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System of Health Accounts (2011) and Health Satellite Accounts (2005): Comparison of Approaches



Introduction

Accounting data on economic and financial resource flows within the health system are critical to informing health and economic policy at both national and international levels. Information allows stakeholders to compare spending across time and against internal or international benchmarks for increased transparency and stronger decision making on resource allocation. It is also an essential input in effective planning and implementation of health programs. Statistics for analyzing performance are more important than ever before as countries around the world pursue universal health coverage reforms to expand affordable access to health care services, without risk of financial hardship, while facing real resource constraints in the aftermath of the global economic crisis.

For the most part, institutions that produce accounting data in the health system recognize the advantages of creating methodological standards that ensure comparability over time and internationally. However, countries vary widely in their individual health accounting histories as well as the level of demand for and capacity to produce these data. Additionally, stakeholders within countries have different perspectives on the health system and thus have different specific data needs. Consequently, there has been some divergence in the approaches that countries around the world have taken to satisfying country-level health accounting needs.

As the production and use of health accounting data continue to spread, countries need to understand how the approaches – their methods and data applications – fit their context and policy needs. Health stakeholders, including data users and technical experts as well as data producers, should be informed about the characteristics common to all approaches as well as the relative value of each in answering policy relevant questions.

The purpose of this brief is to introduce non-technical policymakers and other stakeholders to two prominent health accounting approaches: the System of Health Accounts (SHA), developed by the Organization for Economic Cooperation and Development (OECD), Eurostate, and the World Health Organization (WHO), and the Health Satellite Accounts (HSA) developed by the WHO's Regional Office for the Americas (AMRO). The approaches are closely related to and must

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be understood in relation to the System of National Accounts (“National Accounts”), the international framework for analyzing economic information in a country. The SHA focuses on the health care goods and services consumed by a country’s population and illustrates the flows of resources used to purchase them, beginning with their financing origins. The HSA focuses on the production of those health care goods and services and replicates the content of the National Accounts for the health field, including the value added of health care service production and the interaction of health resource flows with the rest of the economy.

This brief compares the SHA and HSA approaches to health accounting in terms of their objectives and content, standardization and scope, and data requirements. The purpose of this comparison is to communicate the main policy applications of the data each approach produces as well as the primary factors determining feasibility and data quality. The comparison is by no means exhaustive. Rather, it is intended to start a discussion to which non-experts can contribute and from which they can gain further understanding.



Background on Health Accounting

National and health accounting have developed significantly in the last half century. Building on work to increase international cooperation in the years following the Great Depression and World War II, upper-income countries experimented with health accounting while building international frameworks for national accounting. Momentum grew in the 1970s and 1980s, with efforts culminating in the adoption of the third generation of the National Accounts in 1993 by the United Nations, International Monetary Fund, World Bank, and others (Inter-Secretariat Working Group on National Accounts 1993). This version was the first to provide guidelines¹ for producing sector-specific “satellite accounts,” intended to complement the central framework so that it would not be overburdened with sector-specific policy information. Examples of satellite accounts include those for health, tourism, culture, oil, environment, and education.

In 2000, with accumulating experience in health accounting and growing interest in health systems, the OECD in collaboration with the European Statistical Office proposed a different type of health accounting satellite. SHA 1.0 (OECD 2000) was intended to provide countries with a standardized approach to and detailed classifications for describing the health system.² It was based on methods applied in National Accounts, but departed in key ways in order to satisfy characteristics of the health sector that differ from other sectors of an economy. Most notably, the data in the SHA are structured to emphasize the flow of resources from origin to end use in a way that is relevant for health systems policymakers.

In 2003, the World Health Organization, World Bank, and United States Agency for International Development (USAID) published the Guide to producing national health accounts. This “Producer’s Guide” adapted the SHA approach

¹ See National Accounts 1993 chapter XXI for these guidelines.

² In particular, the Harvard School of Public Health was active in promoting health accounting, which they called National Health Accounts, in a way that was then standardized with the publication of SHA 1.0 in 2000 and the Producer’s Guide in 2003.



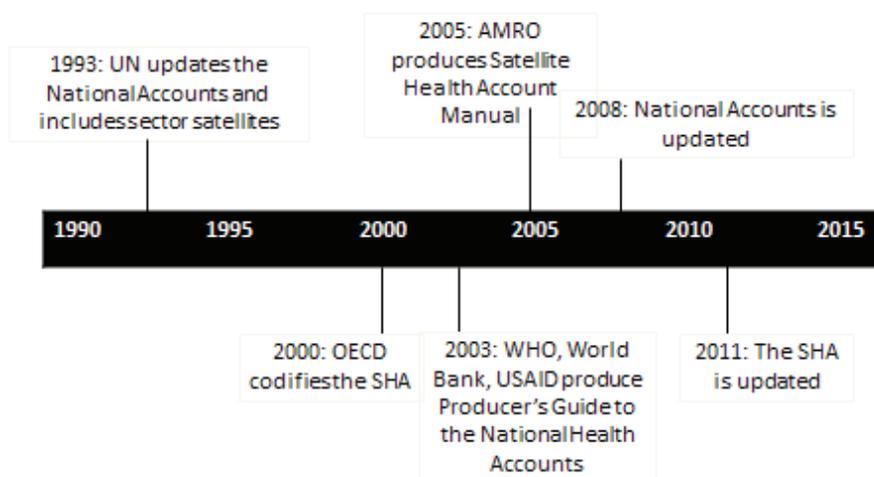
to the developing-country context – a “how to” version of SHA called National Health Accounts (NHA) that increased the approach’s utility and standardization in low-income and middle-income countries.

At the same time, AMRO was developing another version of a National Accounts health sector satellite. Like SHA 1.0, the HSA differs from the National Accounts in key ways to reflect health-specific realities, but unlike SHA 1.0, it does not significantly diverge from the data structure of the National Accounts; the HSA complements the National Accounts, by replicating the latter approach for the health branch to provide more details on the use of health care by the country’s population. Several countries (e.g. France, the Netherlands, and the United States) had used this type of approach to health accounting even before the satellite approach to sector-specific accounting was proposed in 1993. Building off this experience, in 2005, the Satellite Health Account Manual (Pan American Health Organization 2005)

standardized the concepts and definitions used in the HSA. Figure 1 displays the timeline national and health accounting development since the publication of the 1993 National Accounts.

Further developments in health accounting have taken place throughout the past decade. In response to issues identified by practitioners of the aforementioned approaches and to trends in economies, health systems, and accounting methods, leaders in both national and health accounting updated the international methodological standards in National Accounts 2008 (Inter-Secretariat Working Group on National Accounts 2009) and SHA 2011 (OECD et al. 2011). AMRO is currently updating its satellite to reflect the National Accounts 2008 framework. Other approaches to health accounting have emerged as well, including UNAIDS’ National AIDS Spending Assessment (NASA), the World Bank’s Public Expenditure Review (PER), and the Clinton Health Access Initiative’s (CHAI) Resource Mapping Tool.

Figure 1. Timeline of Development of National and Health Accounting Approaches



Source: Authors

Summary Comparison of the Approaches

Purpose and Content

Because both the SHA and HSA analyze past trends in health spending in order to inform a country's policy making, there is substantial overlap in their objectives and in the information they capture. However, this fact hides real differences in the focus and content of the approaches.

- ▶ **SHA:** The primary objective of the SHA is to guide health systems policy making, and especially to enable allocation of health resources in close alignment with health system strategies and objectives. To this end, the SHA organizes data in a way that documents the flow of funding, from origin to destination, for the health care goods and services that are consumed by a country's residents. Documentation of this flow allows the SHA to focus on the interaction between the user and the health system as well as distribute health expenditure in various, policy-relevant ways.³ Its main purposes are to inform decision making in the health system, including budgeting and strategic planning, and to propose an internationally comparative framework for health expenditure data.
- ▶ **HSA:** The primary objective of the HSA is to inform public policies and decision making on programs and projects related to the health sector and link the health branch to macroeconomic growth and development in the economy.⁴ To do this, the HSA applies the structure of the 1993 National Accounts framework, with its macroeconomic focus, to health information. By examining the

³ Distributions of current health spending relate to aspects such as providers, factors of provision, and different aspects of the population, such as demographic, socioeconomic, geographical location, and disease supplemented by a classification for capital goods.

⁴ To a large extent, the HSA does macro and meso analysis, which means that it has a broader scope — including that of the SHA but going beyond it. These aims serve policymakers primarily in macroeconomic areas (and who are familiar with National Accounts indicators) and in the health system.

production of health care goods and services and documenting the health care goods and services that the country's residents consume, the HSA provides selected information on the interaction between the health sector and the rest of the economy. This informs health sector planning and broadens policymakers' understanding of the contribution of the health system to national development.

While the two approaches collect and analyze similar information, their different foci mean that they handle information differently. Specifically, they organize information about the financing, production, and use of health goods and services differently and in varying levels of detail.

- ▶ **Financing of services:** One objective of the SHA is to describe the complex financial arrangements and interactions between various actors in a country's health system. The SHA uses a series of classifications to show how resources are collected and then managed and allocated to providers through "financing schemes" for the goods and services used by individual households or larger population groups. For example, one flow may show a transfer of funds from the Ministry of Finance to the Ministry of Health which then, through government programs, purchases the inpatient care of urban residents at public hospitals.⁵ Tracking these flows of resources can inform policy analysis and the planning and budgeting process.

The HSA communicates health financing information differently^{6,7}. The main table for this information in the HSA is the Financing of National Health Expenditure, which, unlike the SHA, does not distinguish between the ultimate sources of health funds and the management of those funds. The HSA does contain the

⁵ The flow described in this section could also be broken down in other ways (e.g. by factors of provision or disease) using the SHA to provide additional policy-relevant information.

⁶ In the SHA, financing is crucial and a main axis in reporting tables. In the HSA, financing is not prioritized as in the SHA.

⁷ For non-market producers, financing in the HSA corresponds to social contributions and transfers. In most cases, the financing mechanisms of insurers (e.g. social contributions or premiums and cost-sharing) can be clearly identified for the HSA. However, this is not the case with all providers, the financing for which then needs to be derived from the Supply and Use Tables in National Accounts..



information on the flow of financing for health goods and services that a country's residents consume, but additional data must be pulled from other tables and accounts to complete the picture. The SHA ultimately gives a more detailed presentation of the financing flows that deliver the health care goods and services consumed – important in an era when health financing systems are becoming more and more complex.

- ▶ **Production of health care goods and services:** The HSA provides extensive information on the flow of inputs⁸ used to produce the health care goods and services that are consumed at home or abroad, or invested to benefit the country's economic productivity over many years. The HSA compiles information on the inputs used by the producers of health care goods and services (within the health sector), as well as at least some of the entities involved in the production of those inputs (not necessarily within the health sector). For example, pharmaceuticals are an input to patient care delivered at a health facility; their production involves other inputs: the labor of chemical engineers, electricity, and so forth. The analysis of the production process includes estimating the value added – that is, the difference between the total value of all the goods produced, including those that are exported to other countries, and the total value of the inputs used to make them.⁹ This detailed breakdown of information links the health sector to the rest of the economy, which can inform economy-wide planning for national development. The HSA contributes this additional information on health care production, which links the health branch to the rest of the economy (or at least selected components).

Like the HSA, the SHA analyzes the inputs used to produce health care goods and services. To continue the example above, the

⁸ "Inputs" are goods and services that are used up in the process of producing other goods and services.

⁹ This is true except when prices are not available for the goods and services. In that case, analysts use data on the cost of inputs to estimate the production, with the assumption that the production is equal to the sum of inputs.

SHA also compiles the value of inputs like pharmaceuticals for patient care. However, the SHA remains focused on the health system – it does not further break down the production of those pharmaceuticals, or other inputs to care.¹⁰

- ▶ **Use of health care:** In addition to health financing, the SHA also focuses on compiling and analyzing the types of goods and services used by the population and the groups within the population who benefit from them. These groups may be defined according to demographic, geographic, socio-economic, and epidemiological characteristics. For example, given sufficient data, the SHA can provide information on how much spending went to women as opposed to men, to rural groups as opposed to urban ones, to low-income groups as opposed to high-income groups, and to HIV/AIDS as opposed to non-communicable diseases. The HSA also conducts this type of analysis, but not in the same degree of detail as the SHA.¹¹

To summarize, both the SHA and HSA are policy tools that support the health system by documenting health spending, but differ in their approach and areas of focus. These differences manifest in differences in data structure as well as policy application. See Annex A for more detail on the classifications and accounts that make up the two approaches and Annex B for more detail on their policy application.

Standardization and Scope

This section compares the standardization and

¹⁰ In addition to the analysis of inputs to production described in this section, the SHA and HSA both analyze the providers used to deliver goods and services. The two approaches use a similar classification, but the SHA's provider classification is more detailed and allows for a subtle analysis of the structure of their health system.

¹¹ The analysis of consumption in the HSA links the goods and services produced to their consumption by institutional sectors (households, government, corporations, including insurance, non-profit institutions serving households, and foreign institutions). This analysis in the HSA also links the goods and services to various agents which finance them. Some agents, notably the government, purchase services on behalf of households, who ultimately benefit from those services along with those purchased directly or through other means.

scope of the SHA and HSA approaches in the context of other national and health accounting approaches. For this discussion, “standardization” refers to the level of alignment between the methods, definitions, and boundaries of the approach – which must be clearly defined – and those of the National Accounts. As was discussed earlier, the National Accounts is the international standard for analyzing economic information in a country, and is comprehensive in its representation of all activities and actors within and between sectors of the economy. Standardization allows for consistent application across countries and over time. The National Accounts produces critical macroeconomic indicators such as gross domestic product (GDP), which, when combined with well-aligned health accounting data, can produce other important macro indicators such as health spending as a percentage of GDP. Alignment with National Accounts thus implies additional analytical power as well as international standardization.

The “scope” of the approaches is the degree to which the approach tracks public and/or private spending and the areas or sub-areas (such as HIV) of the health system being studied. Tracking both public and private sectors is necessary for a true picture of a country’s health spending because private health spending represents a substantial amount, if not the majority, of health spending in many countries. In particular, household out-of-pocket spending is often a large component of private spending in low- and middle-income countries, and it is becoming the target of efforts to improve financial protection and equity in access; hence, it is an important indicator to track. Moreover, understanding private spending in relation to total spending on health is essential for stakeholders inside and outside the government interested in comprehensive, evidence-based planning for the health sector. As for whether health or one of its sub-areas, such as HIV, is covered, all approaches have analytical advantages for their target audiences.

One notable commonality for the SHA and the HSA approaches is that they are both explicitly aligned with the National Accounts in their capacity as satellites. As also discussed earlier, sub-analyses of the National Accounts detail

the economic and financial resource flows in a priority sector such as education, health, or tourism without overburdening the National Accounts’ central framework. National Accounts satellites can adjust the National Accounts’ accounting principles and estimation methods in order to accommodate the economic and financial profile of the particular sector, and generate the information stakeholders need, while maintaining linkages with the central framework. In this way, National Accounts satellites for the health sector can address health policy needs while ensuring alignment with National Accounts. Both approaches make these changes, detailing them in statistical manuals that substantiate their overall relationship with the National Accounts and allow for consistent international application.

While standardization is important, it is also worth noting that the SHA and the HSA, as well as the National Accounts, allow for adapting the approach to the country context in terms of country-specific policy needs and statistical system capacity. For example, the National Accounts encourages countries to complete the core analysis, and then to select additional components that are most relevant and feasible for them to complete. The SHA and the HSA also are explicitly open to countries applying the approaches in a flexible way. This flexibility is reflected in reports that display different levels of aggregation and grouping of the data. That being said, the closer country data adhere to the SHA standard, the more meaningful are comparisons across countries and time.

In fact, the SHA and HSA are the only two widely used approaches that are both aligned with the National Accounts and cover both public and private spending on health as well as the health sector as a whole. Table I shows several other prominent health accounting methodologies used in the health sector and their standardization and scope dimensions. While the list is not comprehensive, it represents the most widely discussed and used health accounting approaches globally.

UNAIDS’ NASA, for example, is also based on the National Accounts and covers both public and private spending, but like the Expenditure Analysis



Table 1. Scope of the SHA and HSA Compared to Other Prominent Health Accounting Approaches

| Approach | National Accounts-based? | All Sectors Covered? | All Health Areas Covered? |
|-----------------------|--------------------------|---------------------------|---------------------------|
| SHA | Yes | Yes | Yes |
| HSA | Yes | Yes | Yes |
| NASA | Yes | Yes | No, HIV only |
| Expenditure Analysis | No | Yes | No, HIV only |
| PER | No | No, public sector only | Yes |
| Resource Mapping Tool | No | Yes | Yes |

conducted by the President's Emergency Plan For AIDS Relief, only covers HIV spending. The World Bank's PER covers all health areas, but is not based on the National Accounts and covers only public expenditure. Finally, the CHAI Resource Mapping Tool covers public and private spending on health as well as all health areas, but is not based on the National Accounts.

The SHA and HSA have both been used by a wide range of countries. The SHA has wider usage, both geographically and by country income level – France (GDP per capita of US\$39,772 in 2012), Democratic Republic of Congo (GDP per capita of US\$262)¹², and more than 100 other countries in Asia, Africa, Europe, and the Americas use the approach. Also, the latest version of SHA was developed through a consensual process led by OECD, EUROSTAT, and WHO in which health accountants representing all regions in the world agreed on what and how to measure health expenditure, and in this way is considered by many to be the international standard for health accounting. To date, the HSA has been used primarily in the Latin America and Caribbean region. However, interest in it has sparked recently in other parts of the world such as China, which conducted its own version of the HSA.

While the SHA and HSA are both closely aligned with the National Accounts, they differ in that only the HSA is a full satellite that contains all

¹² Income per capita data come from the World Bank 2014.

components of the National Accounts, i.e., including a description of the production of health care goods and services and the value added that it generates. The SHA is not a full satellite, but it does contain additional components – notably to analyze the use of health care – which allows it to focus on generating policy-relevant information for health system professionals to a greater extent than the HSA.¹³

Data Requirements

Given the similar scope, the two approaches use many of the same types of data. The discussion below describes some of the primary data sources and data collection methods used to inform estimates for the two approaches.

Public Sector: Both approaches require executed budgets as well as administrative records on assets and capital formation from government agencies, of all levels, that spend on health.

¹³ Even though the HSA is closely aligned with the National Accounts, its indicators do not have extensive applicability to health system policy making. While the SHA is partially aligned with the National Accounts, its indicators are more usable in health system policy making.

The quality of public sector estimates, in both approaches, depends on the organization and detail of these budgets and records. When the organization and detail of the sources do not align with the classifications of the approaches, the health accounting team needs to make assumptions in order to complete the estimations, thus reducing the power and accuracy of the estimations. As countries make health accounting a routine part of governmental operations, accounting teams can work with budgeting and accounts teams to improve the compatibility of public sector sources with the approaches, thus improving the quality of the estimations and ultimately advancing health systems governance structures. Because both approaches are linked with National Accounts, improving compatibility with one approach will likely also improve compatibility with the other, though some specific aspects may vary.

Private Sector: Private expenditure data required for both approaches come from institutions – donors, non-governmental organizations (NGOs), insurance companies, and employers, as well as private providers – and from households. The more data are available through routine systems (survey and information system data), the less ad hoc primary data collection is necessary for health accounting. Moreover, it is likely, with routine systems, that the health accounting estimates will be of better quality and more routinely completed. Countries vary in the amount of applicable routine systems and survey data available. The challenge in many low- and middle-income countries is that these available data are often insufficient to complete the estimation for the approaches.

In response to this challenge, application of the SHA in low- and middle-income countries typically involves appreciable primary data collection to gather both institutional and household data on private health expenditure. Private institutional data are gathered from financiers such as donors, NGOs, employers, and insurance companies.

HSA estimations conducted in data-poor settings will sometimes use SHA-like methods for the collection of these data, within the context of applying national accounting methods to the health sector.¹⁴

Methods for gathering information on household spending – often the largest component of private health expenditure – will vary with the type of available data. Best practice for estimating private household spending with the SHA, based on data from upper middle- and high-income countries, involves identifying challenges for estimating each area of spending (e.g., spending at hospitals and on pharmaceuticals) and developing a measurement strategy to tackle them one by one through the integration of data from different sources (e.g., providers, financiers, and households) (Rannan-Eliya and Lorenzoni 2010).¹⁵

In some low- and middle-income countries, however, identifying even one of these data sources can be a resource-intensive exercise. In these cases, SHA estimation may involve conducting nationally representative household surveys to gather households' health expenditure information. These data may also be collected by integrating a module on health expenditure into other household surveys. In other cases, routine household budget surveys can be used to complete these estimations. Still, all household surveys of health expenditures have intrinsic measurement challenges that may make it difficult to estimate accurately.¹⁶ Thus, when rigorous central National Accounts data are available, whereby household budget survey data have been cross-checked in a sophisticated way, the SHA as well as the HSA will use those data to inform the estimates of household spending.

¹⁴ Because of its basis in national accounting methods, the HSA requires the skills of national accountants, and in several Latin American countries (e.g., Brazil, Ecuador, and Mexico) the HSA is developed by National Statistical Institutes that also produce the National Accounts. The highly technical nomenclature used in the HSA also contributes to this need for developed skills in national accounting.

¹⁵ This process involves the “triangulation,” or cross-checking and validation, of data from different sources (both supply and demand).

¹⁶ In addition to measurement challenges, the high cost of well-developed household surveys in low-income countries and the fact that they are conducted infrequently are the primary driver of institutionalization of health accounting.



In addition to institutional and household expenditure data, completing the HSA also requires gathering data on the production of health care goods and services in the private sector. HSA estimates on private production in the health sector can be based on the central National Accounts, especially the Supply and Use Table (see Annex A for more information), as well as business surveys that are conducted regularly and include health sector businesses in their sample. In some countries, however, National Accounts systems are not up to date, or do not include a rigorous Supply and Use Table; similarly business surveys may not be extensive or routine enough to support estimation. These data limitations can greatly influence the completeness and quality of the final estimates under the HSA. In some cases, countries have been unable to complete estimation of the private sector according to the HSA's methodology.

Conclusions

This comparison reveals important commonalities across the SHA and HSA approaches: As the only two prominent National Accounts-based, health systems-wide approaches to health accounting, they contribute to the increased interest in these data in countries across the world. Both also contribute to the debate on the type of financial and economic indicators countries need to effectively monitor health systems strengthening. By demonstrating the need for and value of routine health accounting estimations, they drive demand and strengthen systems for collecting health data in many low- and middle-income countries. With the institutionalization of health accounting, countries will gradually reduce the need for costly ad hoc data collection efforts.

Table 2. Relative Strengths of the SHA and HSA for Low- and Middle-Income Countries

| | SHA | HSA |
|---------------------------|---|--|
| Purpose and Content | The SHA focuses on the resource flows involved in the financing and provision of health goods and services consumed by the population. With this focus, SHA information offers greater detail about health financing flows that are growing increasingly complex in developed and developing countries alike. SHA information has a direct link to the planning and budgeting process of health system professionals. | The HSA examines spending in the health sector through the lens of production as a way to inform public policies and decision making on programs and projects related to the health sector. With this approach, the HSA covers aspects of the production process not covered in SHA. This additional information allows for analysis on the value added from the production of health care goods and services and the linkages between the health sector and macroeconomic growth and development. |
| Standardization and Scope | Close alignment with the National Accounts provides analytical power as well as international standardization; its departure from the full satellite, which includes additional information on production of health care and the value added it generates, allows the SHA to focus on the financing of consumed health goods and services in a policy-relevant way. | Close alignment with the National Accounts provides analytical power as well as international standardization. This strength is even more pointed for the HSA given the fact that the HSA is a replication of the National Accounts for the health field. |
| Data Requirements | Strong systems for primary data collection from the private sector or cross-checking information for varying data sources enables countries with underdeveloped information and survey systems to complete the estimation. | Estimation of a complete HSA covering both public and private spending and including the Supply and Use Table requires a strong National Accounts (and technical support from national accountants) as well as many other routine survey and systems data. When available, little primary data collection is required—though when not available, some low- and middle-income countries may not be able to complete it. |

At the same time, the two approaches have different strengths in the way that they can be used by policymakers and health system professionals. These differences, in terms of purpose and content, standardization and scope, and data requirements, are summarized in Table 2.

Global consensus to promote the SHA stems from the clear link SHA data have with budgeting, strategic planning, and governance within the health system – a link possible given the SHA’s distinct approach to the health satellite. Experience in many Latin American Countries that have used the HSA approach indicate that more work needs to be done to aid the interpretation of HSA results to health system policy needs. Also, the SHA is likely the more feasible option for low- and middle-income countries with insufficient data available from routine systems. The HSA on the other hand provides information that links the health system to macroeconomic growth and national development strategies; given sufficient efforts to disseminate findings to its stakeholders, the HSA can add an important set of policy-relevant data that support a complementary set of planning activities related to the health sector. Instead of stressing the differences between the two approaches, policymakers and health systems stakeholders may be better informed when viewing them as complementary, each with a specific use for specific questions that need to be answered.

Annex A. List of SHA and HSA Classifications and Accounts

SHA Classifications

The SHA has at its core three classifications: health care functions, providers, and financing schemes. In addition, the SHA 2011 manual proposes an “extended accounting framework” with the following additional classifications: beneficiaries, factors of provision, revenues of financing schemes, financing agents, and capital formation classification, which compiles investments by health care providers, as part of the extended framework. Classifications from the core and extended framework are detailed in Tables A-1 and A-2.

Each of these classifications is cross-tabulated into tables. The first SHA table documents one classification (fund originator) to the next (fund receiver), with a following table beginning with the classification that had been fund receiver as fund originator. In this way, the SHA tables and classifications characterize the financing and purchasing mechanisms associated with health resource flows in the country while also providing a snapshot view of the health resources at each stage of their journey

Table A-1. Classifications under the Core Framework

| | |
|-----------------------|---|
| Financing schemes | <ul style="list-style-type: none"> ▶ Definition: Main types of financing arrangements through which people receive health care ▶ Questions answered: “How are health resources managed and organized?” “To what extent are resources pooled” “How are health services purchased?” ▶ Examples: Government programs run by the ministry of health, national AIDS commission; voluntary insurance |
| Health care providers | <ul style="list-style-type: none"> ▶ Definition: Organizations and actors that, either primarily or as part of the multiple activities in which they are engaged, deliver health care. ▶ Questions answered: “What is the organizational and technological structure that is characteristic of the provision of health care within a country?” “Who provided the goods and services to consumers?” ▶ Examples: Hospitals, clinics, health centers, pharmacies |
| Health care functions | <ul style="list-style-type: none"> ▶ Definition: Types of health goods and services consumed and activities performed ▶ Questions answered: “What types of health care goods and services were consumed?” ▶ Examples: Curative care, information, education, and counseling programs, medical goods such as supplies and pharmaceuticals, governance and health system administration (includes national-level surveys) |

Table A-2. Classifications under the Extended Framework

| | |
|--|--|
| Revenues of financing schemes | <ul style="list-style-type: none"> ▶ Definition: Types of revenue received or collected by financing schemes ▶ Questions answered: “How much revenue is collected?” “In what ways was it collected?” “From which institutional units are revenues raised for each financing scheme?” ▶ Examples: Direct foreign financial transfers; voluntary prepayment from employers; transfers from the ministry of finance to other governmental agencies |
| Financing agents | <ul style="list-style-type: none"> ▶ Definition: Institutional units that manage health financing schemes ▶ Questions answered: “Who manages the financing arrangements for raising revenue, pooling/managing resources, and purchasing services?” ▶ Examples: Ministry of health, commercial insurance companies |
| Factors of provision | <ul style="list-style-type: none"> ▶ Definition: Types of inputs used in producing the goods and services or activities conducted inside the SHA “health” boundary ▶ Questions answered: “What mix of production inputs do providers of health care goods and services use?” “How much input is used on pharmaceuticals? How much is paid on health workers remuneration?” ▶ Examples: Wages, utilities, rent, materials, and services used |
| Beneficiary characteristics (age, gender, socioeconomic group) | <ul style="list-style-type: none"> ▶ Definition: Characteristics of those who receive the health care goods and services or benefit from those activities ▶ Questions answered: “What is the value of health care goods and services consumed by various population groups?” “Is the use of health services different among income groups?” “Is geographical location a factor to include in decisions about distributing resources?” ▶ Examples: Age, gender, socioeconomic group |
| Beneficiary characteristics: (disease) | <ul style="list-style-type: none"> ▶ Definition: Expenditures of goods and services that were spent on a specific disease or health area. ▶ Questions answered: “What percent of total health resources went to reproductive health?” “What were the main sources of funding for HIV?” “Who provided malaria prevention services?” “Are resources distributed according to priority epidemiological needs?” ▶ Examples: Disease and conditions by ICD-10 |
| Capital formation and related | <ul style="list-style-type: none"> ▶ Definition: Types of investments that health providers have made during the accounting period that are used for more than one year in the production of health services ▶ Questions answered: “What types of assets have providers acquired?” ▶ Examples: Infrastructure, machinery, and equipment (capital formation); formal training, research and development (related items) |

HSA Accounts and Tables

The HSA is composed of a customized selection of accounts and tables from the National Accounts. HSA accounts document “uses” (i.e., expenditure) and “resources” (i.e., income) for every aspect of economic life. In the health context, these aspects include institutions such as NGOs, or a product, such as hospital services. The HSA has “current accounts,” made up of a series of accounts that include the production accounts and income generation accounts. The

HSA also has an “accumulation accounts” with components of capital, financial, and other changes in assets. Each of these accounts has a “balancing item” estimated by comparing total of use and resources, and will often be used as a starting point for another account. In this way, the accounts link together a series of interlinked compilations of economic and financial information. Tables A3–A5 describe these accounts and tables, indicating their primary components and purposes.

Table A-3. Current and Accumulation Accounts

| | |
|---|--|
| Current Accounts - Production Accounts | <ul style="list-style-type: none"> ▶ Resources: Health care outputs of production ▶ Uses: List and value of the goods and services used up to produce those outputs ▶ Balancing Item: Value added of the health care goods and services production process ▶ Notes: The boundary for this account is the production boundary – that is, all goods and services produced, including the goods and services used by the country’s population as well as those exported to other countries or stored in inventories |
| Current Accounts - Income Generation Accounts | <ul style="list-style-type: none"> ▶ Resources: Value added from production accounts ▶ Uses: List and value of how the value added is distributed to employees, to investments in building up capital, and to government as taxes ▶ Balancing Item: Operating surplus in health |
| Other Current Accounts | <ul style="list-style-type: none"> ▶ Resources and Uses: Similar to the income generation accounts, these accounts continue to follow how income is distributed and utilized ▶ Balancing Item: Final balancing item is savings |
| Accumulation Accounts | <ul style="list-style-type: none"> ▶ Resources: Value of assets including capital formation and changes in inventories ▶ Uses: Value of savings from current accounts ▶ Balancing Item: Net lending or borrowing |

Table A-4. Goods and Services Accounts and Supply and Use Table

| | |
|-----------------------------|---|
| Goods and Services Accounts | These accounts are intended to maintain equality of supply and demand, that is, total uses (expenditure) and resources (income) in the health sector. |
| Supply and Use Table | <p>This table is based on two related identities.</p> <ul style="list-style-type: none"> ▶ First, all health care products (i.e., goods and services) available in a country (i.e., the entire “supply”) must have been produced in the country or imported from elsewhere ▶ Second, all health care goods and services consumed (i.e., the “use”) must have been 1) used for the purpose of health by residents of the country; 2) exported to other countries; 3) invested to build up capital or stock up inventories; or 4) used in the process of producing other goods and services that will be consumed by residents. <p>The compilation of “supply” and “use” of these products allows for estimating the value and nature of imports and exports on health, the value of national production of health care goods and services, the value of health goods and services consumed by a country’s residents, and the value of inputs used to produce services consumed or exported.</p> <p>The table also shows the value added of this health sector production process in the country as well as its distribution, including to employees, by category of employment (full- or part-time).</p> |

Table A-5. National Expenditure Tables

| | |
|--|--|
| National Expenditure by Components and Users/Beneficiaries Table | <p>This table presents components of national expenditure (consumption by country’s residents; inputs used up in the production process; and capital formation).</p> <p>It shows how these components break down by user, including health care producers who consume inputs; government and households as consumers of health care goods; and rest of the world which consumes the country’s exports.</p> |
| National Expenditure by Components and Financing Units Table | <p>This table presents components of national expenditure (consumption by country’s residents; inputs used up in the production process; and capital formation).</p> <p>It shows how these components break down by financier, including market producers, NGOs, government, households, and rest of the world.</p> |

Annex B. Policy Applications

Both the SHA and HSA approaches produce policy-relevant information at the country level with some common key indicators. These common indicators cover financial and economic components of the health system. Financial indicators answer questions on how much and through what arrangements health care goods and services are financed in a country, showing the financial flow of resources through the country’s health system. Economic indicators show how

health care goods and services are produced, how efficient that production is done, and who consumes the goods and services produced. Related indicators shed light on how much labor is generated due to that production and the amount of imports and exports associated with the health sector. While overlapping in some areas, the two approaches vary in the scope of these financial and economic indicators. This section reviews commonalities and differences between the approaches by grouping of indicators. The examples presented in Table B-1 are illustrative rather than comprehensive.

Table B-1. Example Questions Answers by SHA and HSA

| Question | Approach |
|---|--|
| Financial Indicators and Questions | |
| How much is spent on health? How does this estimate relate to the rest of the economy? | <p>Both approaches estimate total current spending on health. The boundaries for the estimates are similarly defined in that both approaches include expenditure whose purpose is health and that is valued at the point of final consumption.</p> <p>Both approaches also compare their estimate of total spending on health to GDP. Calculating the ratio of health spending to GDP has its methodological grounding in the fact that both approaches build off of National Accounts, the framework that estimates GDP. This ratio allows both approaches to put health spending in macroeconomic perspective.</p> |
| How much revenue for health is collected? In what ways was it collected? From which institutional units (e.g., government agencies, NGOs, households) are revenues raised for each financing scheme? Through what kinds of financing arrangements do people have access to care? To what extent are resources pooled? | <p>These questions, worded in the language of the SHA, emphasize the origin and destination of the funding, with an emphasis on the financing of those services that are consumed. To shape understanding of health financing, the SHA generates indicators from three interacting classifications to produce a complex statistical depiction of health financing.</p> <p>The HSA also contains the data needed to answer these questions. However, these data are not identified as such, but can be identified in various accounts.</p> |
| Economic Indicators and Questions | |
| How is the health sector industry organized? | <p>Both approaches generate indicators on a country's health care service providers. Both approaches provide a breakdown of spending at providers by types and ownership. Some issues with estimating private expenditure, however, can limit the extent to which information on the private sector is included within the analysis.</p> |
| What role do imports and exports play in the health sector and the economy? | <p>Both approaches consider and track imports and exports of health care services. The HSA provides a more macroeconomic perspective and generally gives more weight to this question. It can answer questions such as: What percentage of all imports is for health-related goods and services? What percentage of all supplies and goods in the economy are health imports? What percentage of all exports is for health-related goods and services?</p> <p>With its update in 2011, the SHA provides a more extensive framework for tracking imports and exports than the earlier version. While these data could be used to conduct the same analyses as those done with HSA data, in the low- and middle-income country context tracking imports is more of a priority than exports, given that imports are included in the estimation but exports, except in a few specific contexts, are peripheral to the main analysis.</p> |
| What is the composition of the health care labor market? | <p>Labor market indicators are only part of the HSA. The framework can answer questions such as: How many new jobs did the health system create? For what percentage of total employment does the health care system account? How many formal, self-employed, and unregistered jobs are there in the health sector?</p> <p>The SHA answers this question by providing the value of wages and other remuneration to health care providers, as a portion of the value of goods and services consumed at those health care providers by residents. This type of analysis in the SHA provides some information related to this question, but not as thoroughly as the HSA's.¹⁹</p> |

¹⁹ While both approaches provide some information on the composition of the health care labor market, neither approach has the detail or completeness of a full health labor accounts. A separate exercise is needed for this purpose.



| Question | Approach |
|---|--|
| Who consumes health care goods and services? | Both approaches provide information to answer this question. The SHA has somewhat more detail than the HSA given the greater specificity of its standard classification. |
| How efficient is the production of goods and services? | The HSA is likely better for looking in detail at the efficiency of production, because as discussed this is a primary focus of the analysis. The depiction of the flow of resources through the production process is more thorough. |
| How efficient is the financing and overall management of the health system? | <p>The SHA does have the factors of provision classification, which provides the value of inputs to the goods and services that were eventually used for the production of products consumed by residents. It does not, however, look into where these inputs came from, nor the value added generated during the production process. This is only done in the HSA, but not impossible to do in the SHA.</p> <p>Efficiency in production is just one of many “efficiency” questions that can be answered using health accounting data. Another one – applied to the health system overall – can be effectively answered by both frameworks, although the SHA is particularly suited to answer it.²⁰</p> |
| What is the added value of activities related to health? For example, how much value added is generated by the pharmaceutical industry? By trade in medical devices? By public and private insurance? | Only the HSA provides information to answer these questions. |
| How effective is spending in the health system? | Data from both approaches can be used in a follow-on analysis on effectiveness of interventions and of the health system. For example, the comparison of spending against outcome data over time can provide some indication of whether the interventions have reached impact targets. |

One key point to make is that the HSA has a scope that is broader which can make it harder to draw policy-relevant information for the health sector. Both have technical nomenclature and need to be interpreted in order to make the results relevant for health system policymakers. Given its intent to provide a more comprehensive overview of the economy of the health system than the SHA, the HSA has a not only requires more detailed data as well as more developed skills in using that data to describe the system according to the HSA parameters. The highly technical nomenclature used in the HSA also contributes to this need for developed skills in national accounting



²⁰ The SHA may provide indicators related to the efficiency of financing itself in order to compare transaction costs of the financing arrangements in the system



About HFG

A flagship project of USAID's Office of Health Systems, the Health Finance and Governance (HFG) Project supports its partners in low- and middle-income countries to strengthen the health finance and governance functions of their health systems, expanding access to life-saving health services. To learn more, please visit www.hfgproject.org.

The HFG project is a five-year (2012-2017), \$209 million global project funded by the U.S. Agency for International Development.

The HFG project is led by Abt Associates Inc. in collaboration with Broad Branch Associates, Development Alternatives Inc., Futures Institute, Johns Hopkins Bloomberg School of Public Health, Results for Development Institute, RTI International, and Training Resources Group, Inc.

Recommended Citation:

Nakhimovsky, Sharon, Patricia Hernandez-Peña, Cornelius van Mosseveld and Alain Palacios. June 2014. *System of Health Accounts (2011) and Health Satellite Accounts (2005): Application in Low- and Middle-Income Countries*. Bethesda, MD: Health Finance & Governance project, Abt Associates Inc.



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June 2014

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