non-routine surveys. Examples of non-routine surveys include: Demographic and Health Surveys (DHS); income and expenditure surveys; household health expenditure and use surveys; welfare monitoring surveys; Living Standards Measurement Study (LSMS) household surveys; Multiple Indicator Cluster Surveys (MICS); and general NHA surveys.

Table 4.4 shows some secondary data sources for local non-routine surveys, which were used in the four pilot countries and which can be found in most countries.

Table 4.4. Examples of survey reports available in countries and used for child health subaccounts

Health care entity	Secondary data source (existing studies and reports)

Households	Bangladesh
	  • Household survey
	  • Demographic and Health Survey 1999–2000
	Ethiopia
	  • Household Income, Consumption and Expenditure 1999–2000. Central Statistical Agency.
	  • Welfare Monitoring Survey 2004. Central Statistical Authority.
	  • General NHA study
	Sri Lanka:
	  • Central Bank Consumer Finance Surveys, 1996–97 and 2003–04
	  • Household Health Survey 1991

Providers	Bangladesh
	  • NHA database and NHA report 1999–2001
	Ethiopia:
	  • Essential Services for Health in Ethiopia. *Twelve baseline health surveys.* USAID: Ethiopia, March 2005.
	  • USAID, Pathfinder. *Knowledge, attitudes, and practices in family planning in Amhara, Oromia, SNNPR and Tigray regions of Ethiopia.* June 2005.
	  • General NHA study
	Sri Lanka
	  • Phase 3 of Sri Lanka health accounts electronic database, which codes all covered expenditures by year, source of funds, function, provider and provincial location of spending.

Donors and NGOs	Ethiopia
	  • USAID contraceptive price list
	  • General NHA study

Source: Author's analysis

Table 4.5 provides an overview of some secondary data sources for international and national non-routine survey reports, which can be found in most countries or through the Internet, and many of which were consulted by the child health subaccount teams in the four pilot countries. These sources of information could be vital for triangulation and cross-checking of estimates.

Table 4.5. Examples of international databases for non-routine survey reports

Health care entity targeted by data source	Secondary data source (existing studies and reports)
All	*National health accounts (NHA) website* [www.who.int/nha/en]. This website provides country information (database, focal points, etc.) as well as NHA documents and links to other NHA sites.
Donors	*International development statistics (IDS) online databases on aid and other resource flows* (www.oecd.org/dataoecd/50/17/5037721.htm). These databases cover bilateral and multilateral donors' aid and other resource flows to developing countries and countries in transition. Recently the Institute for health metrics and evaluation has also been updating the data base on development assistance for health : (http://www.healthmetricsandevaluation.org/resources/datasets/2010/dah/dah.html)
Households	For utilization data and, in some cases, expenditure information, the *Demographic and Health Surveys* (www.measuredhs.com) can be a good source of information, particularly for countries with poor information systems and a broad mix (public and private) of provider types. The DHS are nationally representative household surveys with large sample sizes (usually between 5000 and 30 000 households) and have been carried out in over 75 countries. DHS provide data on a wide range of indicators in the areas of population, health, and nutrition. Typically, DHS are conducted every 5 years, to allow comparisons over time. **Interim surveys** with shorter questionnaires are conducted between rounds of DHS. These focus on collecting information on key performance-monitoring indicators. While they are nationally representative, these surveys have smaller samples than the DHS (2000–3000 households). *World Health Surveys* (www.who.int/healthinfo/survey/en/index.html). WHO has developed and implemented a survey programme and a World Health Survey 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 the ability to monitor inputs, functions, and outcomes. Results are currently available for 70 countries. *Living Standards Measurement Study (LSMS)* (www.worldbank.org/lsms). The main objective of LSMS surveys is to collect household data that can be used to assess household welfare, to understand household behaviour, and to evaluate the effect of various government policies on the living conditions of the population. Accordingly, LSMS surveys collect data on many dimensions of household well-being, including consumption, income, savings, employment, health, education, fertility, nutrition, housing and migration *Multiple Indicator Cluster Survey (MICS)* (www.childinfo.org/index2.htm). This is a household survey programme developed by UNICEF to assist countries in filling data gaps for monitoring the situation of children and women. There are three survey questionnaires, which are modular tools that can be customized to the needs of the country. Children's questionnaire (administered to the mother or primary caretaker of a child under 5 years of age): seeks information on the child's characteristics, birth registration and early learning, vitamin A, breastfeeding, treatment of illness, malaria, immunization, and anthropometry, with optional modules for child development, and source and cost of supplies of ORS, antibiotics and antimalarials.

Health care entity targeted by data source	Secondary data source (existing studies and reports)
Households	Household questionnaire: seeks information on household characteristics, education, child labour, water and sanitation, salt iodization, insecticide-treated bednets, and support to children orphaned or made vulnerable by HIV/AIDS, with optional modules on disability, child discipline, security of tenure and durability of housing, source and cost of supplies for ITNs, and maternal mortality.
	Women's questionnaire (administered to women aged between 15 and 49 years): seeks information on the women's characteristics, child mortality, use of tetanus toxoid, maternal and newborn health, marriage/union, contraceptive use, HIV/AIDS knowledge, malaria, polygamy, female genital mutilation, and sexual behaviour.
	Other data sources
	WHO maternal and child health coverage survey
	WHO neonatal and child health profiles
Providers	***Service Provision Assessment (SPA) Survey*** (www.measuredhs.com). Conducted by the group responsible for the DHS (ORC MACRO), this survey includes a nationally representative sample of over 400 facilities and covers all types of health service sites, from hospitals to health posts. Public, private, and faith-based institutions are represented. It aims to obtain information about the health and family planning services available in a country.
	The SPA survey offers a comprehensive assessment of a country's health care services, including costs, availability of services, infrastructure, quality of care, components of care, and data for Improvement . The SPA focuses on 5 key services: (1) child health; (2) maternity and newborn care (3) family planning; (4) sexually transmitted infections (STIs) and other infectious diseases; and (5) HIV/AIDS.
	As of 2010, 15 SPA surveys had been completed in 11 countries: Bangladesh, Egypt, Gautemala, Ghana, Guyana, Kenya, Namibia, Rwanda Uganda, United Republic of Tanzania and Zambia.
	Health facility survey (HFS). This survey evaluates: the quality of care delivered to sick children attending outpatient facilities (using the IMCI clinical guidelines as best practices); caregivers' understanding of home treatment and key messages after visiting these facilities; health system support for quality care; and facility use by sick children.
	Short programme review (SPR). This is a process for reviewing the progress of child health programmes, to assess progress towards programme goals, to identify challenges, and to develop recommendations about what the programme needs to do.
	Routine health information system

Source: Author's analysis

4.4   Primary data sources

4.4.1 Special surveys for the child health subaccount

If secondary data sources are not available or are inadequate, special national sample surveys or censuses of entities involved in financing and providing child health services may be undertaken to collect data for the child health subaccount, as outlined in Table 4.1. These special surveys should use specifically designed questionnaires or modules (Annex 1).

When a child health subaccount is prepared at the same time as the general NHA, specially designed questions or modules can be added to the general NHA questionnaire (as was done in Ethiopia and Malawi). For more details see Annex 2.

4.4.2 Adding rider questions to other planned surveys

Another cost-effective method of obtaining primary data for the child health subaccount is to identify ongoing surveys in the country. The NHA team may be able to negotiate for questions on child health expenditure and programmes to be added to such surveys. This will allow specific data on child health to be collected at little or no extra cost. For more details see Annex 2.

When determining whether to add questions on child health 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 child health spending by the entity of interest? (Not all NGOs may be targeted, for example.) The team should make sure that the sample frame includes the main contributors to child health among the entities surveyed.

- How many questions need to be added in order to determine who spends what, and for which child health services? The team should keep in mind the need to avoid burdensome questionnaires. The goal should be to add as few questions as possible in order to obtain the data needed. Make sure that the questions 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 accounts 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 child health services among households. Alternatively, the survey may collect data on expenditure for a period that does not coincide with that being used for the child health 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. This assumption may not be accurate, particularly for donors.

- What are the workplan and schedule for the survey? Does the schedule allow the team to meet its deadline for producing the child health subaccount? When can the team expect the data set from this survey? This is a critical question for surveys that are not coordinated by the NHA team. If the timeframe of the survey goes beyond that planned for the subaccount, it may be difficult to complete the tables on time and other data may become redundant.

4.4.3 Household surveys: a few considerations

One of the major advantages of the NHA framework is that it includes data on private sector expenditure, in particular household information. In many developing countries, out-of-pocket (OOP) spending for child health care is of particular interest to policy-makers. High out-of-pocket payments can have a major negative effect on the use of health care services, especially for the poor. Thus, it is critical to address the issue of estimating household spending at the beginning of the child health subaccount process. Generally speaking, the 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 out-of-pocket payments can be

linked to the type of service rendered, provider records may be useful data sources. However, such records may not be easily accessible for a number of reasons. Chief among these is the fear by providers that the data could be used for other purposes, such as tax determination. The figures obtained from providers might also be under-reported where unofficial payments are made, which are not recorded.

Thus, the team may need to rely on existing household survey reports for such data. However, these may also have their own shortcomings, such as possible under- or over-reporting of household OOP payments as a result of sample and non-sampling biases. For more information on the strengths and weaknesses of household out-of-pocket surveys, see the Producers' Guide (WHO, 2003), Chapters 6 and 7.

One of the goals of the subaccount analysis is also to estimate the OOP spending on drugs for children, which is important for policy purposes. This might be challenging, since surveys that can provide this type of information are usually done sporadically, or not at all. Nevertheless, it was possible to estimate this spending in Bangladesh using the DHS.

Another challenge is to estimate expenditure on priority interventions. Often a specific survey will be needed to collect such information from the household or patient side. If policy-makers consider such information essential, the data collection should be planned and funded accordingly. This highlights the importance of formulating the policy questions to be addressed by the child health subaccount early in the process.

4.5 Data collection plan

It is useful to develop a data collection plan, including a census of the available data together with an indication of the team member responsible for retrieving each item of data. In some cases, the team will need to develop a strategy for retrieving secondary data that can be obtained only with the intervention of senior policy-makers. Thus, the accessibility of supposedly available data should be assessed early in the subaccount process.

In addition, the plan should list all data collection efforts that may be needed, together with the team focal point for each survey. This person may need to make sure that child health questions are added to ongoing surveys, or to coordinate and implement a specific survey. The process of obtaining the data can often be facilitated by consulting with the NHA steering committee, if one exists or formulating one with important stakeholders including the child health experts (see Chapter 6 for more details).

An example of a data collection plan for secondary sources is given in Table 4.6. This plan was developed for the Kenyan general NHA, and provides a good example of the distribution of team responsibilities, tasks, and deadlines in a data collection process. Similar plans can be drawn up for child health accounts. For each data source identified (first column), a person from the NHA team is designated as responsible for obtaining the data (second column). The third column lists the person to contact to obtain the data. Finally, a deadline for obtaining the data is given in the fourth column.

Table 4.6. Kenyan NHA data collection plan for secondary sources

Data source	NHA team member responsible for obtaining the data	Person to contact to obtain information	Deadline for collection of data
Government records			
MoH executed budgets or expenditure returns	Assistant Secretary, Finance Department, MoH Economist, Department of Planning, MoH	No need to contact 3rd party	1-Oct-02
Expenditure returns, other ministries (incl. environment, defence, local government, home affairs)	Assistant Secretary, Finance Department, MoH Economist, Department of Planning, MoH	Relevant staff of each Ministry	15-Nov-02
Public expenditure review (PER), MOH	Economist, Department of Planning, MoH	No need to contact 3rd party	1-Oct-02
HMIS annual report	Head Officer, HMIS	No need to contact 3rd party	1-Mar-03
Annual Ministry of Health Programme Managers Report (for example, HIV, tuberculosis, EPI, reproductive health, IMCI, nutrition, and others)	Deputy Programme Manager, National AIDS Control Programme, MoH Programme Officer, National Tuberculosis Programme, MoH	No need to contact 3rd party	1-Mar-03
Import-export records, Ministry of Finance	Economist	Revenue authority commissioner	1-Feb-03
Other public records			
District poverty reduction report	Economist, Department of Planning, MoH Economist, Department of Planning, MoH	No need to contact 3rd party	15-Oct-02
Human Development Report, UNDP	UNDP representative	No need to contact 3rd party	1-Oct-02
Tuberculosis and Poverty report	Programme Officer, National Tuberculosis Programme, MoH	No need to contact 3rd party	1-Nov-02
Wealth index	Economist, Department of Planning, MoH	No need to contact 3rd party	15-Oct-02
Donor mapping report, activity expenditures	Economist, Department of Planning, MoH	Health Reform Secretariat (principal contact); USAID officer	15-Oct-02
Insurer records			
National Hospital Insurance Fund (NHIF) annual report	Health Economist, Department of Planning, MoH	Managing Director, NHIF	15-Oct-02
Parastatals			
Statement of accounts	Economist, Department of Planning, MoH Economist, Department of Planning, MoH	Parastatal Inspectorate or Department	31-Oct-02

Data source	NHA team member responsible for obtaining the data	Person to contact to obtain information	Deadline for collection of data
Provider records			
Financial statements of private hospitals	Director, Department of Planning, MoH	National Association of Hospitals	30-Nov-02
Records from medical licensing board (doctors, dentists, nursing, pharmacists, clinical officers, etc), MoH	Deputy Programme Manager, National AIDS Control Programme MoH, for medical and dentists' boards Head Officer, HMIS, for nursing, pharmacists', clinical officers' boards	Relevant heads of licensing boards	30-Nov-02
HMIS computer	Head Officer, HMIS	No need to contact 3rd party	1-Mar-03
Household records			
Demographic and Health Survey	Head Officer, HMIS	No need to contact 3rd party	1-Oct-02
Welfare and income report	Economist, Department of Planning, MoH	No need to contact 3rd party	15-Oct-02
MICS	Economist, Department of Planning, MoH	No need to contact 3rd party	15-Oct-02
Industry reports			
Directory of industries	Department of Commerce	No need to contact 3rd party	15-Oct-02
Donor reports			
World Development Indicator, World Bank	Senior HIV/AIDS Technical Advisor	No need to contact 3rd party	15-Oct-02
Donor mapping report	Economist, Department of Planning, MoH	Health Reform Secretariat	15-Oct-02
UNAIDS annual report	Senior HIV/AIDS Technical Advisor	No need to contact 3rd party	15-Oct-02

Source: Author's analysis

The Producers' Guide (WHO, 2003, 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. The following aspects should be evaluated:

- Year of estimation
  - Does it coincide with the year of estimation for the child health subaccount?
- Scope of information provided
  - What types of child health services are reported on?

- ○ What do the services include?
- ○ Are the data for the national level or the regional level?
- Validity and reliability of the data
  - ○ How were data collected?
  - ○ What was the sample size?
  - ○ What was the sample design, response rate, etc.?
- Level of detail
  - ○ Can the data be sufficiently disaggregated to inform the child health classification list developed by the country? If an expenditure estimate is reported for "maternal and child health services" for example, can the portion that relates solely to children be extracted (see Chapter 5 for proposed estimation methods for dealing with such issues).

The degree to which secondary data are available, accessible, and useful will vary from country to country. Often, secondary data may not exist or, if they exist, may not be readily accessible. For example, a potentially useful DHS dataset may be held by the National Bureau of Statistics, but the Bureau may not be able to share the dataset without the approval of all the appropriate political authorities. Obtaining the approvals can take a considerable amount of time and effort by the team. Worse, regulations may specifically prevent the Bureau from sharing the dataset.

Even when a potentially useful dataset is obtained, it may not be usable for the child health subaccounts because the sample size was too small, or the results were of poor quality. Experience has shown that, when information is not readily available, a first estimate may have to be based on many creative estimation techniques (some of which will be discussed in Chapter 5) that piece together a variety of data, including cost, use and import/export records. In such circumstances, teams should be prepared to make a lot of investigative efforts. It should also be remembered that all the data sources, assumptions and methodology should be recorded and documented for future reference.

The challenges and difficulties faced during the first round of child health subaccounts may seem formidable. However, if the process is thoroughly documented, weaknesses in information systems identified (and resolved), and awareness raised regarding surveys where questions about child health expenditure could be added, data converted to easily understood electronic records, subsequent estimations will be much easier to produce. It is useful to remember that a child health subaccount is not intended as a one-time event, but rather as a process that seeks to sustain or institutionalize the estimation of health expenditures for policy purposes.

4.6 Summary

The data collection process depends critically 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 child health subaccounts. Therefore, the team should examine all non-primary data collection options before embarking on specific surveys. Furthermore, if child health subaccounts are prepared as part of the NHA in the country, it will be easier to institutionalize the subaccounts process, so that child health expenditure estimates can be obtained on a routine basis with little added cost or extra effort.

Chapter 5
Data analysis

This chapter builds on the recommendations in Chapters 9–13 of the Producers' Guide (WHO, 2003), focusing on child-health-specific issues that may arise during data analysis. The strategies suggested for dealing with these issues have grown out of discussions with NHA experts and child health programme managers, and draw on country experiences in preparing child health subaccounts.

As mentioned earlier, preparing child health subaccounts as part of an NHA process makes the analysis stage considerably easier. Once data have been gathered from the various sources, the data should be thoroughly reviewed and assembled to give a clear picture of funding flows for child health. Inevitably during this process, the team will have to deal with a number of data conflicts and gaps that will require further scrutiny and possibly use of alternative estimation techniques.

The main objectives of the data analysis stage are to:

- populate at least the four basic NHA tables on child health expenditures for the years studied:
  - FSxHF table
  - HFxHP table
  - HFxHC table
  - HPxHC table
- compute critical policy indicators for the subaccount report and for stakeholders.[14]

5.1   Getting organized: what is needed?

Data analysis can be a long drawn-out process, especially if the right data are not available. 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 child health subaccount. The key types of data and information, classified by purpose of use, are listed in Table 5.1. If possible, countries should develop a database or data repository of health expenditure information, coded to identify how child health expenditures are envisioned to flow through the system.

The analysis stage can be expedited if the template for the tables has already been created or is available from a previous NHA exercise .This template, which can be created in Excel or other similar software, should incorporate: (1) country-adapted classifications in the row and

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14 The list of proposed indicators is shown in Chapter 7.

column headings (see Chapter 3); (2) formulas for summation of columns and rows; (3) links between tables to cross-check that the sums of rows and columns in the different tables are consistent; and (4) links to a child health indicator sheet, so that policy indicators and charts can be automatically generated from the estimates in the tables.

Table 5.1. Information needed for data analysis

Purpose of needed information	Examples of the types of data needed
To populate the four main tables on child health expenditures	• Clean datasets on health expenditure from surveys, preferably with age and programme breakdown • General NHA data or reports • Secondary data (as listed in the data collection plan), such as the Ministry of Health's financial records for the year of estimation. • Health expenditure database from government expenditure budgets or financial accounting systems, insurance agencies and other secondary sources, with codes identifying services, products and equipment targeted to child health
To weight the non-targeted expenditures for child health	• Data on utilization, such as number of admissions, discharges, inpatient days, outpatient visits, laboratory tests, operations performed, X-rays done, staff-hours, ambulance trips or mileage, for children under 5. • The number of insurance payments made for children under 5, or the number of children registered in the health insurance database. • Information from different sources can be combined as allocation keys for health expenditures that cannot be directly linked to child health
To weight primary datasets to national level	NHA-related surveys may have targeted a sample of the universe for a given 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 NGOs that contribute to child health relative to total NGOs involved in the health sector (to weight NGO datasets). Note that the sampling method used for NGO selection would determine the weights. • weighting methods used for the sampling procedures for surveys of facilities.
To convert currencies	• Average official exchange rate (for the year) from donor-reported currencies to local currency (to convert donor disbursements into local currency) • Average official exchange rate (for the year) from local currency to US$ (for comparison with other countries) • International dollar rate to achieve purchasing power parity (for comparison with other countries)
To adjust datasets with earlier or later time frames to year of estimation	• GDP deflator, consumer price index, or medical inflation rates (when available)[15] • Population growth rates

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15 GDP deflator is the price deflator for gross domestic product. It is used to adjust for increases in GDP due to price inflation and to calculate the real value of the GDP. A consumer price index (CPI) measures changes through time in the price level of consumer goods and services purchased by households. Medical inflation rates are the inflation rates that are linked to purchase of medical goods and services.

Purpose of needed information	Examples of the types of data needed
To compute key policy indicators and to use these macro series as control series to estimate trend values	• GDP • Total population • Number of children under five years • Total government expenditure • Total household private consumption expenditure • Total government health expenditure • Total donor commitments, disbursements and expenditure • Total out-of-pocket spending on health
To verify expenditure estimates	• Existing cost and utilization studies • Cost recovery data • Other studies on national or subnational child health expenditures (e.g. at selected providers)

Source: Author's analysis

It is useful to link the subaccount tables to the general NHA tables in order to determine the proportion of overall health expenditure going to child health. The computation of key policy indicators to be used as macro level control series can serve as a gauge for assessing the interim child health estimates produced. For example, is an institution, such as a bilateral donor or NGO, reporting greater expenditures on child health than on overall health? Is the out-of-pocket spending on medicines for child health a reasonable proportion of general health spending? If the subaccount expenditures are equivalent to or larger than total general health expenditures, the team will need to look for more evidence and revise the child health estimates.

It may be useful to maintain the general NHA database in electronic form, with codes for all expenditures by year, source of funds, function, provider and location. Age categories can then be introduced in this database to aggregate expenditures targeted at child health, and algorithms can be used to apportion other targeted expenditures, as well as general non-targeted expenditures, to child health for each record in the database. This method was used for the child health subaccounts in Bangladesh and Sri Lanka.

Depending on the availability of information, two approaches are suggested, both of which have been used in the four countries that have prepared child health subaccounts:

1. *When detailed information is available and activities are specific to child health*. When resources are exclusively devoted to child health, detailed information is likely to be available, e.g. expenditure in paediatric wards will be specific for child health. In such cases, expenditures may be estimated by aggregating them from the bottom up, but including only those that are for children under 5. This method should be used whenever possible. More details on this are available below in section 5.3.1.

2. *When detailed information is not available or the expenditures are not specific to child health*. This is often the case when activities are shared with other programmes, such as inputs for general service delivery. In this situation, specific rules can be used to assess the share that can be allocated to the child health account. This method can be considered a top-down (allocation) approach to child health.

Algorithms for allocating general expenditures (method 2) should be based on a combination of the following processes (depending on the availability of data):

1. Identify spending areas, such as inpatient care, outpatient care, pharmaceuticals, laboratory tests, etc.

2. For inputs that cannot be directly related to child health, use algorithms based on patient activity and disease conditions. For example, if total government expenditure on laboratory tests is available, and no fee is paid by patients, then the proportion of laboratory tests done for children under 5 can be used to estimate the proportion of government laboratory expenditures going to child health (see section 5.3 for more details).

3. A survey or secondary source may provide data on the unit cost of providing care at every visit for a specific condition for children. For example, if the average cost of a child consultation for malaria is known (P), then the number of malaria consultations for children under 5 (Q) can be used to find the total expenditure for malaria consultations (P x Q) (see section 5.3 for more details). The unit costs used should be for the same period as the expenditure figures being tracked.

In some cases, age-specific accounts may be available, which can be used to develop child health accounts. As explained in section 2.2.2, child health accounts include some programme interventions delivered to the mother or the general population, with the aim of promoting good feeding practices for infants and children. It is therefore important to identify and add these other expenditures, which may not be captured under the 0–5 years age category, but which are considered child health expenditures from a programme viewpoint.

If an age breakdown of total health expenditure is available, it can also provide important checks and allocation rules to identify child health expenditures. Allocation of non targeted expenditures is also discussed below in section 5.3.2.

5.2 Conducting the analysis

The initial phase of the analysis involves two steps: (1) tallying the national annual amounts received and spent by each principal health care entity in accordance with NHA classifications (essentially through T-accounts), and (2) populating the tables.

5.2.1 Step 1: creating a T-account

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 quite 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 (see Table 5.2 for an example of a T-account).

The team should capture only revenue that was spent during the year of estimation.[16] In creating T-accounts, the team should map each type of expenditure to the appropriate NHA classification.

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16 As mentioned in Chapter 4, it is generally suggested that NHA use the accrual method, in which expenditures are attributed to the time period during which the economic value was created, rather than the cash method, in which expenditures are registered when the actual cash disbursement took place. However, in practice, health accounts often use cash-based methods, particularly for government spending, as a pragmatic compromise.

Table 5.2. Example of a T-account for child health expenditure by a local NGO, Malawi, 2004–05

Expenditure (Malawi Kwacha, thousands)		Revenue (Malawi Kwacha, thousands)	
Inpatient curative care	91 406	External organizations	154 674
Outpatient curative care	30 469		
Prevention and public health services	32 799		
Total	**154 674**	**Total**	**154 674**

Source: Author's analysis

When starting the T-account process, it is recommended that teams begin with the main financing agents, where there may be more detail on child health expenditure. For example, Ministry of Health or NGO expenditures targeted to activities for child health are more clearly identifiable than non-targeted expenditures. Similarly, out-of-pocket spending, as estimated through surveys, may be available for specific age groups, including children.

5.2.2 Step 2: populating the tables

Once the individual T-account summaries have been completed for each entity, the next step is to populate the child health subaccount tables. This step involves triangulating data estimates, resolving data conflicts and data gaps, and avoiding double counting. Triangulation is useful for verifying data estimates.[17] 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. 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?
- Do all data sets measure the same concept? For example, donors report commitments or disbursements while NGOs and Ministries of Health may report expenditure.[18]

Because data can be obtained from both the source and the recipient of the funds, care must be taken to avoid double counting. This occurs when the same piece of information is captured in more than one data source. For example, households in a survey often report their entire out-of-pocket spending, inclusive of the amounts reimbursed by their employers. In this case, care must be taken to avoid counting this reimbursed amount under both employers and households. (See the Producers' Guide (WHO, 2003, Chapters 8–13) for more examples of potential double counting.)

There are several issues for the team to consider when faced with a lack of data while populating the matrices. If a data gap corresponds to a transaction that is of significant policy interest or answers a key policy question, then it is important to estimate these figures. Otherwise, it may

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17 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.

18 The Producers' Guide (WHO, 2003), 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.

be advisable to leave the cell blank, since the transaction will still be recorded in the "other" category. The team should also consider whether the benefit of filling the cell is worth the effort, weighing the "time versus quality" trade-off. Subaccount data need to be produced in a timely fashion so that they can inform the policy process.

Once the HFxHP and HFxHC tables have been generated (see section 3.3.1), it is relatively easy to work upstream and complete the HPxHC table and the FSxHF table.

5.2.3 Step 3: review and documentation

Finally, an important tip is simply to step back from time to time and look at the findings to see whether or not they seem reasonable. Once all the information has been entered in all relevant tables, a number of basic cross-checks should be undertaken to understand where data are missing and where there are duplications. When looking more closely at the tables, the team might find, for example, that certain basic ratios – such as expenditure for inpatient care in child health as a proportion of total expenditure for inpatient care – seem unlikely. This could be because of errors in the data, or in data entry into the tables, or missing data. These discrepancies should be reviewed. All entries should be double-checked as often as the team thinks necessary.

Of paramount importance during the analysis 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 country NHA and subaccount preparation efforts.

A more detailed description of the general approach to data analysis is given in the Producers' Guide (WHO, 2003, Chapters 10–13).

5.3   Estimating expenditures for child health subaccounts

The issues discussed in this section illustrate some of the major challenges of data analysis for child health subaccounts, drawing on country experiences to date. Country information systems are not always set up to report expenditures on specific programmes, age groups or diseases. Health resources are often shared, rather than being allocated to a single programme area. This section provides guidance on methods that can be used to extract child health expenditures from overall health expenditures in national health accounts, or to identify categories that can be specifically allocated to a single programme area (see Annexes 3, 4 and 5).

5.3.1 Targeted expenditure

Targeted funds for child health can be classified in two categories:

1. Targeted funds for 0–5-year-olds. These expenditures can be identified as being for child health directly from primary and secondary data sources. They are generally programme expenditures incurred by major child health financing agents (or sources in some cases), such as the Ministry of Health, NGOs, and donors, which may have an entire project dedicated to child health (e.g. an immunization programme). In addition, household out-

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19 The Baby-Friendly Hospital Initiative (BFHI), launched in 1991 by UNICEF and WHO, seeks to ensure that all maternity clinics, whether free-standing or in a hospital, become centres of breastfeeding support. A maternity facility is designated baby-friendly if it does not accept free or low-cost breastmilk substitutes, feeding bottles or teats, and has implemented 10 specific steps to support successful breastfeeding. For more information see WHO, 1989.

of-pocket spending may be specifically targeted to a child health care service. Expenditure on baby-friendly hospitals may be fully allocated to the child health subaccounts, since the primary purpose of this initiative is to ensure support for breastfeeding.[19]

2. Targeted funds for multiple conditions or age groups (but with a focus on child health). Some activities primarily aimed at improving child health may be managed as part of a programme serving multiple age groups, conditions, diseases, or areas of intervention. Child health expenditure is often an important part of these programmes, but cannot be extracted directly. Expenditure on child health will often be part of reproductive health programmes, maternal and child health units, and programmes such as those dealing with malaria, HIV/AIDS, and malnutrition. Child health programmes may also be included in general disease prevention and public health strategies.

Reported expenditures often encompass broad categories. Traditional accounting methods require that each transaction should be reported only once, i.e. the total amount of a transaction, which may extend beyond the targeted boundaries, should be allocated to its principal purpose., that is , the measurement of child health expenditures should aim to capture only the amount actually spent on activities aimed at improving, restoring or maintaining the health of children under five. This may mean, on occasion, breaking down groups of transactions to estimate the child health proportion of integrated expenditures. As an example, for PMTCT, some of the expenditures should be included in the child health subaccount, while another part should be counted as expenditure for mothers and included in the reproductive health subaccount (see section 2.2.2 and Table 2.1 (WHO, 2009)).

When will such allocation be necessary and when can the full amount be included in the child health subaccount? In making this decision, the first step is to investigate the nature of the programme; more details on the types of service rendered may be gained from talking to key informants or by reading project reports, searching the Internet or looking for other secondary sources. As noted above, expenditure of integrated programmes should be disaggregated only when the child health portion is expected to be sizable and excluding it would be likely to lead to a significant underestimate. It is also worth considering the 2% rule, i.e. if the expenditure under consideration is expected to be less than 2% of the total child health expenditure and is not of policy interest, it can be excluded from the estimation. Any allocation of programme expenditures to child health should be based on clear allocation factors.

In the four countries where child health subaccounts have been prepared, a combination of the following factors was used when apportioning expenditures for child health:

● service use by age group;
● percentage of population under five;
● percentage of personnel in a unit working on child health;
● expert opinion.

Note that apportioning a percentage of funds to child health from a total transaction amount should be done only when:

● the child health share is thought to be significant;
● the spending is relevant from the perspective of child survival; and
● the inclusion of the entire integrated transaction would be a gross overestimate.

Apportioning without clear guidelines and scientific methods should be kept to a minimum, to limit the production of "guesstimates". The allocation ratios and decisions used in estimating child health funding will differ from country to country, depending on available data and the country context. In any case, evidence should be sought and documented to disentangle the child health expenditure component from these programme expenditures.

Box 5.1 gives some concrete examples of the apportioning rules used in the countries where child health subaccounts have been prepared. Annexes 3 and 4 give further details on the allocation rules used in Bangladesh and Sri Lanka.

5.3.2 Non-targeted expenditures for child health

Non-targeted expenditure refers to general health system investments that are not specific to child health. Expenditure on service delivery (e.g. inpatient and outpatient care delivered at hospitals, health centres, clinics, etc.) aimed at patients of all ages will include some spending on child health. Information on such spending is likely to be available only for gross expenditure items, so apportioning rules need to be applied to include the appropriate percentage of these expenditures in the child health subaccounts.

For example, the salaries of doctors and nurses are the major expenditure items at the provider level; but how much of these should be allocated to child health?

In many low- and middle-income countries, expenditures are reported in line with the organization of financing, service provision, and programme delivery. In apportioning expenditures, the first step should be to identify at what level apportioning should be done. As an example, Table 5.3 shows how health expenditure is reported and organized for the Ministry of Health in Malawi.

Table 5.3 Expenditure for the Ministry of Health in Malawi

Cost centre (name of facility/ level of care)	Programme	Subprogramme	2002–03 APPROVED ESTIMATES (MK)	2002–03 ACTUAL (MK)
02 Queen Elizabeth Central Hospital	10. Tertiary Curative Services	01 Building/equipment provision and maintenance		
		• Personal emoluments and benefits	200 220	3 307 828
		• Other recurrent transactions	6 361 810	3 330 812
		21 Internal travel	0	0
		24 Office supplies and expenses	1 345 450	1 079 134
		25 Medical supplies and expenses	1 484 861	1 347 289
		28 Training expenses	46 835	17 300
		33 Other goods and services	3 400	3 400
		41 Formation of and maintenance of capital assets	3 481 264	883 689
		Subprogramme total	6 562 030	6 638 640

Cost centre (name of facility/ level of care)	Programme	Subprogramme	2002–03 APRROVED ESTIMATES (MK)	2002–03 ACTUAL (MK)
		02 Inpatient services		
		• Personal emoluments and benefits	71 604 306	70 985 078
		• Other recurrent transactions	10 780 110	10 093 120
		21 Internal travel	0	0
		24 Office supplies	9 511 050	9 431 140
		28 Training expenses	117 560	113 480
		33 Other goods and services	1 151 500	548 500
		Subprogramme total	82 384 416	81 078 197
		03 Outpatient services		
		• Personal emoluments and benefits	4 987 740	4 987 740
		• Other recurrent transactions	1 797 835	1 797 835
		21 Internal Travel	896 480	896 480
		24 Office supplies	603 905	603 905
		28 Training Expenses	228 250	228 250
		33 Other Goods and Services	69 200	69 200
		Subprogramme total	6 785 575	6 785 575
		04 Patient care technical services		
		• Personal emoluments and benefits	9 687 778	9 270 445
		• Other recurrent transactions	3 939 087	3 955 636
		21 Internal travel	96 600	89 600
		24 Office supplies	1 552 397	1 387 526
		25 Medical supplies	2 069 780	2 292 291
		28 Training expenses	109 610	75 410
		33 Other goods and services	110 700	110 700
		Sub-Programme: Total	13 626 865	13 226 081

Cost centre (name of facility/ level of care)	Programme	Subprogramme	2002–03 APRROVED ESTIMATES (MK)	2002–03 ACTUAL (MK)
		05 Patient care general support services		
		• Personal emoluments and benefits	4 820 445	4 820 445
		• Other recurrent transactions	93 294 009	187 878 640
		21 Internal travel	1 676 691	1 178 047
		23 Public utilities	102 360	3 510
		24 Office supplies	1 573 172	1 538 244
		25 Medical supplies and expenses	75 151 196	170 805 721
		28 Training expenses	114 690	112 750
		30 Insurance expenses	25 000	0
		32 Food and ration	14 591 900	14 181 368
		33 Other goods and services	48 000	48 000
		41 Formation and maintenance of capital assets	11 000	11 000
		Subprogramme: Total	98 114 454	187 878 640
		06 Hospital services management		
		• Personal emoluments and benefits	2 969 092	1 858 238
		• Other recurrent transactions	39 845 815	36 090 939
		21 Internal travel	4 341 535	3 437 972
		23 Public utilities	31 380 000	28 605 039
		24 Office supplies	3 401 390	3 401 390
		28 Training expenses	276 890	202 996
		33 Other goods and services	346 000	343 542
		41 Formation and maintenance of capital assets	100 000	100 000
		Subprogramme: Total	42 814 907	37 949 177
	Programme total		**250 288 247**	**338 376 755**

The table shows that total general health expenditure at the central hospital (Queen Elizabeth) was MK338.4 million in the financial year 2002–03. It is clear from this table that total health expenditures at this facility could easily be distributed by function (inpatient and outpatient health care). It is also evident that data are not disaggregated enough to identify child health expenditures. If these expenditures cannot be obtained from facility records (e.g. for paediatric wards), it will be necessary to use alternative techniques.

There are some simple methods that can be used. For example, diagnosis-related groups (DRGs) or International Classification of Diseases (ICD) can be used when available.[20] In many situations, however, the available data will be limited, including for DRGs or ICDs. The following data and methods can then be used to estimate overall personal care expenditures and, more specifically, inpatient and outpatient expenditure from each provider for child health.

(1) The number of inpatient admissions, outpatient visits, laboratory tests and radiology examinations for children under five (including essential care of newborns), obtained through the hospital information system.

(2) Provider and household surveys; expenditures in cost centres can be linked to information about use of health services for children under 5 in household and patient surveys. Direct expenditures for children can be identified by spending category, e.g. drugs, other consumables and non-consumables.

(3) Costing studies derived from expenditures on child health services.

(4) Billing records for out-of-pocket payments for hospital discharges and outpatient consultations.

If the only data available are records of the number of inpatient admissions and outpatient visits, then the proportion of these visits that are for children under five can be calculated. However, applying these percentages to overall expenditures for a provider assumes that the costs of each outpatient consultation and each inpatient admission are the same for different age groups. This may be a reasonable assumption for outpatient consultations, if the cost is driven mainly by staff time, and if the time spent on each client is not expected to vary substantially. However, the assumption may not hold true for inpatient admissions.

For inpatient curative care, available measures for activity are inpatient admissions, persons treated, completed episodes or inpatient days. The least distorting measure is inpatient days, which has been found to be most useful for international comparisons.[21] It is, however, advisable to refine and weight the percentages with additional data, if possible.

1.   When data are available only on admissions, these can be weighted by average length of inpatient stay (by ward, type of disease or condition, or age group).

2.   Number of inpatient days can be weighted by input, using information on size (number of beds, number of personnel) or cost of wards (e.g. paediatric ward), relative to the overall size or cost of the hospital, and in comparison with other wards.

3.   Data from other studies on the cost of child health services relative to the overall cost of services can be used.

4.   Prices obtained from private sector facilities, insurance records or household surveys can be used, if available.

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20 Non-targeted spending can be estimated in countries where providers are reimbursed according to diagnosis-related groups (DRGs) or where hospitals record discharges in line with the International Classification of Diseases (ICD). DRGs are a classification system used to group patients according to their medical diagnosis and their use of hospital resources. The ICD is a classification of diseases and other health problems, and is used in many health and vital records, including death certificates and hospital records.

21 See IGSP/CRP (2003)

Box 5.2 outlines how inpatient and outpatient care expenditure for child health has been estimated in different countries.

Box 5.2. Estimation of child health inpatient and outpatient curative care expenditures from general health expenditures

The number of outpatient visits for children under 5 in public facilities as a percentage of total outpatient visits ranged from 19% in Ethiopia to about 30% in Rwanda. Data for inpatient admissions indicated that 33% in Kenya and 32% in Ethiopia were for children under 5.

In Malawi, an allocation factor for outpatient child health services was estimated using the number of visits for children at all providers related to acute respiratory infection (ARI), malaria, pneumonia and diarrhoeal diseases as a proportion of total outpatient visits for all ages. This factor was then multiplied by total outpatient expenditure across all types of providers.

In Bangladesh, unit costs of services for inpatient and outpatient care were based on actual expenditures derived from the cost accounting system and utilization data from the Bangladesh health facility efficiency study of 1997. A step-down procedure was used to allocate expenditures to inpatient and outpatient care by major line items. While doctors and nurses salaries were allocated on the basis of the allocation of time between outpatient and inpatient duties, distribution of drugs was based on the value of drugs actually distributed from the facilities' store. The Demographic and Health Survey for 1999–2000 gave further information on inpatient and outpatient use by provider and age group. This was used to allocate the inpatient and outpatient expenditures for child health. Public sector inpatient expenditure was distributed according to distribution of utilization, measured in terms of inpatient admissions. Annex 3 contains detailed lists of the apportioning rules used in Bangladesh and Sri Lanka for estimating child health expenditures. Private sector inpatient expenditure was distributed according to distribution of out-of-pocket payments, which included operation charges, rental fees and accompanying persons' food and other expenses.

In Ethiopia, facility expenditures such as salaries, other operational costs and capital formation, that were not specifically recorded as child health or other health programmes were disaggregated using the ratio of utilization figures from the health and health-related indicators. For curative care, the ratio of utilization of child health services to the total health services utilization was applied: 32% for inpatient care and 19.7% for outpatient care. For capital formation, the ratio of child health curative care to total curative care (25%) was applied.

Source: Author's analysis

What can be done if information is not available by function for all types of providers? The data may show, for example, the amount of funds provided by NGOs to public hospitals, but not the breakdown of those funds across NHA functions. In such cases, the team may need to use the breakdown found for general health expenditure at that provider. For example, it may be known from the health information system (HIS) that 70% of expenditure in public hospitals is for inpatient care and 30% for outpatient care. The same split of funds can be assumed for the amount given by NGOs as financing agents to public hospitals; the assumption should be clearly documented.

If cost data are available, the inpatient allocation factor can be derived from a combination of cost data (PHRplus, 2002a, 2002b) and utilization data, as follows:

$$\frac{\text{Average cost per inpatient day for a child-health-related service at public hospitals} \; \mathbf{X} \; \text{Number of inpatient days for child health care at public hospitals}}{\text{Average cost overall per inpatient day at public hospitals} \; \mathbf{X} \; \text{Number of inpatient days for all care at public hospitals}} = \text{Z (percentage of overall inpatient expenditure used for child health care)}$$

The derived allocation factor, Z%, is then applied to the public or private provider spending on all inpatient care, as shown in Table 5.4. In this example, the Ministry of Health, through the public hospitals, spent US$100 on inpatient care for general health. The proportion of this expenditure going to child health is then Z% x 100.

Table 5.4. Contribution of financing agents to non-targeted spending on inpatient care for child health

Public hospitals	Financing agents	
	HF. 1.1.1.1 Ministry of Health	**HF.2.4 Non-profit institutions serving households (NPISH)/ NGOs**
HC.1.3 General inpatient expenditure *(taken from the general HFxHC table)*	100	100
HC.1.3 CH non-targeted inpatient expenditure	Z% x 100	Z% x 100

Source: Author's analysis

Data from the general NHA on the percentage contribution of each financing agent to providers (HFxHPxHC) can be used to determine how much the different financing agents contribute to non-targeted spending for child health. For example, if 60% of non-targeted Ministry of Health expenditure on health goes to public hospitals and 40% to health centres, the same percentage distribution can be assumed for child health expenditure. Note that the percentage is derived separately for each provider type. Similarly, to trace non-targeted spending back to the financing source level, the proportional breakdown found in the general NHA FSxHF table can be applied to the financing agents that contribute to non-targeted spending. For example, if the MoH receives 70% of its non-targeted health funds from the Ministry of Finance and 30% from donors, the same percentages can be used for child health if specific information is not available.

Accounting for surveillance activities that target multiple conditions (e.g. expenditure on the basic health information system)

It may be appropriate to apportion a share of expenditures of surveillance programmes to child health. It should first be determined whether extracting the child health share is relevant for policy purposes in the national context. In many countries, for example, the immunization surveillance system is a separate entity within the health information system. In this case, tracking the expenditure on immunization is straightforward. However, in the case of general surveillance, such information may not be readily available. The total expenditure for maintaining the health information system may be measured and a proportion allocated to child health. Efforts should be made to obtain information that can be used for allocation purposes, for example, the number of health personnel who treat children under five (including the staff who take care of newborn babies) or the number of beds or hospital wards for treating children under five. Depending on the policy environment of the country, the team may decide not to allocate the health information system costs, but rather to present them as a whole.

5.3.3 Capital expenditure

As shown in Table 3.1, in addition to direct and indirect spending on health care for children, the child health subaccount includes overall health system costs. Numbers reported under HC and HCR categories, such as capital formation, may be child-health-specific or may be a proportion of shared spending.

One of the main policy purposes of preparing child health subaccounts is to be able to report expenditure on child health as a proportion of total health expenditure. This means that capital formation should be included in the child health subaccounts.[22] Figure 2.2 showed how capital formation costs are excluded from the total current expenditure on health, but included in the total expenditure on health.

Apportioning capital expenditure to child health is a challenging exercise. A number of methods can be used for this purpose:[23]

1. Identify the capital formation expenditures on facilities (such as children's hospitals) that have expenditures related directly to child care. If children's hospitals also have maternity-related functions, only a proportion of the capital formation should be allocated to child health. This could be based on the ratio of total number of inpatient days for children and that for adults.
2. Identify expenditure on equipment for paediatric wards and used exclusively for child care.
3. Use algorithms to classify capital expenditure as being for child health or not, as described above, e.g. for general hospitals where the main function is curative care, the ratio of child health curative care to total curative care can be applied, as outlined for Ethiopia in Box 5.2.

If it is not possible easily to identify capital formation for child health, and if this is not an important policy question, then countries should still report on the total *current* expenditure on child health as a proportion of total *current* expenditure on health. Note that the denominator and the numerator in the proportion need to be comparable.

5.3.4 Out-of-pocket spending

Household surveys are the main source for household expenditure (see Chapter 4 for details of household surveys and Annex 2 on adding questions to ongoing surveys). These surveys generally obtain the amount of out-of-pocket spending per family member for different health care functions. The information collected varies from country to country, and it is not always possible to identify out-of-pocket spending specifically for children under five. In this case, the inpatient and outpatient allocation factors (see Box 5.2) can be applied to the total household out-of-pocket payments for inpatient and outpatient care. In Bangladesh the team applied the percentages of total out-of-pocket spending for the age groups below one year and 1–4 years i.e. 3% and 9% (see Annex 3).

For the amount reimbursed through insurance schemes to shops and pharmacies in Malawi, utilization figures for members of private insurance schemes were analysed and the proportion of under-fives who used health care services was estimated. This percentage was then applied to the global figure for reimbursements from the general NHA table. The results of surveys on health expenditure and use were used to estimate the proportion of expenditure paid by households as out-of-pocket spending to retailers (shops and pharmacies) for children under five.

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22 Capital formation is the current total expenditure on capital investment, i.e. investment in health care facilities and equipment that creates assets that typically are used over a long period of time (WHO, 2003, p. 293).

23 Methods 1 and 2 identify specific expenditures (bottom-up approach) while method 3 apportions a percentage of total costs to child health (top-down allocation approach).

5.3.5 Integrated expenditures for curative and preventive services

Another challenge is dealing with integrated approaches that are child-health-specific. An example is the Integrated Management of Childhood Illness (IMCI) strategy, which is an integrated approach to child health, focusing on the overall well-being of the child. It includes both preventive and curative elements, which are implemented by families and communities as well as by health facilities. Children brought for medical treatment in developing countries are often suffering from more than one condition, making a single diagnosis impossible. IMCI takes into account the variety of factors that put children at serious risk. It ensures combined treatment of the major childhood illnesses, and emphasizes prevention of disease through immunization and improved nutrition.

The NHA methodology requires health expenditures for curative and preventive care to be presented separately. This means that expenditure earmarked for IMCI may need to be allocated to either preventive or curative care.

Box 5.3 illustrates how, in Malawi, the decision was to allocate the administrative costs to prevention and the actual service delivery costs to curative care.

Box 5.3. Dealing with IMCI expenditure in Malawi
In order to apportion expenditure for IMCI to preventive and curative care, the following steps were followed: • The administration of the IMCI programme at central level was regarded as prevention and public health services for child health. All related expenditures were included with other prevention and public health programmes for child health, such as immunization, and counted as part of HC.6. • The provision of IMCI services at facility level was regarded as curative health care, inpatient or outpatient, and counted as part of HC.1 3. It was impossible to isolate IMCI expenditure from other child health inpatient and outpatient services at facility level, since both funding and service delivery are integrated.

Source: Author's analysis

5.3.6 Tracking commodity-related expenditures

5.3.6.1 How can spending on medical goods for children be estimated?

Economically, medical products tend to be the second largest component of most health budgets (after salaries) and also constitute the largest component of private health expenditure in low and middle income countries. Tracking expenditures on commodities, such as ORS and zinc, can be particularly relevant for estimating household out-of-pocket spending. Various methodologies are available to track, estimate or apportion expenditure on commodities for children (Briggs et al., 2006). Expenditure for commodities should cover not only the expenditure on physical commodities, but also that on services, such as distribution, storage and sales. It should be noted that the information available will vary greatly from country to country.

Two main approaches are proposed:

(1) Use a tracer list to identify all the drugs and other commodities that are used in health care for children. Collect information on the quantity of each pharmaceutical or commodity procured, specifying the supplier or manufacturer, source country, source of funding, date or year of purchase, invoice number, data source, and cost, including unit price and extended costs. Where a commodity or medicine is not specific to child health, but is shared between programmes or population groups, a percentage can be allocated to child health on the basis

of expert opinion or epidemiological and programme data. While this approach provides data on the number and amounts of commodities procured within a country, it does not indicate how the drugs are used or distributed among the providers and the population.

(2) Obtain the unit costs paid by consumers for different commodities, then multiply by the amount used to determine total expenditure. Again, if commodities are used by different population groups, a percentage will need to be allocated to child health.

An alternative to calculating unit costs for consumers is to multiply the average market price by the reported amounts imported (and likely to be distributed during the year of estimation).[24]

Some examples of estimating spending on medical goods for children are given below.

- *Bangladesh*. Estimates of household out-of-pocket spending on medicine and other medical goods were obtained from the DHS for 1999–2000.
- *Ethiopia*. The ratio of child health curative care to total curative care was applied to estimate total expenditure on drugs at independent pharmacies. Out-of-pocket spending on drugs for child health was estimated as 25% of total out-of-pocket spending on health.
- *Sri Lanka.*
  - Public sector medical goods dispensed to outpatients (H.C.5).A proportion of expenses was allocated to child care, according to the overall proportion of curative care for children.
  - Public sector pharmaceuticals and other medical non-durables (H.C.5.1). (i) The proportion of national blood transfusion expenditure allocated to children (3.2%) was based on expert opinion and data available from a hospital. (ii) The share of provincial council spending was estimated on the basis of outpatient utilization rates for children under 5 as available from consumer finance surveys of 1996–97 and 2003–04, with linear interpolation for the intervening years.

5.3.6.2 Conflicting reports of donor contributions to the Ministry of Health as a result of in-kind transfers

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

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 concerned. Only the amount that is ultimately spent on a particular service should be included in the subaccounts. One other point to be aware of, from the child health perspective, is that government expenditure records may not include the full value of donated commodities whereas the donor records do. It is essential that the value of donated goods is included in the subaccount. The goods should be valued at the domestic market price or – if this is not available – an acceptable regional substitute. Thus, the government expenditure records should be adjusted accordingly – provided that the commodities were dispensed during the year under study.

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24 An effort should be made to estimate the total amount distributed in the year of interest. The volume imported in a given year is not necessarily with the same as the volume distributed that year. If no data are available, assume that shipments made during a certain timeframe – say between August 2001 and August 2002 – are dispensed during 2002.

5.3.7 Tracking intervention-specific expenditures

Tracking intervention-specific expenditure could be important from a policy or programme perspective (see Chapter 7). It can help identify areas that may be underfunded, inform effective programming, and guide future allocation of resources.

In interventions and programmes that are relatively "vertical", in that specific financial flows from national governments and donors can be traced directly to these programmes, obtaining the information needed to estimate these optional indicators should be relatively straightforward. There are usually specific and traceable budgets for specific activities, and few expenditures that are shared, which avoids the need to disentangle expenditures and the risk of double counting.

Identification of expenditures incurred by one specific programme or intervention does, nevertheless, involve challenges related to the availability of data and use of assumptions. A compromise will be needed between getting specific information and making generalist assumptions. For example, in most countries immunization is undertaken mainly by the government, and activities are managed by an individual programme within the Ministry of Health. It should, therefore, be feasible to identify the expenditure incurred by this programme. Some adjustments may be needed to allow for vaccines that are not administered to children under five, such as tetanus toxoid. It will, however, always be problematic to identify expenditure associated with service delivery, because this is usually integrated, and it is difficult to tease out the specific time spent by health facility staff on providing vaccines. Nevertheless, there may be interest from a policy perspective in knowing the administrative costs of immunization at national level, which may warrant such an indicator being produced for the child health subaccounts.

Annex 5 provides guidance and suggested methodologies for estimating some optional indicators for tracking intervention-specific expenditure, in particular related to breastfeeding, integrated management of sick children, ITN and immunization. Depending on the level of accuracy desired, there will be trade-offs between getting a robust estimate and extrapolating the indicators on the basis of a set of assumptions and "best guesses". Annex 5 provides specific definitions of each indicator, their boundaries and linkages with the HC functional classification, suggested methods for data collection and analysis, and highlights their potential policy and programme use.

5.3.8 Other data analysis issues

In the absence of data on expenditure, the team may have to resort to using unit cost and utilization data as proxy measures of price and volume. This should be done with caution and bearing in mind the following considerations. Several methods exist for deriving unit cost figures – aggregate accounts, facility surveys and estimated (modelled) cost functions. For NHA, it is recommended that actual cost data from facility-based assessments should be used, rather than modelled costing. The reason is that modelled unit costs are often based on an "ideal" or full set of services rendered, and tend to assume high levels of efficiency. If services are currently provided with lower efficiency than assumed in the models, the modelled estimates may underestimate costs in relation to actual costs. The cost information can, however, be used to develop ratios of expenditures or weights that can then be applied to the total expenditure incurred at facilities (as explained in section 5.3.2).

In Bangladesh, unit cost and utilization data were based on actual expenditures, derived through a cost-accounting system based on the Bangladesh Health Facility Efficiency Study of 1997. Details of the methodology are provided in Annex 4.

The combination of prices or unit costs of services for a particular year with utilization figures for another year is not recommended, since this may lead to a distorted picture of expenditure. Cost and utilization data should be for the same year.

As discussed in section 5.3.5, expenditure on commodities can be derived by multiplying cost (price) and utilization estimates, because there is usually little variability in the services rendered when commodities are purchased, and the cost for market goods equals the price. This is also true for market services.

5.4 Summary

The data analysis stage requires access to a lot of data that may be directly or indirectly associated with NHA, on expenditure, cost, use, population, and disease prevalence. It is, therefore, useful to assemble as much as possible of this information early in the process, to avoid bottlenecks in the data analysis. Some guiding principles for the analysis itself, particularly for the child health subaccount, are: (a) always check the primary purpose of the reported expenditure and compare with the boundaries of the child health subaccount; and (b) always cross-check each item with the aggregate NHA estimates (if available) to make sure that the estimated amount is feasible.

Specific estimation issues include: dealing with expenditure that targets multiple age groups, diseases or interventions; dealing with non-targeted expenditure; commodity transfers; and addressing child health expenditures embedded in integrated activities. This last issue can be one of the most challenging. It is best to keep the process of disaggregating integrated activities to a minimum, in order to preserve expenditure data and to curtail "guesstimates". It may sometimes be necessary to derive the child health proportion from integrated activities (e.g. maternal and child health programmes); this should be done only when the child health expenditure part is thought to be sizeable, and when the full value of the integrated activity would be likely to be a significant overestimate. Regardless of the approach, it is critical that all assumptions and estimation techniques are thoroughly documented. Countries will find that, as their information systems improve and NHA data collection becomes routine, they will rely less and less on estimation techniques and more on actual detailed expenditure data.

Chapter 6
Preparing child health subaccounts

6.1 Objectives and general considerations

The Producers' Guide (WHO, 2003) suggests that a steering committee should be established to guide the production of NHA. The committee should comprise high-level representatives from stakeholder organizations that fund health care, implement health care functions, produce necessary information and data and also use that information for policy making. Such a committee makes it easier to institutionalize the NHA process, by establishing "ownership" at a high sociopolitical level, and can also serve as an authoritative conduit for communicating findings.

The process of preparing child health subaccounts starts with the relevant stakeholders identifying the rationale, motivation and funding for the project. The NHA lead agency organizes a meeting with the steering committee. Child health experts should be incorporated in the existing steering committee. It may also be convenient to meet representatives of other programmes linked to child health (such as reproductive health, HIV and malaria), and of international organizations and donors that provide funding or technical expertise for child health survival.

The objective of the child health subaccount should be determined according to the specific needs of the country, with national institutions and stakeholders being responsible for defining the problems to be addressed. General descriptive materials about NHA, together with this guide, should be provided to the new members of the steering committee, to inform them of the general purpose and objectives of NHA. The other members of the steering committee can also provide useful information, and help ensure that the child health subaccounts are prepared in the context of the general NHA (Figure 6.1). The steering committee should be given Chapters 1 and 2 of this guide to help them formulate relevant policy questions that can be answered by the child health subaccount.

If child health experts in the steering committee feel that they "own" the project, they are likely to follow progress and become involved in obtaining data. They are also likely to help ensure that the end results of the exercise will be used in the national policy process. Both users and producers of information on child health should be involved in this work.

The steering committee should execute the following tasks:

- Define the relevant child health policy questions to be addressed by the child health subaccount.
- Agree on scope and boundaries of the child health subaccount.

- Meet regularly with the technical team to provide guidance on relevant policies and priority areas, and to be informed about methodological issues, intermediate results and possible gaps in the data.
- Assist the technical team by facilitating the data collection process.
- Organize meetings and workshops between the steering committee and the technical team to discuss results and findings.
- Promote and help in the analysis of child health subaccount data and other relevant information on child health status and service outputs.
- If possible, link the child health subaccount analysis with cost projections for child survival, so as to identify investment gaps.
- Organize meetings and workshops with the broader group of stakeholders to discuss results and findings.

The technical team should be responsible for the following tasks:

- Develop a project workplan.
- Conduct a training workshop for data collectors, analysts and users of data
- Design data entry screens.
- Collect and analyse the data.
- Draft a report for review by the steering committee.
- Disseminate the findings in a way that can easily be understood and used by policy makers

Figure 6.1. Stakeholders involved in the production of NHA and child health subaccounts

Steering committee
Ministry of Health
Head of Planning
Head of Budgeting
Head of Health Information Systems
Head, Child Health Programmes
Head of research institution (if a research institution is involved)
Representative of WHO or other international organization
Representatives from donor agencies
Ministry of Economy
Head, Central Statistical Office
Head, Information System in Central Bank
Head, Survey Agency
Representative from private sector (e.g. medical association)
NGO representatives

Child health experts
MoH (all relevant programme officers)
WHO child health officer
UNICEF health officer
Other representatives of international organizations
Donors interested in child health and survival

NHA technical team
MoH
Health Information Systems
Office of Planning
Office of Budgeting
Central Statistical Office
Research institution (if involved)

Source: Author's analysis

The human resources needed to prepare the child health subaccount will depend on the existing capacity of institutions and individuals involved in the general NHA. Assuming that both a technical team and a steering committee have been established for the NHA, as suggested by the Producers' Guide (WHO, 2003, Chapter 9), it is recommended that the following be added to the existing NHA steering committee (in order to incorporate the child health experts):

- head of the child health programme at national level;
- representatives of international organizations that fund or provide technical assistance to child health programmes, such as WHO and UNICEF;
- if necessary, the coordinators of relevant programmes, including malaria and vector control, HIV/AIDS, maternal and reproductive health, and nutrition.
- To the NHA technical team:
  - national technical officer for child health from international organizations such as WHO, UNICEF, etc.;
  - a representative from the national statistics office, responsible for child health statistics.

6.2 Resources needed

6.2.1 Equipment

Preparing health accounts is a data-intensive process but does not require sophisticated equipment. Computers should be available, with access to internet and a spreadsheet program. At least one computer should have sufficient power to process the data sets resulting from surveys, such as household surveys. The expertise in data management of the national statistics office can be helpful. It is important to note that, as part of the institutionalization process, specific resources and equipment should be assigned to the team.

6.2.2 Other resources

The members of the child health group will need to be trained in the purpose and function of child health subaccounts. If the training is conducted in conjunction with general NHA training, about one additional day will be needed. Resources will be needed for the preparation and implementation of the training, e.g. documentation, trainers' fees and expenses, transport, meals for trainers and trainees, and hire of room.

Resources should be foreseen for the discussion and interpretation of the findings, production of the relevant reports, and dissemination of the information. Reporting and disseminating the results are intrinsic parts of the implementation process. Experience has shown, however, that the funds available for NHA often do not go beyond the production of the tables. Lack of funding for dissemination of results can limit the extent to which the findings are used. It is important that sufficient time is given to communication activities, and that funds are allocated accordingly. Teaming up with other areas of the Ministry of Health to develop ideas on design, editing, printing and dissemination can be useful. For example, the office in charge of producing publications within the Ministry of Health may be able to share ideas and resources. Web dissemination is also an effective, cheap and easy way of disseminating the findings.

6.2.3 Limited resources

If resources for preparing child health subaccounts are very limited, it may be best to prepare only one priority tables identified in Chapter 3: the financing agent by health provider table

Box 6.1 Preparing child health subaccounts with limited resources: Bangladesh and Sri Lanka

Child health subaccounts were prepared in Bangladesh and Sri Lanka with minimal resources. Because of the limited budget, the approach used relied primarily on exploiting the existing health accounts estimates and available secondary data, and primarily using apportioning methods. There were no funds for primary data collection or extensive new analyses of available large data sets. The research team had to emphasize simplicity in methods, make the best use of available data, and tolerate a considerable level of "guesstimation" and imprecision in the final estimates.

Despite this, estimates were successfully produced for the two countries, covering 6 years in Bangladesh (1996–97 to 2001–02) and 14 years in Sri Lanka (1990–2003). On a methodological and standards level, these estimates are fully consistent with the WHO-endorsed OECD SHA statistical framework, and thus with the overall SHA-based health accounts estimates for the two countries. The estimates also allow comparisons between the two countries.

The estimates were successfully produced, despite limited resources, because:

(i) Both countries had pre-existing health accounts estimates compatible with international standards. It was not necessary to estimate expenditures anew; rather, the focus was on apportioning the known expenditures to child health.

(ii) Both countries had some technical capacity in health accounts. In particular, the skills required to develop methods for apportioning the items of expenditure by specific purpose were critical. These skills are integral to the functional disaggregation that is required for internationally compatible health accounts.

(iii) Both countries had access to household survey data, which could be used to analyse patterns of utilization (and in some instances expenditure) by age group. However, the household data were neither abundant nor comprehensive, and the availability varied. There were limitations related to the periodicity of the survey data and whether the surveys collected data expenditures by individual household member. The Sri Lankan analysis was able to rely on two different rounds of the same survey, conducted seven years apart, to obtain information on trends in spending, while the Bangladeshi analysis had to rely on only one survey during the period covered. On the other hand, the Sri Lankan survey data did not contain information on health spending by individual household member, unlike in Bangladesh. Nevertheless, by making assumptions and extrapolating where necessary, it was possible to extend the available household survey data to all the years assessed.

These experiences show that it is feasible to produce meaningful estimates of the level, pattern and general trend in child health expenditures in developing countries, within a framework that meets international standards, and with limited resources. In both countries, for example, it should be possible to produce regular updates of child health spending every 2–3 years, as an extension of the existing health accounts process. However, in interpreting the data, the limitations in data availability and quality need to be taken into account.

Source: Author's analysis

(Table 3.3). The data for this table are often more readily available than those for other tables. Financing agents and providers tend to have information systems from which expenditure data can be retrieved. The table provides useful information for evaluating the routine operations of child health programmes. More specifically, child health resources are generally programmed and allocated according to type of provider and type of activity.

In countries that have already prepared NHA, and that have a good health information system and available experts, it may be feasible to produce child health subaccounts with very limited funding. Box 6.1 outlines how this was done in Bangladesh and Sri Lanka.

6.3   Writing the report and communicating the results

The presentation of results is a crucial step in the preparation and institutionalization of health accounts, and an essential component of efforts to promote a culture of evidence-based decision-making. The evidence should be presented in a format appropriate for policy-making. Having reports and documentation readily available will contribute to accountability, by allowing demonstration of how the estimates were calculated and how the expenditure data link to specific policy questions.

Results can be presented in the form of policy briefs, technical reports, press releases, presentations, speeches, etc. Each of these formats has a specific purpose and audience, and will therefore need to be prepared accordingly, using language and format appropriate to the target audience. The advice of communications experts can be very useful in this regard.

Presentation of results should be tailored to the specific needs of the country. It is recommended, however, that the report:

● includes specific child health indicators, with some explanation of the trends and discrepancies found (see Chapter 7 and Annex 6 for the indicators used in Bangladesh, Ethiopia, Malawi and Sri Lanka);

● makes reference to expenditure on child health in relation to the total health expenditure and the total expenditure on child health;

● makes reference to the proportional expenditure on child health (in relation to THE) in comparison with the proportion of under-fives in the total population.

The analysis and final report should answer key political questions. Preparing a child health subaccount is not simply an intellectual exercise, but an analysis that should inform political choices, help track progress in child health, place child health expenditure in a wider heath care context, and show whether funds are reaching the intended targets. The report should, therefore, outline child health policies in the country, indicate the main donors and main issues, link child health expenditures to child outcomes such as mortality and morbidity, and summarize the main policy implications.

The report should also clearly indicate the methodological choices made with regard to the four NHA dimensions, the boundaries with other subaccounts, and the way the data were analysed (e.g. apportioning rules used). This will allow comparison of child health subaccounts between countries or years, and will contribute to developing child health subaccount methodology to the benefit of other countries.

The final report should include three main tables (if resources permit): financing source by financing agent, financing agent by function, and financing agent by provider. This will allow the following questions to be answered: "Who bears the financial burden of child health care?", "How much is spent and on what types of services?", "Who manages and spends child health funds?", "Who benefits from these expenditures?" and "Do they benefit those who are targeted?".

It is suggested that the final report should include the following chapters:

● Introduction
  ○ Explain the main child health policies, donors, financing, and activities.
● Rationale

- ○   Why was the child health subaccount prepared?
- ○   What policy questions is it trying to answer?
- •   Methodology
  - ○   Country-specific child health subaccount classifications for the dimensions included in the analysis.
  - ○   Decisions concerning boundaries with other subaccounts.
  - ○   Data analysis:
    - •   data sources
    - •   apportioning rules, if applicable.
- •   Results
  - ○   Tables.
  - ○   Indicators.
- •   Policy implications and conclusions.

The report should include appropriate graphs and charts. Often, policy-makers will not read the whole document, so it is important to have visual messages that immediately communicate a key message. Each major finding or politically relevant result should be expressed in a graph or chart. Examples of graphics that can be useful are:

- •   a pie chart of financing sources and a pie chart of financing agents, to show the contrast – or similarity – between the sources and managers of child health funds;
- •   bar charts showing the main distribution of expenditures between different providers and functions.

The methodology is not usually described in detail in the main report, both to avoid use of technical language and to promote understanding of the results. However, it is important that a detailed description of the methodology exists. It can be prepared as a separate document, or as an annex to the main report, and should include details of all assumptions made, the sources of information, and the people contacted or otherwise involved in the preparation of the subaccount.

Once the various reports have been distributed, it is important to assess how the results are being used and to evaluate the extent to which the need for expenditure data has been satisfied. This is a valuable step, because it provides guidance for improving or changing the focus of the child health subaccounts in the longer term.

6.4   **Workplan**

Table 6.1 contains a proposed workplan, based on the assumption that NHA capacity and infrastructure already exist in the country. As NHA become an established component of the health information system, the time spent collecting data will be progressively reduced. Ideally, a set of accounts should be produced each year, covering the previous year. However, because some of the data refer to public expenditure, the regular cycles for reporting expenditure to the Ministry of Finance must be considered. If the Ministry of Health has to present audited accounts for the funds received from the Ministry of Finance by, say, March of the following year, it is unlikely that the information needed for the NHA will be available before that date. Furthermore, the information presented with subaccounts usually has a one to two-year lag period, as audited expenditure data usually become available only after two years. So, while

Table 6.1. Activities and timeline for preparing child health subaccounts

Activity	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Start-up												
Include the child health experts within the NHA steering committee	�											
Form the NHA and child health technical team	X											
Conduct training workshop and develop workplan		X										
Identify, together with the steering committee, the relevant child health policy questions		X										
Implementation												
Identify child-health-relevant entities in the NHA flows		X										
Undertake inventory and assessment of existing data, identify gaps, and develop data collection plan		X										
Set-up and finalize formats for data collection		X										
Collect secondary data			X	X	X	X	X					
Collect primary data[a]												
Design or modify survey instruments				X								
• develop sampling frames and sample selection schemes				X								
• pre-test survey questionnaires				X								
• arrange logistics for implementation of surveys				X								
• collect data					X	X	X					
Design data entry screens						X						
Create electronic data file and clean data							X	X				
Analyse data and produce subaccount tables									X	X	X	
Write report and submit to steering committee for review											X	
Dissemination and feedback												
Present subaccount results to stakeholders												X
Prepare dissemination materials for specific audiences												X
Disseminate and track use of subaccount information												X

a   It is suggested that, as far as possible, existing surveys should be used. If required, the team should discuss with the survey agencies the inclusion of certain questions related to child health expenditure (see Chapter 4).

the subaccounts can be produced on a yearly basis, the results will be for funds spent two years previously (e.g. the 2010 subaccounts will report on data from 2008, the 2008 subaccounts will report on data for 2006 and so on).

6.5 Complementarity of child health subaccounts and cost estimates

The child health subaccounts are complementary not only to the national health accounts and other subaccounts (reproductive health, malaria, and HIV/AIDS), but also to costing exercises to estimate the financial resources required to scale up child health and child survival interventions and related activities aimed at reaching MDG4.[25] Such cost estimates usually cover a longer

25 MDG4 is to reduce the under-five mortality rate by two-thirds between 1990 and 2015.

period than the year covered by the child health subaccounts. When data are available both for existing expenditures and for the estimated resource needs, the financing gap can be ascertained for a particular time period or for the long term.

6.6   Child health subaccounts not done in conjunction with NHA

It is recommended that child health subaccounts should be prepared at the same time as the general NHA or the NHA distributional accounts for age and disease are being prepared, or within the context of existing NHA. The estimates will be more useful and comprehensive if NHA are available as a reference, and the child health expenditures can be compared with other health expenditures. This comparison is important for policy purposes, because child health competes with other health needs for a limited pool of resources, which are measured by the NHA. Furthermore, country teams that have been trained in the principles of NHA, and have used the knowledge in practice, can easily apply that knowledge and experience to child health subaccounts.

If NHA have not been prepared, it is possible to undertake a stand-alone study of child health expenditures. However, in this case, the resources required will be considerably higher, and many obstacles may be encountered.

An alternative is to use existing studies of child health expenditure. In that case, it is essential to consider how well the various NHA components of expenditure were captured. For example:

1. What targeted child health expenditures were included in the studies?

2. What non-targeted health expenditures were included? How were these expenditures allocated between child health and other health activities?

3. Are the child health expenditures within the child health subaccount boundary? What health-related expenditures (e.g. research and training) were included? How was the boundary between child health and non-child health expenditures defined?

Care is needed when estimates of child health expenditure from stand-alone studies are compared with the results of other similar exercises, especially if the concepts and methodology were not uniform. If subaccounts are prepared outside the Ministry of Health, there may be less opportunity to incorporate the results into the policy process.

6.7   Institutionalization

Institutionalization refers to the process whereby the production of child health subaccounts becomes part of the routine activities of the country, with clearly defined objectives and allocated budget and staff. The "institution" may be the Ministry of Health, the national statistical organization, or an academic institution.

Institutionalization has four key dimensions:

● *Recurrence*. Child health subaccounts should be produced on a regular basis, preferably yearly. This is important for identifying trends and monitoring changes over time. Several rounds of subaccounts may need to be produced before enough momentum and demand are generated to make it an annual process.

● *Policy penetration*. Financial information related to child health needs to be introduced into the policy-making process. Information that is not used serves no purpose. Engaging

different areas within the Ministry of Health and other ministries (such as finance and social development) that either use or produce child health information helps the institutionalization process. Furthermore, there are likely to be various opportunities to use the information produced by the child health subaccounts, and thus contribute to the institutionalization process: large donor meetings on the health components of poverty reduction strategy papers (PRSPs), medium-term expenditure frameworks (MTEFs), sector-wide approaches (SWAps), annual health sector reviews, primary health care reviews, and meetings of the Partnership for Maternal, Newborn and Child Health (PMNCH). On a smaller scale, child health programme reviews and more informal donor meetings may also be used. Understanding the flow of resources for child health is necessary for advocating for increased investment in child health, including the health of newborns. It is therefore important to track the flow and amount of such investments, and to assess this information in the context of health indicators in order to evaluate the equity and efficiency of the delivery of child health care.

- *Government ownership.* The initial trigger for preparing child health subaccounts is the government's need for financial information. The government ownership has to be translated into ongoing support, in terms of resources and time, from key policy-makers. Instituting mandates for some key child health expenditure information could support the institutionalization process.

- *Broad dissemination and use.* The child health subaccount has to respond to the needs for information of a broad group of potential users. Clear presentation of the information, targeted to different audiences, will improve the chances of its being used, leading to increased demand and a repeating cycle.

The process of institutionalization will differ from country to country, but the following general features are common:

- *Establish the relevant policy questions to be addressed by the child health subaccounts.*

It is extremely important to start the child health subaccounts by defining the policy-relevant issues that need to be addressed. This will not only promote ownership of the results, but also ensure that expectations are realistic. Having specific issues to address can focus the efforts of the team on obtaining the most relevant information. For example, if a government is particularly interested in knowing the amount spent on pharmaceuticals for children, because it is planning a pharmaceutical reform, the team should take the time needed to ensure that this information is obtained, even if this is at the expense of other less important information.

- *Establish standards for data collection and analysis.*

The procedures and methods used to collect and analyse data need to be clearly specified, so that they become systematic. This also means that the child health team needs to take a long-term approach to data collection, such as adding questions to ongoing surveys or data collection efforts. The methodologies used for weighting and extrapolating data, as well as the people contacted and the procedures for obtaining data from different sources, must be clearly documented.

- *Institute data reporting requirements.*

It is recommended that legislation should be enacted to require reporting of data. This can be particularly useful in relation to the private sector, which is often reluctant to share information.

● *Link NHA to the health information system.*

The establishment of NHA should strengthen the overall health information system. At the same time, NHA benefit from a strong HIS to obtain information on utilization and other data. The needs and requirements of NHA should be considered when reforming the HIS. NHA will benefit from any strategies, methods and standards introduced to ensure the quality and timeliness of information produced by the health information system.

o *Establish links with academia, international organizations and civil society.*

Involving academia, international organizations and members of civil society in preparing health accounts will contribute to the reliability of the results and their use for policy discussions and monitoring of accountability.

o *Establish a process for dissemination of results*

It is important to ensure easy availability of results through websites, reports etc. This process should involve not only promoting the results but also obtaining feedback on their use in policy discussions.

Chapter 7
Child health subaccounts indicators

7.1 Background

The important contribution that child health subaccounts can make to improving health systems performance stems from their potential to produce relevant and accurate financial indicators that can be used to design, monitor and evaluate health policies and programmes.

There is a great need for a clear understanding of the links between financial information generated by the child health subaccounts and health policy objectives, such as access to care, resource availability, equity, efficiency, effectiveness, and sustainability. Given the current focus on the MDGs, many countries are aiming to scale up child health interventions and strategies, such as immunization and IMCI, to reach universal coverage. This entails reaching children who are marginalized and who currently have no access to general health services. Scaling up service delivery to reach these children obviously requires increased resources and a more equitable sharing of the financial burden. In many countries, households spend considerable amounts on health care; out-of-pocket spending for health services can be 2–3 times greater than the total health expenditure of governments and donors. Financial barriers to access have to be reduced or eliminated if universal access to health care for children is to be achieved. However, most of the current monitoring and evaluation frameworks for tracking child health outputs and outcomes at all levels – global, national and local – do not include financial indicators.[26]

This is a serious omission. Without knowing the balance between government spending and out-of-pocket payments, governments cannot be confident that the population enjoys equitable access to health care goods and services. In the absence of reliable financial data on how health resources are spent, there can be no certainty that the right services are reaching the people in greatest need. In addition, there can be little basis for prioritizing among health care objectives, evaluating alternative ways of raising finance and allocating resources, or designing efficient and effective ways of providing health care services. Thus, reliable and accurate NHA and child health indicators are fundamental to effective stewardship of the health system.

Once the child health subaccount tables have been completed, relevant and accurate child health indicators should be constructed to inform evidence-based policy-making in the health system with regard to child health service financing, organization and delivery. These indicators could also be used to make comparisons over time and between countries with similar socioeconomic backgrounds. The indicators should be constructed in such way that

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26 Note, however, that the Expanded Programme on Immunization has developed indicators for monitoring financing and sustainability of immunization.

they relate to the key policy goals of the health sector, i.e. equity, efficiency and sustainability, so that they contribute to the policy debates within the country and at the international level.

It should be noted that the structure of the health system, its health information system and the child health programmes raise methodological issues related to computing policy-relevant indicators. Differences in programme content and the way child health services are delivered demand flexibility in devising a generally acceptable set of indicators. Nonetheless, country-specific indicators should be constructed in such a way that they help address key child health policy goals, while also being useful for comparative and benchmarking purposes with other countries.

7.2   Key health policy objectives

This section reviews only the health policy objectives for which child health subaccount indicators need to be developed (Knowles et al., 1997; Schneider & Bhatt, 2004).

7.2.1 Equity in health care financing

Equity in health care financing takes two forms – vertical and horizontal equity. According to Wagstaff & Van Doorslaer (1993), the financing of health care should be a function of the ability to pay (vertical equity) and individuals or families with the same ability to pay should make the same contribution (horizontal equity). Equity in finance is mainly evaluated on the basis of the progressivity or regressivity of the financing source, i.e. the extent to which the financing benefits people with a lower ability to pay (progressive) or a higher ability to pay (regressive). Thus, with regard to child health subaccounts, the following indicators could be constructed to measure equity in financing (for more details see Table 7.1):

- expenditure on child health per child under five years, by urban/rural population;
- households' out-of-pocket spending on child health[27]
    - as a percentage of total health expenditure for child health;
    - as a percentage of non-public-sector expenditure on child health;
    - per child under five years.

7.2.2 Efficiency

Efficiency can be defined as the allocation of resources that yields the best value at the lowest cost. In health care, three aspects of efficiency can be identified: technical, allocative, and scale or economic (Newbrander & Barnum, 1992). Child health indicators can be used to examine differences in efficiency in health systems over time and across countries that are socioeconomically similar.

For the child health subaccounts, only allocative efficiency indicators should be calculated, since these reflect the allocation of resources to different uses. Ideally, resources should be allocated to the most cost-effective interventions, with the aim of maximizing the net benefit to society. Implementing priority preventive interventions is one cost-effective strategy for achieving MDG4, and it is, therefore, important to look at the balance between preventive and curative care expenditures.

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27 Out-of-pocket spending includes only direct payments to providers.

The following indicators of allocative efficiency could be constructed (for more details see Table 7.1):

- expenditure on curative care services for child health as a percentage of total child health expenditure for child health by provider type;
- expenditure on inpatient curative care for child health as a percentage of total health expenditure for child health, by provider type;
- expenditure on outpatient curative care for child health as a percentage of total health expenditure, by provider type;
- expenditure on prevention and public health services for child health as a percentage of total health expenditure, by provider type.

In addition, an assessment of expenditure on specific interventions and programmes can help to assess allocative efficiency. Note that allocative efficiency also depends on the effects and effectiveness of specific services (not only the relative expenditures). For example, spending on breastfeeding promotion and immunization tends to be cost-effective (see Annex 5 for intervention-specific indicators).

7.2.3 Sustainability and resource availability

Sustainability in financing refers mainly to the capacity of the health system to (1) continue its activities in the future, and (2) expand activities to keep up with population growth and additional demands created by diseases. It also refers to the capacity of the health system to replace donor funds with funds from domestic sources (Knowles et al., 1997). As many low-income countries are significantly donor-dependent and have low general revenue tax bases, this indicator is very useful. It will greatly contribute to developing an overview of the resource envelope currently available in the country, and can be used for comparison with other countries. Projections of different sources of finance for child health can help in planning and process development for child health programmes, as stakeholders would be made aware of what is likely to be possible with the current financial resources and those likely to be available in the future. Some indicators that could be generated are (for details see Table 7.1):

- public funds for child health as a percentage of total health expenditure for child health;
- public funds for child health as a percentage of total public funds for health.

7.2.4 Expenditure monitoring as rights-based monitoring

Monitoring the level and nature of expenditure on child health is a requirement for countries reporting to the Convention on the Rights of the Child (CRC) Committee (UNHCHR, 1989, 2005; UNICEF, 2007). The CRC reporting guidelines request countries to provide specific information on how they are addressing child health and welfare, including the resource allocation for child health. Country reports to the CRC therefore constitute an important policy mechanism for using the results produced from child health subaccounts to influence policy and programming.

Aspects of child rights can be linked to each of the four aspects of financing evaluated here, i.e. equity, allocative efficiency, financial sustainability, and resource availability.

The main focus of the CRC is public sector responsibilities. Therefore a key indicator is public funds (FS.1) for child health as a percentage of total public funds (FS.1) for health. In addition, the CRC reporting guidelines request States to report on the proportion of multilateral and bilateral aid allocated to programmes for children, i.e. Rest of the world funds (FS.3) for child health as a percentage of total rest of the world funds.

These two indicators are standard outputs from comparisons of the child health subaccounts with the general health expenditure estimates.

7.3 Proposed set of indicators

A combination of indicators is generally needed to analyse a problem and derive policy recommendations. This guide recommends a minimum set of indicators, comprising those that are most common, easy to construct and relevant to most countries' health policy objectives. The proposed indicators, listed in Table 7.1, are not exhaustive, but have been selected mainly to provide a choice of indicators linked to the health accounting classifications and to potential health policy uses within countries and at the international level. These indicators require data on both finance and on physical (non-monetary) units.

Table 7.1 lists the basic indicators that the child health subaccounts should produce, linking them with the four health policy objectives noted above (equity, allocative efficiency, financial sustainability and resource availability). Some optional intervention-specific indicators are also presented in Table 7.1 and in Annex 5. The quality of data input is key to the value and reliability of each indicator. As such, country teams should carefully evaluate the quantity and quality of data sources, before attempting to compute any of the indicators.

Table 7.1. Proposed indicators for the child health subaccount report [a]

Type of indicator	Indicator	Health policy, objective or area of concern	Source table in child health subaccount
General indicators	- Total health expenditure for child health - Total health expenditure per child under 5 - Total health expenditure on child health as a percentage of total health expenditure [b]	Resource availability for CH services and programmes - Assess allocation of total health expenditures towards CH and compare with national priorities/burden of disease/needs. - Advocate for increased funding for child health.	All

[a] The codes are based on the classifications of the Producers' Guide (WHO, 2003).

[b] As the total health expenditure includes capital formation, the child health expenditure must also include capital formation for the sake of consistency. If only recurrent child health expenditures are computed, the denominator for this indicator should be recurrent total health expenditures (see sections 2.2.1 and 3.3.2).

Type of indicator	Indicator	Health policy, objective or area of concern	Source table in child health subaccount
Financing sources indicators	• Public funds (FS.1) for CH as a percentage of THE-CH • Private funds (FS.2) for CH as a percentage of THE-CH • Rest of the world funds (FS.3) for CH as a percentage of THE-CH [c] • Public funds (FS.1) for CH as a percentage of total public funds (FS.1) for health	• Financial sustainability of CH services and programmes • Assess the sustainability of CH services and programmes in the absence of donor support. • Resource availability • Assess adequacy of funds from all sources and evaluate alternative sources of financing for CH. • Allocative efficiency • Assess allocation of public expenditure to CH and compare with national priorities/burden of disease/needs.	FSxHF

Financing agent indicators	• Public sector expenditure (HF.A) on CH as a percentage of THE-CH
	
	• Non-public-sector expenditure (HF.B) on CH as a percentage of THE-CH
	
	  ○ Private insurance expenditure on CH (HF.2.1.2+HF.2.2)
	    • as a percentage of THE-CH
	    • as a percentage of non-public-sector expenditure (HF.B) on CH
	  ○ Private households' out-of-pocket[d] spending on CH (HF.2.3)
	    • as a percentage of THE-CH
	    • as a percentage of non-public-sector expenditure (HF.B) on CH
	    • per child under 5 years
	    • as a percentage of OOPS
	  ○ CH expenditure by non-profit institutions serving households (HF.2.4)
	    • as a percentage of THE-CH
	    • as a percentage of non-public-sector expenditure (HF.B) on CH
		Financial sustainability
		• Assess the sustainability of CH services and programmes in the absence of donor support.
		
		Equity in financing of CH services
		• Assess the burden placed by CH on households through direct out-of-pocket payments.
		
		• Assess alternative financing options for CH services and programmes (e.g. prepayment versus out-of-pocket payments).
			FSXHF
			
			HFXHP

[c] Note that in some countries donor funding through general budget support is included under public expenditure.

[d] Includes only direct payments to providers.

Type of indicator	Indicator	Health policy, objective or area of concern	Source table in child health subaccount

	○ CH expenditure by private nonparastatal firms and corporations (HF.2.5.2)
	  • as a percentage of THE-CH
	  • as a percentage of non-public-sector expenditure (HF.B) on CH		

Provider indicators	• Hospital expenditure on CH (HP.1) as a percentage of THE_{CH}
	  ○ Public sector hospital expenditure on CH as a percentage of THE-CH
	  ○ Private sector hospital expenditure on CH as a percentage of THE-CH
	• Expenditure on CH by providers of ambulatory health care (HP.3) as a percentage of THE-CH
	  ○ Expenditure on CH by providers of ambulatory health care in the public sector as a percentage of THE-CH
	  ○ Expenditure on CH by providers of ambulatory health care in the private sector as a percentage of THE-CH
		Allocative efficiency
		• Assess allocative efficiency between providers by ownership, i.e. cost-effectiveness of public provision versus private provision.
		• Assess allocative efficiency between levels of care, i.e. cost-effectives of hospital versus ambulatory CH services
			HFXHP

Functional indicators	• Services of curative care for CH (HC.1)as a percentage of THE-CH
	  ○ Inpatient curative care for CH (HC.1.1) as a percentage of THE-CH
	  ○ Outpatient curative care for CH (HC.1.3) as a percentage of THE-CH
	• Medical goods dispensed to outpatients for CH (HC.5) as a percentage of THE-CH
	• Prevention and public health services for CH (HC.6) as a percentage of THE-CH
	• Health administration and health insurance for CH (HC.7) as a percentage of THE-CH
	• Capital formation for CH (HC.R.1) as a percentage of THE-CH
		Allocative efficiency
		• Monitor allocative efficiency between CH services e.g. curative versus preventive services; allocation of resources to general health administration of CH services and programmes versus curative and preventive CH services.
			HFxHC
			
			HPxHC

Type of indicator	Indicator	Health policy, objective or area of concern	Source table in child health subaccount
Optional indicators			
CH-specific priority interventions indicators	• Expenditure on breastfeeding promotion as a percentage of THE-CH • Expenditure on integrated management of sick children as a percentage of THE-CH (use expenditures on curative care under the functional classification as a proxy) • Expenditure on ITNs as a percentage of THE-CH • Expenditure on immunizations as a percentage of THE-CH	Allocative efficiency • Assess allocation of resources to cost-effective interventions	See also Annex 5
Distributional indicators	• Expenditure on CH per child under 5 by urban/rural population	Equity in financing of CH • Assess the difference in burden of financing CH between urban and rural populations	Additional information required on expenditure by urban and rural dimension (not captured in standard NHA matrices)

Source: Author's analysis

7.3.1 Selecting indicators that are relevant for policy

The indicators in Table 7.1 can contribute to the health system functions of stewardship and financing (revenue collection, pooling, resource allocation and purchasing) and hence improve the performance of the health system. However, it is essential both that policy-makers are made aware of the importance of child health subaccounts and that complete, accurate and consistent data are collected and analysed for the subaccounts. Once the indicators have been calculated, they should be interpreted in collaboration with policy-makers, so that they are presented in the context of the country's health policy objectives. Thereafter, the indicators should be discussed with all relevant stakeholders. Such an approach is more likely to influence the policy process and lead to evidence-based recommendations.

This process can only be effective if there is financial transparency among the agencies involved in health financing and provision. Agencies should report how much they spend on child health and on what, so that the patterns can be compared with the objectives of the health system. They should also be involved in interpreting the results and making policy recommendations.

The child health subaccounts in Bangladesh and Sri Lanka emphasized the importance of looking at the efficiency of expenditure, i.e. what the money was used for rather than just the level. This is especially important in developing countries, where the potential for raising additional revenue from domestic sources is limited and the only options are to use the existing limited resources efficiently or to seek donor resources. In this regard, it is important that a breakdown of expenditures by provider and function is made, so that the data can be interpreted and used in health policy decisions. Such a breakdown by provider and function would address most of the issues related to allocative efficiency of child health resources in the health system. For instance, it would clearly show which providers receive which funds and for what, and how efficiently the funds received from the financing agents are used. This information could greatly assist in setting benchmarks for monitoring efficiency between providers, or commissioning further investigations on the causes of differences in efficiency between similar health providers.

Annex 6 summarizes the main indicators that were developed from the child health subaccounts in Bangladesh, Ethiopia, Malawi and Sri Lanka. These indicators proved to be extremely useful in revealing the inadequacy of child health resources in the health systems, and in exposing the non-sustainability of the child health programmes in the event of withdrawal of donor support, especially in Ethiopia and Malawi. The indicators were also used to make intercountry comparisons. For example, in Malawi, child health expenditure per child was highest of the four countries, while the child health outcomes were the worst. This stimulated debate on the efficiency and equity of child health expenditure in Malawi, and the influence of other factors, such as income, mothers' education, water and sanitation, on child health.

In summary, indicators are summary measures that synthesize complex conditions. Indicators need to be sensitive and specific, universally understandable and easily interpreted. A basic set of indicators can be generated directly from the child health subaccount tables; for others, additional information may be required. In any case, simply presenting expenditure indicators is not sufficient to permit a thorough analysis of the financing of child health in a country. The indicators must be analysed in relation to other aspects of the health system, such as service production or level of health obtained for the level of expenditure.

Chapter 8
Summary

An analysis of financing systems is essential for the design of strategies to ensure universal coverage with priority health interventions aimed at achieving the MDGs and other development goals (WHO, 2005b).

The child health subaccounts provide information for policy-makers, programme managers and service providers on the resources spent on child health interventions and the flow of funds for child health through the health system. The preparation of child health subaccounts should be driven by the need for information to inform policy-making in the country. The process should involve all relevant stakeholders, in order to gain widespread support for the project and facilitate its implementation.

In countries that already have a regular NHA process in place, it is suggested that the child health subaccounts should be prepared as part of the general NHA or within the NHA framework. A steering committee should be established to oversee the production of the health accounts and to facilitate their institutionalization, while a technical team will be in charge of the actual project work (from data collection to data analysis and report writing).

Consultations with stakeholders will reveal specific data needs with regard to child health financing, including whether there is interest in measuring intervention-specific expenditures. The accessibility of data in the country and the resources available will influence the selection of indicators. The effort and time required to complete the subaccounts will depend on the number of tables produced and the level of detail pursued for each expenditure classification.

Total health expenditure may be presented for specific diseases or programmes and for different demographic groups. Child health expenditures cut across all these classifications. There is also overlap between different subaccounts. For example, expenditures on postnatal care, ITNs and PMTCT will be recorded in the reproductive health subaccounts, but also benefit the child. A proportion of these expenditures should therefore be allocated to child health. Careful labelling is needed to identify the amounts in as much detail as possible, to avoid double counting.

There are many challenges in recording and allocating expenditure data. Solutions will be different in each country, depending on the structure and composition of the information system. It is suggested that, as far as possible, evidence should be collected on expenditures directly related to child health. The estimation procedures for overlapping and non-targeted expenditures and solutions found for accounting challenges should be openly discussed, evaluated, and recorded; best practices should be disseminated and promoted.

The presentation and dissemination of results is a crucial step in the implementation and institutionalization of NHA. The results may be presented in the form of policy briefs, technical reports, press releases, presentations, speeches, etc. Each of these has a specific purpose and a specific audience, and will therefore need to be prepared accordingly, using language and format appropriate for the target audience.

It is recommended that the final report should:

- include the key recommended child health indicators, with some explanation of trends or discrepancies found;
- make reference to items of expenditure on child health in relation to total health expenditure and total expenditure on child health;
- make reference to the proportional expenditure on child health (in relation to THE) in comparison with the proportion of under-fives in the total population.

This guide has been developed on the basis of experiences in four countries. Further operational work will undoubtedly lead to changes in recommendations, leading to a more reliable representation of financial flows for child health and regular reporting of indicators. In particular the optional indicators suggested require more testing before methods can be standardized. The methods, data sources, and recommendations in this guide will therefore be periodically updated.

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Annex 1

Example of donor questionnaire (Ethiopia)

This Annex provides an example of a questionnaire that has been used by a country team for collecting data specifically to inform the child health subaccount. Note that the text and questions below have been edited for inclusion in this guideline.

Child health (Part D of the questionnaire)

The following questions ask about your organization's expenditures on child health in Ethiopia in 2003–2004. Child health activities, for the purposes of this study, apply to children aged up to 5 years, and concern the following:

- Breastfeeding of babies exclusively for six months (HIV-positive mothers need special counselling on infant feeding to understand and practise the safest options).
- Providing good quality complementary foods to children from six months of age, while continuing to encourage breastfeeding for two years or longer.
- Ensuring that children receive enough micronutrients – such as vitamin A and iron – in their diet or through supplements.
- Promoting hygiene.
- Providing a full course of immunization to children before their first birthday.
- Protecting children in malaria-endemic areas by ensuring they sleep under insecticide-treated bednets.
- Promoting mental and social development by responding to a child's needs for care and by playing, talking and providing a stimulating environment.
- Continuing to feed and to offer fluids, including breastmilk, to sick children.
- Appropriate home treatment for children with infection.
- Recognizing when sick children need treatment outside the home and taking them for care from appropriate providers.
- Equipping households to follow the health worker's advice on treatment, follow up and referral.
- Ensuring that every pregnant woman has adequate antenatal care, and seeks care at the time of delivery and afterwards.

Source: Author's analysis

Question D1 Did you support any activities or programmes related to child health in Ethiopia in 2003–2004? Please check all that apply.

Yes, we have earmarked funds[28] for child health in Ethiopia. ☐

Yes, we support child health in Ethiopia through general health programmes. ☐

No (if no, it is the end of the questionnaire). ☐

Question D2 What was your organization's total expenditure on activities and programmes related to child health in Ethiopia in 2003–2004 (including the value of donations given in-kind,[29] and programme and project support[30] costs)?

Amount:

If you cannot specify an amount, what is the approximate percentage of your total health expenditure that goes towards child health programmes and activities? _____%

Question D3 Please describe your organization's projects or programmes that are related to child health in Ethiopia.

Column (a): Give the title of each project

Column (b): Give a description of each project as it pertains to child health, using, as far as possible, the codes provided in the table below.

Column (c): Specify for each project, to which recipient agency or implementing organization the funds went, by ticking the appropriate box.

Column (d): Give the amount you spent on each project in 2003–2004.

To describe the projects you fund, you may use the following descriptors (write the corresponding code in column b). If these descriptors do not apply to your project, describe the projects using your own words and vocabulary.

Code	Description
CH1	Immunization
CH2	Deworming, vitamin A and food supplementation
CH3	Promotion of exclusive breastfeeding and complementary feeding
CH4	Prevention (other than immunization)
CH5	ITNs for children under five years
CH6	Curative care: management of childhood illness, such as oral rehydration therapy, zinc for diarrhoea management, treatment of malaria with antimalarials, case management of pneumonia in children under five (use of antibiotics), management of neonatal sepsis (use of antibiotics)
CH7	Community and facility-based therapeutic feeding
CH8	Training of health workers
CH9	Operational research
CH10	Capital formation (this category refers to investments in physical assets, such as land, buildings and equipment, such as the construction of clinics)

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28 These are administrative costs and include management, coordination, and operations costs, such as the cost of management staff, the finance department, secretaries, office supplies, etc. used by your organization to implement, develop and maintain your programmes.

29 These are administrative costs and include management, coordination, and operations costs, such as the cost of management staff, the finance department, secretaries, office supplies, etc. used by your organization to implement, develop and maintain your programmes.

30 These are administrative costs and include management, coordination, and operations costs, such as the cost of management staff, the finance department, secretaries, office supplies, etc. used by your organization to implement, develop and maintain your programmes.

#	(a) Project or programme title	(b) Description of project or programme as it pertains to child health (as far as possible, use the codes CH1 to Ch10 in the table above)	(c) Recipient agency or implementing organization	(d) Total amount spent on the project or programme in 2003–2004 per recipient agency or implementing organization
			1) Federal government ☐ Specify:	
			2) Regional health bureau ☐ Specify region(s):	
			3) Other regional office ☐ Specify office(s):	
			4) Woreda Health Office ☐ How many? Specify region(s):	
			5) Local NGO ☐ Specify name(s):	
			6) International NGO ☐ Specify name(s):	
			7) Own organization/ programmes ☐	
			8) Others ☐ Specify:	

Question D4 **How much did your organization spend on programme and project support for child health activities?**

Amount: _____

If you cannot specify an amount, what is the approximate percentage of your total expenditure on child health (as entered in question D2) that goes towards programme and project support for child health activities? _____%

Question D5 **How much did you spend on local consultancies (for technical assistance) for child-health-related activities?**

Amount: _____

If you cannot specify an amount, what is the approximate percentage of your total expenditure on child health (as entered in question D2) that goes towards local consultancies for child-health-related activities? _____%

**** END OF QUESTIONNAIRE ****

If you have any questions concerning this questionnaire, please call the supervisor, as noted below:

Name: _____

Telephone number: _____

Email: _____

We ask you to return your completed questionnaire to the supervisor by the following date

_____ _____ 2005

Annex 2
Adding questions to ongoing surveys

A 2.1 Donor and NGO NHA surveys

When the child health subaccount is prepared at the same time as the NHA, questions may be added to the NHA surveys of donors and NGOs. This approach allows spending on child health to be analysed in the context of overall health expenditure. Annex 1 provides an example of a child health module from a donor survey instrument used in Ethiopia.

In relation to NHA surveys of donors, NGOs, insurance companies, and employers, experiences in Ethiopia and Malawi showed that extensive follow-up and communication with the respondents were needed to make sure that the questionnaires were understood and filled in correctly, and to obtain more detailed information on the programmes related to child health. The main reason for this was that it was sometimes difficult for the respondents to identify the expenditure going to reproductive health, child health, HIV/AIDS and malaria, or to apportion the appropriate amount of programme expenditure to child health. It is, therefore, critical that donors and NGOs provide a comprehensive description of their projects and programmes, in order to allow expenditure related to child health to be estimated.

A 2.2 Household surveys

While general expenditure surveys rarely include modules for tracking expenditure on specific health interventions, such modules can be developed if needed. Modules for specific age groups or diseases can be added to household health expenditure and utilization surveys or other regular expenditure surveys. One such module has been developed for child health and used in Malawi, along with a module on reproductive health. Even without specific modules, the results produced by these surveys can be sorted by age, sex, etc. to provide data that are useful for estimating the out-of-pocket component of the child health subaccounts. In general, there is a trade-off between adding specific modules and keeping the household questionnaires to a reasonable length and cost.

WHO has developed a survey for gathering information on key indicators for maternal, newborn, and child health (MNCH). The survey is intended to complement other larger household surveys, such as MICS and DHS, which require substantial resources and are implemented at longer intervals. The MNCH coverage survey is intended to be applied in fewer households and requires fewer financial resources. The tool is intended for use in districts or subregions, with an implementation time of about one month. The survey focuses on collecting information, particularly on coverage and delivery channels, that is useful for programme management at the local level. The modular format allows countries to investigate their specific areas of interest.

One of the modules deals with care-seeking and expenditure on key child health interventions in the two weeks preceding the survey. In addition to being part of the coverage survey, the child health expenditure module can also be integrated into a general household expenditure survey, or used as a stand-alone instrument.

Annex 3

Apportionment rules used in Bangladesh and Sri Lanka

This annex provides detail on apportionment rules used in Bangladesh and Sri Lanka. For additional information the reader is advised to contact the authors of the study.[31]

Table A 3.1. Apportionment rules applied in Bangladesh to estimate spending on child health

[ICHA-HC Code] Function category	Apportionment method
[1] Personal Health care	
[1.1] Hospital services	
[1.1.1] Hospital inpatient care	• Expenditure on inpatient care, by provider and by age group, was distributed using data from the DHS for 1999–2000 on health care use and out-of-pocket spending by type of provider and individual. These ratios were then applied to all years.
	• Public sector inpatient expenditures were distributed according to distribution of use, measured in terms of inpatient admissions.
	• Private sector inpatient expenditures were distributed according to distribution of out-of-pocket payments, operation charges, rental fees and accompanying persons' food and other expenses.
	• NGO inpatient care was assumed to be zero, since NGO care is directed overwhelmingly to outpatient care and child immunization.
[1.1.2] Hospital outpatient care	• Expenditure on outpatient care, by provider and by age group, was distributed using data from a national survey on health care use and out-of-pocket spending by type of provider and individual. These ratios were then applied to all years. However, the survey data do not permit disaggregation of private hospital care by for-profit and non-profit providers.
	• Outpatient care provided by private hospitals to children under 5 years was assumed to be zero
	• Outpatient care provided by facilities of the Ministry of Health and Family Welfare (MOHFW) to children under 5 years were distributed according to the DHS data on distribution of visits made to public sector facilities.

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31 These are administrative costs and include management, coordination, and operations costs, such as the cost of management staff, the finance department, secretaries, office supplies, etc. used by your organization to implement, develop and maintain your programmes.

[1.2] Ambulatory health care services	
Medical practitioners	• This category comprises only private sector providers paid out-of-pocket, and includes practising modern and traditional physicians and homoeopaths.
	• Expenditures distributed by age according to the DHS data for 1999–2000.
[2] Diagnostic and imaging services	• Includes household out-of-pocket spending reported in DHS 1999–2000 on diagnostic and imaging services.
	• Expenditures distributed by age according to the DHS data for 1999–2000
[3] Medicine and other medical goods	• Includes household out-of-pocket spending reported in DHS 1999–2000 on medicines and other medical goods.
	• Expenditures distributed by age according to the DHS data for 1999–2000.
[4] Collective health care	
[4.1] Family planning, including maternal and child health care services	• 5% of these expenditures (primarily birth-related expenditures) allocated to child health (based on expert advice).
	• Note that total number of births in hospitals is small (less than 10% of all births).
[4.2] School health services	• Zero expenditure is assumed as children under 5 do not attend school.
[4.3] Prevention of communicable disease – immunizations	• All expenditure by MOHFW and NGOs ascribed to immunization of children of aged 0–4 years.
[5] Health administration and health insurance	• Private health insurance is very limited, and there is no social insurance in Bangladesh. Share for child health was assumed to be zero, since private health insurance mostly covers workers in a few companies, and only public health administration cost was considered.
	• Expenditures for public sector health administration were distributed to child health according to distribution of all other public sector expenditures.
[6] Capital formation	• 5% of total expenditure allocated to child health (based on expert advice).
[7] Education and training	• 5% of total expenditure allocated to child health (based on expert advice).
[8] Research	• 10% of total expenditure allocated to child health (based on expert advice).

Source: Author's analysis

Table A 3.2. Apportionment rules applied in Sri Lanka to estimate spending on child health

[ICHA-HC Code] Function category	Spending unit	Apportionment method
Funding source: public sector		
[1.1] Hospital inpatient care	MoH, provincial councils (PCs) and other government departments	Spending apportioned according to the child share of public sector non-Ayurvedic inpatient admissions in the Central Bank consumer finance surveys (CFS) for 1996–97 and 2003–04, with linear interpolation for the intervening years, and flat extrapolation for years prior to 1996.
[1.3] Hospital outpatient care	MoH, PCs and other government departments	Spending apportioned according to the child share of public sector non-Ayurvedic inpatient admissions in the CFS surveys for 1996–97 and 2003–04, with linear interpolation for the intervening years, and flat extrapolation for years prior to 1996.
[1.1] Ayurvedic hospital inpatient care	MoH	Spending apportioned according to the child share of public sector non-Ayurvedic inpatient admissions in the CFS surveys for 1996–97 and 2003–04, with linear interpolation for the intervening years, and flat extrapolation for years prior to 1996.
[1.3] Ayurvedic hospital outpatient care	MoH	Spending apportioned according to the child share of public sector non-Ayurvedic inpatient admissions in the CFS surveys for 1996–97 and 2003–04, with linear interpolation for the intervening years, and flat extrapolation for years prior to 1996.
[1.3] Ambulatory care	Local government and other government departments	Spending apportioned according to the child share of public sector non-Ayurvedic inpatient admissions in the CFS surveys for 1996–97 and 2003–04, with linear interpolation for the intervening years, and flat extrapolation for years prior to 1996.
[2.1] Inpatient rehabilitative care	MoH	Estimated proportion 28.8%, based on expert advice from the Director, Ragama Rehabilitation Hospital
[2.3] Outpatient rehabilitative care	MoH	Estimated proportion 28.8%, based on expert advice from the Director, Ragama Rehabilitation Hospital
[2.9] Other services of rehabilitative care n.e.c.	MoH	Estimated proportion 28.8%, based on expert advice from the Director, Ragama Rehabilitation Hospital
[4.1] Clinical laboratories	MoH	Estimated proportion 10%, based on expert advice from MoH managers
[4.3] Patient transport and emergency rescue	MoH	Apportioned according to share of child health spending in the curative expenditures of MoH.
[5] Medical goods dispensed to outpatients	MoH, local government and other government departments	(i) MoH component consists of spending through Sri Lanka Red Cross and so assumed to be 0 for child care. (ii) For all other public sources, a prorated share of child expenses from the curative care sections above was applied
[5.1] Pharmaceuticals and other medical non-durables	National Blood Transfusion and PCs	(i) NBT proportion estimated as 3.2%, based on expert opinion at private hospital. (ii) Share of PC spending based on outpatient proportion estimated based on the <5 utilization rates of the CB CFS surveys of 1996/97 and 2003/04 with linear interpolation for the intervening years.
[5.2.1] Glasses and other vision aids	PCs	Estimated proportion 1%, based on expert advice from MoH managers

[ICHA-HC Code] Function category	Spending unit	Apportionment method
[6] Preventive and public health services	MoH and local government	Distributed according to the proportion of children under 5 in the general population. (Source: demographic projections commissioned by the Institute for Health Policy from Professor of Demography, Colombo University.)
[6.1] Family planning and reproductive health services	MoH	Prorated on basis of ratio of child expenditure to total expenditure on maternal health and infant care (below) by MOH
[6.1] Maternal health	MoH, PCs and LGs	(i) MoH share based on assumption that 50% of expenditure is for children under 5 years (this is generally the pattern of expenses from Medical Officers of Health (MOOH) units. (ii) Share of PC and LG spending based on individual PC data on MOOH staff salary allocations
[6.1] Infant and child care	MoH, PCs and LGs	(i) MoH share based on assumption that 100% of expenditure is for children under 5 (this is generally the pattern of MOOH unit expenses); (ii) Share of PC and LG share based on individual PC data on MOOH staff salary allocations.
[6.3] Prevention and management of communicable diseases	MoH, PCs and LGs	Proportions allocated on basis of consultation with programme directors for MOH expenses, and Individual PC data on MOOH staff salary allocations to be used for total expenditure allocation
[6.3] Immunization	MoH	Estimated proportion 90%, based on expert advice from MOH managers
[7] Health programme administration and health insurance	LGs and other government departments	(i) LG: prorated according to total share of child expenditure in other curative services. (ii) Other government departments found to have no involvement in child health services (0%).
[7.1] General government administration of health	MoH, PCs, LGs and other government departments	(i) MoH epidemiology unit share allocated on basis of expenditure recorded in the unit's financial reports. (ii) Other units (DOHS, Dept. of Ayurveda, MOH HQ, central support services, SJP and WK hospitals) prorated according to total share of child expenditure in other curative services. (iii) PC, LG and LG dispensary shares prorated according to share of child expenditure in other curative services
[R.1-9] Health-related expenditures	All sources	Apportionment found to be impractical, as it was not meaningful to allocate most capital expenditures.
[6.3] Prevention and management of communicable diseases	Tuberculosis (TB) campaign	Estimated proportion 0.2%, based on the proportion of children among the patients, obtained from the TB campaign
[6.3] Prevention and management of communicable diseases	Malaria campaign	Estimated proportion 21%, based on the proportion of children among the patients, obtained from the Malaria Campaign
[6.3] Prevention and management of communicable diseases	Filariasis campaign	Apportioned according to the proportion of children under 5 in the general population, since all age groups benefit from filarial prevention. (Source: demographic projections commissioned by the Institute for Health Policy from Professor of Demography, Colombo University.)
[6.3] Prevention and management of communicable diseases	Rabies programme	Proportion assumed to be 0%, as there is no information on child incidence.

[ICHA-HC Code] Function category	Spending unit	Apportionment method
[6.3] Prevention and management of communicable diseases	Ceylon National Association for the Prevention of Tuberculosis	Estimated proportion 0.2%, based on the proportion of children among the patients in the TB Campaign
[6.3] Prevention and management of communicable diseases	Central government public health services	Apportioned according to the proportion of children under 5 in the general population, since all activities are targeted at whole population. (Source: demographic projections commissioned by the Institute for Health Policy from Professor of Demography, Colombo University)
[6.3] Prevention and management of communicable diseases	Health Education Bureau	Apportioned according to the proportion of children under 5 in the general population, since all activities are targeted at whole population. (Source: demographic projections commissioned by Institute for Health Policy from Professor of Demography, Colombo University.)
[7.1] General government administration of health	Epidemiology unit	Vaccination-related expenses allocated according to relative share of vaccination for children under 5 (80%). Other expenses apportioned according to the proportion of children under 5 in the general population, since activities are targeted at whole population.
[6.3] Targeted nutrition for malnourished children	Thriposha Programme	Actual data obtained from programme, and allocated to prevention and management of communicable diseases.
Funding source: private sector		
[1.1] Hospital inpatient care	Private insurance companies, households, NGOs and employers	(i) Relative rate of admissions for children under 5 estimated on basis of child share of (private + public) inpatient use rates in the CFS surveys of 1996–97 and 2003–04, with linear interpolation for the intervening years. (ii) Relative rates of admission then multiplied into size of each age group for each year to obtain distribution of admissions by age group. (iii) Child share of expenditures then derived using per-visit age-specific unit expenditure estimates from the 1991 HHS as weights.
[1.3] Hospital outpatient care	Private insurance companies and NGOs	As for private sector inpatient care (see above)
[1.3] Ambulatory care	Households and employer spending	As for private sector inpatient care (see above)
[1.3] General practitioner	Households	As for private sector inpatient care (see above)
[1.3] Medical specialist	Households	As for private sector inpatient care (see above)
[1.3] Traditional medicine providers	Households	As for private sector inpatient care (see above)
[4.1] Clinical laboratories	Households	Estimated proportion 10%, based on expert opinion
[4.2] Diagnostic imaging	Households	Prorated according to estimated share of child health spending in all other private curative expenditures
[4.3] Patient transport and emergency rescue	Households	Prorated according to estimated share of child health spending in all other private curative expenditures
[5.1] Pharmaceuticals and other medical non-durables	Households and NGOs	Consensus estimate agreed with advisory committee: 10% allocated to inpatient care and 90% to outpatient care

[ICHA-HC Code] Function category	Spending unit	Apportionment method
[5.1.3] Traditional medicines	Households	Consensus estimate agreed with advisory committee: 10% allocated to inpatient care and 90% to outpatient care
[5.1.3] Other pharmaceuticals and medical non-durables, not classified elsewhere	Households	Consensus estimate agreed with advisory committee: 10% allocated to inpatient care and 90% to outpatient care
[5.2.1] Glasses and other vision aids	Households	Estimated proportion 1%, based on expert opinion
[5.2.2] Orthopedic appliances and other prosthetics	Households	Estimated proportion 2%, based on expert opinion
[5.9] Other medical goods dispensed to outpatients, not classified elsewhere	Households	Estimated proportion 2%, based on expert opinion
[6.1] Family planning and reproductive health services	NGOs	Child share assumed to be zero, as this is mainly for contraceptives.
[R.1-9] Health-related expenditures	All sources	Making an assumption here was deemed not appropriate.
Funding source: rest of the world		
	WHO-funded projects	Actual expenditure obtained from WHO. Child share estimated for individual projects based on expert opinion. Other foreign funds come through Treasury and MoH, and are therefore included in the public expenditure component.

Source: Author's analysis

Annex 4

Methodology used in Bangladesh for estimating unit cost and use data[34]

The Bangladesh Health Facility Efficiency Study of 1997 surveyed a nationally representative stratified sample of 122 Ministry of Health and Family Welfare (MOHFW) facilities. From the data collected, service indicators and recurrent unit costs for outpatient and inpatient services in four kinds of facilities were estimated from the actual expenditures incurred in 1997. The four kinds of facilities were: thana health complexes (THCs), district and general hospitals, medical college hospitals and specialized hospitals.

For estimating average unit costs of services for inpatient and outpatient services, the recurrent expenditures of each facility in 1997 by major line items, such as personnel, supplies, utilities and drugs, were analysed and allocated. All recurrent expenditures that were allocated to either inpatient or outpatient services using a step-down procedure are presented in Table A4.1.

Table A4.1. Allocation of recurrent expenditures to inpatient and outpatient services

Staff category	Basis of estimation
Doctors	According to reported allocation of time between outpatient and inpatient duties
Nurses	According to reported allocation of time between outpatient and inpatient duties
Pharmacists, medical technologists, storekeepers	According to percentage volume of drugs used by inpatient and outpatient services.
Physiotherapists, occupational therapists	30% to inpatient services (estimated on the basis of direct observation by NHA specialist)
Pathologists	32% to inpatient services (estimated as for physiotherapists)
Radiology technician	48% to inpatient services (estimated as for physiotherapists)
Rent controllers, ward masters, ward boys, laundry staff, cooks, stretcher boys.	100% to inpatient services
Sweepers	75% to inpatient services (estimated by NHA specialist)
Other staff	Allocated as overhead cost, using distribution of all other salary expenditures

Source: Author's analysis

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34 For additional information on methods the reader is advised to contact the authors of the study. Correspondence related to the child health accounts for Bangladesh should be directed to Ravi P. Rannan-Eliya at Institute for Health Policy (ravi@ihp.lk).

Distribution of drug costs to inpatient and outpatient categories was based on an estimate of the value of drugs actually distributed from facilities' stores. The information on allocation of drugs to inpatient wards and to outpatients was obtained from the records kept at the pharmacies for a sample of months during 1997.

The results of the survey are given in Table A4.2, in the form of gross unit costs for inpatient and outpatient services.

Table A4.2. Unit cost of inpatient and outpatient service (in taka)

Cost item	Thana health complexes	District/general hospitals	Medical college hospitals	Specialized hospitals
Gross cost of beds available per year	111 397	56 119	110 565	117 830
Gross cost per bed–day occupied	521	188	277	441
Gross cost per admission	1957	843	3249	11,872
Gross cost per outpatient visit	66	55	102	283

Source: Author's analysis

Annex 5
Optional indicators for intervention-specific expenditure

A list of basic and optional indicators for tracking child health expenditure was given in Chapter 7. This annex gives additional guidance and suggests methods for estimating the optional indicators. Optional indicators are here categorized into two types: those that are intervention-specific and those that are region-specific.

The intervention-specific indicators have been designed to allow a detailed analysis of child health expenditure related to key interventions and programmes addressing major causes of child morbidity and mortality, i.e. the promotion of breastfeeding, ITNs, immunizations, the integrated management of sick children, and newborn care.

Indicators should be constructed in such a way that they help address key child health policy goals, and can be used for benchmarking purposes and comparisons with other countries. The definition and boundaries of each indicator need to be specified, in order to ensure their standardization and comparability across space and time.

Where improvements in child health rest on a set of key specific interventions, it is useful to track these through specific indicators in order to better understand the relative weight of these interventions within overall expenditures on child health, identify areas that may be underfunded, inform effective programming, and guide future allocation of resources.

With the exception of immunization expenditures in Malawi, intervention-specific expenditures were not estimated in the four country case studies.

This annex highlights the importance of addressing specific child health issues, and presents choices of indicators linked to the main disease burden for children at the global level. Individual countries will need to set their own priorities on what needs to be measured. For each subaccount, the expected benefits of having intervention-specific expenditure indicators will need to be weighed against the costs of getting the data, particularly in relation to the expected reliability and validity of the information.

Five intervention-specific indicators have been selected for: (i) their relevance for child health, and (ii) the feasibility of obtaining the relevant data. The indicators are not completely mutually exclusive, and there may be overlap between them. Below is a list of the indicators, with an indication of the extent to which they relate to preventive or curative care:

1. Expenditure on breastfeeding promotion; intervention-specific; part of preventive expenditures.
2. Expenditure on ITNs; intervention-specific; part of preventive expenditures.

3. Expenditure on immunizations; programme-specific; part of preventive expenditures.

4. Expenditure on integrated management of sick children; specific to function and delivery; makes up a large part of curative expenditures (curative expenditure in child health can be a proxy for this intervention).

5. Expenditure on newborn care; age-specific; refers to both preventive and curative care delivered to children up to 28 days of age.

Some examples of overlap are:

● Outpatient curative care for the newborn, which is included in indicators 4 and 5.

● Breastfeeding promotion, which is included in indicators 1 and 5.

● Immunizations provided to the newborn, which is included in indicators 3 and 5.

Attempts to identify expenditures incurred by one specific programme or intervention may involve detailed data-gathering and use of assumptions. Depending on the level of accuracy desired, the availability of information and other factors, two approaches are suggested.

(1) When detailed information is available. This is relatively common with vertical disease programmes, where expenditure and financing data are centralized and readily available. In such cases, the optional intervention-specific indicator can be estimated from a bottom-up summation of the various components specific to the intervention. For example, if detailed information is available on expenditures on different vaccine-related activities, these can be summed to get an overall estimate of total expenditure for immunization.

(2) When detailed information is not available. This is often the case when expenditures related to the priority intervention are shared with other programmes and other age groups, and are difficult to disentangle into specific components. In this situation, allocation rules can be used to estimate the proportion of the total expenditure on child health going to specific programmes or interventions. This is a top-down approach.

While method (1) is generally preferable, if there are just not enough data available, allocation rules can be used to generate a best estimate (method 2). This is recommended in cases where there are difficulties involved with allocating joint health system resources to child health, such as the time of multipurpose health workers. In some cases, expenditure on commodities may be a good proxy for some interventions, such as ITNs.

A5.1 Expenditure on breastfeeding promotion

Total expenditure on breastfeeding programmes (TEbf) as percentage of total expenditure on child health

Definition: The percentage share of total expenditure on child health devoted to promoting exclusive and continued breastfeeding for the year under study.

Policy relevance and use in programmes: Breastfeeding is a key preventive intervention in child health. This indicator allows decision-makers to understand the relative importance of resources spent on promoting sound early infant feeding practices. Breastfeeding promotion programmes are often underfunded, in particular in relation to the health impact that improved feeding practices can have.[1]

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1   For additional information on methods the reader is advised to contact the authors of the study. Correspondence related to the child health accounts for Bangladesh should be directed to Ravi P. Rannan-Eliya at Institute for Health Policy (ravi@ihp.lk).

Sources and methods: Most expenditure related to breastfeeding promotion will be targeted programme expenditure, classified as part of expenditure on public health and prevention. It includes expenditure on activities such as support to baby-friendly hospitals and information, education and communication (IEC) activities to strengthen breastfeeding practices. Specific expenditure on breastfeeding promotion can be identified through discussions with representatives from government departments and NGOs that undertake such activities. This will allow expenditure to be summed, using a bottom-up approach.

While some expenditures may be separately identified and summed, others may need to be estimated by allocating (top-down) the resources expected to have gone to these activities. The method used will depend on the data available.

Table A5.1. Functional classification for breastfeeding promotion activities

HC.6 Prevention and public health services	
HC 6.1. Promotion of child health (IEC, social mobilization)	
HC6.1.1. Promotion of breastfeeding, including counselling	Running costs for service delivery, including salary of feeding counsellors and monitors
	Training costs
	Costs related to implementation of baby-friendly hospitals
	IEC activities, including mass media campaigns

Source: Author's analysis

A5.2 Expenditure on ITNs

Total expenditure on ITNs (TEitn) as percentage of total expenditure on child health

Definition: The percentage share of total expenditure on child health devoted to providing insecticide-treated nets to children for the year under study.

The expenditures included in this indicator refer only to the ITN commodity (including associated procurement, storage and transport cost). Costs for service delivery (e.g., health workers' time) are not included. It is assumed that this indicator is a good proxy for spending on malaria prevention in children under-five.

Policy relevance and use in programmes: This indicator measures the relative importance of resources spent on preventive interventions against malaria. Its importance will depend on the epidemiological situation in the country, i.e. whether malaria is a key issue or not.[2] In many countries, particularly in sub-Saharan Africa, malaria is a major cause of death and illness among children under five.[3] In these cases, it will be important to assess this expenditure separately, in order to highlight spending on preventive interventions against malaria compared with other interventions and according to need. In many countries, the malaria programme is well funded by external donor funds provided through a number of initiatives.

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2   It has been estimated that at least 7% of all deaths among under-fives could be prevented by scaling up the use of ITNs for children where needed (Jones G et al. How many child deaths can we prevent this year? Lancet, 2003; 362: 65-71).

3   Expenditure on vaccines used in children over 5 years of age and in adults should not be included. For instance, tetanus toxoid (TT) vaccine is given to pregnant women and women of childbearing age in most countries. Expenditure on TT vaccines should be excluded from the total expenditure on vaccines in the child health subaccounts.

Sources and methods: If a malaria subaccount has been prepared, or is being done at the same time as the child health subaccount, the child health team should work together with the malaria team to identify the share of ITN expenditure that should be considered as going to child health. When this approach is taken, the numerator and the denominator of the indicator should be consistent in the two subaccounts. Note that there is also a need to ensure consistency for this indicator within the child health subaccount; since distribution costs for commodities will be included in the total expenditure on child health, they may need also to be included in the total expenditure on ITNs for children.

If no malaria subaccount is available, then the team should meet with representatives of the national malaria programme to discuss expenditures related to the procurement of nets, and to find out which are the main agencies procuring nets in the country. The main agencies can then be contacted to find out the total amount spent on ITNs. Allocation of ITN expenditures to child health can be assessed individually for each agency or provider, or by using the same global allocation rule for all ITN providers, e.g. by assuming that, say, 50% of all ITN expenditures can be allocated to under-fives. It is recommended that the percentage used is the share of ITNs that can be assumed to benefit children under 5 years old.

Table A5.2. Functional classification for ITNs for children under five

HC.5 Medical goods dispensed	
HC 5.2 Therapeutic appliances and other medical durables	
HC 5.2.1 ITNs for child health	Expenditures on ITN commodities
	Expenditures on procurement and distribution costs when applicable

A 5.3   Expenditure on immunizations

Total expenditure on immunization (TCHEim) as percentage of total expenditure on child health

Definition: The percentage share of total expenditure on child health devoted to immunization programmes for child health for the year under study.

Policy relevance and use in programmes: Immunization is one of several key public health interventions for improving child heath and reaching the MDGs. This indicator measures resources specifically used for immunization as a disease-specific intervention contributing to child health, and identifies the relative allocative effort of a country in this area.

Sources and methods: The numerator for this indicator (TCHEim) should capture all immunization-specific expenditures related to child health. Note that, in addition to routine activities, many countries rely on supplemental immunization activities to reach more children, and to respond to epidemiological needs or eradication initiatives. Mass campaigns, national immunization days, "mopping-up" activities and responses to outbreaks are becoming an integral part of national immunization programmes, and the amounts being spent to support these are important and should be included in the indicator.

The methodology used will depend on the level of accuracy desired for the indicators and the availability of data. If data are relatively abundant, a bottom-up approach can be used to estimate immunization expenditure, i.e. the specific elements listed in Table A5.3 can be summed.

Table A5.3. Functional classification for immunization interventions and activities

HC.5 Medical goods dispensed (to outpatients)	
HC 5.1 Pharmaceuticals and other non-medical durables	
HC 5.1.6 Vaccines	Vaccines used in the national immunization programme for vaccination of children under 5 according to the country's vaccination schedule. In most countries, the immunization schedule will include BCG, diphtheria–tetanus–pertussis (DTP), poliomyelitis, measles, mumps, rubella, hepatitis B, and haemophilus influenza type B (Hib). In higher-income countries, other vaccines may be given to children under 5, e.g. rotavirus and pneumococcal vaccines. Likewise, some vaccines, such as yellow fever and Japanese encephalitis, may be used in certain regions. Injection supplies, such as needles, syringes, auto-disable syringes, safety boxes and other injection supplies.
HC.6 Prevention and public health services	
HC.6 .1 Promotion of child health (IEC, social mobilization)	
HC 6.1.3 Immunizations	Social mobilization and IEC. This will include expenditure on social mobilization activities and IEC materials about the benefits of immunization.
HC.6.3 Prevention of communicable disease	
Immunization programme	This includes the salary and benefits of health workers, as well as allowances and other incentives for service delivery, outreach activities and campaigns.
HC 6.6. Central level management functions for child health	
HC 6.6.2. In-service training	Training activities. This includes short-term in-service training for immunization activities that occurs on a regular basis (e.g. training for introduction of new vaccines, injection safety, logistics, vaccine management).
HC 6.6.3 Monitoring and surveillance	Disease surveillance and monitoring. This includes expenditure on disease surveillance, supervision and monitoring activities related to immunization.
HCR.1	Cold chain equipment, maintenance and overheads. This includes expenditure on cold chain equipment specifically used by the national immunization programme. Typically, this consists of cold rooms, freezers, refrigerators, cold boxes and vaccine carriers. This should also include expenditure related to cold chain maintenance (spare parts) and overheads (fuel, electricity). Vehicles and transportation. This includes expenditure on vehicles used specifically by the national immunization programme. These typically consist of cars, four-wheel drive vehicles, trucks, motorcycles, bicycles, or boats. This should also include expenditure related to the maintenance of vehicles (spare parts, repairs) and the operational expenses (fuel).

Source: Author's analysis

Fig. A5.1 shows an average expenditure profile for immunization, based on data from 50 countries, in a country that has the vaccination schedule BCG, diphtheria–tetanus–pertussis (DTP), poliomyelitis, measles, hepatitis B, and haemophilus influenza type B (Hib). Both pie graphs shown in Figure A5.1.report on identical data. The chart on the left hand side represents the average breakdown of immunization expenditures and relative shares by HC groupings according the CHA nomenclature. The chart on the right hand side provides a breakdown of immunization expenditures and relative shares by more detailed cost categories

The rational for showing the more detailed breakdown is that in most instances, countries will have detailed information on vaccine expenditures only. The Figure illustrates how more detailed data on expenditures can be combined to arrive at the aggregate by CHA categories.

Figure A5.1 Distribution of expenditure on immunization based on data from 50 low-income countries (2005)
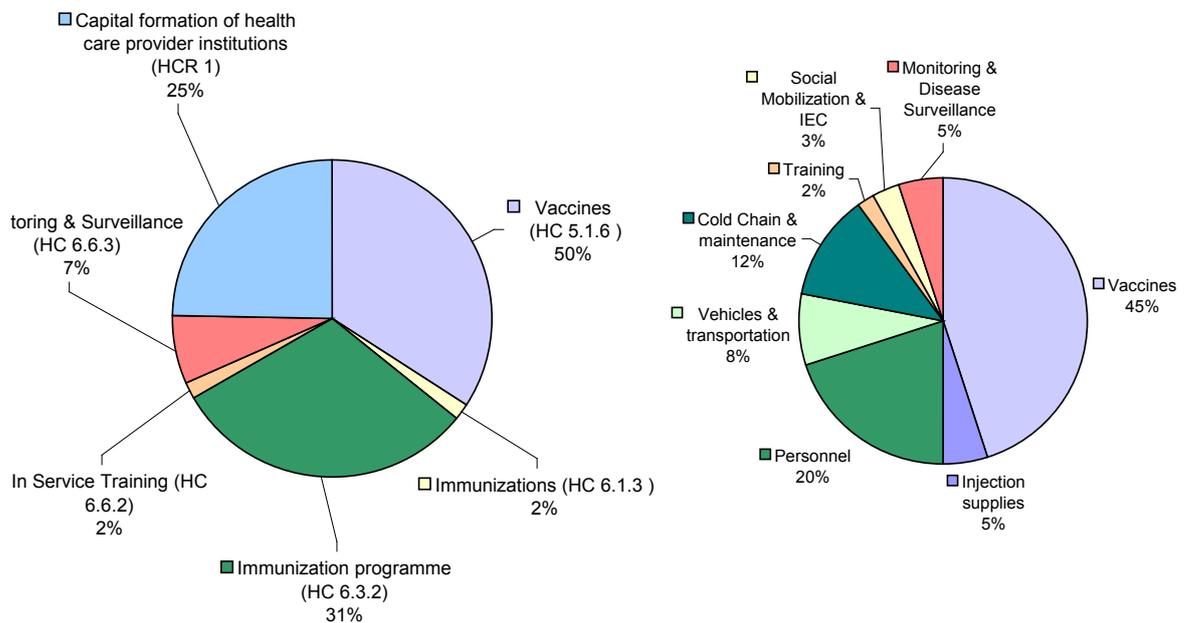
Source: national comprehensive multiyear plans for immunization.

If detailed information is not available, a top-down approach can be used to estimate the immunization expenditure. In this case, one might begin with an expenditure item that is relatively easy to estimate, such as expenditure on vaccines, and use "rules of thumb" to apportion other immunization expenditures in order to derive the total.

Using a top-down approach, if total expenditure on vaccines for children is US$100, then total expenditure on immunization can be estimated at US$200 (using the rule of thumb that vaccines account for 50% of immunization expenditure). Note that, as more vaccines are introduced into the immunization schedules, they will account for more than 50% of expenditure, and the share of other expenditure items will fall.

In many countries, immunization information systems track expenditure on vaccines, injection supplies and logistics (e.g. cold chain equipment) fairly accurately. Below are listed some recommended sources of information that should provide immunization-specific expenditure data. These should be available through the department of the Ministry of Health dealing with the national immunization programme.

1. Data collected through the WHO–UNICEF joint reporting mechanism for immunization. This annual reporting mechanism has been collecting data on immunization financing indicators, as part of a set of immunization systems indicators designed to measure system performance and trends in Member States.

2. Expenditure and financing data included as part of a national strategic plan for immunization or financial sustainability plans developed by countries eligible for support from the Global Alliance for Vaccines and Immunization (GAVI). Often these planning documents will include information on immunization expenditures and financing for the categories listed in Table A5.3.

3. Expenditure reports from supplemental immunization campaigns.

Another rule of thumb refers to the proportion of total immunization expenses that are for child health. In Sri Lanka, this was estimated at 90% (see Annex 3). An indicative rule of thumb would be to assume that at least 80% of immunization expenditure can be attributed to child health.

A 5.4 Expenditure on integrated management of sick children

Total expenditure on integrated management of sick children (TEms) as percentage of total expenditure on child health

Definition: The percentage share of total expenditure on child health devoted to integrated management of sick children for the year under study.

Policy relevance and use in programmes: This indicator measures the relative importance of resources spent on curative care at the primary care level. Studies have shown that integrated management of childhood illness (IMCI) is a cost-effective strategy for improving child health and reducing under-five mortality. The expenditure level will depend on a number of factors, including the disease burden, the availability and coverage of primary-level curative care for children, and the resources used to deliver such care.

Sources and methods: Most integrated management of sick children takes place in health centres. The measure proposed here, therefore, is expenditure on outpatient curative care. This is one of the core indicators for provider functions and should already have been calculated as one of the core indicators of the child health subaccount.

Age boundaries: As shown in Table 3.1 (Chapter 3), expenditure for outpatient curative care under HC 1.3 can be presented separately for the newborn (HC 1.3.1) and the child aged between 28 days and 5 years (HC 1.3.2). The numerator for this indicator should be the sum of HC 1.3.1 and HC 1.3.2, i.e. it should include expenditures for both newborn and children. It is recommended that, if possible, the numerator should exclude HC 1.3.3 and HC 1.3.4 (see Table 3.1 and A5.4).

Note that if HC 1.3 has not been split into subcomponents, then the indicator may refer to total outpatient curative care, as presented as an aggregate category under HC 1.3.

Table A5.4. Functional classification for integrated management of sick children

HC.1	Services of curative care (inpatient and outpatient)
HC 1.3. Outpatient curative care	
HC 1.3.1 Care of the newborn	Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and neonatal infections, including sepsis
HC 1.3.2 Management of childhood illness	Management of childhood illness – for children aged 29 days to 59 months (e.g. treatment of malaria with antimalarials, malnutrition, pneumonia and diarrhoea)

Source: Author's analysis

In countries where under-five mortality has been reduced, and where newborn deaths account for a significant proportion of deaths among children, there may be additional interest in presenting 1.3.1 separately. The next section provides more detail on this.

A 5.5 Expenditure on newborn care

Total expenditure on newborn care (TEnc) as percentage of total expenditure on child health

Definition: The percentage share of total expenditure on child health devoted to health interventions to improve newborn care for the year under study.

Policy relevance and use in programmes: Every year 4 million newborn babies die, accounting for 40% of all deaths among children under five. Yet interventions addressing newborn health reach a relatively low percentage of the population. Given the limited resources spent on neonatal health,[1] one potentially important policy question for the child health subaccounts to address is the level of investment in this area compared with that in other child health interventions, and with health expenditure in general.

The importance of newborn care will depend on the epidemiological situation in the country. Where child mortality from common illnesses, such as pneumonia and diarrhoea, has been reduced, the proportional contribution of neonatal mortality to under-five mortality will be increased.

Sources and methods: There are specific challenges related to measuring expenditure on newborn health and newborn care. As described in section 2.2, the health of a newborn (0–28 days of age) depends on activities undertaken during pregnancy, at birth, and after birth. Important aspects of prevention include healthy prenatal and delivery practices, immediate attention to breathing and warmth, hygienic cord and skin care, exclusive breastfeeding and caring behaviour that contributes to healthy development. Management of illness by a trained provider is also essential, as young children can die very quickly if an illness is not recognized.

Thus, newborn health depends in part on interventions delivered before birth, whereas newborn care refers only to care delivered after birth. However, following the boundaries recommended here, expenditures on newborn health are limited to those taking place at birth and after birth, and delivered directly to the child or the caretaker.

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;
- newborn care at birth; and
- breastfeeding counselling.

Figure A5.1 shows the boundaries of the reproductive health and child health subaccounts.

Figure A5.2. Overlaps between child health subaccounts (CHA) and reproductive health subaccounts (RHA)
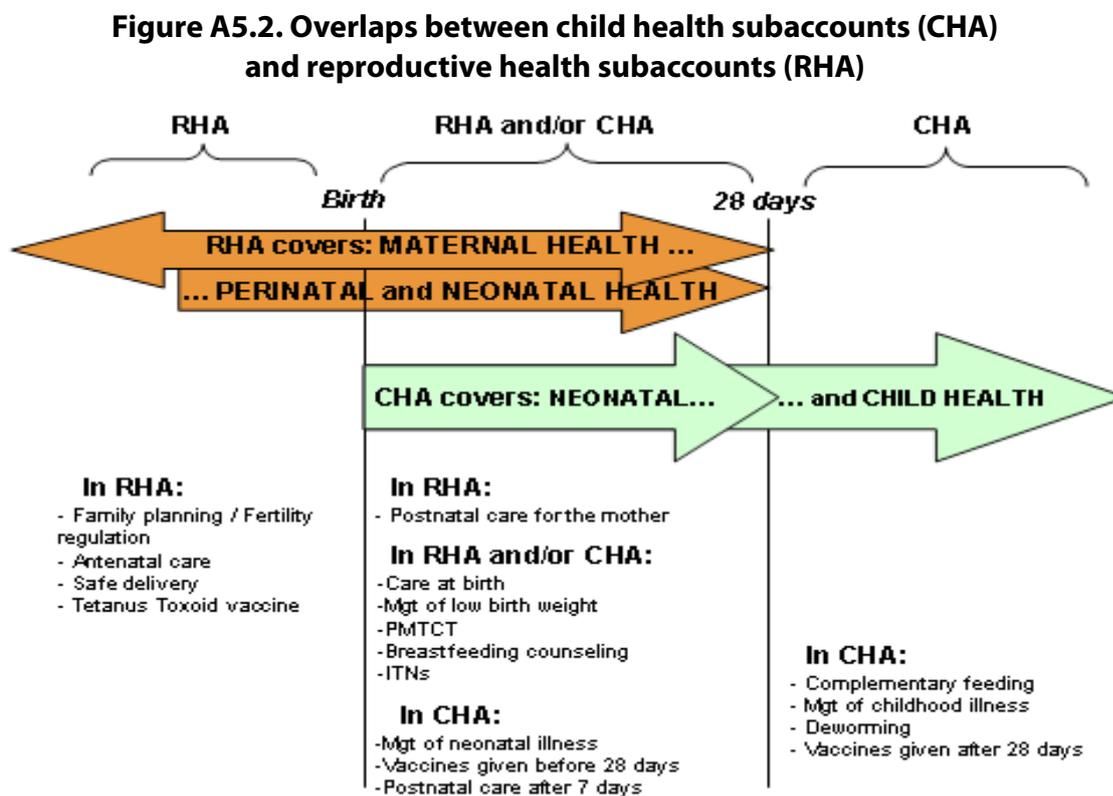
Source: Author's analysis

As shown in Figure A5.2, interventions delivered before the birth or after 28 days of age are not relevant for expenditure on newborn health. For some interventions delivered to the child between birth and 28 days of age, it may be impossible to separate expenditures on the mother from those on the newborn. One reason for this is that much of the preventive care at this time is delivered jointly to the mother and baby, such as postnatal visits. In these cases, two strategies are possible for the subaccounts:

(a) Divide the joint expenditures and allocate one part to the child health subaccount and the other part to the reproductive health subaccount. However this will underestimate the total expenditures under each of the subaccounts.

(b) Keep the joint expenditures whole and include them in both sets of accounts. If this is done, care is needed to eliminate double counting when results are presented together for total health expenditures. Overlap is not a problem per se, but it should be clearly identified.

Particular challenges are associated with interventions that are delivered to the mother but whose benefits are for both mother and child (such as ITNs), or that are delivered to both mother and child, but aimed primarily at protecting the child (such as PMTCT). It is recommended that only expenditures that are directly targeted at the child and that are provided after birth are included in the child health subaccount; expenditures for activities targeting the mother should be excluded. In practice, however, it is difficult to separate out the child-health-specific PMTCT expenditures, and the team may therefore decide to include the entire PMTCT expenditures after the birth. it should be clearly specified in the final report that this method has been used.

In the child health subaccount, curative care for the newborn is coded as HC 1.1.1 (inpatient) and HC 1.3.1 (outpatient). Preventive care falls under HC6. It is recommended that a modular approach is used when possible, simply adding up the different components of expenditure.

If there is a need to show expenditure on all interventions benefiting newborns (i.e. interventions delivered before and after birth) a modified indicator may be more useful:

Total expenditure on newborn health as percentage of total expenditure on child health and reproductive health.

In this case, the figures will need to be extracted from both the child health and the reproductive health subaccounts. It is suggested that expenditures for newborn health (interventions before birth plus newborn care up to 28 days) should be estimated in modular format, as shown in Figure A5.2.

- Include relevant expenditures for interventions such as antenatal care and safe delivery from the reproductive health subaccount.
- Include relevant expenditures for interventions, such as postnatal care and PMTCT, included in both the child health and reproductive health subaccounts, taking care that they are not counted twice in the denominator.
- Include expenditures from the child health subaccount relating to inpatient curative care, outpatient curative care, and preventive care for the newborn.

This modular approach allows the entire range of newborn health expenditures to be shown as required (total = prenatal care + birth+ postnatal newborn care). This approach is feasible when the two subaccounts are prepared at the same time.

Table A5.5. Functional classification for newborn health activities

HC.1 Services of curative care (inpatient and outpatient)	
HC 1.1. Inpatient curative care	
HC 1.1.1 Care of the newborn	• Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and infections, including sepsis
HC 1.3. Outpatient curative care	
HC 1.3.1 Care of the newborn	• Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and sepsis
HC.6 Prevention and public health services	
HC 6.1. Promotion of child health (IEC, social mobilization)	
HC6.1.1. Promotion of breastfeeding, including counselling	• Running costs for service delivery, including salaries of feeding counsellors and monitors • Training costs • Costs related to implementation of baby-friendly hospitals • IEC activities, including mass media campaigns
HC 6.1.9 Other activities	• Other activities aimed at promoting health of newborns
HC 6.3	
HC 6.3.1 Expenditure on PMTCT	• Expenditure on PMTCT
HC 6.3.2	• Expenditure on immunizations given to newborns

Source: Author's analysis

A5.6 Assessing expenditure by region

Four indicators are proposed to assess equity in financing for child health by geographic region:

- expenditure on child health per child under 5 in urban population (in absolute numbers);
- expenditure on child health per child under 5 in rural population (in absolute numbers);
- percentage of total child health expenditure spent on the urban population;
- percentage of total child health expenditure spent on the rural population.

The above indicators can be further disaggregated as needed and if data are available, to show expenditure by province within the country.

Policy relevance and use in programmes: It is relevant to compare differences in child health expenditures in different geographical regions of the country, mainly to identify inequities, so that programmes can be modified to better serve the population. Data on expenditure can also be compared with a regional analysis of the source of funds, to assess the burden of financing for child health activities. If possible, regional expenditure data should be compared with the regional distribution of the burden of disease.

Sources and methods: The calculation of these indicators will require surveys to acquire data by region as needed (e.g. utilization data, programme activities).

Annex 6

Key statistics from child health subaccounts in Bangladesh, Ethiopia, Malawi and Sri Lanka

Table A6.1. Key statistics from child health subaccounts in Malawi, 2002–03 to 2004–05

	2002–03	2003–04	2004–05
General indicators			
THE-CH (US$)	27 746 819	26 350 178	35 851 664
THE-CH per child under 5 (US$)	12	11	15
THE-CH as percentage of THE	16.8%	14.1%	15.5%
THE-CH as percentage of GDP	1.6%	1.7%	1.9%
Financing sources indicators			
Public funds for CH as percentage of THE-CH	41%	28%	30%
Private funds for CH as percentage of THE-CH	20%	23%	21%
Total household expenditure on CH as percentage of THE-CH	14%	18%	15%
Rest of the world funds for CH as percentage of THE-CH	39%	49%	49%
Financing agents indicators			
Public sector expenditure on CH as percentage of THE-CH	63%	58%	54%
Non-public sector expenditure on CH as percentage of THE-CH	30%	32%	30%
Private households' out-of-pocket spending on CH as percentage of THE-CH	14%	18%	14%
Private households' out-of-pocket spending on CH per child under 5	2.74	2.01	2.08
Rest of the world expenditure on CH as percentage of THE-CH	7%	11%	16%
Provider indicators			
Public provider expenditure on CH as percentage of THE-CH	53%	46%	49%
Public hospital spending on CH as percentage of THE-CH	39%	25%	29%
Public health centre spending on CH as percentage of THE-CH	14%	21%	20%
Private provider expenditure on CH as percentage of THE-CH	17%	27%	27%
Independent pharmacies/shops/dispensaries spending on CH as percentage of THE-CH	3%	4%	4%

	2002–03	2003–04	2004–05
Provision of prevention and public health programmes on CH as a percentage of THE-CH	27%	23%	20%
Functions indicators			
Services of curative care in CH as percentage of THE-CH	58%	71%	68%
Medical goods dispensed to outpatients for CH as percentage of THE-CH	3%	4%	8%
Services of rehabilitative care in CH as percentage of THE-CH	5%	2%	4%
Prevention and public health services for CH as percentage of THE-CH	27%	23%	20%
Capital formation for CH as percentage of THE-CH	6%	0%	1%

Source: Author's analysis

Table A6.2. Key statistics from child health subaccounts in Ethiopia, 2004–05

General indicators	
General indicators	
THE-Ch (US$)	101 095 158
THE-CH per child under 5 (US$)	7.86
THE-CH as percentage of THE	19%
Financing sources indicators	
Public funds for CH as percentage of THE-CH	24%
Private funds for CH as percentage of THE-CH (household funds)	42% (40%)
Rest of the world funds for CH as percentage of THE-CH	34%
Financing agents indicators	
Ministry of Health funds for CH as percentage of THE-CH	6%
Ministry of Education funds for CH as percentage of THE-CH	6%
Regional Health Bureau funds for CH as percentage of THE-CH	29%
Other ministries funds for CH as percentage of THE-CH	3%
Private insurance expenditure on CH as percentage of THE-CH	1%
Private households' out-of-pocket spending on CH as percentage of THE-CH	40%
CH expenditure by local non-profit institutions serving households as percentage of THE-CH	4%
CH expenditure by international non-profit institutions serving households as percentage of THE-CH	11%
Provider indicators	
Public sector facilities' expenditure on CH as percentage of THE-CH	
Hospitals	18%
Primary health care units	20%
Private sector facilities' expenditure on CH as percentage of THE-CH	
Hospitals	1%
Clinics and primary health care units	6%
Pharmacies and shops	31%
Provision and administration of public health programmes for CH as percentage of THE-CH	13%
CH expenditure on traditional practitioners as percentage of THE-CH	1%
CH expenditure on providers of health-related functions as percentage of THE-CH	3%

General indicators	
CH expenditure on other providers of health care as percentage of THE-CH	7%

Functions indicators	
Services of curative care in CH as percentage of THE-CH	28%
Medical goods dispensed to outpatients for CH as percentage of THE-CH	31%
Prevention and public health services for CH as percentage of THE-CH	20%
Capital formation for CH as percentage of THE-CH	19%
Other	2%

Source: Author's analysis

Table A 6.3. Key statistics from child health subaccounts in Bangladesh (1999–2000) and Sri Lanka (2003)

	Bangladesh 1999/2000	Sri Lanka 2003
General Indicators		
THE-CH	8769 million taka	2469 million rupees
THE-CH per child under 5	534.7 taka	1551 rupees
THE-CH as percentage of TCHE	12.10%	3.9%
Financing sources indicators		
Public funds (FS.1) for CH as percentage of THE-CH	NA	NA
Public funds (FS.1) for CH as percentage of total public funds (FS.1) for health	NA	NA
Private funds (FS.2) for CH as percentage of THE-CH	NA	NA
Rest of the world funds (FS.3) for CH as percentage of THE-CH	NA	NA
Financing agent indicators		
Public sector expenditure (HF.A) on CH as percentage of THE-CH	35%	41%
Non-public sector expenditure (HF.B) on CH as percentage of THE-CH	65%	59%
2Private households' out-of-pocket spending on CH (HF.2.3)		
as percentage of THE-CH	60%	50%
as percentage of non-public sector expenditure (HF.B) on CH	92%	85%
per child under 5	321.46	777 rupees
CH expenditure by non-profit institutions serving households (HF.2.4)		
as percentage of THE-CH	5%	0.49%
as percentage of non-public sector expenditure (HF.B) on CH	8%	1%
CH expenditure by private non-parastatal firms and corporations (HF.2.5.2)		
as percentage of THE-CH	NA	6%
as a percentage of non-public sector expenditure (HF.B) on CH	NA	10%
Provider indicators		
Hospital expenditure on CH (HP.1) as percentage of THE-CH	38%	28%
Expenditure on CH at providers of ambulatory health care (HP.3) as percentage of THE-CH	11%	26%
Functional indicators		
Services of curative care in CH (HC.1) as percentage of THE-CH	37%	46%

	Bangladesh 1999/2000	Sri Lanka 2003
Inpatient curative care in CH (HC.1.1) as percentage of THE-CH	20%	21%
Outpatient curative care in CH (HC.1.3) as percentage of THE-CH	8%	25%
Medical goods dispensed to outpatients for CH (HC.5) as percentage of THE-CH	48%	23%
Prevention and public health services for CH (HC.6) as percentage of THE-CH	8%	24%
Health administration and health insurance for CH (HC.7) as percentage of THE-CH	3%	2%
Capital formation for CH (HC.R.1) as percentage of THE-CH	1%	n.a.

Source: Author's analysis

Annex 7
Developments on
health accounts: SHA 2011

Background

Since 2000, countries have been using the OECD System of Health Accounts version 1.0 (SHA 1.0) as a standard approach to health care expenditure measurement. In 2006 a process was started by OECD, Eurostat and WHO to update the SHA in order to ensure more comprehensive, reliable, timely and comparable health care expenditure data. The new system is called SHA 2011 and is the result of a consensual process with representatives of 160 countries and the relevant international organizations and health accounts partners. The new manual can be found at http://www.who.int/nha/sha_revision/en/.

SHA 2011, compared to the previous system, aims to provide more detailed and consistent data capturing the complex systems of health financing in all countries, including low, middle, and high income countries. Among the most important changes in the new version are:

- the functional classification for prevention has been further developed by type of service
- financing is now analysed through two main classifications, which are the financing schemes (instead of the institutions managing them) and the strategies to obtain their revenues (instead of the institutions providing the resources)
- SHA 2011 has increased the options for monitoring resources based on the beneficiary characteristics, such as expenditure by disease groupings, by age and sex, by income level or by region. Child Health Accounts (CHA) is one type of construction which uses specific age classes, which are cross-classified by other categories
- an approach to factors of provision (such as compensation of employees, spending on pharmaceuticals and other goods and services) has been improved
- a greater distinction is now made between current health expenditure versus capital formation expenditure and they will be reported as two separate aggregates.
- the memorandum items (labeled health care related in SHA 1.0) are now either called Reporting Items when they introduce a different type of expenditure on health category or called Health Care Related when the content of the expenditure categories go beyond the boundary

Ensuring consistency between CHA and SHA

The methodology and guidelines for producing child health sub-accounts (CHA) outlined in this document were developed using SHA 1.0. This is the system which has been used to date in countries undertaking child health subaccounts. As it is expected that countries will progressively move towards using SHA 2011, this annex provides a mapping of the SHA 1.0 categories to the SHA 2011 categories for child health expenditures.

If a country has undertaken child health subaccounts using the classifications proposed in this manual (e.g., Table 3.1 for functional classification), the mapping in this Annex will help to reformat results according to the new SHA 2011 categories. To facilitate the migration of previous estimates as well as to facilitate the new estimations based on the updated standard, all classifications are included below, with the relevant changes on coding.

An operational approach to mapping

Mapping (crosswalk or comparison) refers to establishing equivalence between the codes and labels of the categories in SHA 2011 with the codes in SHA 1.0. A mapping is proposed in the tables below, which lists services mentioned in the CHA, and maps these to SHA 2011 classes.

The mapping between the classifications of SHA 1.0 and SHA 2011 includes a detailed breakdown:

- As in all classifications, the greater the detail, the more comparable the aggregates: the detail presented in the classifications does not mean that the detail is required for reporting, but it contributes to illustrate how to classify the expenditure items and to ensure that the content of the aggregates is more comparable.

- The table highlights in colour the cells where there is a change of code, in order to facilitate an identification of such items. This is the purpose and focus of the mapping.

- When a change of code is required from SHA 1.0 to SHA 2011, the new estimates should preferably present only the SHA 2011 code, so that there is no confusion on the organization and content of the data.

Mapping the classification of health care functions

- The underlying principle of the classification is to classify the type of service, which is reflected in the first digit. The second digit involves a mode of provision approach. The third digit refers to the type of specialization of the service.

- One of the major changes in the classification refers to prevention. In the previous SHA 1.0 classification, this class also included other public health components. The new classification scheme aims to be more policy relevant.

- When a CHA report is made based on the SHA 1.0 categories of "prevention and public health", the "prevention and public health" total will not be equivalent to the new "preventive" class in SHA 2011:

  o those components of curative and rehabilitative care offered to priority populations are expected to be reclassified accordingly, in HC1-HC4

  o the new definitions are more explicit in the content covered and there are fewer opportunities for the use of subjective criteria to classify components of administration, environmental health, nutrition and/or training, making the content more comparable over time and across countries

- In case the change is not possible, or there is a specific interest in a continued reporting by programme, the SHA 2011 classification proposes a memorandum item class, which captures SHA 1.0 "prevention and public health" categories.

- In order to adjust the distribution of CH expenditure by type of function according to SHA 2011, the following is considered:

  o Boundaries: clear specifications are made on the inclusion and exclusion of prevention, administration and environmental health, nutrition, training, and research.

  o Distribution of public health services among the corresponding HC1-HC4 classes.

  o Codes to report expenditure on curative-rehabilitative-long-term care (LTC) and non-identified by function categories remain unchanged for the first and second digit but change in the third digit: specialized and general care were only indicated for outpatient care in SHA 1.0 and now they cover inpatient, outpatient and day care. Moreover, some therapeutic appliances have changed the third digit code. The CHA classes in curative care need to split the content as general and specialized services; otherwise, they need to be reported in a more aggregate level.

  o Changes in preventive care: preventive classes are now disaggregating programme components by type of services. While doing this, the specific nature of child and neonatal care can be retained by opening a subclass with a specific label.

  o Three tables are inserted below: the classification of child health functions as presented in this guide, highlighting the changes based on SHA 2011; the mapping for public health and prevention class in SHA 1.0, with the listed examples in SHA 1.0; and the preventive classification and its mapping as displayed in SHA 2011.

  o The SHA 2011 functional classification does not include capital formation, thus a table with additional capital goods categories should be generated (see further below).

Table A7.1 Classification of child health functions

ICHA code in CHA according to SHA 1.0	Description	ICHA code and notes for SHA 2011
HC.1–HC.5	**Personal health services and goods**	**Personal care is reflected in more classes, not only HC.1-HC.5**
HC.1	Services of curative care (inpatient and outpatient)	HC.1
HC.1.1	Inpatient curative care	HC.1.1
HC.1.1.1	• *Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and infections, including sepsis*	*Code HC.1.1.1 reserved for general inpatient curative care*
HC.1.1.2	• *Management of childhood illness – in children aged 29 days to 59 months (e.g. intravenous infusion for severe dehydration; treatment of cerebral malaria; severe malnutrition and severe pneumonia)*	*Code HC.1.1.2 reserved for specialised inpatient curative care*
HC.1.1.3	• *Management of children exposed to HIV/AIDS*	
HC.1.1.4	• *All other curative inpatient services provided to children aged 0–5 years (e.g. injuries)*	
HC.1.2	Day cases of curative care	HC.1.2
HC.1.3	Outpatient curative care	HC.1.3
HC.1.3.1	• *Care of the newborn – management of illness in children aged 0–28 days, including clean cord care, newborn resuscitation, temperature management, case management of neonatal pneumonia and infections including sepsis*	*Code HC.1.3.1 reserved for general outpatient curative care*
HC.1.3.2	• *Management of childhood illness – in children aged 29 days to 59 months (e.g. treatment of malaria with antimalarial, malnutrition, pneumonia and diarrhea)*	*Code HC.1.3.2 reserved for dental outpatient curative care*
HC.1.3.3	• *Management of children with symptomatic HIV/AIDS or exposed to HIV/AIDS*	*Code HC.1.3.3 reserved for specialised outpatient curative care*
HC.1.3.4	• *All other curative outpatient services provided to children aged 0–5 years*	
HC.1.4	Services of curative home care	HC.1.4
HC.2	**Services of rehabilitative care**	**HC.2**
HC.3	**Services of long-term nursing care**	**HC.3**
HC.4	**Ancillary services to medical care**	**HC.4**
HC.5	**Medical goods dispensed to outpatients** [a]	**HC.5**
HC.5.1	Pharmaceuticals and other medical nondurables	HC.5.1
HC.5.1.1	• *Prescribed medicines*	*HC.5.1.1*

ICHA code in CHA according to SHA 1.0	Description	ICHA code and notes for SHA 2011
HC.5.1.2	• *Over-the counter medicines*	*HC.5.1.2*
HC.5.1.3	• *Other medical nondurables*	*HC.5.1.3*
HC.5.1.4	• *Oral rehydration salts*	*HC.5.1.1; HC.5.1.2;*
HC.5.1.5	• *Breastmilk substitutes for HIV/AIDS-exposed children*	*HC.5.1.3*
HC.5.1.6	• *Vaccines*	*HC.5.1.1; HC.5.1.2*
HC.5.1.7	• *Micronutrient supplements given directly to all under five-year-olds (e.g. vitamin A programme, iodized salt etc)*	*HC.5.1.1; HC.5.1.2;*
HC.5.2	Therapeutic appliances and other medical durables	HC.5.2
HC.5.2.9	• *Insecticide-treated nets for child health*	*HC.5.2.9*
HC.6–7	**Collective health services**	**Not restricted to collective services**
HC.6	**Prevention and public health services**	**Preventive Care**
HC.6.1	Promotion of child health (information, education and communication (IEC), social mobilization)	HC.6.1
HC 6.1.1 *HC 6.1.2* *HC 6.1.9*	• *Promotion of breastfeeding, including counseling* • *Promotion of complementary feeding, including counseling* • *Other activities aimed at promoting health of children up to the age of 5 years, including general IEC to promote care-seeking, specific IEC for vaccines and other campaigns, promotion of child health days, activities aimed at prevention of injuries and violence, and support to early child development*	
HC.6.2	School health services	See table of mapping for prevention below
HC.6.3	Prevention of communicable diseases	See table of mapping for prevention below
HC.6.3.1 *HC.6.3.2* *HC.6.3. 3* *HC.6.3. 4* *HC.6.3.9*	• *PMTCT* • *Immunization programme* • *Water and sanitation activities targeted at eliminating waterborne disease, when delivered as part of a child survival programme* • *Insecticide-treated materials/ insecticide-treated net activities* • *Other preventive health services provided to children up to the age of 5 years (e.g. deworming)*	See table of mapping for prevention below
HC.6.4	Prevention of noncommunicable diseases	See table of mapping for prevention below

ICHA code in CHA according to SHA 1.0	Description	ICHA code and notes for SHA 2011
HC.6.4.1 *HC.6.4.2* *HC.6.4.9*	• *Targeted food fortification* • *Micronutrient supplementation to malnourished children* • *Other preventive health services provided to children up to the age of 5 years (e.g. prevention of injuries and violence)*	*See table of mapping for prevention below*
HC.6.6	Central level management functions for child health	HC.7
HC.6.6.1	*Guideline development*	*Depending on the content: see table of mapping for prevention below*
HC.6.6.2	• *In-service training* • *In-service training of health centre staff for the delivery of child health services* • *In-service training of hospital staff for the delivery of child health services* • *Training of community health workers to deliver specific child health activities, such as immunization*	Depending on the content: see table of mapping for prevention below
HC.6.6.3	• *Monitoring and surveillance*	*HC.6.4/HC.6.5*
HC.7	**Health administration (stewardship) and health insurance**	**HC.7**
HC.7.1	General government administration of health (e.g. formulation, coordination, administration and monitoring of child health policies, programmes and plans, preparation of legislation, production and dissemination of information)	HC.7.1
HCR.1–HCR.5	**Health-related functions**	
HCR.1	Capital formation of health care provider institutions	New account see table further below
HCR.2	Education and training of health personnel • *Pre-service training for the delivery of child health services*	When part of a service is included in the expenditure of the related activity (intermediate consumption)
HCR.3	Research and development in child health	When part of a service is included in the expenditure of the related activity (intermediate consumption)
HCR.5	Environmental health General water and sanitation activities, not specifically delivered as part of a child survival programme, Programmes aimed at reducing indoor air pollution	HCR.2

Table A7.2 Preventive and public health classes and examples listed in SHA 1.0 and corresponding codes in SHA 2011

Content: mostly as described in SHA.1	Programme Code SHA.2	New item	Programme Code SHA.1	Content: mostly as described in SHA.1	Programme Code SHA.2	New item	Programme Code SHA.1
Maternal and child health; family planning and counselling			HC.6.1	**Prevention of non-communicable diseases**			
Genetic counselling	HC.6.1		HC.6.1	Health education	HC.6.1		HC.6.4
Identification of genetic abnormalities	HC.6.3		HC.6.1	Disease prevention	HC.6		HC.6.4
Prenatal and postnatal medical care	HC.6.4		HC.6.1	Health promotion	HC.6.		HC.6.4
Baby health care	HC.6.4		HC.6.1	Programmes of risk avoidance	HC.6.1		HC.6.4
Pre-school and school child health	HC.6.4		HC.6.1	Improvement of health status not directed specifically towards communicable disease	HC.6.4		HC.6.4
Programme design, monitoring and evaluation		HC.6.5		Interventions against smoking, alcohol and substance abuse	HC.6.1		HC.6.4
Regulation linked to basket of services and population coverage on MCH, FP	HC.6.1	HC.7.1		Activities by community workers	HC.6		HC.6.4
School health services				Services provided by self-help groups	HC.6.1		HC.6.4
Education	HC.6.1		HC.6.2	General health education and health information	HC.6.1		HC.6.4
Screening	HC.6.3		HC.6.2	Health education campaigns	HC.6.1		HC.6.4
Disease prevention	HC.6		HC.6.2	Campaigns in favour of health promotion (life style, sex, etc)	HC.6.1		HC.6.4
Health promotion	HC.6		HC.6.2	Information exchanges (alcoholism, drug addiction)	HC.6.1		HC.6.4
Basic medical treatment (including dental care)	HC.1		HC.6.2	Public health environmental surveillance	HC.6.5		HC.6.9
Interventions against smoking, alcohol and substance abuse (in school)	HC.6.1		HC.6.2	Public information on environmental conditions	HC.6.1		HC.6.9
Vaccination programmes	HC.6.2		HC.6.3	Programme design, monitoring and evaluation	HC.6.5	HC.6.5	

Content: mostly as described in SHA.1	Programme Code SHA.2	New item	Programme Code SHA.1
Programme design, monitoring and evaluation		HC.6.5	
Regulation linked to basket of services and population coverage on school health		HC.7.1	
Prevention of communicable diseases			
Compulsory reporting and notification of diseases	HC.6.5		HC.6.3
Epidemiologic enquiries of communicable diseases	HC.6.5		HC.6.3
Trace contacts and origin of disease	HC.6.5		HC.6.3
Prevention of tuberculosis	HC.6		HC.6.3
Tuberculosis control (screening)	HC.6.3		HC.6.3
Immunization/vaccination (compulsory and voluntary)	HC.6.2		HC.6.3
Vaccination under maternity and child care	HC.6.2		HC.6.3
Vaccination for occupational health	HC.6.2		Exc HC.6.5
Vaccination for travel and tourism on patient's initiative	HC.1		HC.1
Programme design, monitoring and evaluation		HC.6.5	
Regulation linked to basket of services and population coverage on communicable diseases		HC.7.1	

Content: mostly as described in SHA.1	Programme Code SHA.2	New item	Programme Code SHA.1
Regulation linked to basket of services and population coverage on non-communicable diseases		HC.7.1	HC.6.5
Occupational health care			HC.6.5
Surveillance of employee health	HC.6.4		HC.6.5
Routine medical check up	HC.6.4		HC.6.5
Therapeutic care, including emergency services	HC.1		HC.6.5
Ergonomy, safety	HC.6 (health part)		Excluded
Health and environmental protection at work	HC.6 (health part)		Excluded
Accident prevention at work	HC.6 (health part)		Excluded
Programme design, monitoring and evaluation		HC.6.5	
Regulation linked to basket of services and population coverage on occupational health		HC.7.1	
All other miscellaneous public health services			HC.6.9
Operation and administration of blood and organ banks	HC.4.1.2		HC.6.9
Public health environmental surveillance	HC.6.5		HC.6.9
Public information on environmental conditions	HC.6.1		HC.6.9

Table A7.3 Classification of health care functions

Code	Description	SHA 1.0 codes
HC.1	**Curative care**	**HC.1**
HC.1.1	Inpatient curative care	HC.1.1
HC.1.1.1	General inpatient curative care	
HC.1.1.2	Specialised inpatient curative care	
HC.1.2	Day curative care	HC.1.2
HC.1.2.1	General day curative care	
HC.1.2.2	Specialised day curative care	
HC.1.3	Outpatient curative care	HC.1.3
HC.1.3.1	General outpatient curative care	HC.1.3.1
HC.1.3.2	Dental outpatient curative care	HC.1.3.2
HC.1.3.3	Specialised outpatient curative care	HC 1.3.3
HC.1.4	Home-based curative care	HC.1.4
HC.2	**Rehabilitative care**	**HC.2**
HC.2.1	Inpatient rehabilitative care	HC2.1
HC.2.2	Day rehabilitative care	HC2.2
HC.2.3	Outpatient rehabilitative care	HC2.3
HC.2.4	Home-based rehabilitative care	HC2.4
HC.3	**Long-term care (health)**	**HC.3**
HC.3.1	Inpatient Long-term care (health)	HC.3.1
HC.3.2	Day long-term care (health)	HC.3.2
HC.3.3	Outpatient long-term care (health)	part of HC.3
HC.3.4	Home-based long-term care (health)	HC.3.3
HC.4	**Ancillary services (non-specified by function)**	**HC.4**
HC.4.1	Laboratory services	HC.4.1
HC.4.2	Imaging services	HC.4.2
HC.4.3	Patient transportation	HC.4.3
HC.5	**Medical goods (non-specified by function)**	**HC.5**
HC.5.1	Pharmaceuticals and other medical non-durable goods	HC.5.1
HC 5.1.1	Prescribed medicines	HC.5.1.1
HC 5.1.2	Over-the-counter medicines	HC.5.1.2
HC 5.1.3	Other medical non-durable goods	HC.5.1.3
HC.5.2	Therapeutic appliances and other medical durable goods	HC.5.2
HC.5.2.1	Glasses and other vision products	HC.5.2.1
HC.5.2.2	Hearing aids	HC.5.2.3
HC.5.2.3	Other orthopaedic appliances, orthesis and prosthetics (excluding glasses and hearing aids)	HC.5.2.2

Code	Description	SHA 1.0 codes
HC.5.2.9	All other medical durables, including medical technical devices non-specified by function	HC.5.2.4- HC.5.2.9
HC.6	**Preventive care**	**HC.6, part of HC.R.4, HC.R.5**
HC.6.1	Information, education and counseling programmes	Part of HC.6.9, part of HCR 4, HC.R.5
HC.6.2	Immunisation programmes	Part of HC.6.3
HC.6.3	Early disease detection programmes	Part of HC.6.3, HC.6.4
HC.6.4	Healthy condition monitoring programmes	Part of HC.6.1, HC.6.2, HC.6.5
HC.6.5	Surveillance of communicable and non-communicable diseases, injuries and exposure to environmental health risks programmes	HC.6, part of HC. 4, HC. 5
HC.6.6	Preparing for disaster and emergency response programmes	Part of HC.6
HC.7	**Governance, and health system and financing administration**	**HC.7**
HC.7.1	Governance and Health system administration	HC.7.1
HC.7.2	Administration of health financing	HC.7.2
HC.9	**Other health care services not elsewhere classified (n.e.c.)**	
Memorandum items		
Reporting items		
HC.RI.1	Total pharmaceutical expenditure (TPE)	
	of which Inpatient pharmaceutical consumption	
HC.RI.2	Traditional, Complementary and Alternative Medicines (TCAM)	HC.1-HC.6.1
HC.RI.2.1	Inpatient TCAM	HC.1.1
HC.RI.2.2	Outpatient and home-based TCAM	
HC.RI.2.3	TCAM goods	
HC.RI.3	Prevention and public health services (according to SHA 1.0)	HC.6
HC.RI.3.1	Maternal and child health; family planning and counseling	HC.6.1
HC.RI.3.2	School health services	HC.6.2
HC.RI.3.3	Prevention of communicable diseases	HC.6.3
HC.RI.3.4	Prevention of non-communicable diseases	HC.6.4
HC.RI.3.5	Occupational health care	HC.6.5
HC.RI.3.9	All other miscellaneous preventive care services	HC.6.9
Health care related	**Long-term care (social)**	
HCR 1	Long-term care (social)	
HCR.1.1	In-kind Long-term social care	Part of HCR.6

| HCR.1.2 | Long-term social care cash-benefits | Part of HC.R.7 |
| HCR.2 | Health promotion with multi-sectoral approach | HC.6, HC.R.4, HC.R.5 |

Source: IHAT for SHA 2011

Mapping the providers of Child and Neonatal Health

The classification by providers has undergone minimal changes compared to SHA 1.0. Any changes made are of a self-explanatory nature. A code has been added to delineate the providers of ancillary services and all the codes after this have changed to become more aligned to those in the functional classification.

Table A7.4 Classification of health care providers

Code	Description	SHA 1.0 codes
HP.1	**Hospitals**	**HP.1.0**
HP.1.1	General hospitals	HP.1.1
HP.1.2	Mental health hospitals	HP.1.2
HP.1.3	Specialised hospitals (other than mental health hospitals)	HP.1.3
HP.2	**Residential long-term care facilities**	**HP.2**
HP.2.1	Long-term nursing care facilities	HP.2.1
HP.2.2	Mental health and substance abuse facilities	HP.2.2
HP.2.9	Other residential long-term care facilities	HP.2.3, HP.2.9
HP.3	**Providers of ambulatory health care**	**HP.3**
HP.3.1	Medical practices	HP.3.1
HP.3.1.1	Offices of general medical practitioners	HP.3.1
HP.3.1.2	Offices of mental medical specialists	HP.3.1
HP.3.1.3	Offices of medical specialists (other than mental medical specialists)	HP.3.1
HP.3.2	Dental practice	HP.3.2
HP.3.3	Other health care practitioners	HP.3.3
HP.3.4	Ambulatory health care centres	HP.3.4
HP.3.4.1	Family planning centres	HP.3.4.1
HP.3.4.2	Ambulatory mental health and substance abuse centres	HP.3.4.2
HP.3.4.3	Free-standing ambulatory surgery centres	HP.3.4.3
HP.3.4.4	Dialysis care centres	HP.3.4.4
HP.3.4.9	All other ambulatory centres	HP.3.4.5, 3.4.9

Code	Description	SHA 1.0 codes
HP.3.5	Providers of home health care services	HP.3.6
HP.4	**Providers of ancillary services**	
HP.4.1	Providers of patient transportation and emergency rescue	HP.3.9.1
HP.4.2	Medical and diagnostic laboratories	HP.3.5, 3.9.2
HP.4.9	Other providers of ancillary services	HP.3.9.9
HP.5	**Retailers and other providers of medical goods**	**HP.4**
HP.5.1	Pharmacies	HP.4.1
HP.5.2	Retail sellers and other suppliers of durable medical goods and medical appliances	HP.4.2, 4.3, 4.4
HP.5.9	All other miscellaneous sellers and other suppliers of pharmaceuticals and medical goods	HP.4.9
HP.6	**Providers of preventive care**	**HP.5**
HP.7	**Providers of health care system administration and financing**	**HP.6**
HP.7.1	Government health administration agencies	HP.6.1
HP.7.2	Social health insurance agencies	HP.6.2
HP.7.3	Private health insurance administration agencies	HP.6.3, 6.4
HP.7.9	Other administration agencies	HP.6.9
HP.8	**Rest of economy**	**HP.7**
HP.8.1	Households as providers of home health care	HP.7.2
HP.8.2	All other industries as secondary providers of health care	HP 2.3, 2.9, 7.1, 7.9
HP.8.9	**Other industries n.e.c.**	
HP.9	**Rest of the world**	**HP.9**

Mapping the financing dimension

Improvements on the financial analysis involve two major changes:

a   The emphasis has been moved from the institutional unit (financing agent) purchasing the service and paying for it, towards the financing scheme behind the purchase of the service. The rationale of the change is to focus the analysis in the financing mechanisms themselves, as frequently there is no one-to- one relationship between agents and schemes (e.g. several agents can be related to a single scheme or the opposite). The classification of schemes and the related mapping is displayed below.

b   The emphasis of the institutions providing resources to the agents has been changed to the mechanisms set by the scheme to receive their revenue. The revenue of the scheme classification is shown further below. Given that this is a new classification, there is no mapping associated with SHA 1.0.

c   Both in the case of the financing agents and the financing sources, the entities involved are kept as a reporting item in the associated classification to facilitate the continued reporting when desired.

Table A7.5 ICHA-HF in SHA 2011 in comparison to SHA 1.0

ICHA-HF classification of health financing schemes SHA 2011		ICHA-HF classification of health care financing SHA 1.0	
HF.1	**Government schemes and compulsory contributory health care financing schemes**	**HF.1**	**General government**
HF.1.1	**Government schemes**	**HF.1.1**	**General government excluding social security funds**
HF.1.1.1	Central government schemes	HF.1.1.1	Central government
HF.1.1.2	State/regional/local government schemes	HF.1.1.2	State/provincial government
		HF.1.1.3	Local/municipal government
HF.1.2	**Compulsory contributory health insurance schemes**		
HF.1.2.1	Social health insurance	**HF.1.2**	Social security funds
HF.1.2.2	Compulsory private insurance		
HF.1.3	**Compulsory Medical Saving Accounts**		
		HF.2	**Private sector**
HF.2	**Voluntary health care payment schemes (other than OOP)**		
HF.2.1	**Voluntary health insurance schemes**		
		HF.2.1	Private social insurance
		HF.2.2	Private insurance enterprises (other than social insurance)
HF.2.1.1	Primary/substitutory health insurance schemes		

ICHA-HF classification of health financing schemes SHA 2011		ICHA-HF classification of health care financing SHA 1.0	
HF.2.1.2	Complementary/supplementary voluntary insurance schemes		
HF.2.2	**NPISH financing schemes**	HF.2.4	NPISH (other than social insurance)
HF.2.3	**Enterprise financing schemes**	HF.2.5	Corporations (other than health insurance)
HF.2.3.1	Enterprises (except health care providers) financing schemes		
HF.2.3.2	Health care providers financing schemes		
HF.3	**Household out-of-pocket payment**	HF.2.3	Private household out-of-pocket expenditure
HF.3.1	Out-of-pocket excluding cost-sharing	HF.2.3.1	Out-of-pocket excluding cost-sharing
HF.3.2	Cost sharing with third-party payers:	HF.2.3.2	Cost sharing: central government
HF.3.2.1	Cost sharing with government schemes and compulsory contributory health insurance	HF.2.3.3	Cost sharing: state/provincial government
		HF.2.3.4	Cost sharing: local/municipal government
HF.3.2.2	Cost sharing with voluntary insurance schemes	HF.2.3.5	Cost sharing: social security funds
		HF.2.3.6	Cost sharing: **p**rivate social insurance
		HF.2.3.7	Cost sharing: other private insurance
		HF.2.3.9	All other cost sharing
HF.4	**Rest of the world financing schemes**	**HF.3**	**Rest of the world**
HF.4.1	Compulsory schemes (non-resident)		
HF.4.1.1	Compulsory health insurance schemes (non-resident)		
HF.4.1.2	Other schemes (non-resident)		
HF.4.2	Voluntary private schemes (non-resident)		
HF.4.2.1	Voluntary health insurance schemes (non-resident)		
HF.4.2.2	Other schemes (non-resident)		

Source: IHAT for SHA 2011.

Table A7.6 Classification of revenues of health care financing schemes

Code	Description
FS.1	**Transfers from government domestic revenue (allocated to health purposes)**
FS.1.1	Internal transfers and grants
FS 1.2	Transfers by government on behalf of specific groups
FS.1.3	Subsidies
FS.1.4	Other transfers from government domestic revenue
FS.2	**Transfers distributed by government from foreign origin**
FS.3	**Social insurance contributions**
FS.3.1	Social insurance contributions from employees
FS.3.2	Social insurance contributions from employers
FS.3.3	Social insurance contributions from self-employed
FS.3.4	Other social insurance contributions
FS.4	**Compulsory prepayment (other than FS.3)**
FS.4.1	Compulsory prepayment from individuals/households
FS.4.2	Compulsory prepayment from employers
FS.4.3	Other compulsory prepaid revenues
FS.5	**Voluntary prepayment**
FS.5.1	Voluntary prepayment from individuals/households
FS.5.2	Voluntary prepayment from employers
FS.5.3	Other voluntary prepaid revenues
FS.6	**Other domestic revenues n.e.c.**
FS.6.1	Other revenues from households n.e.c.
FS.6.2	Other revenues from corporations n.e.c.
FS.6.3	Other revenues from NPISH n.e.c.
FS.7	**Direct foreign transfers**
FS.7.1	**Direct foreign financial transfers**
FS.7.1.1	Direct bilateral financial transfers
FS.7.1.2	Direct multilateral financial transfers
FS.7.1.3	Other direct foreign financial transfers
FS.7.2	**Direct foreign aid in kind**
FS.7.2.1	Direct foreign aid in goods
FS.7.2.1.1	Direct bilateral aid in goods
FS.7.2.1.2	Direct multilateral aid in goods

Code	Description
FS.7.2.1.3	Other direct foreign aid in goods
FS.7.2.2	Direct foreign aid in kind: services (including TA)
FS.7.3	Other direct foreign transfers (n.e.c.)
Memorandum items	
Reporting items	
FS.RI.1	Institutional units providing revenues to financing schemes
FS.RI.1.1	Government
FS.RI.1.2	Corporations
FS.RI.1.3	Households
FS.RI.1.4	NPISH
FS.RI.1.5	Rest of the world
FS.RI.2	Total foreign revenues (FS.2 +FS.7)
FS Related items	
FSR.1	Loans
FSR.1.1	Loans taken by government
FSR.1.2	Loans taken by private organisations
FSR.2	Aid in kind at donor value

Source: IHAT for SHA 2011

Reporting the factors of provision

In the Producers Guide (WHO, USAID, WB 2003), based on the SHA.1 classifications, there was a proposed classification on the resource cost items. For health accountants used to generate estimates based on SHA.1 the Factors of Provision classification is new and there is no need for mapping . For health accountants working with the PG and producing a Resource Cost, the mapping is displayed below.

Table A7.7 Classification of factors of provision

Code	Description	Codes as in PG
FP.1	**Compensation of employees**	**RC.1.1**
FP.1.1	Wages and salaries	RC.1.1.1
FP.1.2	Social contributions	RC.1.1.2
FP.1.3	All other costs related to employees	
FP.2.	**Self-employed professional remuneration**	**RC.1.1.3**
FP.3	**Materials and services used**	**RC.1.2**
FP.3.1	Health care services	RC.1.2.2
FP.3.2	Health care goods	RC.1.2.1
FP.3.2.1	Pharmaceuticals	RC.1.2.1.1
FP.3.2.2	Other health care goods	RC.1.2.1.2
FP.3.3	Non-health care services	RC.1.2.2
FP.3.4	Non-health care goods	RC.1.2.1.2
FP.4	**Consumption of fixed capital**	**RC.1.3**
FP.5	Other items of spending on inputs	
FP.5.1	Taxes	
FP.5.2	Other items of spending	

Reporting the fixed capital spending

The main purpose of the capital classification is to reflect greater detail of investments. Major classes are notably the buildings and the equipment. As the functional classification was not displaying categories of capital spending, with SHA 2011 the breakdown can be made as required. No mapping is needed. The second table below presents some examples for the CHA.

Table A7.8 Classification of Capital Formation

CODES SHA 2011	CAPITAL FORMATION (HK)	PG CODES	SHA 1.0 & PG CODES
HK.1	Gross capital formation	RC. 2	HC.R.1
HK.1.1	Gross fixed capital formation		
HK.1.1.1	Infrastructure	RC.2.1	
HK.1.1.2	**Machinery and equipment**	**RC.2.2**	
HK.1.1.3	Intellectual property products		
HK.1.2	Changes in inventories		
HK.1.3	Acquisitions less disposals of valuables		
HK.2	**Non-produced non-financial assets**		
	MEMORANDUM ITEMS (HKR)		
HKR.1	Loans		
HKR.2	Accumulated savings		
HKR.3	**Public-private partnerships**		
HKR.4	Research and development in health		HC.R.3
HKR.5	Education and training of health personnel		HCR.2

Table A7.9 Classification of capital formation and examples for Child Health components

CODES SHA 2011	CAPITAL FORMATION (HK)	Child Health Examples
HK.1	Gross capital formation	
HK.1.1	Gross fixed capital formation	
HK.1.1.1	Infrastructure	Paedriatic Hospital
HK.1.1.2	Machinery and equipment	Incubator, specialised children beds, laboratory equipment for paediatric use, ambulance for paediatric use
HK.1.1.3	Intellectual property products	Software for paedriatic use, programs for mental development stimulation for children, Database on prevalence of epidemiologic paediatrics
HK.1.2	Changes in inventories	Stock of vaccines (changes)
HK.1.3	Acquisitions less disposals of valuables	
HK.2	Non-produced non-financial assets	
	MEMORANDUM ITEMS (HKR)	
HKR.1	Loans	
HKR.2	Accumulated savings	
HKR.3	Public-private partnerships	
HKR.4	Research and development in health	
HKR.5	Education and training of health personnel	

National health accounts are widely recognized as a valuable tool in the stewardship of a country's health system. Such accounts provide a systematic compilation and display of health expenditure, tracing how much is being spent, where, on what and by whom. As such, they can play an essential role in efforts to assess the performance of the system and identify opportunities for improvement.

However, policy-makers often need more detailed information, for instance on spending levels and patterns for particular components of health care. As governments seek to meet their commitment to achieve the Millennium Development Goals (MDGs), such information will be invaluable in allowing a more effective use of resources and highlighting gaps in spending.

The present document offers detailed guidelines on the construction of health accounts for child health care, an area that is specifically targeted in MDG4. Building on previous guides on the production of national health accounts, it shows how the various techniques and approaches can be used to focus on the specific categories of spending that contribute to child health.

Every year, some 9 million children under the age of five die. If this figure is to be significantly reduced, policy-makers and programme managers will need to base their decisions on reliable information, including financial information. Child health subaccounts can make a major contribution to providing such information, allowing resources to be rationally allocated between competing needs, strategic priorities to be set, and sustainable funding for child health programmes and strategies to be ensured.

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