

PART I  
*Chapter 2*

**Purposes and Principles  
of Health Accounts**

## Introduction

A *System of Health Accounts 2011* reflects a desire to make health accounts more adaptable to rapidly evolving health systems around the world by further enhancing the cross-country comparability of health expenditure and financing data and thereby increasing the information base for its analytical use. Moreover, it is hoped that the new version of the SHA will make it more useful as a tool in the assessment and monitoring of health systems and in the analysis of the importance of health expenditures from a consumption perspective in the economy as a whole.

This chapter therefore provides an overview of the purposes of the System of Health Accounts, and then describes the principles from which it has been derived. The chapter concludes with a discussion of how information on health expenditures has been used in the past and of some of the anticipated analytical uses of information generated from SHA 2011.

## Background

Efforts to describe financial flows associated with the consumption of health care can be traced as far back as the 1920s (Fetter, 2006). In the early 1960s, Abel-Smith and others carried out a number of studies measuring health expenditures in developing countries (Abel-Smith, 1963; Abel-Smith, 1967). In the 1970s (and in some country cases such as France and the Netherlands, the 1950s), OECD countries regularly began to estimate health expenditures, with relatively aggregated information on private and public expenditures.<sup>1</sup> Of these initial efforts, perhaps the most comprehensive exercise was undertaken by the United States, which provided detailed information on the sources of health financing, along with associated expenditure data (Waldo, 1996). The above efforts reflect, in part, the systematic development of national economic accounts as a means to measure aggregate economic activity.<sup>2</sup> Over the years, studies have also been undertaken to describe financial flows for a subset of health consumption expenditure categories such as HIV/AIDS, regions and socioeconomic groups.

In more recent years, there have been two major efforts to systematise the collection of information on financial flows related to health care. These include the publication of *A System of Health Accounts (SHA 1.0)* by the OECD in 2000, including an associated set of classifications of financial flows known as the International Classification of Health Accounts (ICHA); and the combined efforts of the WHO, World Bank and USAID that led to the development in 2003 of the “Guide to Producing National Health Accounts”, otherwise referred to as the *NHA Producers Guide (PG)*. These were the first standards to receive wider acceptance and use in producing health expenditure data globally. These have led to the compilation of internationally comparable data sets within the framework of joint data collection by the OECD, Eurostat and WHO, and each manual has contributed to a considerable number of studies in higher-income countries (SHA 1.0) (Orosz and Morgan, 2004) and in low- and middle-income countries (*NHA Producers Guide*). Since their publication,

the international organisations have sought to support the efforts of countries to implement these standards through various means, including, *inter alia*, grants directed to individual countries, methodological workshops for country experts, or various cross-country projects to enhance data analysis and the development of indicators based on the SHA methodology. Other guidelines have been produced targeting a regional coverage and using varying approaches (Eurostat/UK ONS, 2003; PAHO, 2005), and many adjustments have been made to guide national policy (see, for example, van Mosseveld and Smit, 2005) as well as sub-national estimations (see, for example, Kamp-Nielsen, 2002; Schneider *et al.*, 2002; and Brændvang, 2008).

### **Purposes and objectives of the System of Health Accounts 2011**

SHA 2011 provides a standard for classifying health expenditures according to the three axes of consumption, provision and financing. It gives guidance and methodological support in compiling health accounts. More specifically, the purposes of the System of Health Accounts 2011 are:

- to provide a framework of the main aggregates relevant to international comparisons of health expenditures and health systems analysis;
- to provide a tool, expandable by individual countries, which can produce useful data in the monitoring and analysis of the health system;
- to define internationally harmonised boundaries of health care for tracking expenditure on consumption.

In order to pursue these purposes, SHA 2011 provides the basis for collecting, cataloguing and estimating all the monetary flows related to health care expenditure.

### **Principles of the System of Health Accounts 2011**

The guiding principles in defining the dimensions and classifications of SHA 2011 have been the relevance and usefulness for health analytical purposes, continuity with existing standards and improved links to the System of National Accounts (SNA). The starting point for SHA 2011 is the consumption of services and goods by the resident population of a country or region. This influences the structure of the classifications in that, in describing the system, it is the final consumption by residents which is given priority, over production.

This Manual has been developed by applying a functional approach to what is provided and consumed in health care. This means that health expenditures are included regardless of how or by whom the service or good is funded, or how and by whom it has been provided. For example, health services provided and consumed outside the SNA-defined health branch (such as occupational health services or medical services in residential long-term care) are part of the final consumption of health services of the resident population, and thus included in SHA. The way health care is financed, for example, whether or not the final consumed health service is paid for or reimbursed by a public entity, is not decisive for inclusion or exclusion in the health accounts.

### **Health systems and the System of Health Accounts**

Health systems have complex, nationally determined frameworks that are strongly influenced by culture, politics and economics, with links across economic sectors, public administration and various activities related to social participation. Due to the multi-factorial

nature of health and the multi-sectoral contribution to health status, a health systems framework is much wider than the SHA approach, notably with respect to the boundaries of health expenditure. While health systems can vary significantly among countries, SHA aims to enhance international health care expenditure data by delineating the boundary of health care according to a functional classification.

The health system framework described by the World Health Organisation is defined as consisting of all the organisations, institutions, resources and people whose primary purpose is to improve health (WHO, 2000). Four components or *functions* in this framework are essential to reaching the final objectives, which also serve as the standards by which its performance is ultimately measured:

- *Governance*: oversight of the system including policy-making and appropriate regulation and monitoring;
- *Resource generation*: investment in personnel as well as in key inputs and technologies (human, physical and knowledge);
- *Human resources*: investments in, and provision of, a well-performing health workforce;
- *Medical products and technology*: production and provision of cost-effective medical goods, pharmaceuticals and knowledge;
- *Capital goods*: investments in fixed and other types of capital to be used in future health provision;
- *Financing*: raising revenue for health, pooling resources and purchasing services;
- *Service delivery (provision)*: “combination of inputs into a service production process that delivers health interventions to individuals or to the community (...); aims at producing the best and most effective mix of personal and non-personal services, and making them accessible” (WHO, 2005a).

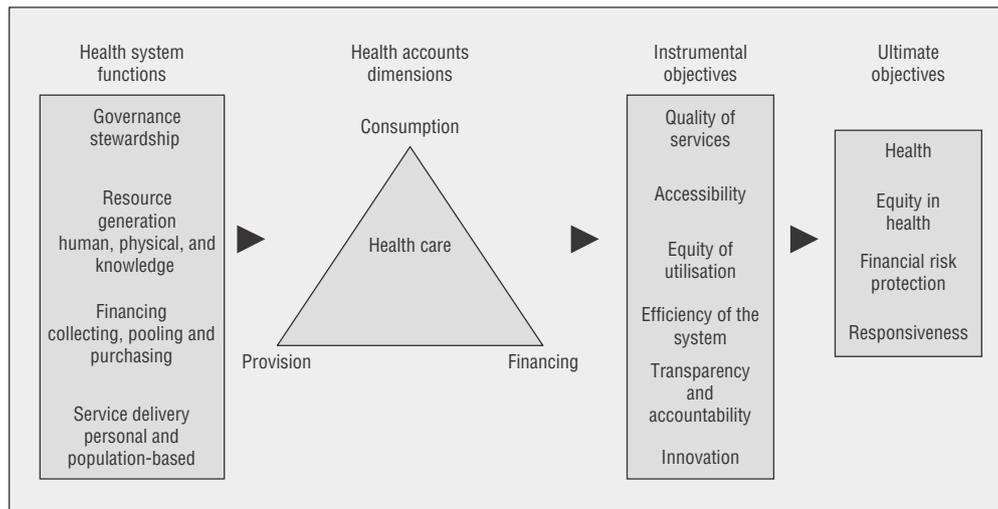
This health system framework also defines a set of objectives. These objectives can vary in importance over time and between countries, but their attainment is dependent on how the health system performs. All these objectives are, in various forms and by various names, subject to measurement for the analysis and monitoring of health systems performance. Figure 2.1 shows how the various dimensions of the SHA nestle between the different health system functions and the objectives of the health system framework, reflecting the policy relevance of these dimensions. The subsequent text explains and defines these dimensions.

All four functions of the health system (governance, resource generation, financing and service delivery) can be linked to the three axes of health accounts: consumption, provision and financing. Each axis is associated with specific classifications, but there is no unique classification matching each axis. For example, the financing axis can be measured equally by financing schemes and financing agents. Consumption is the starting point, and the goods and services consumed with a health purpose (functions) set the boundary of the health accounts (see Chapter 4). What has been consumed has been produced and provided, thus another axis is provision. Finally, what has been consumed and provided has been financed. This means that the third axis, financing, as well as the second axis on provision are measured according to the consumption.

The associated key health accounting dimensions include:

- Classification of health care functions (HC);

Figure 2.1. **Linkage between the frameworks of health systems and health accounts**



Source: Adapted from WHO (2000).

- Classification of health care providers (HP);
- Classification of financing schemes (HF).

SHA 2011 defines additional dimensions compared to SHA 1.0 that allow the compilation of complementary indicators of the health system:

- Classification of types of revenues of health financing schemes (FS) (Chapter 8);
- Classification of factors for health care provision (FP) (Chapter 9);
- Classification of beneficiaries: age, gender, disease, socioeconomic characteristic or region (Chapter 10);
- Classification of human resources in health care using ISCO 2008 (Annex C);
- Classification of health care goods and services (Annex E).

For financial flows under SHA to be policy relevant, they should help monitor and assess the attainment of objectives relevant to any given health care system. The health systems framework guides us to produce data that are useful for the analysis of health care. Indicators for some of the objectives can be developed using expenditure data only. Data arranged in health accounts tables show where the money comes from, who manages it and what it is used for, which enhances the *transparency and accountability* of the health system. For countries that receive significant amounts of external resources, tracking these financial flows over time can capture trends associated or consistent with aid volatility, additionality and fungibility as well as the potential implications for sustainability. Indicators for *financial risk protection* can be developed with data on the amounts of out-of-pocket spending and the levels of various forms of pre-paid resources. Indicators for *equity in financing* can be developed with data on the sources of funds, on expenditure (in combination with utilisation and income), and on types of revenue and beneficiaries.

Other objectives, however, need a combination of expenditure and non-expenditure data. For example, data on expenditure in combination with utilisation can be used to develop indicators of *accessibility* and *equity*. Expenditures on the different functions in

health care can, under certain assumptions, be used as indicators of *efficiency* in combination with data on outcomes.

SHA 2011 is intended to be a statistical standard that can provide data for various analytical needs. The classifications are developed in such a way that they can be used on different levels of aggregation. The various dimensions are intended to make it possible to describe the health system more comprehensively from an expenditure perspective for those countries that find it useful to do so.

SHA 2011, like the System of National Accounts (SNA 2008), is intended to constitute a system of *comprehensive*, internally consistent and internationally *comparable* accounts, which should be *compatible* with other aggregate economic and social statistics as far as possible. Overall, SHA 2011 has sought to adopt, wherever appropriate, definitions and concepts from existing statistical systems that have been approved and defined under the auspices of the United Nations and other international and regional organisations.

Being *internally consistent* makes it possible to use identities and accounting rules for cross-checking the validity of estimates derived along the different dimensions of the SHA and to identify gaps and deficiencies in current reporting systems and health accounts, thereby indicating priorities for the continued improvement of the data quality. During the implementation of SHA 1.0 and the *Producers Guide*, considerable progress was made in terms of *comprehensiveness*. The accounts and the data produced have increasingly provided a more comprehensive picture of countries' health systems, as can be seen in the OECD-Eurostat-WHO joint questionnaire data collection from 2005 onwards. In developing SHA 2011, it has been particularly important to respect alignment with the first edition and with the *Producers Guide* in order to help countries to migrate from the old system towards a new standard, and to build time series that are consistent according to the revised classifications. These demands were at the same time constraints in the development of SHA 2011, e.g. the quality criteria of the SHA are competing with the goals of *timeliness* and *precision* in reporting.

## **Analytical uses**

The allocation of resources involves a continual decision-making process in the health system, and better-informed decision-making selectively uses the available knowledge in order to make sustained choices. Health accounts have been developed to help decisions linked to the allocation of resources to better meet the objectives of the health system. They are expected to be used by people analysing resource use in the health system for the purposes of both accountability and planning.

The focus and importance of different policy aspects and research interests have evolved since the first version of the SHA, and they will continue to change. The analytical use of SHA will depend on how well it meets these changing needs, and how well it can capture developments in health systems. The financing of health care has become even more complex, with innovative mixtures of funding arrangements. Private and public mixes in financial contributions and organisational arrangements are increasing, as are the forms of prepaid arrangements. Medical and information technologies are developing with increasing speed which has a strong impact on how services are delivered. For example, the Internet and the increased availability of information is promoting health literacy. Individuals are increasingly engaged in self care, including preventive and even curative care. Individuals can now check their medical records, monitor themselves, relay

information to their practitioners and order drugs on the Internet. There are strong trends towards the consumption of alternative medicine and engagement in health-promoting activities. Similarly, we live in an increasingly globalised world, resulting in an increasing movement of goods, services and patients across national borders. One clear manifestation is the phenomenon of medical travel. These emerging health trends not only make it more difficult to capture the flow of funds at country level, but also make it more important to define, assess and monitor them. They also enlarge the range of interested users of the expenditure estimates.

### **Uses of national health accounts and SHA data**

Information from national health accounts and associated efforts has been used in a variety of ways by policy makers and researchers. For example, information on NHA-derived health expenditure flows has been used to study the growth of health expenditures and its potential determinants in the United States and other OECD and EU countries, and also, more recently, in China and India (Newhouse, 1992; Yip and Mahal, 2008). Newhouse, for instance (1992), used health expenditure for the United States to argue that technological change was the single most important factor driving health care costs in the United States. Other studies have sought to measure the relationship between GDP growth and health spending to assess the “income elasticity of demand” for health care, and to project health care spending (Chawla *et al.*, 1997).

Another popular use of data on national health expenditure has been to assess the impact of ageing on health expenditures (Gerdtham *et al.*, 1992), in particular through the use of the panel structure of health expenditure data (cross-sectional time series). While the literature suggests that the effects of ageing on medical care spending are likely to be small *per se*, projections of age-related expenditure in the EU 2009 Ageing Report indicate that the combined effects of health status and age will place strong upward pressure on long-term care spending in the future (European Commission, 2009). Some of the work in this area has focused on how the concentration of health spending in the time shortly before death, and not so much ageing *per se*, is a major driver of health expenditures (Zweifel, 2004; Polder *et al.*, 2007). Most of these analyses rely heavily on individual-level information from insurers and household surveys.

Cross-country and cross-provincial health expenditure data, in conjunction with information on indicators of health outcomes, such as life expectancy at birth, have been used to assess the “overall efficiency” of health spending, often using sophisticated stochastic frontier techniques (Swedish Association of Local Authorities and Regions *et al.*, 2007). Moreover, some studies have used specific components of health spending information available from health accounts data, for instance, public spending on health, to consider that particular component’s impact on health (Anand and Ravallion, 1993). Some analyses have also compared health system characteristics across countries so as to identify their relative impact on health expenditures (OECD, 1990).

In a survey of the literature, Berman (1997) argued that careful national health accounts analyses can contribute towards a better understanding of the health system. He noted, for instance, how national health accounts data shed light on the fact that the public sector played only a small role in the provision of primary care in India, despite years of public investment in such provision (D’Çruz and Barat, 2001). In Mexico, the use of the NHA methodology led to significant upward revisions in estimates of both private and overall national health spending (Frenk *et al.*, 2003). National health accounts data could

offer a useful aggregate picture of the impact of health reform efforts, including to make expenditure projections and to assess sustainability (Berman *et al.*, 2003). Information on patterns of financing, such as a high share of private out-of-pocket spending by households, has been used in various policy documents to highlight the lack of risk-pooling mechanisms (Kutzin, 2008). The large share of foreign funding in health has also been used to point out potential problems with the predictability and sustainability of funding (Peeples, 2009).

More recent instances of how data from national health accounts analyses have been used at a country level include the case of Turkey, which highlighted differences in health spending by age and socio-economic groups (Government of Turkey, 2003). Moreover, recent studies and analyses have seen SHA-based data broken down by beneficiary characteristics, such as disease, age and gender (see Chapter 10). Country-level analyses have also focused on disease-specific sub-accounts, specifically HIV/AIDS, highlighting both overall allocations, the distribution of spending between preventive and curative care, and patterns of international financing (see *e.g.* Avila-Figueroa *et al.*, 2002). The reporting of expenditure on HIV/AIDS is now a global effort and is part of the annual UNGASS report.<sup>3</sup> Some of the Millennium Development Goals (MDG)<sup>4</sup> reported by countries also include expenditures.

At a European level, SHA data is currently used to develop common EU indicators on health and long-term care expenditure, as well as to monitor various EU policy objectives, such as the goals of social inclusion and social protection, which encompass health care.<sup>5</sup> Both national and EU level reports have made use of SHA data to help evaluate health care system performance as well as to assess the impact of both health care reforms or unexpected events (such as the global financial crisis that started in 2008) on the living conditions of EU citizens.<sup>6</sup>

A study of how NHA data has been used in 21 low- and middle-income countries gives several examples of how new data has informed decision-making (De *et al.*, 2003). The study showed that the main users in these 21 countries are the ministries of health and the donors and gave the following examples:

- Off-budget and fragmented donor support to the health sector revealed in the NHA work supported the development of a Sector-Wide Approach in Tanzania;
- NHA and non-expenditure health data were instrumental when Egypt increased spending on primary health care, after data showed a lack of alignment between actual spending and public policy, and a heavy reliance on households' payments;
- NHA studies in South Africa have shown how inequitably health was funded, across regions and across income groups.

Analyses of the impact of reform efforts – such as the introduction of user fees in India, or medical savings schemes in China – typically rely on individual level information that is not accessible from NHA data. For example, analyses of the introduction of a school health insurance scheme in Egypt (Yip and Berman, 2001) and price controls on hospital services in China (Eggleston and Yip, 2004) all required information either at the household level or at the level of individual hospitals. In Burkina Faso, national health accounts data encouraged the government to reallocate the ministerial budget, giving priority to improving access to health care in poorer regions.<sup>7</sup>

There is no doubt from the preceding section that the information on financial flows from existing health accounts work has been used for different types of policy and research

activities, and particularly for cross-country and cross-provincial comparative analyses. These achievements notwithstanding, it is clear that, when viewed in the context of the broader research and policy agenda on health financing and health systems, health accounts data need to be complemented with other types of health expenditure data.

### Notes

1. Since the late 1970s, Jean-Pierre Poullier was the driving force in creating comparable national expenditure series on health for OECD member states, resulting in a database of health spending and background information. See OECD (1977), OECD (1985) and OECD (1990). See also Scheiber and Poullier (1989); Poullier et al. (2002); Murray and Evans (2003); van Mosseveld (2003); Schneider (1995).
2. A comprehensive manual for assembling internationally comparable national accounts data was first developed under the auspices of the United Nations in 1953. SNA 2008 is the fifth revision of the SNA. It is jointly published by the EC, IMF, OECD, UN and WB.
3. Available at [www.unaids.org](http://www.unaids.org).
4. See [www.undp.org/mdg](http://www.undp.org/mdg).
5. Country reports and EU Joint Reports on Social Protection and Social Inclusion are available at <http://ec.europa.eu/social/main.jsp?catId=757&langId=en>.
6. See Joint report on health care systems, European Union, Economic and Financial Affairs, available at [http://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2010/pdf/ocp74\\_en.pdf](http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp74_en.pdf).
7. For example, the study highlighted that Amnesty International used data from Burkina Faso's 2008 reproductive health subaccount to support its argument that government expenditure on reproductive health remained insufficient (Zida et al., 2010).



**From:**  
**A System of Health Accounts 2011**  
Revised edition

**Access the complete publication at:**  
<https://doi.org/10.1787/9789264270985-en>

**Please cite this chapter as:**

OECD/Eurostat/World Health Organization (2017), “Purposes and Principles of Health Accounts”, in *A System of Health Accounts 2011: Revised edition*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264270985-4-en>

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