Revision of the

System of Health Accounts

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT OECD

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Early Draft
Unit 2

Global Boundaries of Health Care

Summary
This document, being an early draft Unit for the SHA Manual revision, was presented and discussed at the OECD Health Accounts Expert meeting in Paris 7-8 October 2009. Your feedback, specifically on the questions raised at the end of this document with any other comments, is invited by 20 November 2009. Please send your comments to sha.contact@oecd.org

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Global Boundaries of Health Care

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NOTE BY THE SECRETARIAT

1. The revision of the System of Health Accounts (SHA) manual 1.0 is a collaborative activity of the OECD, Eurostat and the WHO. Collectively the health accounts experts of the 3 organisations are known as the International Health Accounts Team (IHAT). This document is a proposed First IHAT Draft on Global Boundaries of Health Care, prepared by Eurostat in co-operation with the other members of IHAT. There are still some issues linked to the functional classification (Unit 7) that remain to be clarified.

2. Common, functionally-defined boundaries of health care system are crucial for the complex task of international comparison. The definition of the global boundaries of health care, therefore, makes a distinction between the activities covered by: the current expenditure account of SHA, the capital formation in SHA, and the additional dimensions /accounts.

3. As result the boundaries are firstly defined for the current health expenditures related to domestic final consumption of health care (including governance and administration). Those of the connected activities and additional dimension /accounts are then derived separately. The general intention of this split is to make a clear reference to: the International Classification for Health Accounts (ICHA) as a subject of improvement under the revision process; and, the additional accounts that could be linked to ICHA as a subject of its extensions.

4. The aim of the latter is to give countries some flexibility to include further dimensions and/or variables in a consistent way with the ICHA framework as regards beneficiaries, more detailed analysis of health financing or activities of health care providers for education, investment, and research, as well as for resource costs.

5. The following criteria are proposed to determine whether an activity should be included in current health spending framework, in order of importance:

- Primary intent of the action is to improve health, maintain health or prevent deterioration of health status of individuals, groups of the population or the population as a whole as well as to mitigate the consequences of ill-health;
- Medical or health knowledge is needed in the execution of the function, or it is executed under the supervision those with such knowledge, or the function is governance and administration of health care programs and health care financing;
- The consumption is for final use;
- There is a transaction.

6. The Secretariat invites participating experts to:

- **COMMENT** on the general approaches presented in the paper;
- **REFLECT** on and **RESPOND** to the questions listed at the end of the document;
- **PROPOSE** if further issues need to be addressed under this unit of the SHA revision.

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1. Introduction

7. The boundaries that delineate health accounts from the national accounts of the whole economy are determined in general by the characteristic activities related to health care. Broadly, activities in the health system, as described in Unit 1, can be distinguished between[1]:

- Activities of consumption of health care: those activities consumed by individuals and others provided to society as a whole (such as public health) in order to improve the health status of the population;
- Activities of health care provision including activities of governance and administration;
- Activities of health care financing: those activities related to the financing of the consumption and provision of health care; and
- Activities of production of health care: all activities necessary that combine inputs for the provision of health care;
- Activities of resource-generation[2] (human and physical resources).

8. For the purpose of international comparison SHA refers to a functional approach based on selected activities which could be captured by transactions pursuing ICHA-HC. Transactions are valued activities between economic units of the health care system. The transactions recorded in the accounting framework of SHA - relate to health care goods and services provided and consumed to improve health status of individuals and of the population as a whole. It has to be emphasises here that health itself is not exchangeable in contrast to health care. Health can only have value in use and not in exchange. Therefore, in health accounts, it is health care rather than health per se, that defines demand, supply, and the distribution of the transactions under consideration. Consequently, the centre of attention of Unit 2 is with health care boundary and not with health.[3]

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1 Please note that the "open" status of the UNIT 1 can influence the content of the text presented in the unit 2.

2 *Resource generation* here is used to cover all or any part of the generation of physical capital resources such as hospital and other buildings and capital equipment; generation of human resources such as trained medical personnel (doctors, nurses and other health professionals; and developing and applying new health knowledge through innovation and R&D.

3 As indicated in UNIT 1 the provision and consumption of health care services is only one among other determinates of health status. Measuring health, its improvement or deterioration is an important aspect of health economics and statistics, which is reflected, for example in such measures as live expectancy, HLY, or the quality/disability adjusted life years (QALY, DALY). SHA 2.0, similar as SHA 1.0, is not aiming in measuring these, but in measuring health care expenditure. This means that the accounting framework of SHA is part of a larger model, in which several determinants of health, one of them is the provision of health care, play a crucial role.

2. Defining current health care expenditures

2.1 Health care boundary: focus on functions

9. The functional classification of health care (ICHA-HC) delineates the boundaries of health care services and goods.[4] Following the concept underlying the design of the functional classification of health care (ICHA-HC) of SHA2.0 the boundary is defined by *the sum of activities performed through the application of qualified health knowledge (medical, paramedical, and nursing knowledge including technology and TCAM[5]), with the primary purpose of improving, maintaining and preventing the deterioration of the health status of persons and mitigating the consequences of ill-health*.

10. This purpose can be performed through:

- Health promotion and prevention
- Diagnosis
- Curing illness and rehabilitation
- Caring for persons affected by chronic illness
- Caring for persons with health-related impairment, disability, and handicap
- Palliative care
- Providing collective health programs
- Governance and administration.

11. The prerequisite of a basic level of medical, paramedical and nursing knowledge refers in most cases, but not exclusively, to national standards of accreditation or licensing for health care personnel and organisations. This qualifies them to practice their medical and nursing knowledge and to provide more complex services in an institutional framework.

12. Administration is an embedded activity in every provision and financing process and as such included as an inherent part of the functions mentioned here above. The functional classification does, however, include separate categories of governance and administration performed for example by Ministry of Health or Health Insurance, defined as:

- Administrative services, necessary for the design, operation, management and control of health care policy (such as provision of collective programs)
- Provision and administration, necessary for health financing (government financing, social and private health insurance).

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4 Boundaries of health care systems belong to countries' responsibility: decisions what is in or out of health care system. Therefore the boundaries used for national reporting might deviate from these of international reporting. SHA describes the concept and the boundaries for the international data reporting system of health accounts.

5 Traditional, Complementary and Alternative Medicine.

13. The distinct set of purposes or functions of health care goods and services described by ICHA-HC (unit 7) identifies the current health expenditure account linking it to the other two other ICHA dimensions i.e. the provision (ICHA-HP) (Unit 8) and financing (ICHA-HF) classifications (Unit 10).

2.2 Current and additional expenditure accounts of SHA

14. The implementation of SHA1.0 has shown that there are differing demands for health accounts from countries. On the other hand it is necessary to delineate a central system, widely implemented, which allows international comparisons concerning the size and structure of expenditures for health care services and goods and of the corresponding financial flows between individuals, providers, and financing agents. Therefore, this proposal for the global boundaries of health care distinguishes between:

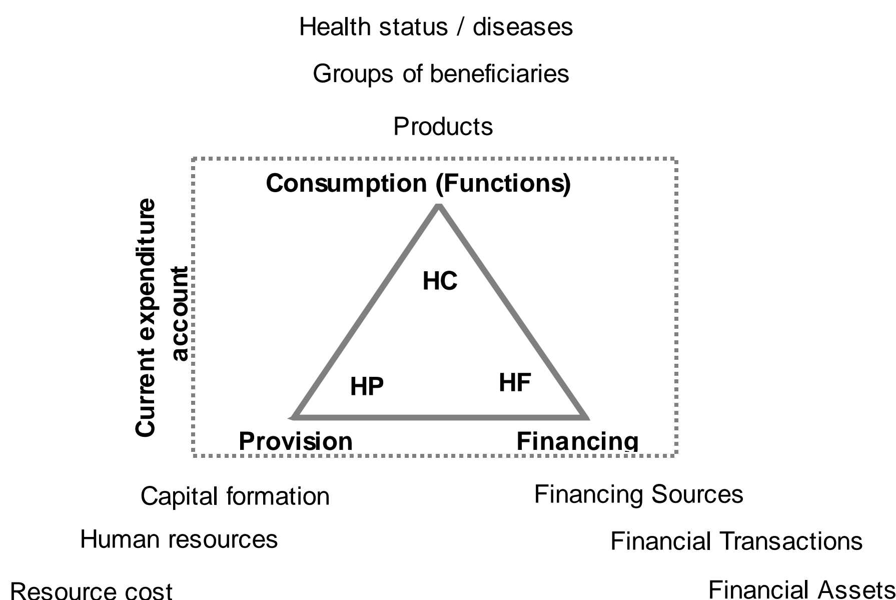
- The current expenditure account of SHA defined by functions, providers and financing, which defines the current health expenditures,

- The capital formation, and

- The extensions, including an expanded set of transactions, which allow the compilation of additional indicators.

15. The current expenditure account of SHA focuses on the consumption of health goods and services by individuals and by society as a whole. SHA1.0 defined the core structure of the accounting framework by three axes containing the three basic classifications of the functions of health care, health care provision, and health financing (HC, HP, HF)[6]; as presented by figure 1.In the accounts the focus is on transactions, most taking place in health care markets defined as the meeting place of health care providers, consumers, and third party payers. Data on outcomes and information on determinants could be added in order to provide the users of the accounting system with a more complete picture.

Figure 1: The current expenditure account of SHA



[6] The values of health care services consumed by or on behalf of households are shown in the four standard tables 1- 4 of SHA1.0.

16. Around the current expenditure account of SHA additional classifications and breakdowns might be added, which are closely linked to each of the three axes, either the consumers, or the providers, or the financing units of health care as shown in figure and presented in Unit 4 Dimension of health care expenditures. Some of these additional classifications of this more comprehensive accounting framework are already proposed and partially discussed in SHA 1.0 and by the Producers Guide. They present aspects of the health care system including topics such as capital formation, research & development, external trade, price and volume measurement, unpaid household production, intermediate consumption, and non-monetary health data. From an economic perspective these activities are part of the total activities of the economy and useful to understand the health system.

17. While the concept of the health care system gives the background to structure the activities to be included in the accounting framework of SHA, the conceptual framework of the System of National Accounts could be used to make compatible aggregates of health expenditures with aggregates of national accounts. However, it has to be mentioned that there are quite important differences between the two concepts that lead to different boundaries of health care applying each of these concepts. [7] SHA defines consumption of health care goods and services designed for the enhancement of health of the population. The provision and consumption of health care goods and services in SHA are two sides of the same transaction, which value is measured by health care expenditure [8].The production of health care goods and services underlined in the SNA framework relates output to the input of resources (medical goods, health professionals, equipment, etc.) by measuring intermediate consumption and values added. In contrast, the current health expenditure account focuses on the provision / consumption not the production. Health care is one input in the production of health.[9]

18. Figure 2 exhibits the central framework in connection to the structure of an input-output table used in the System of National Accounts (see grey boxes). The central accounting framework of SHA in the middle of these boxes presents the health goods and services consumption, delivery, and financing described by the classifications on functions, providers and financing. Details of the links to the other boxes are described in more detail in Unit X: SHA relations to other statistics and in Unit X: Type of health Account.

19. The transactions related to consumption of health goods and services on the one side and the transactions related to capital formation, education and training, and research & development for future health care provision on the other side serve different purposes. The first group of transactions serve up directly the promotion, development and maintenance of the health status of individuals (activities of public health and activities of administration are aimed to be of direct final use for the community as a whole and are therefore included).The second group are activities with the purpose of supporting health care provision by developing technology, human resources and capital formation. As a consequence the borders of the second type of transactions are included in an additional expenditure account whose borders relate to the boundary of the first type of transactions but not equals them. The additional expenditure accounts might include further types of transactions as exports, savings, and income benefits that link the consumption frame with the whole economy.

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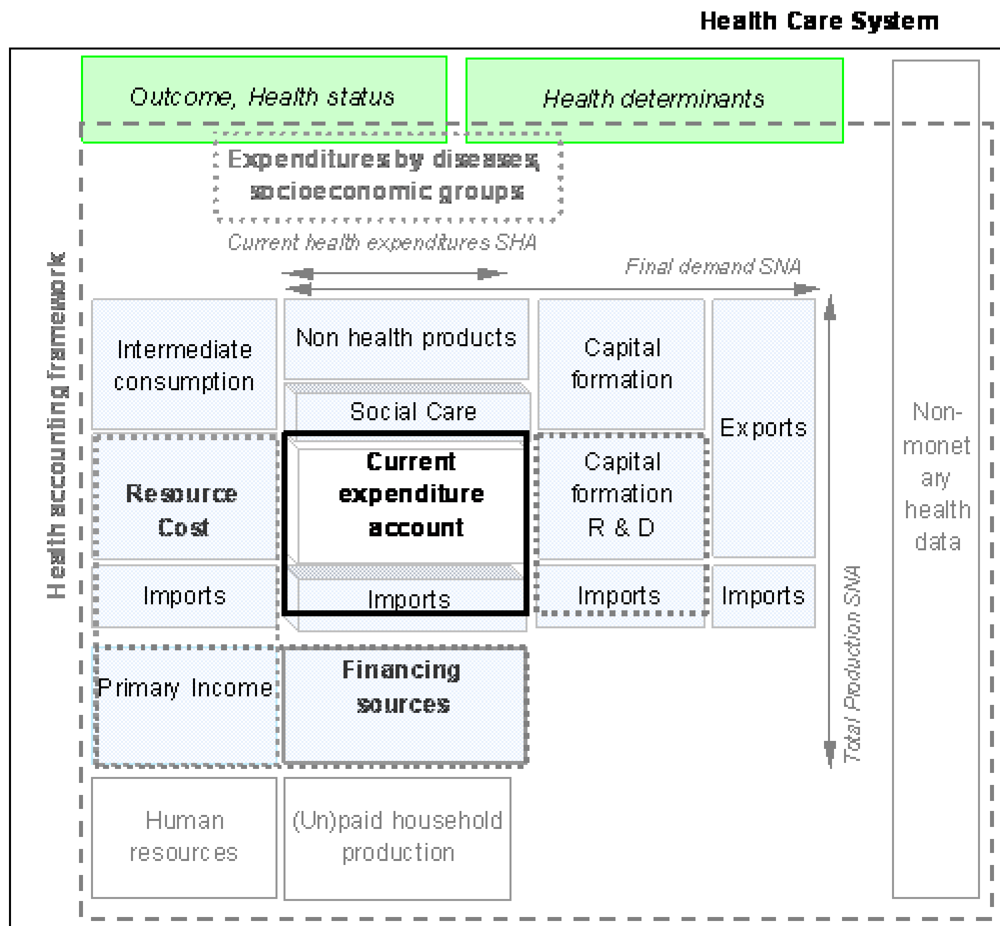
7 In a deviation from the rules governing the National Accounts, paid household activities and occupational healthcare are considered part of the SHA accounting framework.

8 In the case of medical goods the provision must not necessary be equal consumption e.g. prescribed pharmaceuticals might not be consumed

9 See for example Abraham, Mackie 2005, Table 6-2. It is not the intention of the SHA Revision to provide a framework for the measurement of health production.

Figure 2: The central and extended accounting framework of SHA 2.0



20. SHA1.0 has distinguished between personal and collective transactions when defining health care expenditures, but did not really make a classification of types of transactions.[10] SHA2.0 is more precise about the type of transactions by distinguishing between transactions related to the consumption, related to the provision (see Units 4, 8, and 12), and related to the financing of goods and services (see Units 4, 9, and 10). Type of transactions may impose different boundaries depending on the purpose of these activities (see Unit 8).

21. In SHA, the health functions of ICHA-HC stand for the purpose of activities, thus determine the central set of health care transactions. It is important to understand why SHA does not use a product classification such as the Central Product classification (CPC) of SNA as the basic classification to determine the current expenditure boundary of the health system. In principle, one could argue that the use of the CPC would have the advantage that this classification is already implemented by SNA. But, in contrast to ICHA-HC, CPC is not functional because it only distinguishes the product but not the purpose

[10] In contrast, SNA/ESA is distinguishing four types of transactions:

- product transactions,
- distributive transactions,
- financial transactions, and
- other transactions.

of consumption. Furthermore, CPC is not sufficiently detailed to be of use to health accounts.[11] In practice, the CPC is rather closely related to the classification of establishment of health care provision defined by ISIC. In contrast, the SHA HC approach is "functional" in that it refers to the goals or purposes of health care as such and not to a classification of products.[12] One might argue that COFOG offers a functional classification. But the level of detail is also too low and related to activities structured by CPC. The rationale of COFOG is also different from that of SHA. The purpose of SHA is to provide a complete overview of all expenditure related to health care, while COFOG intends to classify transactions in government-funded health care[13].

2.3 Criteria development in the boundary setting

22. It is necessary from an international perspective to have a commonly defined set of actors and transactions which allow the health care systems of different countries to be described in a comparable way. Classifications are therefore needed for the description and measurement of such transactions and actors. At the centre of SHA is domestic consumption of personal and collective health services and goods including the administration function. This comprises the provision of these goods and services and their financing, which are described in the following under the current expenditure account.

23. The criterion of inclusion of services and products depending on the purposes aimed for might mean that the same type of services might be treated differently by governments in different countries. Reimbursement by government and level of reimbursement is not a key criterion for inclusion or exclusion in the consumption frame.

24. The main criterion to include or exclude certain activities in the consumption frame relates to enhance health status, diminish ill-health, or prevent deterioration of health. Although the direct relation with the patient is not explicitly introduced as a criterion, it is obvious that for cure and treatment as well as in personal prevention this direct contact is imperative. In public health and collective prevention the goal of the activities is aiming at influencing the population directly in health matters. Another criterion is the amount of medical, paramedical and nursing or health knowledge needed to perform the activities, or the degree to which medical, paramedical or nursing professionals are involved in the provision process. The following criteria are used to determine whether an activity should be included in current health spending, in order of importance:

- Primary intent of the action is to improve health, maintain health or prevent deterioration of health status of individuals, groups of the population or the population as a whole as well as to mitigate the consequences of ill-health;

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[11] Therefore, SHA sets out a health product classification (i.e. without purposes of use) in Unit 13 with an approximate correspondence to CPC.

[12] ICHA-HC of SHA.1.0 is not completely purpose oriented, e.g. medical goods. Medical goods for human patients' use serve the purpose of cure, prevention and diagnosis and restoring functions. Veterinary products are excluded.

[13] Eurostat 2007, p.57: "SHA covers all economic units (be they primary producers of health care or secondary or ancillary producers); while COFOG uses governmental units in the determination of the health expenditure. COFOG functions (purposes) and SHA functions are also different in respect of the contents and level of aggregation."

- Medical or health knowledge[14] is needed in the execution of the function, or it is executed under the supervision those with such knowledge, or the function is governance and administration of health care programs and health care financing;

- The consumption is for final use of health care,[15] and

- There is a transaction.

25. In reality, however, the specifications of transactions as requested by any international accounting system may not always be in agreement with the available data at a national level. A certain lack of purity in the transactions due to lack of detailed data is difficult to prevent. From a data comparability point of view these disturbances should be minimized and well documented.

3. The boundary of the current expenditure account of SHA

3.1 The consumption frame of health care goods and services

26. The boundaries of the current expenditure account of SHA are established by the purposes of the consumption of the health goods and services included and are discussed in detail in Unit 7 *Functional classification of health care* (ICHA-HC). It is essential to be clear about both the general structure and the specific rules on how to handle borderline issues.

3.1.1 General issues related to boundaries of the current expenditure account

27. The general structure implies that the boundaries of the consumption frame be defined by:

- The *health care services and goods consumed* by individuals and the community as a whole (e.g., administration)[and not to include intermediate consumption];

- The *domestic consumption* of health care and consumption abroad i.e. imports [and not to include exports of health services and exports of health capital goods];

- Paid transactions[16] including home care and *paid services by households* [and not to include unpaid household activities];

- The *value of health care services and goods* at purchasers prices including VAT [and not to distinguish between trade margins of distribution and production of medical goods].

Health care services and goods consumed by individuals

28. Health care services and goods provided to and consumed by individuals comprise the majority of transactions recorded in the consumption frame as primary and secondary curative services, nursing

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[14] It is a known fact that the numbers of medical and nursing staff involved in the provision process differ enormously across Europe, but also across the world. This boundary issue is to be tackled in the unit on health care human resources.

[15] Some transactions with primary purpose of using health will simply be excluded for now because of measurement difficulties (i.e., cardiovascular fitness which service in principle should be in but that cannot be distinguished from fitness for non medical reasons and for that reason should be excluded).

[16] This includes in-kind payments. In developing countries payments might be in kind contributions or also in-kind assistance by international donors (WHO 2003: 7.65).

care, or pharmaceutical prescriptions. The functional classification ICHA-HC distinguishes different types of settings where the services are provided (inpatient care, day-care, outpatient care, home care). One should note that health care services offered at the workplace or school health care services are also provided in special settings. From health care services and goods consumed by individuals *occupational health services* require particular attention because these services are often provided by specialists of occupational medicine within industries.[17] In, the case that occupational services are contracted with self-employed medical specialists or health specialist of health care providers, it is necessary to check for double counting.

29. Health care comprises not only personal health care services provided directly to individual persons but also collective health care services covering traditional tasks of public health such as epidemiological surveillance and other measures of health promotion and disease prevention including setting and enforcement of standards, and administration of health programs from which all individuals, the community as whole. These include special public health services such as blood-bank operation, public health service laboratories, and population planning services.

30. Another issue is *consumption of fixed capital* (CFC). This is part of the consumption frame and refers to the so called depreciation, e.g. for hospital buildings, medical equipment, and expired pharmaceuticals, that cannot more be prescribed. It is the value loss of the capital assets used up in the process of delivering health care goods and services during the current period, resulting from physical deterioration, normal obsolescence or damage. It measures the decline in the usefulness of a fixed asset for purposes of health care provision. Measurement is frequently approximated by using an assumed regular rate of decline of their efficiency in production over time, based on an average service life of the asset.[18]

31. The current expenditure account of SHA does not aim to account for all goods and services used or necessary for the delivery (e.g. intermediate services and gross fixed capital formation (GFCF)) because it is focusing on the delivery to individuals including collective services (final consumption of health goods and services). Therefore GFCF is handled in an additional account (see OECD Notes on improving the quality of the estimation of capital formation in the SHA).

Domestic consumption

32. SHA has primarily a domestic consumption approach i.e. the focus is on the consumption of health care by the resident population irrespective of where this takes place. Firstly, this implies the inclusion of imports (provided by non-residents) and the exclusion of exports (provided to non-residents). In practice, when business surveys are the starting point for the construction of SHA this may result in including exports of health care (produced by resident units) and neglecting imports of health care (produced abroad). The exclusion of exports might be difficult because statistics of health care providers may not show up the share of foreign patients treated. The increasing trend towards patient mobility and

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17 Occupational health care is treated by SNA as intermediate consumption and, therefore, not included in the consumption of health care services by households. In contrast, SHA includes occupational health services as health expenditures because of the health benefits for employees. It is governed in most countries by detailed regulations. Occupational health care includes surveillance of employee health (routine medical check-ups) and therapeutic care (including emergency health care services) on or off business premises. The expenditure incurred in occupational health care can be approximately estimated as the cost of personnel involved.

18 Measurement of CFC is a complex undertaking which requires a comprehensive collection of statistics and an inventory of investments made by different types of providers. Therefore, the separate reporting of CFC is not part of the JHAQ although included in the values of current health expenditures.

trade in health goods and services however may caused this share to be significant for many countries thus careful consideration should be paid to these differences (see Unit 3).

33. Another aspect to be considered in domestic consumption of health care is non-observed activities, not always captured or reported in regular statistical sources. The reason may be that the activity is informal and thus escapes the attention of official surveys geared to formal activities; it may be that the producer is anxious to conceal a legal activity, or it may be that the activity is illegal. In some countries the consumption of health care goods and services is often related with informal payments, so called envelop payments or under table payments. These extra billings increase the incomes of health care providers on one side and might lead to illegal financial burdens on the consumer side. These non-observed health activities might account for a significant part of the health care system of some countries. It is therefore particularly important to try to make estimates of the total consumption of health care, even if it cannot always be separately identified as such[19].

Paid home care provision by households

34. One of the important issues, in relation to health (and social care), concerns the activities that are taking place in private households and their role as providers of health care. Despite the progress in the measurement of health care provision by households few data about health care provided at home by relatives or neighbours are available. Furthermore, household provision consists of a large variety of different activities which are presently not standardised (Eurostat 2003). If these health care activities are paid, then they are included in the current expenditure account. Unpaid household healthcare activities may be considered outside the current expenditure account and would need further statistical development.[20]

35. From various types of cash transfers to households only these granted to care after member of household are included under the current expenditure account. This item also comprises the administration and regulation of health-related cash benefits programmes. Other benefits in cash such as benefits for sickness leave or maternity leave, pensions in the case of disabilities or work accidents are not included. It is proposed to record other benefits in cash outside the current account in order to interpret aspects of financing (such as contribution rates) correctly. The COFOG (10.Social Protection) and the European System of integrated Social Protection Statistics (ESSPROS) use the list of social protection functions which can serve as a starting point for defining the frame of cash-benefits in SHA.

The consumption value of health care goods and services

36. Consumption is valued at purchaser's prices including VAT. This means that the value of medical goods and services is based on what purchasers together pay. [21] Even if medical services and

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19 Details about the accounting of non-observed health activities are outline in *OECD* 2002.

20 In SNA, care of sick, infirm or old people undertaken by households for their own use are excluded, except services produced by employing paid domestic staff.

21 There is an inconsistency in SHA 1.0 (5.26) that has to be corrected: "The output of retailers is measured by the total value of the trade margins realised on the goods they purchase for resale (valued at actual prices)…..". This is derived from SNA. In SNA, the difference in value recorded for a product between when it is produced and the moment it is used for, say, final consumption expenditure can be considerable. Components of this difference are:

- Taxes less subsidies on products payable by the producer;
- Trade and transport margins, including taxes less subsidies on products payable by wholesale and retail traders;
- Transport, including taxes less subsidies on products, paid separately by the consumer.

pharmaceuticals provided free of charge it is necessary to estimate the values equivalent to the market prices. Often, health care services and medical goods are provided free of charge or with user charges, which are below prices "that are economically significant".[22] When reliable market prices cannot be obtained, a second best procedure is to value the output to be equal to the sum of their costs of provision: that is, as the sum of selected inputs including transport charges and trade margins. More detail information together with examples are provided under unit X: Data compilation

3.1.2 Specific issues related to the boundaries of the current expenditure account

37. The SHA consumption frame draws the borderline independent of where and how the activities are provided and how they are financed. The functional classification of health makes the borderline by purposes. In some cases, e.g. cosmetic surgery, transportation of patients, home help services, sunglasses mechanical contraceptives as condoms it might be not clear where to classify these services and goods, under the current expenditure account or within national extensions. Therefore, specific rules, like medical recommendations, can serve as additional guide to handle these borderline cases. Borderlines cases are 'products' that are situated on the boundaries of health care and other non-health products[23]. Four areas of borderline cases are discussed

1. cross-sectoral issues:
2. wellbeing
3. social care

38. A large group of borderline cases relate to *cross-sectoral issues* such as road safety, intentional injuries, or measures to strengthen health equity by reducing impoverished neighbourhoods. The main criterion for the decision to include or exclude these activities in SHA is the primary purpose of these activities as outlined under section 2.3. For example, road safety measures are a quite important activity to reduce road injuries, but it would be misleading include the cost of construction of roads into the accounts additional to the cost of medical treatment of injured persons. Also tests for safe cars and the policy activities toward road safety are outside the current expenditure account of the consumption of health care services and goods.

39. Another group of borderline cases are related to *wellbeing (spa, wellness).* The perception of health services is evolutionary, inter-cultural, and social (Petrera, Vicente 2008). The view of the relation between welfare and health as well as the scrutiny of effectiveness of health goods and services might vary between countries. The current health expenditure account neither aim to measure the impact on welfare nor the effectiveness of health services. Types of goods and services directed primarily to wellbeing such

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SNA is aiming to measure all inputs (productive activity) related to the production of a good. Certainly, the value of the productive activity of a retailer is not the value of the medical goods if the medical good is not-self-produced ((Trade margins = sales - value of goods purchased + changes in inventories). The value of pharmaceuticals at purchaser's prices includes the productive activities by the wholesalers and the pharmaceutical manufacturer. The view of consumption in SHA requires a different approach than the view of production in SNA. Therefore, the value of the consumption of medical goods is measured at purchasers prices including VAT within the current expenditure framework.

[22] Prices of health care services are dealt with in more detail in Unit 3.

[23] Products that are excluded from SHA boundaries might be considered by some countries for their inclusion in the complementary expenditure framework for analytical use

as fitness training might have health impacts but could be excluded from the consumption frame unless these activities are part of activities under medical recommendation (for details see Unit 7).[24]

40. *Social care* (especially in Western Europe) is statistically classified as part of the social protection function of government related to different social situations such as disability, poverty, or old-age. The aim of social care is to provide services and support to individuals who, for reasons of disability, illness or other dependency, need help to live as normal a life as possible, either within a residential care setting or in their own home, and to support their informal carers. Social care covers a range of services including professional advice and support, residential care in care homes, day care, home care in clients' own homes, meals, community equipment, and assessment and care management. Often local authorities are responsible for assessing the care needs of their populations, as well as the planning and provision of services. In reality, there may be a mixed economy of provision of social care (by public, non-profit, and for-profit providers), various mechanism of its financing (direct payments, reimbursements, benefits in cash, etc.) and different arrangements of its delivery (pure social components or its mixture with various level of medical care). It is often difficult to make a separation between medical and social components of home care, e.g. of nursing care for Activities of daily living (ADL) restrictions and/or Instrumental activities of daily living (IADL) restrictions (social care). The proposed treatment of Long term care (LTC) in SHA2.0[25] excludes personal services (ADL) or home-care services (help with IADL) which should be accounted under Long Term Social Care (LTSC). If, however, personal services are also delivered by the medical personnel as a service package and the medical component dominates then the expenditure for this should also be included under health care (for details see Unit 7).[26]

3.2 Layers of the consumption frame

41. SHA 1.0 acknowledged the importance of health related functions, their close link to health care in terms of operations, institutions and personnel however, recommended that they should, as far as possible, be excluded when measuring activities belonging to core health functions due to boundary problems associated with them as well as their complexity. It is proposed for international reporting to have a fixed boundary for the compilation of total current health expenditures in accordance with the functional classification presented in Unit 7[27]. However, for a special purpose of interest there might be a second layer in the current accounting framework for items to be reported as memorandum item which not necessary to be cross-classified with other core dimensions. Among those of special interest and closely relation to health care consumption, is compilation of expenditure of total expenditures for long-term care (as reported below the line in the JHAQ.)

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[24] Unit 7 proposes a memorandum item for health promotion in multi-sectoral settings, notably to capture joint intervention of health system and other branches, e.g. alcohol level detection in drivers.

[25] For purposes of data collection by JHAQ the OECD Health Division 2008 recommended, based on the investigation of the compilation of long term care (LTC) in their Member States, that the guidelines for the defining the boundary between long term health/nursing care (LTHC) and long term social care (LTSC) should be flexible in order to accommodate the considerable differences in LTC organisation and also changes in the organisations over time. (OECD Health Division 2008).

[26] This does, however, deviate from a 'pure' functional approach of defining LTNC by in effect limiting it to measuring expenditure on those services provided solely by health care professionals rather than the goals or purpose of the activity itself. Although, among OECD countries there is a split of opinion on the inclusion/exclusion of personal services, the requirement for a global standard and the inclusion of low and middle income countries would make it preferable to have a narrower definition of LTNC. Importantly, from a policy point of view in the light of ageing populations, the aggregate Total Long-term Care should also be explicitly reported as the sum of Long-term nursing care and Long-term social care.

[27] National health accounts might add further layers to the consumption frame depending on the national boundaries of the health care system, as e.g. in the health and social care accounts of the Netherlands.

3.2.1 Current vs. capital expenditure account

42. One of health care-related function proposed in SHA.1.0, is capital formation (HC.R.1), expenditure on which become nowadays of the utmost importance for health care policy planning. However, the experiences of Joint Health Accounts Questionnaire (JHAQ) have shown methodological shortcomings of the existing approach that resulted in significant problems with data comparability among countries. The former has led to the development of improved guidelines on estimating capital formation to make the picture more complete. Capital formation as presented in these notes recommend better linked to provider classification which could be further developed as separate capital account.[28] The shortcomings of comparability of existing capital formation have pushed the focus toward current data expenditure (incl. consumption of fixed capital).

43. Other health related function already proposed in SHA 1.0 refers to activities of social care. To be able to capture total long term care that combine both the health and the social component of it the long-term nursing care (HC.3) recorded in basic health function can be merge with activities related to the social care recorded as health related function. The latter was split for in kind benefits (under HC.R.6) and cash benefits (HC.R.7). Under SHA JQ special guidelines was provided for compilation total expenditure of long term care which can be adjusted to the revised functional classification respectively.

44. Further activities of the health care-related consumption frame were education and training of health personnel (HC.R.2), research and development in health (HC.R.3), food, hygiene and drinking water control (HC.R.4) and environmental health (HC.R.5), which could be further included in capital account (see point 4.4.4) or developed in a additional account.

4. The boundaries of the additional expenditure accounts of SHA

4.1 Dimensions of extension

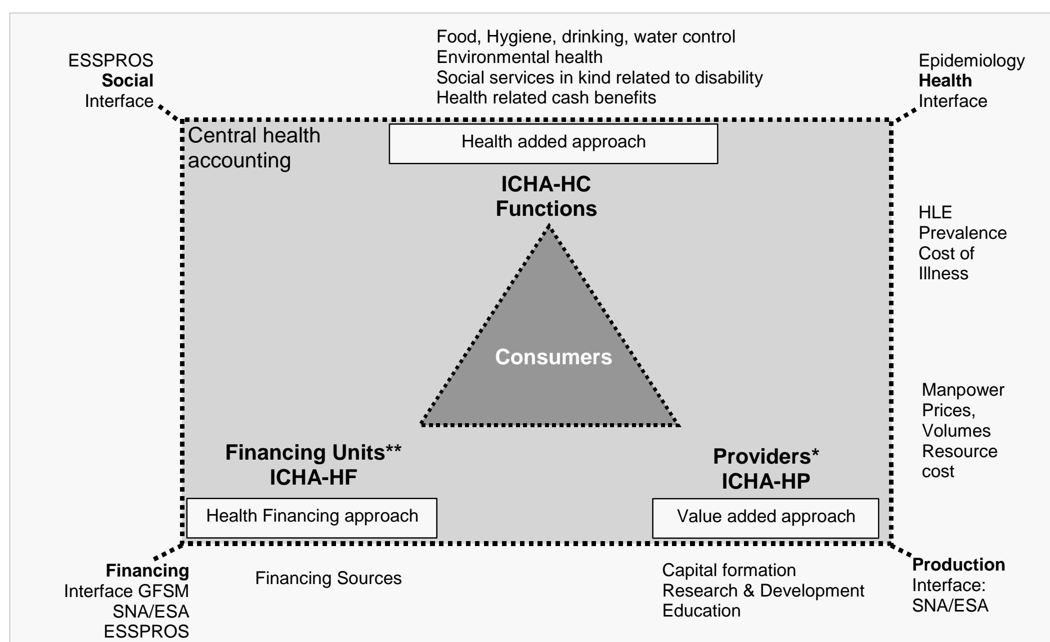
45. The additional expenditure accounts can add additional variables in a consistent way to the current expenditure account of SHA. There are four main interfaces of extension which link the current health expenditure account to a broader set of statistical areas (see figure 3):

- Health interface
- Social interface
- Production interface
- Financing interface.

46. The derived additional expenditure accounts of SHA give the opportunity to deepen all these areas in more detail. In the following only a few aspects are discussed. Further discussions can be found in Unit 3 Key concepts and definitions in health accounts, Unit 6 Relationship to other statistical systems, Unit 11 Classification of beneficiary characteristics, Unit 8 Classification of health care providers, Unit 9 Classification of financial sources and Unit 14 Classification of human resources.

[28] See OECD Health Division (2009b), Notes on improving the quality of the estimation of capital formation in the SHA.

Figure 3: Interfaces of the current expenditure account of SHA



* incl. consumers, financing units as providers
** incl. consumers, providers as financing units
ESSPROS European System of integrated Social PROtection Statistics;
GFSM Government Finance Statistics Manual
HLE Health Life expectancy

4.2 Health interface

4.2.1 Characteristics of beneficiaries

47. The health interface is of particular interest to study the relation between the consumption of health care good and services and the associated health enhancement of health outcomes. Although health is only partly determined by the consumption of health care the breakdown of health expenditures by health status /diseases helps to understand the observed distribution in overall health spending. It shows how much is spent on health care for people with specific diseases. By this, the health interface adds value to the current expenditure account of SHA. Health differences are apparent along many dimensions including age, gender, occupation, geographic area and socioeconomic status. Age and gender are demographic characteristics of beneficiaries that are an intrinsic epidemiological part of identifying and measuring the utilization of health care goods and services by type of diseases. Socio-economic characteristics of beneficiaries are usually more difficult to include in expenditure accounts however its inclusion allow to describe the social dimensions of health care an important aspect for various welfare policy decisions (see 4.3).

4.2.2 Non-monetary health data: utilization, incidence, and prevalence

48. Current health expenditures are by definition the product of the annual prevalence of patients receiving health care goods and services and the average value of these health care goods and services. Non-monetary data about utilization, incidence, and prevalence are essential for measuring unit cost of health care services. These are important for developing health price indices. Additionally, information about unit cost could be used for checking the consistency of the accounts. Health prices are discussed in Unit XX, and link with non-monetary statistics in unit X.

4.2.3 Expenditures by diseases

49. By employing consistent methodology and data across all diseases it can be ensured that expenditures for various diseases can be compared and the sum of expenditures for all diseases totals to the current health expenditures estimates. SHA offers the possibility to make consistent expenditure by disease accounts. In practice, this means a top-down and/or bottom-up breakdown of health expenditures by specific health status classifications or the International Classification of Diseases (see Unit 11). Estimating current health expenditure according to disease is identical with direct health cost in Cost-of-Illness accounts (COI).[29]

The boundary of the expenditure by disease account is the same as of the current expenditure account.

4.3 Social interface

4.3.1 Burden-of ill health and income maintenance

50. The health and social interface are closely connected. Organizing equal access to health must take into account of the diversity of people's social, cultural and ethnic backgrounds (see also paragraph 4.2.1).[30] Identifying and measuring the burden of health care financing in socially disadvantaged sections of the population add additional value on both understanding consumption and financing patterns. It helps also improve the consistency of health accounts. Health expenditures are quite uneven distributed among population groups. Socio-economic variables determine not only health but also in public financing schemes the exemptions from co-payments. "Catastrophic" health expenditures and out-of-pocket expenditures that low-income households face are therefore of particular interest for health accounts and add valuable information to the knowledge about both the demand for health care and its accessibility.[31]

51. The cost for patients with a disease or of some groups of patients deviates from the total costs for a disease. One reason is indirect costs. Indirect costs of COI or productivity losses can be seen as the loss in earnings as a result of adverse health outcomes as a result of death, illness or time spent undergoing treatment for the society as whole. The loss of earnings can be both those of the patient and family members caring for the patient. Usually indirect costs are larger than health related cash benefits because these benefits do not fully the replace the lost incomes (for more details see unit 11). The cost frame might also include intangible cost, e.g. costs of pain, suffering, anxiety, grief and loss of leisure time, for which a monetary value is assigned.

4.3.2 Unpaid provision of home care activities in health

52. From a social perspective the unpaid provision of services within households might be a particular interest. The term household provision is used to refer to services delivered within the household. There are different reasons for including household provision, e.g. informal care has different

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[29] One should note that direct non-health cost such as transportation and lodging for family members if health provider is far from home, and childcare for dependent children during hospital stay is not included. COI may consider different time frames for cost estimation: the annual time frame (prevalence-based) or the lifetime time frame (incidence-based). Because of the simpler data requirement, prevalence-based models have been more widely used than incidence-based ones (see Unit 11):

[30] For example, the Primary Health Care model as articulated at Alma-Ata explicitly stated the need for a comprehensive health strategy that not only provided health services but also addressed the underlying social, economic and political causes of poor health.

[31] Often the poor receive less e public spending subsidy than the rich, see O'Donnell et al. (2008). The importance of social determinants for health is comprehensively discussed in CSDH (2008).

importance in deprived areas with fewer publicly available services than in more affluent neighbourhoods making help provided by family more important.[32] In many low and middle income countries the time and effort devoted to assist and aid the sick are large and without any direct financial flows related to these activities. Measuring unpaid household provision requires a classification of these unpaid activities. Time use surveys carried out by several countries since the 1960's have shown the considerable amount of unpaid labour not recorded in labour force statistics. In order to achieve comparable results on time use between countries, researchers within the International Association of Time Use Research (IATUR) started to co-ordinate and harmonise time use methodology.[33]

4.3.3 Social services

53. People with chronic conditions such as diabetes, asthma and neurological conditions may access social services, especially in the acute or later stages of illness. Social services are usually outside of current expenditure account. Social care involves a wide range of public and private activities which aim to improve living conditions for members of society. Fields of social care include among others: anti-poverty services, anti-racism programs, child welfare, community development, counselling, family therapy, forensic social work, housing and homeless services, neighbourhood development, school social services, services for disabled and handicapped, social work, violence prevention. This list is not comprehensive but is indicative of the wide range of activities which are part of social care which are relevant to health, with different degrees, additional to the above mentioned long-term nursing care, and which are clearly part of an additional framework not discussed in SHA2.0.

4.4 Production interface

54. In the current expenditure account, the total of provision equals the total of consumption and the total of health care financing. It is important to distinguish between "provision" as the output of health care services and the "production" of providers as a process that relate inputs to outputs. Health care provision for final consumption differs from production of health care providers by the external trade in final health care services and goods, the production of non-health product, the production of health care goods and services used as intermediate consumption like imaging and radio-diagnostic services, and the valuation of production.

4.4.1 Production frame of medical goods

55. From an economic perspective the total value of production as well as the value added of all productive activities of the health care system are of interest. Such a broader economic perspective is taken in health care satellite accounts that compile both supply and demand of health care services and goods. In SHA1.0, Tables 8.2 and 8.3 exhibit such an approach that balances supply and use of health care services and goods in the outline of an input-output model as used in SNA. Here, it is proposed to develop this

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[32] In SNA, the unpaid provision of services by members of the household has traditionally been excluded from measured production in national accounts. One reason is that the labour force would include inactive household members if health care provision by households were to be considered, another reason is the difficulty of measurement. In SNA, transactions are only recorded if provided by other economic units when paid. Some households employ paid domestic staff to carry out these activities for them. Activities not included are activities that are not productive in an economic sense of SNA which include basic human activities such as eating, drinking, sleeping, taking exercise, etc., that it is impossible for one person to employ another person to perform instead. Paying someone else to take exercise is no way to keep fit.

[33] A major step was taken by Eurostat when the Harmonised European Time Use Survey (HETUS) was developed.

broader perspective as a possible additional frame in line with the current expenditure account of SHA (see Unit 5).[34]

4.4.2 Resource cost

56. RC measures the factor inputs used by providers to produce the goods and services consumed or the activities conducted in the system. The boundary of the measurement of resource cost is derived from the health care and the economic units enclosed. One particular issue of the resource cost account is the measurement of resource cost for non-health products (for details see Unit 3, Unit 8, and Unit 12). The extension of the current expenditure account of SHA to intermediate consumption of health care providers and RC might be of interest for various reasons, e.g. the cost of the various components driving the expenditure increase varies according the purchase and provision organization. Planning requires the identification of these dynamics. Other situations may be involved, e.g. where a country has a strong medical device and pharmaceutical industry and wishes to know the contribution of these industries to the economic development, or in order to analyse the dependency of the health sector on energy. Some other interest may be linked to the balancing of supply and use of health care services and goods requires also the compilation of the intermediate consumption, compensation of human resources, and consumption of fixed capital, that is part of cost of production. The identification of intermediate consumption in the additional expenditure account of SHA2.0, allows the measurement of the total demand of health care services and goods[35].

The boundary of the resource cost account includes different types of products and inputs than are in the current expenditure account such as goods and services for intermediate consumption and the factors of production.

4.4.3. Capital formation

57. Capital accounts are a particular part of the production interface of SHA. The generation of resources as investment in personnel as well as key inputs and technologies (human, physical, and knowledge) determine the capacities of the health care system. Information and communication technologies as well as medical equipment are nowadays integrated in almost all health care provision processes and give opportunities for further improvements. However, the delivery of health-care keeps being a highly labour intensive process involving clinical specialist, health allied professions and non-medical staff. Capital formation is dealing with changes in the resources used by providers. The capital account records expenditures in fixed capital formation. The human capital account records expenditures for the formation of human capital in health care. Both accounts are complementary to the current health expenditures account.

58. Capital is a crucial factor in the provision and enhancement of quality of health care services and goods by health care providers. SHA 1.0 has defined the recording of gross fixed capital formation (GFCF)

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[34] The co-ordination between the consumption approach and the production frame can best reached by product balances. If a product balance is drawn up for all goods and services in the economy (either individually or in groups of products) and these are aggregated, the totals for output, imports, intermediate consumption, final consumption, capital formation and exports must be equal: Output – intermediate consumption + taxes on products – subsidies on products = final consumption + capital formation + exports – imports.

[35] Total demand = Intermediate Consumption + final demand (see Unit 3). SHA 1.0 does not explicitly classify producers of intermediate products to health care as providers of medical care in the ICHA-HP. In contrast, SHA2.0 enables the activities of those producers which directly support the providers of health care to be explicitly shown.

as health care related activity HC.R.1. Capital goods are for final use and a constituent factor of the nation's capital stock from the production point of view. They are largely produced by branches or industries outside the conventional realm of health care provision, e.g. construction of hospitals, manufacture of MRI machines, and manufacture of emergency ambulances. The acquisition of capital goods is an expenditure of health care providers of the health care system, while the consumption of fixed capital (CFC) is an inherent part of delivering health care. Capital formation is dealt with in more detail in Unit X.[36] .

The boundary of capital formation is different from that of the current expenditure account because non-health care goods and services are included.

Capital formation is not a layer of the current expenditure account but a complementary layer which requires a separate accounting for capital. However, consumption of fixed capital is part of the current expenditure account and has to be included in total current health expenditures. Expenditure account on capital formation extends the boundary by the list of products listed in the classification of assets (see unit X).

4.4.4 Human capital development and innovations

59. Human capital and health knowledge are, like physical capital, crucial factors in the provision and enhancement of quality of health care services and goods by health care providers. Human capital within the health care system consists of the stock of knowledge, skills and experience embodied in the labour force which is taken as proxy for human capital. SHA 1.0 recognised the importance of labour force proposing the measurement of human resources in health care in a stock-flow approach and the expenditures for activities of education and training (SHA1.0: HC.R.2). Furthermore, the amount of resources devoted to the production of inventions is measured in the form of expenditures for research and development in health (SHA1.0: HC.R.3). Both types of expenditures are not for current final consumption, but influence final consumption in the future. They are invested as inputs into the future capacities of the health care system like capital formation (see Unit 14). [Further material to be added later on boundaries of human capital development and innovation].

4.5 Financing interface[37]

60. The formation of financial capital is not covered by the production interface and capital account. Payments of premiums on funded private health insurance policies and medical saving accounts taken out by members of households on their own initiative outside any social insurance scheme, constitute the acquisition and disposal of financial assets and are recorded as such in the financial accounts of the SNA as components of the change in the insurance and annuities entitlements. The insurance companies manage funds on behalf of named households.

The boundary of the additional financing framework goes beyond that of the current expenditure account because financial assets are included.

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36 The measurement of GFCF requires a classification of assets and to define the methodology for measurement of GFCF and consumption of fixed capital. For the basic methodology of capital accounts SHA refers to SNA which recommends estimating the gross capital stock either by surveys of enterprises or by the "perpetual inventory method" (PIM). ESA95 recommends the use of the PIM method. The Latin American manual (Satellite Health Accounts, Washington D.C., 2005) devotes several pages to list the capital goods providers.

37 This interface is developed later as the respective Units 9 and 10 are not yet decided.

61. Information about health care financing is limited in the current expenditure account to the questions: where does the money go to and which types of different services are financed (HFxHPxHC). The financing interface of the additional account aims to provide a more comprehensive picture about financing flows in health care, by including the question: where does the money come from (i.e. from which sources it came into the health care system)? The SHA 1.0 framework did not provide a concept to answer this question. The PG made a first attempt to define a classification for financial sources, an adapted version of which was incorporated into international data collections. The issues related to these questions are described in detail in Unit 9&10: *Accounting of Health Financing*.

62. One issue of particular interest are imbalances between revenues and expenditures for health care. Social insurance may run into deficit. In funded systems, the total of financial inflows by the collection of contributions or premiums is usually larger than the total of current health expenditures. Balancing items (being the discrepancies between the receipts and the expenses of providers and financing units) in current accounts yields important information on, for example, the long term sustainability of health care providers and financing units. A related issue is that of intergenerational imbalances in the financing system. Contributions (private and public) and premiums paid by one generation are by definition not always equal to the payments necessary for service delivery for this generation.[38]

[38] For further details of the concept of intergenerational accounting see Auerbach, Gokhale, Kotlifkoff 1994

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QUESTIONS

1) Do you agree with the distinction of:

1. the current expenditure account of SHA;
2. the capital formation in SHA; and
3. the additional accounts?

2) Do you agree to restrict the current expenditure account on the three classifications defined by ICHA?

3) Do you agree with the borderline of the current expenditure account which defines the consumption of health goods and services by individuals and by society as a whole? The criteria are

- Primary intent of the action is to improve health, maintain health or prevent deterioration of health status of individuals, groups of the population or the population as a whole as well as to mitigate the consequences of ill-health;
- Medical or health knowledge is needed in the execution of the function, or it is executed under the supervision those with such knowledge, or the function is governance and administration of health care programs and health care financing;
- The consumption is for final use;
- There is a transaction.

4) Do you think the boundaries of capital formation need further outlines in this unit or in a separate unit?

5) Do you agree with the approach taken with regard to the boundary of health and social care for Long-term care?

6) What are the priorities for the development of boundaries of additional accounts in SHA?