A System of Health Accounts

HEALTH

OECD

A System of Health Accounts

Version 1.0

OECD

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

Health care has become one of the largest industries in OECD countries and one of the most dynamic in terms of job creation and innovation. There have been impressive achievements in improved health status of populations and in universal coverage for most OECD countries. There remains, however, a recurrent concern regarding the adequacy of resources and the way they are currently used, and how best to increase the equity, efficiency and effectiveness of health care. The challenges of rapid technological change, growing patient expectations and ageing populations reinforced the appeal for further reforms.

Consequently, there is a rising demand for a core set of financial data provided by National Health Accounts as well as by international comparisons of health care spending. This manual of *A System of Health Accounts* (SHA) provides a set of comprehensive, consistent and flexible accounts. It establishes a conceptual basis of statistical reporting rules and proposes a newly developed International Classification for Health Accounts (ICHA) which covers three dimensions: health care by functions of care; providers of health care services; and sources of funding.

The proposed accounts are designed to meet the needs of analysts of health care systems and policy-makers. They provide a common framework for enhancing the comparability of data over time and across countries. They are intended for use in international comparisons that include a broad range of countries with different ways of organising health care and its financing.

This manual builds on more than fifteen years of work of the OECD Secretariat on international comparisons of health care data in support of economic analysis of health policy. A number of experts in OECD countries and from other international organisations have assisted in producing this manual by commenting on various draft versions. Their contributions are gratefully acknowledged. The manual was prepared by Manfred Huber, an administrator in the Directorate for Education, Employment, Labour and Social Affairs and is published on the responsibility of the Secretary-General of the OECD.

National statistical agencies and other users of the manual may contact the SHA Hotline at sha.contact@oecd.org for questions and queries. Additional information on the SHA and further practical guidelines are available at http://www.oecd.org/els/health/sha.htm. All users of this manual are invited to take an active part in its further development.

ACKNOWLEDGEMENTS

Comments, which influenced the final round of redrafting, were provided by Jean-Pierre Poullier (WHO Geneva), who had initiated the project of the *System of Health Accounts* at the OECD Secretariat and commented on each draft version over the last three years. Various draft versions of the SHA were discussed with the members of the Eurostat Task Force on Health Care Statistics. Comments from experts in non-Member countries and from other international organisations document the interest of a wider range of countries in the draft manual. Ms. Ann Chadeau, and Mr. Hermann T. Sarrazin have assisted in the drafting of parts of the manual. A particular debt of gratitude is owed to the United States Health Care Financing Administration whose financial support contributed to the development of this manual.

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1. PRINCIPLES OF THE SYSTEM OF HEALTH ACCOUNTS

INTRODUCTION

1.1. At present, National Health Accounts are at different stages of development and may not only differ in the boundaries drawn between health and other social and economic activities but also in the classifications used, the level of detail provided and in the accounting rules. The *System of Health Accounts* (SHA) provides a framework for a family of interrelated tables for standard reporting for expenditure on health and its financing. The SHA has been written with the dual aim of providing a framework for international data collections and as a possible model for redesigning and complementing National Health Accounts to aid policy-makers.

1.2. As a system of accounts, this set of tables is based on common concepts, definitions, classifications and accounting rules as necessary prerequisites to comparability over time and across countries. In designing the SHA an attempt has been made to provide a model for uniform reporting for countries with a wide range of different models of organising their national health systems. Consequently, the SHA comprises elements relevant for countries at various income levels.

1.3. The demand for improved health accounts is driven by an increasing complexity of health care systems in many countries and rapid evolution of medical technology. Policy-makers and observers of health care systems and recent reforms have raised the question of the adequacy of current accounting practices and the ability of existing health accounts to monitor fast changing health care systems that become increasingly complex. Raising expectations of consumers of health care contribute to the demand for up-to-date information on health care systems.

The proposal of a three-dimensional International Classification for Health Accounts (ICHA)

1.4. National Health Accounts usually take the form of two-dimensional tables cross-classifying expenditure by health care providers/programmes and by sources of funding. Country-

specific mixtures of institutional and functional criteria are currently used to classify health care providers. The resulting items (such as "general hospital", "maternity clinic", and "family doctor") have different contents across countries and result in overall boundaries of health spendings which differ among countries and change over time.

1.5. Over two decades of experience with international comparisons and health policy analysis on a national level suggest that a separation of institutional and functional aspects of health care services into two separate dimensions of reporting is essential to health accounting for international comparisons. This separation is also an indispensable tool to improve comparisons over time within National Health Accounts. This principle, only recently introduced in health accounting, has long been observed and applied in other data collections for functionally-defined fields of specific interest for public policy such as education, research and development, and social protection in general.

1.6. The provision of health care and its funding is a complex, multi-dimensional process. The set of core tables in the *System of Health Accounts* (SHA) addresses three basic questions:
- where does the money come from? (source of funding);
- where does the money go to? (provider of health care services and goods);
- what kind of (functionally-defined) services are performed and what types of goods are purchased?

1.7. Consequently, the SHA is organised around a tri-axial system for the recording of health expenditure, by means of a newly proposed International Classification for Health Accounts (ICHA), defining:
- health care **by function** (ICHA-HC);
- health care **service provider industries** (ICHA-HP);
- sources of **funding** health care (ICHA-HF).

1.8. These proposed classifications provide basic links with non-monetary data such as employment and other resource statistics. Existing national and international classifications served as a starting point for the proposed classifications. The ICHA classification of health care industries, for example, presents a refinement of the International Standard Industrial Classification (ISIC, Rev. 3, United Nations, 1990). Recently designed or revised classifications such as the Central Product Classification, Version 1 (United Nations, 1998*a*) and the 1998 revision of the SNA 93 functional classifications are referred to in this manual to assist statisticians who shift their national systems to these revised classifications to establish links with the ICHA used in this manual. The choice of categories in the three dimensions of the ICHA was guided by their relevance for health policy and reform issues, in particular for monitoring structural changes, such as shifts from in-patient to out-patient care and the emergence and spread of multi-functional providers in national health care systems.

Recent progress in health accounts and health care information systems

1.9. During the 1990s, an increasing number of countries reconsidered their accounting systems. They were looking for strategies to enhance policy relevance, comprehensiveness, and internal consistency of health accounts and national health information systems in general. A broader view on public health has in several countries contributed to decisions to redesign existing systems of health care statistics and to foster their evolution into more comprehensive information systems which integrate data on socio-economic background factors (economic, social, physical environment) with data on expenditure and financing of health care services as well as non-monetary indicators for resource usage and outcomes measurement.

1.10. This manual has been written with the vision of more powerful statistical instruments than have been available in the past and which are now in place or are emerging in many countries. It is expected that the availability of large databases with linked meso and micro-data will cover the many facets of health care in an ever more comprehensive way – revolutionising the task of health accounting on a national level by, at the same time, providing sound information to their mapping to the international comparable framework of the SHA.

PURPOSES OF THE SYSTEM OF HEALTH ACCOUNTS

1.11. To sum up, the main purposes of the OECD *System of Health Accounts* are:

- to provide a set of internationally comparable health accounts in the form of standard tables;
- to define internationally harmonised boundaries of health care and basic categories thereof;
- to distinguish core health care functions from health-related functions and to emphasise inter-sectoral aspects of health as a common concern of social and economic policy in various fields;
- to present tables for the analysis of flows of financing in health care together with a classification of insurance programmes and other funding arrangements;
- to provide a framework of main aggregates relevant to provide guidance for comparative research into the meso and micro structure of health care services;
- to propose a framework for consistent reporting on health care services over time;
- to monitor economic consequences of health care reform and health care policy;
- to provide a framework for analysing health care systems from an economic point of view, consistent with national accounting rules;
- to present an economic model of supply and use of health care services – as a tool to show the conceptual links between the *System of Health Accounts* and health satellite accounts.

BACKGROUND

1.12. The SHA draws on the experience and lessons learned from National Health Accounts and national health information systems in OECD countries. A list that is far from exhaustive includes: Australian Health Data Committee, 1998; Canadian Institute for Health Information, 1999; and Wolfson, M.C., 1991, 1994; Social Insurance Institution, 1997 for

Finland; SESI, 1990, for France; Brückner, 1996, 1998 and Sarrazin, 1999, for the German Health Information System; Lindsay and Newhouse, 1986; Lazenby *et. al.*, 1992; Levit *et. al.,* 1996*,* for the US Health Accounts; FUNSALUD, 1996, for Mexican Health Accounts. Progress in international comparisons of health expenditure estimates which have influenced this manual is documented in Waldo, 1996; van Mosseveld and van Son, 1999; Inspection Générale de la Sécurité Sociale, 1998; and Schneider *et. al.*, 1995, 1998.

1.13. The OECD Health Accounts served as a reference system and, over time have become an informal quasi-standard for uniform reporting on health care systems (OECD, 1977; OECD, 1985; OECD, 1987; OECD, 1993; OECD, 1999*a*). Over the years, harmonisation of concepts and definitions went hand in hand with the annual data collection by the OECD Secretariat of health and health care statistics.

1.14. In May 1996, the OECD convened an Ad Hoc Meeting of Experts in Health Statistics attended by delegates from most Member countries, as well as experts from Eurostat and from the European and Pan-American Regions of the World Health Organisation. Delegates were asked for their advice on ways to improve the contents, methodology, and procedures in OECD's annual collection of health data. The development of international standards for data on health care expenditure and financing was singled out as a priority area for future OECD work. A first draft of this manual was discussed at the Second Ad Hoc Meeting of Experts in Health Statistics, Paris, 3-5 December, 1997.

1.15. A second draft version of the *System of Health Accounts* was then presented at the OECD Meeting of National Accounts Experts, 22-25 September 1998 and to the Meeting of the Working Party on Social Policy, 19-22 October 1998, which recommended the manual for publication and for use in pilot implementations. The discussions during these meetings focused on the overall methodological framework of the SHA and the design of the proposed International Classification for Health Accounts. The same draft was also discussed at a Workshop of Experts on Health Accounts hosted by the Irish Department of Health in Dublin from 30 September to 2 October 1998. Questions of pilot implementations and the current state of National Health Accounts were on the agenda of a joint OECD/Eurostat Meeting on Health Accounting held in Luxembourg on 11-12 May 1999.

1.16. Participants to these meetings discussed the draft *System of Health Accounts*, provided comments on a wide range of aspects of the manual and advised on further steps for implementation. The outcome of the last round of redrafting during 1999 has been clarification in the proposed classifications, a completely redrafted Chapter 6 on sources of funding and flows of financing, and a new Chapter 8 on the relationship between the SHA and health satellite accounts. Several chapters of the manual have been shortened to improve the readability.

LOOKING AHEAD: PILOT IMPLEMENTATIONS AND FURTHER DEVELOPMENT OF THE MANUAL

1.17. As with any manual which is published as "Version 1.0", the *System of Health Accounts* should be considered as work in progress. In particular, the proposed functional classification will have to be further developed in an interactive process, parallel with pilot implementations on national level. Demand for additional detail might soon arise, as well as more hints on how to link macro and micro data, such as for procedural statistics and outcomes measurement, aspects not covered in the current version of the manual. Consequently, in coming years, Version 1.0 of the manual will be revised in light of discussions with health ministries and statistical agencies from OECD countries, as well as other international and regional organisations working in the field of health care statistics.

1.18. More detailed estimation guidelines are expected to be an important by-product of pilot implementations. Estimation guidelines will provide more detail on practical aspects of implementing the SHA and further guidance on a common practice of reporting according to the ICHA categories. Pilot implementations have both the purpose of reporting core economic indicators on health care systems for international comparisons (to transform national data into proposed OECD standard tables) and for countries which choose to use the SHA as a model to enhance their national reporting system.

1.19. During the methodological discussions on the SHA, several countries expressed their interest in taking an active role in the further development of the manual and to engage in an interactive process of pilot implementations with the OECD Secretariat. The primary goal of pilot implementations will be a core set of draft standard tables for a sample of OECD countries. The process of pilot implementation will focus on the following tasks:

- further harmonisation of overall boundaries and main aggregates of health expenditure estimates across countries in order to improve international comparability of main aggregates, in particular in reinvestigating the boundaries between health and other social services (for example for frail elderly persons and for persons with disability);
- revisiting sources and estimation methods for private expenditure on health, which have been identified as a major source and margin of error in international comparisons;
- a complete breakdown of health expenditure by source of funding according to the ICHA financing classification;
- two-dimensional tables of health expenditure by health care function and provider category;
- two-dimensional tables of health expenditure by source of funding and provider category.

1.20. National statistical agencies and other users of the manual may contact the SHA Hotline at sha.contact@oecd.org for questions and comments. The following OECD Internet site is devoted to the further discussion on health accounts and to the exchange of practical experience gained during pilot implementations of the SHA: http://www.oecd.org/els/health/sha.htm.

1.21. This Internet page provides access to useful additional material to accompany this manual, such as hints and guidelines for implementation; a list of errata for this SHA manual;

information about results of pilot implementations; announcements of meetings; blank standard tables in Excel format, etc. In addition, this page provides access to a bulletin board for discussion among users of the manual and communication with the OECD Secretariat. All users of this manual are invited to play an active role in the further development of the manual and to contact the above mentioned information sources.

THE ORGANISATION OF THE MANUAL: A READER'S GUIDE

1.22. Chapter 1 through Chapter 8 introduce the conceptual framework and the basic definitions of the SHA. Chapter 9 through Chapter 11 discuss the proposed classifications in detail and deal with the boundaries of health care and the structure of the three dimensions making up the proposed International Classification for Health Accounts (ICHA). Chapter 1 provides an overview of purposes and scope of the SHA. The hasty reader may skip the rest of Chapter 1 and proceed directly to the set of proposed standard tables in Chapter 2.

1.23. Chapter 3 outlines the basic definitions of functionally-defined boundaries of the health care system and sketches the main health and health-related functions. Functions of production and provision of health care services and medical goods, and administration are distinguished from health-related functions such as capital formation in health care industries, education and training of health personnel, research and development in health, and environmental health.

1.24. The institutional view on health care systems is the subject of Chapter 4. Chapter 5 brings together the different aspects of measuring expenditure on health with a focus on common accounting rules and definitions of national totals that in addition provide the conceptual link to national economic aggregates.

1.25. Chapter 6 discusses the basic concepts of calculating the public-private mix in health care financing. This chapter shows how a set of financial accounts could serve to trace flows of financing from final expenditure on health back to the ultimate sources of funding. Chapter 7 comments on the role of price and volume measurement in health care and links the framework of the SHA to the current international discussion on improving price measurement in this important service industry. Methodological and practical differences as well as similarities between the System of Health Accounts and recommendations for health satellite analysis are covered in Chapter 8.

1.26. Chapter 9 defines the ICHA-HC functional dimension of the proposed International Classification for Health Accounts and gives detailed explanatory notes for the individual categories. The ICHA-HP institutional classification of providers is described in Chapter 10. The ICHA-HF classification of sources of funding is presented in Chapter 11.

BASIC CRITERIA FOR THE SYSTEM OF HEALTH ACCOUNTS

1.27. The SHA shares the goal of the System of National Accounts to constitute an integrated system of *comprehensive*, internally *consistent*, and internationally *comparable* accounts, which should be *compatible* with other aggregate economic and social statistics as far as possible. These quality criteria of the SHA are competing with the goals of *timeliness* and *precision*, as well as with the *policy sensitivity* and *relevance* of the indicators provided by the SHA.

Comprehensiveness

1.28. The SHA provides a comprehensive accounting framework for the whole field of health care activities. It is not limited to a specific range of public and private programmes, as is still the case in several countries' National Health Accounts. In accordance to the functional approach, all programmes designed to provide health care or a substantial amount of health status enhancement by medical means should be included, whether labelled "health care" or not in national statistics.

Consistency

1.29. The use of the boundaries and data distributions proposed by the ICHA should result in data collections which are more comparable across countries and more *consistent over time*. The uniform boundaries, for example, should prevent national expenditure aggregates from suddenly changing due to the migration of health care programmes from one ministry to another or from one level of government to another.

1.30. Mapping national data to ICHA-categories should make data collections less affected by changing national definitions over time. The resulting time series should be capable of monitoring past structural changes and serve as input for simulation and forecasting models. The latter are especially demanding in terms of quality and consistency of data over time.

1.31. The SHA is *internally consistent* by providing identities and accounting rules for cross-checking the validity of estimates derived along the different dimensions of the SHA. The reporting in the SHA on production, consumption and financing of health care in a consistent way serves as a means of identifying gaps and deficiencies in current reporting systems and health accounts, indicating where priorities should be set for continued quality improvement of the statistical basis.

International comparability

1.32. The proposed concepts and classifications should facilitate the national statisticians' task to transform home-based observations into cross-country comparable data in order to enhance a greater level of communication among policy-makers and researchers. However, convergence of internationally comparable statistics can only be achieved gradually. Not-

withstanding the classifications and guidelines provided, a great deal of effort in development and pilot implementation will be necessary in order to determine the best method to operationalise the concepts proposed and to design detailed guidelines for surveys and estimation procedures.

1.33. Common functional boundaries of "health care" for international comparisons are prerequisites for the calculation of national totals for expenditure on health and its subcomponents. They have been identified as indispensable for international comparisons of population based health care statistics and other data with which the meso and microstructure of health care can be analysed. Cost profiles of age-specific resource utilisation of health care is only one example of a statistic that is very sensitive to the exact boundaries of "health care" chosen in surveys (OECD, 1996*d*).

Compatibility

1.34. As an accounting framework built around a core set of tables in monetary-terms, the SHA has to be methodologically compatible with the System of National Accounts (SNA). Each item should be explicitly allocated to the SNA category to which it belongs (final consumption, intermediate consumption, capital formation, transfers of benefits, etc.). Methodological compatibility with the SNA is a prerequisite for calculating meaningful expenditure ratios and for international comparability. Different accounting rules applied nationally, for example how to allocate investment in health facilities over time, can significantly influence the outcome of health expenditure analysis in international comparisons.

1.35. Compatibility with SNA is, moreover, a means to achieve compatibility with other economic and social statistics. Price indices and structural data on value added in health care service industries are only two examples.

1.36. A general principle underlying the development of this manual has been to adopt definitions and concepts from existing statistical systems, approved and defined under the auspices of the United Nations and other international and regional organisations (UNESCO, WHO, the European Union). In areas not covered by UN-OECD-Eurostat classifications, other widely used standards set by learned societies and regional organisations have been applied and modified where deemed appropriate. Cross-classifications between the categories proposed in this manual and international standard classifications are presented in the annexes to the volume.

Timeliness and precision

1.37. Any set of quality criteria for accounting enters in potential conflict with other desirable goals, notably *timeliness* and *precision* of reporting (OECD, 1993). *Precision* relates to a minimum level of detail judged necessary in regular reporting. To consider a statistical survey in health accounting and health care resources as *timely* ideally means that at least

preliminary data are available no later than six months after the end of the period they describe. For policy analysis, preliminary trend-projections are highly desirable. National Health Accounts are a basic tool underlying expenditure projections.

1.38. Timeliness conflicts with precision when large data sets and a multiplicity of surveys have to be combined, which is typically the case in health expenditure estimates. Projection models are already used in several countries to bridge gaps in the data and to provide preliminary estimates. Limited resources mean that detailed surveys can only be conducted on a multi-annual basis with interpolations for years in between surveys and extrapolations of the most recent period.

Policy sensitivity

1.39. Policy sensitivity of the SHA is crucial in times of frequent changes of public policy in health care. In the past, the monitoring of economic consequences of health care reform was often obstructed by the inability of existing reporting systems to distinguish between changes in coverage and mode of financing and actual change. Important changes in the division of labour in health care were underreported due to out-dated classifications.

THE SYSTEM OF HEALTH ACCOUNTS AND HEALTH SATELLITE ANALYSIS AND ACCOUNTS

1.40. Over the last couple of years, a consensus has emerged among experts in health accounting that methodological compatibility with SNA 93 accounting rules is a prerequisite for health accounts meeting the basic requirements of comparability over time, between countries and with overall economic statistics. A co-ordinated effort bringing together specialists of health statistics with experts in national accounting could be an efficient way to avoid duplication in work, especially with respect to the methodological design of an accounting framework, but also by making the best use of existing data sources for this major segment of national economies.

1.41. The 1993 Revision of the System of National Accounts (SNA 93) makes frequent reference to statistical problems specific to the health care system and includes a special chapter on functionally oriented satellite accounts as a general framework for a health satellite account. Implementation of satellite accounts for environment, agriculture, household production and tourism in several countries has fostered the process of clarifying methodological questions related to satellite accounts in general.

1.42. Over the last few years, several countries have reconciled their National Health Accounts with the System of National Accounts which is the central point of reference for overall economic and social statistics. There is, however, less consensus among experts on how far the integration of health accounts should go with the production side of national income accounts, that is in calculations of the value-added structure and/or a satellite input-output table for health. Chapter 8 summarises conceptual overlap as well as differences between the SHA and health satellite accounts.

PART I
CONCEPTS AND METHODS FOR HEALTH ACCOUNTS

2. A SET OF STANDARD TABLES

2.1. The SHA, in its present version, proposes the following set of inter-linked tables each showing different aspects of health care services. Development and implementation of this sequence of tables will depend on adequate funding within each country's statistical programmes. The SHA is flexible in that not all aspects need to be developed at once, nor necessarily on an annual basis. An incremental implementation over several years will be necessary for a majority of countries.

2.2. A large number of standard tables on health care with statistics in non-monetary terms are already included in the OECD Secretariat's annual data collection *OECD Health Data*. Ongoing work attempts to further harmonise these concepts across countries and with the SHA. The standard tables are the following:

Table 1. Current expenditure on health by function of care, provider and source of funding (= total uses of resident units of health care services and goods by function of care, provider and source of funding; at current prices).

Table 2. Current expenditure on health by function of care and provider industry (= total uses of resident units of health care services and goods by function of care and provider industry; at current prices).

Table 3. Current expenditure on health by provider industry and source of funding (= total uses of residents of health care services and goods by provider industry and by source of funding; at current prices).

Table 4. Current expenditure on health by function of care and source of funding (= total uses of resident units of health care services and goods by function of care and source of funding; at current prices).

Table 5. Total expenditure on health including health-related functions.

Table 6. Personal expenditure on health by major ICD-categories.

Table 7. Personal expenditure on health by age and gender.

Table 8. Selected price indices for health care.

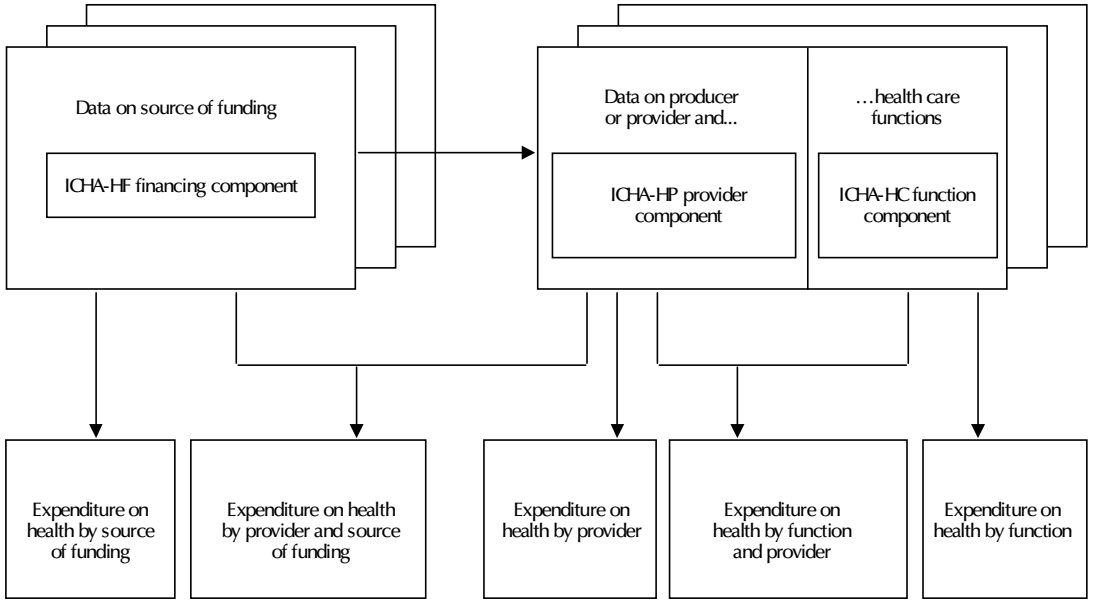
Table 9. International trade in health care.

Table 10. Total employment in health care industries.

ESTIMATION STRATEGIES AND FLOWS OF INFORMATION IN HEALTH ACCOUNTING

2.3. Estimation strategies in health accounting make use of existing administrative flows of information complemented with specialised surveys. Administrative records kept by government and private insurance companies contain a wealth of information on transactions. A basic breakdown is usually available allowing outlays to be tracked to the corresponding provider of health care. For private out-of-pocket and other non-insurance-type outlays (charities, export and import of services) special surveys are usually required to complement the picture.

Figure 2.1. **Flows of information in health accounting**



2.4. Aggregated, this information is documented in National Health Accounts in cross-classification tables showing expenditure on health by financing unit and health care provider. The margins of such a tabular presentation show the breakdown of expenditure by financing and by receiving provider. Row and column margin totals and grand totals all have to be equal, providing a basic cross-check of the data. A boundary line separating public and private financing is usually drawn in this type of accounts. Figure 2.1 shows flows of information underlying health accounting.

2.5. The fundamental boundary-line delimiting total expenditure on health is drawn in the SHA along the functional definitions of services and goods in the ICHA. In order to achieve common boundaries in health accounting, the identification of these functions in the standard tables described above is required. For international comparisons, this task can be approached in different ways. A first approximation of common boundaries can be achieved (at least for public expenditure on health) by adding up health care programmes across sources of funding by selecting only those programmes where the (functionally-defined) health care component amounts to more than half of the outlays.

2.6. A more refined approach would use the cross-classification of expenditure on health by sources of funding and by providers as a starting point. For calculating total expenditure on health, every cell in such a table would have to be checked against the functional breakdown and the boundaries of the ICHA. A cell would be added to total expenditure on health if spendings on health care functions were predominant. Further precision would be achieved by identifying the share of individual health care functions in each of these cells. Total expenditure on health would then be the sum of the sub-functions identified in this way over both sources of funding and providers. In many cases, data cross-classified by financing and health care provider represent the smallest pieces of information available in administrative records and, more generally, the data underlying National Health Accounts.

2.7. The summary descriptions presented below each standard tables include hints for estimation strategies. Pilot implementations in several countries and further enhancement of the set of health spending indicators collected annually for *OECD Health Data* will help deciding on which subset of tables of the type presented here will represent an optimal compromise between information needs by health policy analysts, data availability, and international comparability.

Table 1. **Current expenditure on health by function of care, provider and source of funding**

Expenditure category	ICHA-HC function of health care	ICHA-HP provider industry	Total current expenditure on health	ICHA-HF source of funding		
				HF.1 General government	HF.1.1 General gov. (excl. social security)	HF.1.2 Social security funds
In-patient care including day cases	HC.1.1; 1.2; 2.1; 2.2	All industries				
Curative and rehabilitative care						
General hospitals		HP.1.1				
Speciality hospitals		HP.1.2+1.3				
Nursing and residential care facilities		HP.2				
All other providers		All other				
Long-term nursing care	HC.3.1; 3.2	All industries				
General hospitals		HP.1.1				
Speciality hospitals		HP.1.2+1.3				
Nursing and residential care facilities		HP.2				
All other providers		All other				
Out-patient curative and rehabilitative care	HC.1.3; 2.3	All industries				
Hospitals		HP.1				
Offices of physicians		HP.3.1				
Offices of dentists		HP.3.2				
Offices of other health practitioners[1]		HP.3.3				
Out-patient care centres		HP.3.4				
All other providers		All other				
Home health care	HC.1.4; 2.4; 3.3	All industries				
Ancillary services to health care[2]	HC.4	All industries				
Medical goods dispensed to out-patients[3]	HC.5	All industries				
Phamaceuticals; other med. non-durables	HC.5.1					
Prescribed medicines	HC.5.1.1					
Over-the-counter medicines	HC.5.1.2					
Other medical non-durables	HC.5.1.3					
Therapeutical appl.; other medical durables	HC.5.2					
Glasses and other vision products	HC.5.2.1					
Orthopaedic appliances; other prosthetics	HC.5.2.2					
All other misc. durable medical goods	HC.5.2.3-5.2.9					
Prevention and public health services	HC.6	All industries				
Health administration and health insurance	HC.7	All industries				
Total current expenditure on health care	HC.1-HC.7	All industries				

1. *e.g.* paramedical practitioners and providers of alternative medicine.
2. This item includes freestanding clinical laboratory; diagnostic imaging; and patient transport.
3. Included are fitting of prosthesis; eye tests and other services of providers of these goods.

HF.2 Private sector	HF.2.1 Private social insurance	HF.2.2 Other private insurance	HF.2.3 Private household out-of-pocket expenditure	HF.2.4 Non-profit organisations serving households (other than social ins.)	HF2.5 Corporations (other than health insurance)	**HF.3** Rest of the world

This table shows total final uses by resident units of health care services and goods by function of care, selected provider industries and source of funding. It illustrates how the three ICHA dimensions can be combined in a flexible way to provide a core set of indicators on health spending and its financing. Future work will show to which extent a comparable and comprehensive data set for the items listed here can be achieved for OECD countries.

Table 2. **Current expenditure on health by function of care and provider industry**

		Health care provider industry									
		HP.1 Hospitals	**HP.2** Nursing and residential care facilities	**HP.3** Providers of ambulatory health care	HP.3.1 Offices of physicians	HP.3.2 Offices of dentists	HP.3.3 Offices of other health practitioners	HP.3.4 Out-patient care centres	HP.3.5 Medical and diagnostic laboratories	HP.3.6 Providers of home health care services	HP.3.9 All other providers of ambulatory health care
Health care by function	ICHA-HC code										
In-patient care											
Curative and rehabilitative care	HC.1.1; 2.1										
Long-term nursing care	HC.3.1										
Services of day-care											
Curative and rehabilitative care	HC.1.2; 2.2										
Long-term nursing care	HC.3.2										
Out-patient care											
Out-patient curative and rehabilitative care	HC.1.3; 2.3										
Basic medical and diagnostic services	HC.1.3.1										
Out-patient dental care	HC.1.3.2										
All other specialised health care	HC.1.3.3										
All other out-patient care	HC.1.3.3										
Home care											
Curative and rehabilitative care	HC.1.4; 2.4										
Long-term nursing care	HC.3.3										
Ancillary services to health care	HC.4										
Medical goods dispensed to out-patients	HC.5										
Pharmaceut. and other medical non-durables	HC.5.1										
Therap. appliances and other med. durables	HC.5.2										
Total expenditure on personal health care											
Prevention and public health services	HC.6										
Health administration and health insurance	HC.7										
Total current expenditure on health care											

This table shows total final uses by resident units of health care services and goods by function of care and provider industry at current (purchasers') prices. The estimation will involve both an analysis of the accounts and activity data for providers and the estimation of output by provider groups. In a first step, production of health care services and goods has to be separated from non-health care production. This is especially relevant for establishments of nursing and residential care facilities and for establishments providing home health care services. These providers may produce a significant share of non-health care output which has to be subtracted from their total output when health accounts are reconciled with production accounts of providers. Establishments of medical retail sales may also sell a significant share of non-medical goods. The input-output model described in Chapter 8 illustrates how these estimates can be checked against double counting and omissions. Imports and exports will have to be estimated separately.

Ideally, it should be possible – at least for major industries, like hospitals – to double check health care production by provider by deducting the above mentioned items from overall production (direct

	Health care provider industry										Other industries	RoW
	HP.4 Retail sale and other providers of medical goods	HP.4.1 Dispensing chemists	HP.4.2-4.9 All other sales of medical goods	**HP.5** Provision and administration of public health programmes	**HP.6** General health administration and insurance	HP.6.1 Government administration of health	HP.6.2 Social security funds	HP.6.3 Other social insurance	HP.6.4 Other (private) insurance	HP.6.9 All other health administration	**HP.7** All other industries	**HP.9** Rest of the world

method) and by adding up services (and goods) over types of care and sources of funding (indirect method). The estimation of the item "All other industries" is only possible indirectly by identifying corresponding services and goods. For many industries, however, surveys or records of sufficient quality will not be available for calculating reliable direct estimates.

Hidden production may be an important share of production for certain types of establishments in some countries (such as doctors in private practice, but also for hospitals). The introduction of business surveys for health care industries – especially in the ambulatory and nursing and residential care industries – would be an important tool for improving health accounts.

The provision of public-health services and general government administration – though being allocated to different classes in the International Standard Industrial Classification (ISIC, Rev. 3) – may be difficult to allocate to separate establishments. Estimation rules which are actually applied should be documented in meta data.

Table 3. **Current expenditure on health by provider industry and source of funding**

		Total curent expenditure on health	**HF.1** General government	HF.1.1 General goverment (excl. social security)	HF.1.2 Social security funds
Health care goods and services by provider industry					
Hospitals	HP.1				
Nursing and residential care facilities	HP.2				
Providers of ambulatory health care	HP.3				
Offices of physicians	HP.3.1				
Offices of dentists	HP.3.2				
Offices of other health practitioners	HP.3.3				
Out-patient care centres	HP.3.4				
Medical and diagnostic laboratories	HP.3.5				
Providers of home health care services	HP.3.6				
Other providers of ambulatory health care	HP.3.9				
Retail sale and other providers of medical goods	HP.4				
Dispensing chemists	HP.4.1				
All other sales of medical goods	HP.4.2-4.9				
Provision and administration of public health programmes	HP.5				
General health administration and insurance	HP.6				
Government (excluding social insurance)	HP.6.1				
Social security funds	HP.6.2				
Other social insurance	HP.6.3				
Other (private) insurance	HP.6.4				
All other providers of health administration	HP.6.9				
Other industries (rest of the economy)	HP.7				
Occupational health care	HP.7.1				
Private households	HP.7.2				
All other secondary producers	HP.7.9				
Rest of the world	HP.9				

This table shows total final uses of resident units of health care services and goods by provider industry and source of funding at current (purchasers') prices. This table corresponds to a classical cross-tabulation presented in many National Health Accounts. It also provides a crosscheck for the estimation of output by provider. In estimating this table, both data from industry and administrative data on funding should be combined and reconciled.

HF.2 Private sector	HF.2.1 Private social insurance	HF.2.2 Other private insurance	HF.2.3 Private household out-of-pocket payments	HF.2.4 Non-profit institutions (other than social insurance)	HF.2.5 Corporations (other than health insurance)	**HF.3** Rest of the world

The breakdown for private household expenditure can be partly estimated indirectly as a residual by subtracting public expenditure from total output of health care for some well-documented industries (*e.g.*, dispensing pharmacies). In addition, expenditure surveys for private households' health care consumption are an important building block for national health information systems, sometimes designed as multi-purpose surveys covering a variety of relevant statistics for health care planning.

Table 4. **Current expenditure on health by function of care and source of funding**

		Total expenditure	**HF.1** General government	HF.1.1 General goverment (excl. social security)	HF.1.2 Social security funds
Current expenditure on health care					
Personal health care services	HC.1-HC.3				
In-patient services					
Day care services					
Out-patient services					
Home care services					
Ancillary services to health care	HC.4				
Medical goods dispensed to out-patients	HC.5				
Pharmaceuticals and other medical non-durables	HC.5.1				
Therapeutic appliances and other medical durables	HC.5.2				
Personal health care services and goods	HC.1-HC.5				
Prevention and public health services	HC.6				
Health administration and health insurance	HC.7				

This table shows total final uses by resident units of health care services and goods by function of health care and source of funding at current (purchasers') prices. In order to fill this table, assumptions and models of estimation (like "keys" for allocating services) will play an essential role. The current organisation and structure of health information systems may not directly correspond to the functional breakdown proposed. Relatively simply structured rules of allocating expenditure to services will have to be applied as a first approximation, *e.g.* by simply allocating health programmes as a whole to the functions HC.1 to HC.5.

	HF.2 Private sector	HF.2.1 Private social insurance schemes	HF.2.2 Other private insurance	HF.2.3 Private household out-of-pocket payments	HF.2.4 Non-profit institutions (other than social insurance)	HF.2.5 Corporations (other than health insurance)	**HF.3** Rest of the world

Table 5. **Total expenditure on health including health-related functions**

		Total expenditure	**HF.1** General government	HF.1.1 General goverment (excl. social security)	HF.1.2 Social security funds
Health care services and goods by function					
Services of curative and rehabilitative care	HC.1, HC.2				
Services of long-term nursing care	HC.3				
Ancillary services to health care	HC.4				
Medical goods dispensed to out-patients	HC.5				
Pharmaceuticals and other med. non-durables	HC.5.1				
Therap. appliances and other med. durables	HC.5.2				
Personal medical services and goods	HC.1-HC.5				
Prevention and public health services	HC.6				
Health administration and health insurance	HC.7				
Total curent expenditure on health					
Gross capital formation	HC.R.1				
Total expenditure on health					
Memorandum items: Further health related functions					
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				
Environmental health	HC.R.5				
Administration and provision of social services in kind to assist living with disease and impairment	HC.R.6				
Administration and provision of health-related cash-benefits	HC.R.7				

In addition to items given in Table 4, Table 5 shows expenditure on health-related items as memorandum items – but only for the basic breakdown into public and private expenditure (the bulk of expenditure on health-related functions is publicly financed as typical functions of government).

	HF.2 Private sector	HF.2.1 Private social insurance	HF.2.2 Other private insurance	HF.2.3 Private household out-of-pocket payments	HF.2.4 Non-profit institutions (other than social insurance)	HF.2.5 Corporations (other than health insurance)	**HF.3** Rest of the world

Table 6. **Personal expenditure on health by major ICD-category**

	HC.1-HC.3 Personal health care services	In-patient services	Day care services	Out-patient services	Home care services	**HC.4** Ancillary services to health care	**HC.5** Medical goods dispensed to out-patients	**HC.5.1** Pharmaceuticals and other medical non-durables	**HC.5.2** Therapeutic appliances and other medical non-durables	**HC.1-HC.5** Total personal health care services and goods
Infectious and parasitic diseases										
Neoplasms										
Endocrinal and metabolic diseases										
Diseases of the blood										
Mental disorders										
Diseases of the nervous system										
Diseases of the circulatory system										
Diseases of the respiratory system										
Diseases of the digestive system										
Diseases of the genito-uniary system										
Complications of pregnancy/childbirth										
Diseases of skin and subcutaneous tissue										
Diseases of musculo-skeletal system										
Congenital anomalies										
Perinatal morbidity and mortality										
Symptoms and ill-defined conditions										
Accidents, poisoning and violence										
All other categories										
Total personal expenditure on health										

This table shows current personal expenditure on health by major ICD-categories. A breakdown of health expenditure into the major categories of the International Classification of Diseases is available for a growing number of countries. These estimations currently differ widely in coverage and estimation methodologies and usually rely on a large set of assumptions and/or rather small samples. Meta data on these types of estimations can be found in *OECD Health Data*.

Table 7. **Personal expenditure on health by age and gender**

	0-4	5-14	15-44	45-64	65-74	75-84	85+
Male							
Personal health care services							
In-patient services							
Day care services							
Out-patient services							
Home care							
Ancillary services to health care							
Medical goods dispensed to out-patients							
Pharmaceuticals and other med. non-durables							
Therapeutic appliances and other med. durables							
Total personal health care services and goods							
Female							
Personal health care services							
In-patient services							
Day care services							
Out-patient services							
Home care							
Ancillary services to health care							
Medical goods dispensed to out-patients							
Pharmaceuticals and other med. non-durables							
Therapeutic appliances and other med. durables							
Total personal health care services and goods							

This table shows current personal expenditure on health by age groups and gender. Pilot surveys and estimations are available in a growing number of OECD countries. Moreover, the quality of corresponding estimates is considered far from satisfactory for health policy and planning in many countries. It would be useful to investigate how existing estimates of age profiles might change when common boundaries of personal health care, according to ICHA definitions, are applied.

Table 8. **Selected price indices for health care**

		CPI	Output deflator	
			Market production	Non-market production
HP.1	Hospitals	X	X	X
HP.2	Nursing and residential care facilities	X	X	X
HP.3	Providers of ambulatory health care	X	X	
HP.5	Provision and administration of public health programmes			X
HP.6	General health administration and insurance			X
HP.4	Retail sale and other providers of medical goods			
HC.5.1	Pharmaceuticals and other medical non-durables	X		
HC.5.1.1	Prescribed medicines	X		
HC.5.1.2	Over-the-counter medicines	X		
HC.5.1.3	Other medical non-durables	X		
HC.5.2	Therapeutic appliances and other medical durables	X		
HC.5.2.1	Glasses and other vision products	X		
HC.5.2.2	Orthopaedic appliances and other prosthetics	X		
HC.5.2.3	Hearing aids	X		
HC.5.2.4	Medico-technical devices, including wheelchairs	X		
HC.5.2.9	All other miscellaneous medical durables	X		

The basic structure of this table is described in Chapter 7 on the measurement of price indices. The set of medical goods is expanded in this table to include the full range of categories of medical goods of the ICHA-HC functional classification. This extended range of goods is mainly relevant for the CPI.

Table 9. **International trade in health care**

		Total import	Health care related to travel abroad		Health and accident insurance
			Health spas, and and other travel for specialised health care	All other health care related to travel abroad	
Health care import by provider industry					
HP.1	Hospitals		X	X	
HP.2	Nursing and residential care facilities		X	X	
HP.3	Providers of ambulatory health care		X	X	
HP.4	Retail sale and other providers of medical goods			X	
HP.4.1	Dispensing chemists			X	
HP.4.2-4.9	All other sales of medical goods			X	
HP.6	Health administration and insurance				X
HP.6.4	Other (private) insurance				X
HP.7	All other industries			X	

This table shows health care imports by provider industry and type of import. Health care services used by residents while travelling abroad are distinguished from insurance services. International trade in health care services has not yet been integrated into statistical reporting systems of most OECD countries. Available estimates tend to seriously underestimate international trade in health care. A co-ordinated effort with international trade in service statistics and tourism statistics should shed more light on this area of growing importance to national health policy.

Table 10. **Total employment in health care industries**

		HRHC employment	Other employment	Total employment	Full-time equivalent
HP.1	Hospitals				
HP.1.1	General hospitals				
HP.1.2	Mental health and substance abuse hospitals				
HP.1.3	Speciality (other than mental health and substance abuse) hospitals				
HP.2	Nursing and residential care facilities				
HP.2.1	Nursing care facilities				
HP.2.2	Residential mental retardation, mental health and substance abuse facilities				
HP.2.3	Community care facilities for the elderly				
HP.2.9	All other residential care facilities				
HP.3	Providers of ambulatory health care				
HP.3.1	Offices of physicians				
HP.3.2	Offices of dentists				
HP.3.3	Offices of paramedical practitioners				
HP.3.4	Out-patient care centres				
HP.3.4.1	Family planning centres				
HP.3.4.2	Out-patient mental health and substance abuse centres				
HP.3.4.3	Free-standing ambulatory surgery centres				
HP.3.4.4	Dialysis care centres				
HP.3.4.5	All other out-patient multi-speciality and co-operative service centres				
HP.3.4.9	All other out-patient community and other integrated care centres				
HP.3.5	Medical and diagnostic laboratories				
HP.3.6	Providers of home health care services				
HP.3.9	Other providers of ambulatory health care				
HP.4	Retail sale and other providers of medical goods				
HP.4.1	Dispensing chemists				
HP.4.2	Retail sale and other suppliers of optical glasses and other vision products				
HP.4.3	Retail sale and other suppliers of hearing aids				
HP.4.4	Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids)				
HP.4.9	All other miscellaneous retail sale and other suppliers of pharmaceuticals and medical goods				
HP.5	Provision and administration of public health programmes				
HP.6	General health administration and insurance				
HP.6.1	Government administration of health				
HP.6.2	Social security funds				
HP.6.3	Other social insurance				
HP.6.4	Other (private) insurance				
HP.6.9	All other providers of health administration				

This table shows employment in health care both as number of employees and as hours worked/full time equivalents. The term *health employment* comprises the range of occupations (by ISCO code) listed in Annex A.1 of this manual. An additional breakdown of employment by educational level would be desirable.

3. BASIC FUNCTIONS AND GLOBAL BOUNDARIES OF HEALTH CARE

Introduction

3.1. Consent on a common functional classification and of the boundary of health care is crucial for the complex tasks of international comparisons. The ICHA-HC functional classification proposed as one of the three dimensions of the International Classification for Health Accounts (ICHA) is designed to provide detailed guidelines for drawing harmonised, uniform boundaries, and for reporting on a sufficiently large number of sub-categories relevant for health planners and policy-makers. This chapter discusses boundaries of health care proposed in the ICHA-HC and basic categories. The two- and three-digit level of this classification are provided in Chapter 9 together with a more detailed discussion of selected boundary issues. Cross-classifications with other international classifications are presented in the annexes to Chapter 9.

The functional boundaries of health care

3.2. The boundaries of a functionally-defined health care system delimit the subject area of health accounts. This approach is "functional" in that it refers to the goals or purposes of health care such as disease prevention, health promotion, treatment, rehabilitation and long-term care. Although the exact functional boundaries will become apparent from the functional classification itself, it seems an appropriate starting point to spend some time in considering the underlying philosophy guiding the ICHA-HC. The following summary provides the most important basic concepts and boundary criteria that have been used for delimiting the field of health care for the purposes of the SHA.

The concept of health care underlying the design of the ICHA-HC functional classification

Activities of **health care** in a country comprises the sum of activities performed either by institutions or individuals pursuing, through the application of medical, paramedical and nursing knowledge and technology, the goals of:

- promoting health and preventing disease;
- curing illness and reducing premature mortality;
- caring for persons affected by chronic illness who require nursing care;
- caring for persons with health-related impairment, disability, and handicaps who require nursing care;
- assisting patients to die with dignity;
- providing and administering public health;
- providing and administering health programmes, health insurance and other funding arrangements.

3.3. From the criteria listed above follow several rules of thumb to delineate the field of health care within the SHA. The prerequisite of a basic level of medical and nursing knowledge refers in most cases to national standards of accreditation or licensing for health care personnel. This qualifies them to practice their medical and nursing knowledge. Boundary cases are traditional medicine or accepted alternative practices such as Chinese medicine, antroposophic medicine, etc., which have to be dealt with individually on a country-by-country basis.

3.4. In the context of the SHA, general public safety measures like technical standards monitoring, road safety, etc., are not considered as application of medical technology and are, for that reason, excluded from the core health care functions. Food and hygiene monitoring, as well as surveillance of drinking water are, however, overlapping functions between safety and health and are covered under separate categories in the ICHA-HC as health-related functions for separate reporting as memorandum items. These functions are not included in total expenditure on health in the SHA.

HEALTH CARE AND HEALTH-RELATED FUNCTIONS

3.5. The SHA is structured around a core set of functions which health care systems perform as shown in Table 3.1. A more detailed discussion of guiding principles is given below. Health care comprises personal health care services provided directly to individual persons and collective health care services covering traditional tasks of public health such as health promotion and disease prevention including setting and enforcement of standards (HC.6), and health administration and health insurance (HC.7). Personal health care services comprise services of curative care, of rehabilitative care, services of a (long-term) nursing-type care, ancillary services to health care and medical goods dispensed to out-patients which include self-medication and other goods consumed by households with or without a prescription from medical or paramedical professionals.

Table 3.1. **ICHA-HC functional classification of health care**

ICHA code	Functions of health care
HC.1-HC.5	Personal health care services and goods
HC.1	Services of curative care
HC.2	Services of rehabilitative care
HC.3	Services of long-term nursing care
HC.4	Ancillary services to health care
HC.5	Medical goods dispensed to out-patients
HC.6-HC.7	Collective health care services
HC.6	Prevention and public health services
HC.7	Health administration and health insurance
HC.R	Health-related functions
HC.R.1	Capital formation of health care provider institutions
HC.R.2	Education and training of health personnel
HC.R.3	Research and development in health
HC.R.4	Food, hygiene and drinking water control
HC.R.5	Environmental health
HC.R.6	Administration and provision of social services in kind to assist living with disease and impairment
HC.R.7	Administration and provision of health-related cash-benefits

Source: ICHA-HC functional classification (one-digit level) (see Chapter 9).

3.6. The functions of health care refer to the final consumption of goods and services in pursuing the goals listed above. This includes not only activities such as hospital treatments, home visits by paramedical professions or vaccination campaigns, but also the supporting activities directly involved in the production and provision of these services: clerical and other administrative tasks in doctors' offices; administration, technical and other supporting activities performed in hospitals (*e.g.*, cleaning and laundry) (see Chapter 5 for more details on the measurement of expenditure).

MODES OF PRODUCTION

In-patient care, day care, out-patient care and home care

3.7. The basic subdivision into in-patient care, day care, out-patient and home care corresponds to an essential difference in the underlying technical and managerial organisation of care. As a result, these subsystems of care are typically governed by substantially different information systems. In-patient and day care involves the formal admission and discharge of patients involving a considerable amount of administrative paperwork and statistics. This has also led to the design in many countries of basic standard datasets on patients and the treatments they receive with the goal of making them comparable across institutions.

3.8. Day care and home care are of growing importance and play a key role in more efficient case management in OECD countries. Day care and home care are therefore reported

under separate modes of production. The corresponding definitions adopted from national health information systems that served as models for the ICHA-HC classification are listed in Chapter 9.

Medical goods dispensed to out-patients

3.9. The distinction between the functions HC.1 to HC. 4 (which cover mainly the delivery of services) and HC.5 (medical goods dispensed to out-patients) does not draw a rigid borderline between the two classes of products or activities (services and goods) in a strict economic sense. Commodities listed under the heading of "goods", such as pharmaceuticals bought in pharmacies, prostheses sold and adapted by specialised retail traders and similar products, are a joint product, considered as goods acquired or dispensed together with medical advice.

3.10. Medical goods dispensed, prescribed or bought by private households at their own initiative for the purpose of home care could be interpreted as intermediate products to household production of health care services. All these goods are, however, reported under final consumption in the SHA. These goods can cover a wide range from incontinence material to home dialysis kits. The definition and measurement of household production of health care as understood here is presented in Chapter 5.

Prevention and public health services

3.11. Public health services are mainly of a preventive nature and comprise a range of publicly provided services such as epidemiological surveillance and other measures of health promotion and disease prevention and related general public health activities. These include special public health services such as blood-bank operation, public health service laboratories, and population planning services. School health services should be recorded under this heading, whereas prison health services are recorded under corresponding categories of personal health care.

3.12. Included under public health services is occupational health care, an ancillary activity within industry and administration, which in the case of industry is treated by SNA as intermediate consumption. It is governed in most countries by detailed regulations. Specific recommendations and guidelines, notably to avoid double-counting under health care, pharmaceutical and medical-technical industries, are provided in Chapter 5 on the measurement of expenditure. A cross-classification of public health functions in ICHA-HC and WHO "Essential functions of public health" (EFPHs) is provided in Annex 9.3 of Chapter 9.

Health administration and health insurance

3.13. Health administration and health insurance are activities performed by private insurers and by central, regional and local authorities including social security funds. They include the planning, management, regulation, and collection of funds and handling of claims of the

delivery system. This excludes the administration of health care providers which is not treated as a separate function in the ICHA but included in the valuation of the service functions.

3.14. Health administration and health insurance is shown as a separate function isolating the goods and services it finances from the management and funding of these goods and services. This corresponds to the separation of social insurance funds and the health insurance industry from health care service industries of provider organisations in the ICHA-HP provider classification. The separate recording of administration is straightforward whenever different establishments are involved in health care services on the one hand, and insurance and programme administration on the other. This function does not include the administration and operation of social protection programmes providing social protection in the form of cash benefits, although this separation may be difficult in practice and can only be done by approximation.

3.15. The distinction between the functions of personal and collective services and the administration of funds may be less obvious where provision and financing of health care are closely integrated, which can be the case in institutional arrangements under a National Health Service or in certain types of health maintenance organisations or other integrated health care organisations. HC.7, Administration corresponds roughly to COFOG 07.6, Health n.e.c. and COICOP 12.5.3, Insurance connected with health. Further cross-classifications between the ICHA-HC and COFOG/COICOP are provided in Annex 9.2 to Chapter 9.

FURTHER DIMENSIONS FOR CLASSIFYING PERSONAL HEALTH CARE SERVICES

3.16. The basic dividing lines for structuring the ICHA-HC functional classification as described above are personal versus public health services, basic purposes of care (curative, rehabilitative and long-term care), and modes of production (in-patient, out-patient, etc.). Further subdivisions of personal health care services can be designed along the lines of several additional dimensions of health care, as listed in Table 3.2. National classifications in use for health accounting are often of a hybrid type which in many instances combine some of these additional dimensions in their national breakdown of expenditure (mainly client or diagnostic aspects such as mental health, other specialities, care for the aged) and professional categories, clinical specialities and institutional aspects. For the purpose of international comparisons these dimensions should be kept separately.

3.17. For several important types of health policy analysis, it would be essential to establish national surveys and or micro-data sets which – integrated in comprehensive health information systems – should be sufficiently detailed to allow reporting according to any of the following breakdowns – at least on the basis of model calculations.

3.18. Complementary, more uniformly standardised reporting is suggested for the following subcategories (see Table 3.3) of the functional classification where national information

systems in a growing number of OECD countries have made the corresponding data available over the last ten or fifteen years. Table 3.3 is not exhaustive but illustrates how the ICHA-HC classification can be used as a basis for more detailed international comparisons of resource utilisation.

Table 3.2. **Further dimensions for classifying personal health care services**

Dimensions	Examples
Target groups	Age and gender, Geographical area, Income level, Social class, Ethnic group
Client or diagnostic groups	Mentally ill, Aged, Children, Pregnant mothers, etc.
Broad disease problems	Main diagnosis of encounter (preferably by ICD-coding)
Levels of care	Primary, Secondary, Tertiary
Clinical specialities	Surgery, General medicine, etc.
Professional categories	Care by physicians, qualified nurses, other paramedics
Degree of dependence	Level of nursing and social support needed

Table 3.3. **Suggested complementary reporting on selected functions of health care**

ICHA-HC code	Description	Reporting dimensions
HC.1-HC.5	Personal health care	Expenditure by age and gender for major categories of health care
HC.1-HC.5	Personal health care	Expenditure by major disease groups (ICD) (as part of direct cost-of-illness calculations)
HC.1-HC.5	Personal health care	Private household (actual) consumption of health care by deciles of household income
HC.1-HC.5	Personal health care	Expenditure on mental and substance abuse therapy
		Expenditure on elderly patients by category of ADLreductions or similar measures
HC.1.1	In-patient curative care	Expenditure, discharge rates, and length of stay by DRG groups
HC.1.3.1.	Basic medical and diagnostic services	Number of patients and contacts with the primary care system
HC.5.1.1	Pharmaceuticals	Consumption of pharmaceuticals by major ATC-groups

3.19. Unfortunately, the reporting in international comparisons on many of the items listed in Tables 3.2 and 3.3 is still in its infancy, although some progress has been made over the last couple of years in reporting on expenditure by age groups and broad disease categories (see OECD, 1999*a* for these and further breakdown of health care activities). Examples of

uniform classifications which are already used in complementary calculations of health expenditure in a growing number of countries are tabulations by age and gender and by disease (so called cost-of-illness estimates). Both types of standard tables provide important additional insight into the microstructure of expenditure for health policy planning.

Personal health care by age and gender

3.20. Health expenditure by age and gender should be calculated on a periodic basis for the subaggregate of health care services and goods (= personal health care) within measured total expenditure on health. Experiences with international comparisons of health expenditure by age and gender demonstrate that it is important not to use too broad age categories for uniform reporting (OECD, 1996*d*). This is especially crucial for higher ages. On the basis of information available for several OECD countries, per capita health expenditure reaches a peak for the 75-84 year age bracket and declines afterwards. Expenditure surveys should therefore not stop at the age of 75 or 80 but should include higher strata as well (particularly since clusters of diseases appear to move up with age over time and may shift the slope just cited).

Cost-of-illness estimates

3.21. Cost-of-illness studies make estimates of the direct and indirect economic burden incurred in a period of time as a result of the prevalence of the disease during this same base period, most often a year. Here, prevalence costs measure the value of resources used or lost during a specified period of time, regardless of the disease onset. For the SHA, only a breakdown according to a direct cost-of-illness estimate is suggested, given the number of assumptions and hypotheses going into so-called indirect cost-of-illness estimates (hypothetical amount of lost production due to morbidity or premature mortality).

HEALTH-RELATED FUNCTIONS

3.22. Health-related functions should be distinguished from the core of health care functions. They can be very closely linked to health care in terms of operations, institutions and personnel, but should, as far as possible, be excluded when measuring activities belonging to core health care functions.

3.23. The separate reporting on the following health-related functions is desirable: Capital formation of health care providers (HC.R.1), 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) Environmental health (HC.R.5), Administration and provision of social services in kind to assist living with disease and impairment (HC.R.6) and Administration and provision of health-related cash benefits to private households (HC.R.7). It is desirable to include these items in regular reporting on health care systems under separate headings. All of these functions constitute relevant parameters under health policy.

Explanatory notes for tackling the boundary problems arising from health-related functions are given in Chapter 9.

Reporting on supporting activities to health care services and line items

3.24. Supporting activities within health care provision (management and administration in provider institutions, technical service units, transport, gardening, and the like) have not been included as separate items in the functional classification nor does the functional classification provide a breakdown of health care activities into line items (such as expenses on personnel, various intermediate products, consumption of fixed capital). These items are already included under the various categories of the functional classification if properly accounted. There are no methodological difficulties to report on supporting activities and/or line items of providers in health accounting, but the only way to do so while avoiding double counting is to include a corresponding additional dimension in the ICHA. For international comparisons, this was not considered a high priority task but is under consideration for a Version 2 of this manual.

APPLYING THE FUNCTIONAL CLASSIFICATION

3.25. The items in the functional classification refer to commodities and thus to the *functional structure of output* of the health care system. This should not be confused with functions reported in the cost structure of providers or in the input structure of services involved in medical treatment complexes. Cost structure and input structure may have similar headings (or "functions") in national reporting systems. The concepts of statistical unit and reporting unit help clarify this as well as related questions on how to implement the functional distribution in the SHA. The following remarks and suggestions for implementation are first and foremost necessary to understand and correctly interpret the functional items proposed. More detailed guidelines for implementation will become available during the process of pilot implementations of the SHA and be made available on the OECD/SHA Internet site quoted in the Foreword.

The statistical unit

3.26. The statistical unit is the entity for which statistics on the functional breakdown are compiled. It may be an observation unit on which information is received and statistics are compiled or an analytical unit which statisticians create by splitting or combining observation units with the help of estimations or imputations in order to supply more detailed and/or homogenous data than would otherwise be possible.

3.27. The statistical unit in the functional distribution within the SHA is a specific functionally-defined output of health care industries for final use. The smallest item for reporting could be a patient contact with the health care system that would be allocated to a unique

function of the ICHA-HC according to the main procedure performed. In practice, the definition of output items has to be taken from existing national health information systems and depends in each country on the prevailing payment modalities and survey procedures of providers of these health care services.

3.28. Services classified according to price-lists in fee-for-service payment systems may be taken as observation units which then need to be cross-classified to the ICHA-HC functions by use of programme-specific conversion tables. Providers, paid on a per-capita basis by total production cost, are an example of an analytical unit. Survey samples or partial estimates are then necessary to distribute total cost to functions of health care, either by estimating time (or other input measures) spent on different procedures or by the number of patients or cases (diagnoses/treatments).

3.29. Where "treatment episodes" are remunerated as a whole, as in the case of diagnosis-related payment systems (DRGs), it is advisable not to split these complexes into separate functions but to allocate the whole treatment according to the main purpose of procedure performed. The underlying rationale of this approach is that various service functions embodied in a treatment episode should be seen as inputs to the production of this more comprehensive service, not as final products.

3.30. For the functions of the ICHA-HC covering the distribution of medical goods, the same criterion for distinguishing between input and output applies. Only the consumption of pharmaceuticals received from pharmacies or dispensing providers (including general retailers or mail-order) should be reported under the corresponding function in the ICHA-HC. Pharmaceuticals consumed in the course of a treatment, like surgery performed in an institutional or ambulatory setting, are considered inputs to the service "surgery", to be reported under a corresponding item, not under "distribution of pharmaceuticals". Where pharmaceuticals are directly dispensed by medical practitioners, an attempt should be made to separate the pharmaceutical expenses from the treatment expenses. Guidelines on how to do this will have to be developed on a country-by-country basis.

3.31. Other boundary cases exist, for which this distinction may be questioned. An example is provided by a stay in the hospital with the primary aim to identify the most suitable and beneficial medication and dosage. The same pharmaceutical treatment is, according to the philosophy proposed, treated differently during the initial treatment on the one hand and for the equivalent follow-up treatment on the other. Also, dialysis fluid used in hospitals is an input into the treatment of dialysis as a function of care, not to be recorded separately. The same products used for home-dialysis, however, would be recorded separately.

3.32. The expenditure reported under "Medical goods" may be interpreted as inputs to the household production of health care at home, either by the patient himself or with the help of household members. The question "how much pharmaceuticals/medical goods of a specific sort are used in the production or consumption of health care services in a

country" can only be answered by introducing a complementary *functional distribution for the cost structure* (intermediate input and value-added) in health care services industries. Conceptually, this should not be a problem, but the statistical surveys to fill such tables with data may be quite demanding. For selected items, like pharmaceuticals, the corresponding information is available in many countries – not only in the files of the pharmaceutical industry – and has entered international comparative reporting for OECD countries (see OECD, 1999*a*).

4. HEALTH CARE PROVIDER INDUSTRIES

INTRODUCTION

4.1. The production and the provision of health care services along with their financing take place in a wide range of institutional settings that vary across countries. The way of organising health care services reflects the country-specific division of labour between providers of health care services which is becoming increasingly complex in many countries. It is a commonly observed phenomenon that institutions with similar names such as "General Hospital", "Acute Hospital", "Psychiatric Hospital" often do not perform identical roles in different health care systems. A tendency towards greater vertical integration can be observed in many countries both in the hospital sector where some institutions assemble a growing number of sub-units (for both in-patient and out-patient care) under one roof – sometimes aiming at a more profitable mix of health with non-health services and products.

4.2. A classification of health care industries serves the purpose of arranging country-specific institutions into common, internationally applicable categories and providing tools for linking data on personnel and other resource inputs as well as output and outcome measurement to the SHA. The institutional breakdown of the health care service industry into categories of providers also serves as a basic building block of an economic model of the health care system as discussed in Chapter 8.

4.3. This chapter introduces a classification of institutional units of the health care system, the ICHA-HP provider classification for health care industries. Chapter 10 presents this classification in detail and gives a cross-classification between ICHA-HP and the International Standard Industrial Classification (ISIC, Rev. 3). Such a cross-classification is essential, as ISIC will continue providing the basis for business surveys, employment and census data. The basic criteria for classifying health care providers by industries of the

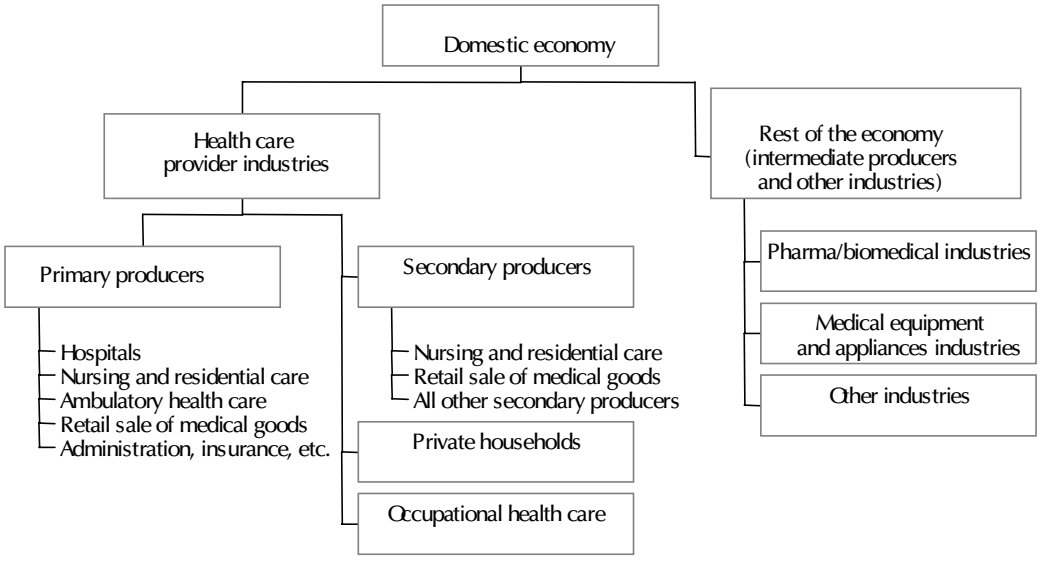
ICHA-HP will be the principal activity of establishments. This means that fundamental rules for applying the institutional classification will be identical for both the ICHA-HP and ISIC.

4.4. The classification of institutional units of health care providers links expenditure on health and their production, including resources used (personnel, health care facilities). It would be advantageous if national statistics sustained a well-defined link (cross-classifications) between the institutional dimension of National Health Accounts, the ICHA-HP provider classification, and industrial statistics according to ISIC. A cross-classification of the ICHA-HP provider classification and ISIC is provided in Chapter 10.

INDUSTRIES OF HEALTH CARE PROVIDERS WITHIN THE ECONOMY

4.5. The ICHA-HP provider classification comprises both primary producers of health care and secondary producers. The principal activity performed by primary producers is health care services. Examples are hospitals or doctors' offices. Secondary producers provide health care services beside their principal activity as secondary activity. Examples are residential care institutions which provide mainly social services such as sheltered houses but in combination with health care services, for example intensive long-term nursing care or

Figure 4.1. **Health care providers within the economy**



psychiatric care. Consequently, the ICHA-HP classifies both primary and secondary producers of health care and several classes in the ICHA-HP may comprise both of them. Examples are retail sales of medical goods, administration, and nursing and residential care.

4.6. Producers of intermediate products to health care are not considered providers of medical care in the ICHA-HP. Examples are the following items in the International Standard Industrial Classification (ISIC, Rev. 3):

- 2423 Manufacture of pharmaceuticals, medicinal chemicals and botanical products;
- 3311 Manufacture of medical and surgical equipment and orthopaedic appliances.

4.7. The ICHA-HP departs from standard industrial classifications by including private households, which are in exceptional cases regarded as providers of health care services in the SHA, and occupational health care (see Chapter 5). Figure 4.1 summarises the breakdown of the domestic economy into health care provider industries and other industries which underlies the ICHA-HP.

THE CLASSIFICATION OF HEALTH CARE PROVIDER INDUSTRIES

4.8. The International Standard Industrial Classification (ISIC) needed refinements and modifications for the purposes of the SHA. First, Section N, "Health and Social Work" is not detailed enough. Community centres, for example, and other integrated care providers are not listed explicitly.

4.9. Apparently, ISIC did not evolve sufficiently while large organisational reforms took place in health care. Mixed health care institutions, for example for institutional and ambulatory health care services, or integrated care units like community health centres do not easily fit into the ISIC. The recently developed North American Industry Classification System (NAICS) presents a good starting point for classifying health care institutions providing both sufficient details to map fast changing and complex health care systems and general definitions to be used for health care systems in a wider range of countries. The proposed ICHA-HP industry classification is essentially a modification of this classification for the purposes of OECD countries (Table 4.1).

ADDITIONAL INSTITUTIONAL CLASSIFICATIONS

4.10. The ICHA-provider classification does not distinguish between public or private ownership or control of institutions, the size and legal status of establishments or regional aspects (community hospitals versus state or national centres for emergency treatment). An additional breakdown, according to these dimensions will be added in many National Health Accounts and has to be decided on a case-by-case basis.

4.11. In addition, a complete institutional sectoring of health care institutions according to SNA guidelines could provide useful information on the economic role of institutions and

Table 4.1. **ICHA-HP classification of providers of health care**

ICHA code	Health care provider
HP.1	Hospitals
HP.1.1	General hospitals
HP.1.2	Mental health and substance abuse hospitals
HP.1.3	Speciality (other than mental health and substance abuse) hospitals
HP.2	Nursing and residential care facilities
HP.2.1	Nursing care facilities
HP.2.2	Residential mental retardation, mental health and substance abuse facilities
HP.2.3	Community care facilities for the elderly
HP.2.9	All other residential care facilities
HP.3	Providers of ambulatory health care
HP.3.1	Offices of physicians
HP.3.2	Offices of dentists
HP.3.3	Offices of other health practitioners
HP.3.4	Out-patient care centres
HP.3.5	Medical and diagnostic laboratories
HP.3.6	Providers of home health care services
HP.3.9	Other providers of ambulatory health care
HP.4	Retail sale and other providers of medical goods
HP.4.1	Dispensing chemists
HP.4.2	Retail sale and other suppliers of optical glasses and other vision products
HP.4.3	Retail sale and other suppliers of hearing aids
HP.4.4	Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids)
HP.4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods
HP.5	Provision and administration of public health programmes
HP.6	Health administration and insurance
HP.6.1	Government administration of health
HP.6.2	Social security funds
HP.6.3	Other social insurance
HP.6.4	Other (private) insurance
HP.6.9	All other providers of health administration
HP.7	Other industries (rest of the economy)
HP.7.1	Establishments as providers of occupational health care services
HP.7.2	Private households as providers of home care
HP.7.9	All other industries as secondary producers of health care
HP.9	Rest of the world

as a link to national information systems of economic data. Table 4.2 shows the basic classification used in the SNA for grouping by sector and type of unit and gives examples for corresponding health care institutions. A grouping of the health care system into SNA sectors may also be a requisite to health satellite accounts, depending on the degree of linkage with the central SNA framework chosen (Chapter 8).

4.12. The subdivision of institutions performing public administration and providing insurance and other forms of insurance closely resembles the basic sectoral classification of the SNA (see Chapter 6 for further details and guidelines on sectoring sources of funding).

Table 4.2. **Health care institutions by sector and type**

	Sectors of the System of National Accounts				
Type of institutional unit	Non-financial corporations sector	Financial corporations sector	General government sector	Household sector	NPISHS sector
Corporations	Health care providers (public and private facilities)	Private health and accident insurance			
Government units (central/regional/ local government and social security funds)			Public health adm.; health programme adm.; social security schemes		
Households				Home care for own final use	
Non-profit institutions (NPIs)	Private non-profit health care providers	Private social health insurance	Non-market NPIs providing health care, controlled and mainly financed by gov.		Non-market NPISHs providing health care; charitable funders of health care

The WHO model of levels of care

4.13. Some countries have, in addition, adopted the WHO-model of categorising health care facilities into primary, secondary and tertiary levels of care. Sectoring of institutions into these categories – where they exist – is of particular interest in health policy monitoring. At present, the use of the terminology is not sufficiently standardised or used uniformly by OECD countries for the purposes of the SHA. A cross-classification of national institutional terminology and of the ICHA-provider classification should allow identification of country-specific planning mechanisms for health care industries.

APPLYING THE ICHA-HP HEALTH CARE PROVIDER CLASSIFICATION

4.14. The statistical unit, *i.e.* the unit for which statistics are compiled in the SHA is the same for all three dimensions of the ICHA (see Chapter 3) in order to allow the cross-classification of expenditure in multi-dimensional tables (see the proposed standard tables in Chapter 2).

The reporting unit in the institutional classification

4.15. The reporting unit is the entity from which the recommended items of data are collected. It may be an enterprise of health care organisations on which information is received and

statistics are compiled or an analytical unit created by splitting or combining observation units with the help of estimations or imputations in order to supply more detailed and/or homogeneous data than would otherwise be possible.

4.16. The smallest item for reporting in an institutional distribution of the SHA would ideally be establishments producing a homogenous range of services that gives the establishment a well-defined, internationally comparable role in the division of labour in a country's health care system. These are units that have their own accounting in order to preserve an option to link data on input (cost structure) and output to expenditure data in a straightforward manner.

Human resources and employment in health care

4.17. The framework of the ICHA-HP leads to a family of national aggregates and distributions for human resources and employment in the SHA. A concept for measuring human resources in health care in a stock-flow approach providing various ways of defining medical and paramedical professions is discussed in Annex A.1 of this manual. The most important statistics are:

- *total employment in health care service industries*, which is the sum of persons working in one of the above-defined institutional units, distributed according to ICHA-HP; and preferably measured as full-time equivalents;
- *total employment of medical and paramedical professions in health care industries*, again distributed according to ICHA-HP.

Medical facilities and stocks of medical equipment

4.18. Country-specific listings of health care institutions are the starting point of national surveys in health care service industries which provide data on capital stock and health care resources in non-monetary terms. A range of indicators is desirable to measure specific medical equipment and health facilities such as beds in institutions and high-technology equipment. Full consistency with the expenditure series would require that these data collections were cross-classified with the ICHA-HP institutional classification. Once a country-specific list of institutions and a cross-classification to the ICHA-HP classification has been established, it should not be too difficult to classify, *e.g.* employment, accordingly.

5. MEASUREMENT OF EXPENDITURE ON HEALTH CARE

Introduction

5.1. This chapter provides definitions for aggregate measures of expenditure on health care. It is therefore central to the SHA. The proposed accounting rules correspond to SNA guidelines and are thus compatible with the common internationally recognised accounting rules for defining national economic aggregates. Chapter 8 on health satellite analysis and accounts further extends this discussion about economic modelling of health care and its integration in the core system of National Accounts for use by experts in countries considering or maintaining health satellite accounts for their national health care system.

The estimation of national totals

> **Total expenditure on health** measures the final use of resident units of health care goods and services plus gross capital formation in health care provider industries (institutions where health care is the predominant activity).

5.2. Total expenditure on health thus measures the economic resources spent by a country on the functions HC.1 to HC.7 of health care services and goods, including administration and insurance plus gross capital formation in health care industries (Table 5.1). The distinction between total current expenditure on health and gross capital formation in health care industries appears to be important. Gross capital formation in health care industries are those expenditure that add to the stock of resources of the health care system and last more than an annual accounting period. Gross capital formation can further be classified by type of institutional unit involved in the provision of health care services (see Chapter 4).

5.3. Total expenditure is, according to the above definition, part of total gross domestic expenditure. It should, by definition, not include exports of health care services, *i.e.* services

provided by domestic providers to foreigners but includes imports of health care, such as health spending abroad by tourists and other persons travelling abroad.

5.4. In this chapter guidelines are provided on the following issues which are crucial to the estimation of national totals of health spending in an international comparable way:
- where to draw the production boundary of health care services;
- how to treat subsidies and other transfers to health care provider industries;
- the measurement of market and non-market output of health care services;
- international trade in medical goods and services;
- time of recording and the accrual principal.

5.5. In addition, some hints are provided for the estimation of expenditure on health-related functions other than capital formation of provider industries.

Table 5.1. **Functional boundaries of total expenditure on health**

Code	Description
HC.1-HC.4	Personal health care services
HC.5	Medical goods dispensed to out-patients
TPHE	*Total personal expenditure on health*
HC.6	Prevention and public health services
HC.7	Health administration and health insurance
TCHE	*Total current expenditure on health (sum of HC.1 to HC.7)*
HC.R.1	Gross capital formation in health care industries
THE	*Total expenditure on health (=TCHE + HC.R.1)*

THE PRODUCTION BOUNDARY OF HEALTH CARE SERVICES

5.6. The SHA recommends standard SNA rules for drawing the production boundary of health care services, with two exceptions:
- occupational health care is included in the national totals of health care spending. In the SNA, this item is recorded as ancillary services and part of intermediate production of enterprises;
- part of the cash transfers to private households for care givers of home care for the sick and disabled are treated as paid household production of health care.

Occupational health care

5.7. This aggregate is the sum of expenditure incurred by corporations, general government, and non-profit organisations on the provision of occupational health care. Occupational health care corresponds to *Item 5.2: Health* in the Classification of the Outlays of Producers by Purpose (COPP) (see Annex A.6 of this manual). Occupational health care is recorded in the SNA as intermediate consumption within the business sector. 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; this excludes remuneration in kind in health services and goods which do not constitute intermediate consumption but household actual final consumption. The expenditure incurred in occupational health care can be approximately estimated as the cost of personnel involved.

Household production of health care

5.8. The production of health care services not only takes place in establishments (including private non-profit institutions) but also in private households, where care for the sick, infirm or old people is provided by family members. The own-account production of these personal services by members of the household for their own final consumption is excluded from measured production in conventional national accounting practice. The boundary line drawn in the SHA includes, however, personal services provided within households by family members, in cases where they correspond to social transfer payments granted for this purpose.

5.9. Problems of data comparability across countries and over time arise when households have the choice between benefits in cash or benefits in kind, in which case both kinds of care (by laypersons within the family and by specially trained nurses) are considered to be close substitutes but treated differently in common national accounting practice (as health care benefit in kind or social transfer in cash). Consequently it is recommended that for this sort of cash transfer it is considered as "paid" household production. The part of these payments which corresponds to care given to family members should be recorded under final consumption expenditure (final use) of health and not under transfer payments. The corresponding item should be shown separately in health accounts.

5.10. This treatment adopted by the SHA explicitly recognises that the unpaid work devoted to the home care of household members has an economic value which is measured in monetary terms. It also is consistent with the definition of non-market household production which covers those goods and services provided for own-consumption by household members who combine their unpaid work within the household and goods and services provided by the market to satisfy the needs of every-day life. The widely accepted criterion used to define productive unpaid work and correlatively, non-market household production is the existence of a market substitute. The household member performing care activities within the household has, as substitute, a remunerated person who would be hired to perform similar tasks for the dependant person. The substitute to household production of health care is the output of private or public institutions providing similar services.

5.11. Substitutability between household production and production on the market exists in actual fact when social programmes give households the choice between receiving social transfers in cash for health care provided by them and benefits in kind in the form of the services of a trained nurse financed, partly or totally, by the social programme. In the case where substitutability is not quite as obvious and households receive transfer payments for the health care they

provide within the household instead of having recourse to outside help, the economic value of their care activities is nonetheless recognised in the SHA since non-market household production of health care services is imputed a value equal to the transfer payments received.

5.12. This valuation is based on the assumption that the value of the unpaid care work performed in the household is worth what social programmes are willing to grant. This is of course not a totally satisfactory treatment since the actual amount of time spent on health care work is not taken into consideration. Nevertheless it is preferable to no valuation at all, and therefore no consideration of hours spent on care, which is the case when no choice or monetary support is granted to households.

Health care as part of the informal sector

5.13. The concealed production of health services (to avoid the payment of income or other taxes or to achieve hidden additional income besides that under contracts with social insurance and/or government programmes) may amount to a sizeable share of the real medical benefits accruing to private households. An estimate of this amount should be part of total expenditure on health as defined by the SHA, as differences in the treatment of the informal health care sector can distort international comparisons.

5.14. The national health expenditure estimates of some countries have, in the past, under-reported so-called "under-the-counter" or "envelope" payments by patients paid directly to providers. These payments do not show up in tax declarations of providers. This includes payments by patients that want to jump the waiting list or to obtain greater quality in the delivery of health care services. They might constitute an essential though informal part of the payment of providers. In the SHA these expenditure should be included in the estimates of overall spending.

5.15. Illegal provision of health care services by unlicensed medical practitioners, on the other hand, and the provision of drugs for illegal purposes (*e.g.*, sport, body building or drug addiction), although within the production boundaries of SNA, is not considered an expenditure on health according to the definition of health care of the SHA.

THE TREATMENT OF SUBSIDIES AND OTHER TRANSFERS TO PROVIDER INDUSTRIES

5.16. In actual health delivery and finance, current government transfers and subsidies are frequently designed to reduce the prices paid by final consumers or insurance funds for certain goods or services (especially of institutionalised care). These government transfers have two different forms, according to whether they are paid to market or non-market producers in health care. Transfers to market producers are identical to the category of "subsidies" in national accounting, in so much as subsidies can only occur in market production. In many countries, however, subsidies for market production in health are only of minor importance compared with transfers that go to non-market producers. These are recorded under "current transfers". In its Chapter XI on satellite accounts, the SNA 93

lists two options for reporting on subsidies:

> "In the central framework, when these goods and services are considered market products, they are included in final consumption at purchasers' prices. In a satellite account there are two options: either consumption is valued differently from the central framework in order to include the value of consumption subsidies or consumption is valued as it is in the central framework and specific current transfers must include consumption subsidies. This may also include other subsidies on production." (SNA 93, para. 21.75)

5.17. The SHA abides by the first option. Final consumption values of, for instance, hospital services should be recalculated (whenever possible) by adding subsidies to the recorded costs. This solution provides for a uniform treatment of national totals and for functional and institutional breakdowns, when shares in total expenditure on health are compared across countries. The exclusion of subsidies could lead to distortions in cross-country comparisons. In practice, subsidies for health care are almost exclusively related to in-patient care.

5.18. *Subsidies* are current unrequited payments that government units make to enterprises on the basis of the levels of their production activities or the quantities or values of the goods or services which they produce, sell or import (SNA 93, para. 7.71). Subsidies on products (payable per unit of good or service) should be distinguished from other subsidies on production (not calculated per unit of good or services) often taking the form of regular transfers paid to cover persistent losses. It is important to recall that "Subsidies... do not include grants that governments may make to enterprises in order to finance their capital formation, ...such grants being treated as capital transfers" (SNA 93, para. 7.72).

5.19. *Current transfers* to public corporations and quasi-corporations operating in health care are a common form of financing in many countries, particularly for public hospitals. These consist of regular transfers intended to compensate persistent losses as a result of charging prices which are lower than their average costs of production as a matter of deliberate government economic and social policy. In order to calculate the basic prices of the output of such enterprises, it will usually be necessary to assume a uniform *ad valorem* implicit rate of subsidy on those outputs determined by the size of the subsidy as a percentage of the value of sales plus subsidy (SNA 93, para. 7.78).

THE MEASUREMENT OF OUTPUT: MARKET AND NON-MARKET PRODUCTION

5.20. Differences across countries in the way non-market production of health care services are measured in National Health Accounts can limit the international comparability of health expenditure estimates. A pure cash-flow approach does not lead to comparable accounts due to differences in the organisation of health care systems and differences in administrative accounting systems.

5.21. Therefore, the SHA recommend that the SNA principles of measurement of output of health care services are followed. The SNA concepts of output and intermediate consumption are applied analogously in calculating national expenditure on health in the SHA. The expenditure on health care services that are provided by non-market producers to house-

holds free of charge or at prices that cover only part of their production costs may be underestimated in existing National Health Accounts. This separation of output into market and non-market output is used in health accounting only as a technical concept for valuing output of health care services correctly in monetary terms. It is not shown as a separate item in the standard tables proposed for the SHA. For the internal estimation process, separate accounts for non-market and for market production will be an essential tool.

The valuation of non-market production

5.22. The valuation of non-market production requires special attention. There are no markets for a range of collective public health services and personal health care services provided to individual households as benefits in kind (with or without patients' cost-sharing) and there are consequently no suitable prices available (SNA 93, para. 6.90).

5.23. The same or very similar services may be produced on a market basis also and sold alongside non-market services. But there may be important differences between the types and quality of services provided. In most cases, it is not possible to find enough market services that are sufficiently similar to the corresponding non-market services to enable their prices to be used to value the latter, especially when the non-market services are produced in very large quantities.

5.24. For these reasons, and also to ensure that the various non-market services produced by government units and NPISHs are valued consistently with each other, they are all valued by the sum of the costs incurred in their production: that is, by the sum of:

- intermediate consumption;
- compensation of employees;
- consumption of capital;
- other taxes, less subsidies, on production.

5.25. The net operating surplus on the production of non-market goods or services produced by government units and NPISHs is always assumed to be zero. Following the SNA conventions, separate establishments should be distinguished for market and non-market production whenever possible. For many establishments (*e.g.*, offices of physicians working both for private patients and under contract with social insurance) this may not be feasible.

5.26. 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). The calculation of the output of insurance enterprises is more complicated and the corresponding accounting rules have not been reproduced here (see SNA 93, para. 6.135).

FOREIGN TRADE

5.27. International trade in health care services is increasing, a trend fostered by economic integration (for example in NAFTA and in EU) in the OECD area and by emerging export

markets in health care of OECD and non-OECD countries. However, in practice, trade in health care services is seldom taken into account in National Health Accounts due to the absence of national statistics on the trade in health care services. It would be desirable that countries introduce survey instruments for covering trade in health care services.

5.28. Two items of foreign trade are relevant candidates for reporting in the SHA:
- foreign trade in medical goods and services for final use (such as health care and pharmaceuticals purchased by tourists or patients seeking specialised care);
- foreign trade in capital formation in health care industries and health insurance;

5.29. Two further items would be relevant for monitoring the effect of trade in medical goods (intermediate products) which enter into the production of health care services in countries:
- foreign trade in medical-technical goods for gross capital formation in health care industries;
- foreign trade in medical-technical goods for intermediate consumption of health care providers.

5.30. For the last two items, industrial statistics and trade statistics provide estimates according to Statistical International Trade Classification (SITC) categories. For the first two items export values for health care services are not regularly reported or corresponding items are set to equal zero in trade statistics of most countries. As has already been mentioned above, this state of play in trade statistics contrasts with an increasing flow of trade in health care services among OECD countries as well as between OECD and non-OECD countries.

5.31. Trade in health care services is reported under the categories of the Balance of Payments Manual (IMF, 1993) and the draft International Trade-in-Service Classifications and Codes (see Table 5.2).

Table 5.2. **International trade in health care services**

Component	Examples	
2	Travel	
2.2	Personal travel	
2.2.1	Health-related travel	Health spas, and other travel for specialised health care; all kinds of health expenditure by travellers travelling for other than health care purposes
5	Insurance services	
5.3	Other direct insurance	
	of which: health insurance services	Private health insurance
11	Government services n.e.c	Transfers of bilateral and international aid in health care

Source: Adapted from Eurostat/IMF/OECD/UN/WTO (1999).

Health-related personal travel

5.32. Personal travel is subdivided into health-related travel, education-related travel and other personal travel. For health-related travel, the following definition is provided:

"Health-related expenditure comprises expenditure exclusively on health services rather

than all expenditure by those who travel for health reasons. Health-related travel covers all expenditure by medical patients; World Trade Organisation requests to identify the part of total outlays that represent medical care expenses, such as hospital charges, treatments and physicians' fees; Included are all expenditure on health care services and goods, irrespective of whether the primary purpose of the travel was health-related or not."

Private health insurance services

5.33. This item encompasses the provision of health insurance to non-residents by resident insurance companies, and vice-versa. It includes agent commissions related to insurance. Insurance services are estimated or valued by service charges included in total premiums earned rather than by total premiums. Gross premiums and gross claims are recorded as memorandum items (IMF, 1993, Chapter XIII).

5.34. The monitoring of trade in services suggests that countries should co-ordinate their national surveys and develop administrative data to shed more light on flows in health care services.

TIME OF RECORDING AND THE ACCRUAL PRINCIPLE

5.35. Cash accounting, which is still applied in health accounts in some countries, records only cash payments and records them at the time these payments occur. It is now widely recognised that recording on a cash basis can lead to a distorted picture when, *e.g.*, budget negotiations and health reform measures have significant spillover effects from one fiscal year to the next. Cash accounting is in many instances not compatible with the recording of non-monetary flows and with overall economic statistics.

5.36. The SHA recommends for these reasons that all monetary flows are recorded on an accrual basis according to the following SNA 93 definition. The accounting period is the calendar year.

"Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred or extinguished. This means that flows which imply a change of ownership are entered when ownership passes, services are recorded when provided, output at the time products are created and intermediate consumption when materials and supplies are being used." (SNA 93, 3.94)

CAPITAL FORMATION IN HEALTH CARE PROVIDER INDUSTRIES

5.37. For the recording of gross capital formation, the SHA recommends that the retail sale of medical goods can be regarded as a supporting activity to health care and will therefore not be counted under total capital formation of health care providers. The items in the ICHA-HP provider classification on the one-digit level provide sub-totals for the various industries of health care. From the list of items on two-digit level provided, it is obvious that it may be difficult to obtain estimates for certain items, especially in out-patient care and for

institutions active in retail sales. Where functions of administration in public health and health care funding are embedded into larger institutional units, part of gross capital formation will go unrecorded. The fundamental definition is:

> **Total gross capital formation in health care industries** = sum of gross capital formation in the institutional units listed under the ICHA-HP classification items HP.1 to HP.3, HP.5 and HP.6, where health care is the predominant activity. Separate estimates should be provided for public and private ownership.

5.38. An alternative for aiming at a complete coverage of the ICHA-HP in investment surveys for international comparisons would be the definition of a sub-aggregate for the sum of institutions under HP.1 to HP.3 (roughly corresponding to ISIC Section N "Health and Social Work"). Factor cost estimates of gross capital formation and capital stock are, however, required for non-market producers in public administration and insurance, in order to calculate capital consumption, which in turn is necessary for calculating the production value of non-market producers.

DEFINITION OF COMPONENTS OF TOTAL EXPENDITURE ON HEALTH IN SNA TERMS: A SUMMARY

5.39. The identities provided in Table 5.3 show the link between the various definitions used in *OECD Health Data* and SNA definitions. These identities also serve to show overlap as

Table 5.3. **Health expenditure aggregates in SHA and SNA terminology**

SNA 93 code	Description
P.41	Actual final consumption expenditure on health by households and NPISHs
P.42	Actual final consumption expenditure on health by general government
P.4	Actual final consumption expenditure on health (= P.41 + P.42)
D.31	Government subsidies to health care providers (net) in order to lower the price of output
P.41*	Occupational health care (intermediate consumption within establishments) *minus* an estimated share of occupational health in health providers' and other medical industries' net administration (= occupational health care)
P.41*	"Remunerated" unpaid household production in the form of transfer payments (social benefits in cash) for home care of sick, disabled and elderly persons provided by family members
P.4*	**Adjusted total actual final consumption expenditure on health** (= P.4 + D.31 + P.41*)
P.51	Gross capital formation in health care industries
TEH	Total expenditure on health (= P.4* + P.51)

(*): The production boundaries used in the SHA for the estimation of this item differ from SNA rules.

well as differences in definitions and in the estimation strategy between the two data collections. This mapping of SHA expenditure aggregates to expenditure in SNA terms also links to the discussion of health care financing in Chapter 6.

EXPENDITURE ON HEALTH-RELATED FUNCTIONS

5.40. Health-related functions are overlapping areas with other fields of study, such as education, overall social expenditure, and R&D. As a general recommendation, the underlying principles and estimation strategies applied in international data collections in these fields and documented in the relevant statistical guidelines should be taken as starting point for the standard Table 4 of the SHA which shows various expenditure aggregates including health-related functions.

Education and training of health personnel

5.41. Estimation strategies for expenditure on education and training of health personnel in general are provided in the UNESCO/OECD/Eurostat (1995) guidelines. For education and training, similar problems of double-counting are encountered whenever national totals of expenditure on health are calculated including education and training. A separate reporting constitutes an adequate way of handling the question.

Research and development in health

5.42. The *Frascati Manual* (OECD, 1994*d*) provides detailed guidelines for the estimation of expenditure on research and development that are also deemed appropriate for R&D in health according to the functional boundaries described in Chapter 9. Where R&D is an ancillary activity in medical industries that cannot be assigned to a separate institutional unit of homogenous production, a serious double-counting problem arises from the definition of national totals on expenditure in health accounting that adds R&D to health care services and goods. The separate recording of expenditure on R&D as a memorandum item "below the line" is suggested.

Health-related cash benefits

5.43. Expenditure on health-related cash benefits are distinct from any of the expenditure categories above, both by their economic nature (transfer payments) and by their goal (income protection) which is essentially an income maintenance function and not a health care activity. Whenever cash benefits are included in total expenditure on health (in the case of paid household production as described above), it is recommended that this be explicitly identified.

6. HEALTH CARE FUNDING

INTRODUCTION

6.1. Regulations of health care financing are becoming increasingly complex in many OECD countries with a wide range of institutions involved. The financing of health care is one of the reporting dimensions present in standard tables of most National Health Accounts. At least a basic subdivision of public and private financing is reported in many cases. A detailed breakdown of expenditure on health by sources of funding is an essential component of a comprehensive SHA.

6.2. National systems of flows of financing in health care tend to be fairly complex and the level of standardisation across countries of even the basic categories of public and private funding is in general low. As with other aspects of health care (activities, providers), similar designations of "social insurance", "mutualités", "friendly societies", etc., often describe different institutional arrangements and financing regulations. In addition, country specific forms of intergovernmental transfers as well as transfers in the private sector between public and private funds increase the complexity of reporting on sources of funding in international comparisons.

6.3. This chapter provides a toolbox for standard reporting on health spending by sources of funding. A set of sectoral flow-of-funding accounts is proposed for creating a core set of accounts that could serve as a model for comprehensive accounts for health care financing as part of National Health Accounts. For international comparisons, data collection will have to focus on the corresponding set of balancing items and some of the major components of financing flows. To keep the illustrative example and the set of accounts that are discussed in the chapter simple, the presentation is limited to an analysis of current expenditure on health. The complex issue of accounts for capital formation and its financing is not part of this manual.

A toolbox of SNA definitions and sectoral accounts

6.4. The SHA proposes in this chapter a toolbox for defining institutional sectors of health care funds as well as of flows of funding. The proposed framework is an adoption of SNA 93

definitions which in many instances could be taken verbally to serve the purposes of the SHA. This chapter also draws on those sections of the SNA 93 chapter on health satellite accounts, which provide a rough sketch on a breakdown by sources of funding in functionally defined satellite accounts (SNA 93, 21.87 – 21.91; see also Chapter 8 of this manual); and on the Annex IV of the SNA 93 on the treatment of insurance and social insurance.

6.5. A rich and detailed set of SNA-descriptions of concepts, definitions of terms, and accounting rules exists for the classification of contributions to social insurance funds, taxes, and transfers which are used here to distinguish between types of health and other insurance programmes.

6.6. The SHA recommends the use of these international standards in reporting on flows of financing in health care. Some modifications which correspond to a slightly different treatment of the production boundary and of tax deductions in the SHA compared to the SNA, are explained.

The ICHA-HF classification of sources of funding

6.7. The financing classification of the ICHA presented in Table 6.1 provides a complete breakdown of health expenditure into public and private units incurring expenditure on health. This classification is derived from the central SNA framework of institutional sectors of the economy (see Table 4.2 in Chapter 4). The different role of social security, private social insurance and other insurance enterprises is sketched below and in Chapter 11 of this manual.

Table 6.1. **ICHA-HF classification of sources of funding**

ICHA code	Sources of funding
HF.1	General government
HF.1.1	General government excluding social security funds
HF.1.1.1	Central government
HF.1.1.2	State/provincial government
HF.1.1.3	Local/municipal government
HF.1.2	Social security funds
HF.2	Private sector
HF.2.1	Private social insurance
HF.2.2	Private insurance (other than social insurance)
HF.2.3	Private households
HF.2.4	Non-profit institutions serving households (other than social insurance)
HF.2.5	Corporations (other than health insurance)
HF.3	Rest of the world

Two perspectives on health care financing

6.8. Basically, health care financing can be recorded from two different perspectives:

- The first perspective, commonly used in National Health Accounts, aims at a breakdown of expenditure on health into the complex range of third-party-payment arrangements plus the direct payments by households or other direct funders of, *e.g.*, government provided health care.
- The second perspective asks for the ultimate burden of financing born by sources of funding. In this kind of analysis, the sources of financing of the intermediary sources of funding (social security funds; private social and other private insurance; NPISHs) are traced back to their origin. Additional transfers such as inter-governmental transfers, tax deductions; subsidies to providers; and financing by the rest of the world are included to complete the picture.

OVERVIEW ON HEALTH CARE FINANCING: AN ILLUSTRATIVE EXAMPLE

6.9. The analysis of a system of financing units, transfers and related expenditure categories, is illustrated in this chapter by the numerical example of a model health care system. Although many simplifications have been introduced, this example is believed to be sufficiently complex to cover the most important flows of financing in current expenditure on health for a wide range of countries.

6.10. The health care system under study is a mixed system including all of the common forms of public and private financing. In the example economy, health care is financed by social insurance (social security and private social insurance), by tax financed direct government provision of health care services, and various private arrangements (private insurance plus tax deduction; non-profit charities). Private out-of-pocket payments include a range of cost-sharing items that correspond to the various third-party-payment arrangements. Employers provide occupational health care and other direct health care. There is a net support of the nation's health care system by foreign funds, mainly provided by international co-operation and aid.

6.11. In order not to overburden the presentation, this chapter focuses on flows of financing for current expenditure on health care goods and services. Flows of financing are broken down by sector and sub-sector as shown in Table 6.2. Besides social security, only two levels of government are distinguished: central government on the one hand and regional/local government on the other. Extending this example to three levels of government: central, state, and local, is a straightforward exercise.

6.12. Table 6.2 summarises the breakdown of funding by public and private funds according to the two alternative views described below:

- funding as direct payment (out-of-pocket or as third-party-payment);
- funding as net balance of own resources devoted by each sector on the financing of health care.

Table 6.2. **Health expenditure by sources of funding: an illustrative example**

	Funding as direct and/or third party payer	Funding as net balance of own resources	
Central government	SNA-code	57	190
Tax deduction for households	D.51	22	
Social transfers in kind	D.63	9	
Other social benefits	D.62	3	
Actual collective consumption	P.42	23	
Regional/local government		97	120
Subsidies to providers	D.31	20	
Social transfers in kind	D.63	41	
Other social benefits	D.62	6	
Actual collective consumption	P.42	30	
Social security funds		740	8
Social transfers in kind	D.63	685	
Other social benefits	D.62	10	
Actual collective consumption	P.42	45	
Total public funding		894	318
Private households: out-of-pocket, net	P.41	323	1068
Out-of-pocket payment, net		323	
of which co-payment for:		*34*	
social security funds		22	
central government		1	
regional/local government		4	
private social insurance		2	
other private insurance		5	
Over-the-counter, etc., gross		*345*	
Tax deduction for HHs	*D.51*	*-22*	
NPISHs		19	-1
Social transfers in kind	D.63	14	
Other social benefits	D.62	2	
Other transfers	D.75	3	
Private social insurance		83	-4
Other social benefits	D.62	75	
Other transfers	D.75	8	
Other private insurance enterprises		60	-4
Private insurance claims	D.72	50	
Service charges	P.41	10	
Other corporations		49	34
Occupational health care	P.41*	31	
Unfunded social benefits	D.623	1	
Miscellaneous transfers	D.75	17	
Total private funding		534	1093
Rest of the world		0	17
Total current expenditure on health		1428	1428

(*): The production boundaries used in the SHA for the estimation of this item differ from SNA rules.

6.13. The SNA codes refer to the explanations given in Annex 6.1. Numerical values could be read as million National Currency Units (NCU). The numerical health care system described would fit into the numerical example economy used for illustrative purposes in the SNA 93 manual. Total current expenditure on health of 1428 million NCU would correspond to some 8% of GDP in the SNA 93 example, if all values in the central framework were multiplied by ten.

OVERVIEW ON THE SECTORS OF SOURCES OF FUNDING

6.14. This section provides summary descriptions of the role of the various sectors in health care financing in the sample health care system, although, in various individual countries, not all elements might be present. However, it is suggested that the major elements that can be found in most countries are covered. The model should, in this respect, apply both to the situation in OECD countries and other high-income countries as well as to middle and low-income countries.

6.15. Table 6.2 presents a summary description of the flow of funds analysis in matrix form given in Table 6.3. All entries in Table 6.2 are derived from Table 6.3 by rearranging the margins under the given SNA-codes of flows. Private household out-of-pocket expenditure is a residual value after all other funding components have been subtracted from actual private final consumption. Out-of-pocket spendings consequently exclude private insurance claims and service charges paid to private insurance companies. Out-of-pocket spending is recorded net in Table 6.2 in the sense that tax deductions have been subtracted. Out-of-pocket expenditure are the sum of co-payment to the various insurance funds present in the health care system and of over-the-counter (and other direct) payments for goods and services purchased by private households as direct and ultimate payer.

Central government (G.1)

6.16. As a direct financer, this sector is mainly financing health care administration (recorded under actual collective consumption) and other direct provision of health care (other social benefits and social transfers in kind). The role of central government as direct financier of health care is shown in Table 6.2 net of tax deductions granted to private household for private health insurance and private consumption of health, *i.e.*, these tax deductions are included under government. The net financing balance of central government is substantially higher than its direct financing due to transfers paid to the other financing sectors, where the bulk is for social security funds and other inter-governmental transfers.

Regional and local government (G.2)

6.17. This sector has, besides health administration and public health, a somewhat more important role in providing tax financed health care services (social transfers in kind). In addition, regional/local government grants substantial subsidies to private market producers of

health care. The net financing balance of this sector is higher than its direct financing, due to the same type of inter-governmental transfers described above for central government.

Social security funds (G.3)

6.18. The sector of social security funds is a typical intermediary funder of health care. In the sample economy chosen, this sector is the biggest single direct funder of health care services (social transfers in kind to private households, either as remuneration or direct provision of services purchased by health care providers). Social security funds spend part of their resources on administration (as actual collective consumption). The net balance of own resources is very small, and would typically be financed out of interest received on assets accumulated in the past.

Private social insurance (P.1)

6.19. The sectoral account for private social insurance is similar to that of social security funds. Private social insurance is an intermediary financier of health care funded out of social contributions and, to a minor degree, by other current transfers. Benefits provided by this sector are recorded correspondingly under private funded social benefits. A social insurance programme is one where the policyholder is obliged or encouraged by the intervention of a third party but which is – unlike social security funds – not under the direct control of general government (see the explanatory notes in Chapter 11 for more detail).

Private insurance enterprises (other than social insurance) (P.2)

6.20. Private insurance enterprises (other than social insurance) are treated differently in the account. There are two parts in private consumption expenditure on health which correspond to private insurance: net insurance claims and net service charges (Table 6.2). In the proposed SNA 93 framework of sectoral accounts, only insurance claims show up explicitly. The treatment of private insurance enterprises is therefore simple: net insurance claims and net insurance premiums equal each other. It should be noted that both claims and premiums have non-zero items in the rest of the world account.

Private households (P.3)

6.21. Direct financing by private households consists of out-of-pocket spending, which is a residual after all other private third-party payments have been deducted from total private financing. Out-of-pocket spending can be estimated gross or net of tax deductions granted by government. A component of out-pocket payment, which is particularly important to the health policy analysis of third-party-payment arrangements, is co-payment for benefits received by these various sources of funding. The SHA recommends giving these items special attention in the construction of National Health Accounts.

Non-profit institutions serving households (NPISHs) (other than social insurance) (P.4)

6.22. The sector of non-profit institutions serving households (other than social insurance) typically brings together a range of heterogeneous institutions. An important role might be played by charities that provide health services for free (recorded under other current transfers, not as social benefits). They are financed by transfers from private households and enterprises, and might get additional funding from government and/or from the rest of the world.

Enterprises (other than health insurance) (P.5)

6.23. The other corporations sector mainly contributes to health care financing as a producer of occupational health care services. Employers' social contributions are considered part of household income and consequently as private household funding of health care, not as funding by enterprises.

Rest of the world (ROW)

6.24. The rest of the world contributes indirectly to the financing of health care in the example of a typical model economy, as international aid and other flows are usually channelled via government or NPISHs agencies.

THE SYSTEM OF TRANSFERS CHARACTERISTIC FOR HEALTH CARE: A MATRIX PRESENTATION

6.25. Table 6.3 shows the link between the direct financing and the balancing item of net financing out of own resources by sector of financing fund. This matrix presentation provides a summary view on the sectoral accounts presented in Annex 6.1. The balancing item of resident sectors' accounts (B.2) measures the sectors' ultimate funding of current expenditure on health care as net financing out of own resources. The balancing item of the rest of the world account shows the ultimate financing of residents' current expenditure on health care by non-resident units.

6.26. The algebraic sum of residents' flow-of-funding accounts measures total domestic current expenditure on health care or total current expenditure on health care by resident units. By deduction from this aggregate the balancing item of the rest of the world's account measures national current expenditure of resident units on health care financed by resident units.

6.27. As has been mentioned above, capital expenditure on health care (gross capital formation) by market and non-market providers of health care services and financing of fixed capital formation by way of savings, loans, capital transfers from resident or non-resident units are excluded from Table 6.3 and from the flow-of-funding accounts in this chapter which only deals with current expenditure and its financing.

Table 6.3. **Transfers in health care: a matrix presentation**

Uses

Total	Rest of the world	Total economy	NPISHs	Households	Central gov.	Region/ local gov.	Social security funds	Private soc. ins.	Other private ins. corp.	Other corp.		
1935	27	1939	22	688	195	111	708	83	66	66		
20		20				20					**D.31**	Subsidies (to health care providers)
-22		-22		-22							**D.51**	Tax deduction (private households)
651		651		651							**D.61**	Social contributions
639		639		639							D.611	Actual social contributions
322		322		322							D.6111	Employers' actual social contributions
241		241		241							D.6112	Employees' actual social contributions
76		76		76							D.6113	Social contributions by self- and non-employed
12		12		12							D.612	Imputed social contributions
97		97	2	0	3	6	10	75	0	1	**D.62**	Social benefits other than social transfers in kind
8		8					8				D.621	Social security benefits in cash
75		75						75			D.622	Private funded social benefits
9		9	2		2	3	1	0		1	D.623	Unfunded employee social benefits
5		5			1	3	1				D.624	Social assistance benefits in cash
749		749	14	0	9	41	685	0	0	0	**D.63**	Social transfers in kind
720		720	3	0	2	30	685	0	0	0	D.631	Social benefits in kind
313		313					313				D.6311	Social security benefits, reimbursements
372		372					372				D.6312	Other social security benefits in kind
35		35	3		2	30	0				D.6313	Social assistance benefits in kind
29		29	11		7	11	0				D.632	Transfers of individual non-market goods and services (charity from NPISH)
440	27	444	6	59	183	44	13	8	66	65	**D.7**	Other current transfers
66	6	60		51						9	D.71	Net insurance premiums
66		66							66		D.72	Net insurance claims
218		218			173	37	8				D.73	Current transfers within government
17	16	1			1						D.74	Current international co-operation
73	5	99	6	8	9	7	5	8		56	D.75	Miscellanous current transfers
0	-17	17	0	267	-168	-90	36	4	3	-35	**B.1**	Net balance of health specific transfers
											B.1	Net balance of health specific transfers
1428		1428	0	1330	23	30	45	0	0	0	**P.4**	Actual final consumption
1330		1330		1330						0	P.41	Actual individual consumption
98		98			23	30	45				P.42	Actual collective consumption
-1428	-17	-1411	0	-1063	-191	-120	-9	4	3	-35	**B.2**	Net financing of health care out of own resources (-)

Resources

Other corporations	Other private insurance corp.	Private social insurance	Social security funds	Regional/local government	Central government	Households	NPISHs	Total economy	Rest of the world	Total
31	69	87	744	21	27	955	22	1956	10	1935
20								20		20
				-12	-10			-22		-22
0	0	84	558	3	4	0	2	651		651
0	0	83	556	0	0	0	0	639		639
		43	279					322		322
		40	201					241		241
			76					76		76
0		1	2	3	4		2	12		12
0	0	0	0	0	0	97	0	97		97
						8		8		8
						75		75		75
						9		9		9
						5		5		5
0	0	0	0	0	0	749	0	749		749
0	0	0	0	0	0	720	0	720		720
						313		313		313
						372		372		372
						35		35		35
						29		29		29
11	69	3	186	30	33	109	20	461	10	440
	66							66		66
8						50		58	8	66
			175	28	15			218		218
					15			15	2	17
3	3	3	11	2	3	59	20	104		73
-35	3	4	36	-90	-168	267	0	17	-17	0

6.28. The flows-of-funding accounts of health care presented in Table 6.3 derive the necessary information from the following sequence of standard non-financial accounts of the SNA:

- the production account (intermediate consumption of occupational health care services, analysed here as an output of non-market occupational health care services by employers, therefore somewhat extending the SNA 93 production boundary);
- the secondary distribution of income account (social contributions, social benefits and transfers, other transfers);
- the use of disposable income account (individual and collective final consumption);
- the rest of the world account (health care flows of financing between resident and non-resident units).

FLOWS OF FINANCING: A SET OF SECTORAL ACCOUNTS

6.29. Covering various perspectives of financing in health accounts can best be achieved by sectoral flow-of-financing accounts showing all health-related flows of financing by sector of the economy. The SHA suggests complementing the breakdown of expenditure by source of funding (estimated along the lines of the funding perspective) with a full set of sectoral accounts showing financing flows in some detail, either regularly or for selected years. The purpose of these accounts would be to allow a detailed analysis of health care financing.

6.30. An integral part of the proposed set of accounts is a consolidated and aggregated account for the total economy, providing information on the financing shares of the ultimate bearers of expenditure. All flows of financing have been given an exact economic meaning according to SNA 93 standards, in order to get internationally comparable statistics. The accounts given in tables of Annex 6.1 show relevant flows of financing of health care and of expenditure on medical goods and health care services for each one of the following sectors or sub-sectors:

- central government;
- state and local government;
- social security funds;
- private social insurance;
- private insurance enterprises (other than social insurance);
- private households
- non-profit institutions serving households (other than social insurance);
- enterprises (other than health insurance);
- rest of the world.

ANNEX 6.1
A SET OF SECTORAL FLOW-OF-FUNDING ACCOUNTS

Account G.1. **Central government**

Uses			Resources		
D.62	Social benefits other than social transfers in kind	3	**D.51**	Tax deduction (per household)	-10
D.621	Social security benefits in cash	0			
D.623	Unfunded employee social benefits	2	**D.61**	Social contributions	4
D.624	Social assistance benefits in cash	1	D.612	Imputed social contributions	4
D.63	Social transfers in kind	9	**D.7**	Other current transfers	33
D.631	Social benefits in kind	2	D.73	Current transfers within government	15
D.6311	Social security benefits, reimbursements		D.74	Current international co-operation	15
D.6312	Other social security benefits in kind		D.75	Miscellanous current transfers	3
D.6313	Social assistance benefits in kind	2			
D.632	Transfers of individual non-market goods and services (charity from NPISH)	7			
D.7	Other current transfers	183			
D.73	Current transfers within government	173			
D.74	Current international co-operation	1			
D.75	Miscellanous current transfers	9			
B.1	*Net balance of health specific transfers*	*-168*			
			B.1	*Net balance of health specific transfers*	*-168*
P.4	Actual final consumption	23			
P.41	Actual individual consumption				
P.42	Actual collective consumption	23			
B.2	*Net financing of health care out of own resources*	*-191*			

Account G.2. **Regional and local government**

Uses			Resources		
D.31	Subsidies (to health care providers)	20	**D.51**	Tax deduction (per household)	-12
D.62	Social benefits other than social transfers in kind	6	**D.61**	Social contributions	3
D.621	Social security benefits in cash		D.612	Imputed social contributions	3
D.623	Unfunded employee social benefits	3			
D.624	Social assistance benefits in cash	3	**D.7**	Other current transfers	30
			D.73	Current transfers within government	28
D.63	Social transfers in kind	41	D.74	Current international co-operation	0
D.631	Social benefits in kind	30	D.75	Miscellanous current transfers	2
D.6311	Social security benefits, reimbursements				
D.6312	Other social security benefits in kind				
D.6313	Social assistance benefits in kind	30			
D.632	Transfers of individual non-market goods and services (charity from NPISH)	11			
D.7	Other current transfers	44			
D.73	Current transfers within government	37			
D.74	Current international co-operation				
D.75	Miscellanous current transfers	7			
B.1	*Net balance of health specific transfers*	*-90*			
			B.1	*Net balance of health specific transfers*	*-90*
P.4	Actual final consumption	30			
P.42	Actual collective consumption	30			
B.2	*Net financing of health care out of own resources*	*-120*			

Account G.3. **Social security funds**

Uses			Resources		
D.62	Social benefits other than social transfers in kind	10	**D.61**	Social contributions	558
D.621	Social security benefits in cash	8	D.611	Actual social contributions	556
D.622	Private funded social benefits		D.6111	Employers' actual social contributions	279
D.623	Unfunded employee social benefits	1	D.6112	Employees' actual social contributions	201
D.624	Social assistance benefits in cash	1	D.6113	Social contributions by self- and non-employed persons	76
			D.612	Imputed social contributions	2
D.63	Social transfers in kind	685			
D.631	Social benefits in kind	685	**D.7**	Other current transfers	186
D.6311	Social security benefits, reimbursements	313	D.73	Current transfers within government	175
D.6312	Other social security benefits in kind	372	D.74	Current international co-operation	
D.6313	Social assistance benefits in kind	0	D.75	Miscellanous current transfers	11
D.632	Transfers of individual non-market goods and services (charity from NPISH)	0			
D.7	Other current transfers	13			
D.73	Current transfers within government	8			
D.74	Current international co-operation	0			
D.75	Miscellanous current transfers	5			
B.1	*Net balance of health specific transfers*	*36*			
			B.1	*Net balance of health specific transfers*	*36*
P.4	Actual final consumption	45			
P.41	Actual individual consumption				
P.42	Actual collective consumption	45			
B.2	*Net financing of health care out of own resources*	*-9*			

Account P.1. **Private social insurance**

Uses			Resources		
D.62	Social benefits other than social transfers in kind	75	**D.61**	Social contributions	84
D.621	Social security benefits in cash		D.611	Actual social contributions	83
D.622	Private funded social benefits	75	D.6111	Employers' actual social contributions	43
D.623	Unfunded employee social benefits	0	D.6112	Employees' actual social contributions	40
D.624	Social assistance benefits in cash		D.6113	Social contributions by self- and non-employed persons	
			D.612	Imputed social contributions	1
D.63	Social transfers in kind	0			
D.631	Social benefits in kind		**D.7**	Other current transfers	3
D.6311	Social security benefits, reimbursements		D.75	Miscellanous current transfers	3
D.6312	Other social security benefits in kind				
D.6313	Social assistance benefits in kind				
D.632	Transfers of individual non-market goods and services (charity from NPISH)	0			
D.7	Other current transfers	8			
D.75	Miscellanous current transfers	8			
B.1	*Net balance of health specific transfers*	*4*			
			B.1	*Net balance of health specific transfers*	*4*
P.4	Actual final consumption	0			
P.41	Actual individual consumption	0			
P.42	Actual collective consumption				
B.2	*Net financing of health care out of own resources*	*4*			

Account P.2. **Private insurance enterprises (other than social insurance)**

Uses			Resources		
D.7	Other current transfers	66	**D.7**	Other current transfers	69
D.72	Net insurance claims	66	D.71	Net insurance premiums	66
			D.75	Miscellanous current transfers	3
B.1	*Net balance of health specific transfers*	*3*			
			B.1	*Net balance of health specific transfers*	*3*
P.4	Actual final consumption				
P.41	Actual individual consumption				
P.42	Actual collective consumption				
B.2	*Net financing of health care out of own resources*	*3*			

Account P.3. **Private households**

Uses			Resources		
D.51	Tax deduction (per household)	-22	**D.62**	Social benefits other than social transfers in kind	97
			D.621	Social security benefits in cash	8
D.61	Social contributions	651	D.622	Private funded social benefits	75
D.611	Actual social contributions	639	D.623	Unfunded employee social benefits	9
D.6111	Employers' actual social contributions	322	D.624	Social assistance benefits in cash	5
D.6112	Employees' actual social contributions	241			
D.6113	Social contributions by self- and non-employed persons	76	**D.63**	Social transfers in kind	749
			D.631	Social benefits in kind	720
D.612	Imputed social contributions	12	D.6311	Social security benefits, reimbursements	313
			D.6312	Other social security benefits in kind	372
			D.6313	Social assistance benefits in kind	35
D.7	Other current transfers	59	D.632	Transfers of individual non-market goods and services (charity from NPISH)	29
D.71	Net insurance premiums	51			
D.75	Miscellanous current transfers	8			
			D.7	Other current transfers	109
			D.72	Net insurance claims	50
			D.75	Miscellanous current transfers	59
B.1	*Net balance of health specific transfers*	*267*			
			B.1	*Net balance of health specific transfers*	*267*
P.4	Actual final consumption	1330			
P.41	Actual individual consumption	1330			
P.42	Actual collective consumption				
B.2	*Net financing of health care out of own resources*	*-1063*			

Account P.4. **NPISHs (other than social insurance)**

Uses			Resources		
D.62	Social benefits other than social transfers in kind	2	**D.61**	Social contributions	2
D.622	Private funded social benefits	0	D.612	Imputed social contributions	2
D.623	Unfunded employee social benefits	2			
			D.7	Other current transfers	22
D.63	Social transfers in kind	14	D.75	Miscellanous current transfers	22
D.631	Social benefits in kind	3			
D.6313	Social assistance benefits in kind	3			
D.632	Transfers of individual non-market goods and services (charity from NPISH)	11			
D.7	Other current transfers	6			
D.75	Miscellanous current transfers	6			
B.1	*Net balance of health specific transfers*	*0*			
			B.1	*Net balance of health specific transfers*	*0*
P.4	Actual final consumption	0			
P.41	Actual individual consumption	0			
P.42	Actual collective consumption				
B.2	*Net financing of health care out of own resources*	*0*			

Account P.5. **Enterprises (other than health insurance)**

Uses			Resources		
			D.31	Subsidies (to health care providers)	20
D.62	Social benefits other than social transfers in kind	1			
D.622	Private funded social benefits	0	**D.61**	Social contributions	0
D.623	Unfunded employee social benefits	1	D.612	Imputed social contributions	0
D.7	Other current transfers	65	**D.7**	Other current transfers	11
D.71	Net insurance premiums	9	D.71	Net insurance claims	8
D.75	Miscellanous current transfers	56	D.75	Miscellanous current transfers	3
B.1	*Net balance of health specific transfers*	*-35*			
			B.1	*Net balance of health specific transfers*	*-35*
P.4	Actual final consumption	0			
P.41	Actual individual consumption	0			
P.42	Actual collective consumption				
B.2	*Net financing of health care out of own resources*	*-35*			

Account ROW. **Rest of the world**

Uses			Resources		
D.7	Other current transfers	27	**D.7**	Other current transfers	10
D.71	Net insurance premiums	6	D.71	Net insurance premiums	
D.72	Net insurance claims		D.72	Net insurance claims	8
D.74	Current international co-operation	16	D.74	Current international co-operation	2
D.75	Miscellanous current transfers	5	D.75	Miscellanous current transfers	0
			B.1 (= B.2)	Change of current external balance by health specific transfers	17

EXPLANATORY NOTES FOR TRANSFERS IN HEALTH CARE FINANCING

P.4 Actual final consumption

The concept of actual final consumption, introduced in the SNA 93, is new to the *System of National Accounts*. It introduces a distinction between the expenditure on consumption goods and services and the acquisition of consumption goods and services for the direct satisfaction of human needs and wants. When consumption is recorded on an expenditure basis, the purpose is to identify the institutional units that incur the expenditure and hence control and finance the amounts of such expenditure. When consumption is recorded on an acquisitions basis, the purpose is to identify the units that actually acquire the goods and services and benefit from their use. The sum of final consumption expenditure of households, of general government and of NPISHs is equal to the sum of actual individual final consumption and actual collective final consumption. Total final consumption is the same whether the expenditure or the acquisition basis is used.

The acquisition basis is used here. Actual final consumption may be divided between actual individual final consumption (of households) and actual collective final consumption (of general government). However, as Table 9.5 in Chapter 9 shows, part of the services that SNA 93 classifies as individual (prevention, public health) are not considered as personal services in the SHA but recorded under HC.6 as collective services. Extensions of the SNA production boundary to include in health expenditure the production of health services by households for own account and occupational health services by enterprises are defined in Chapter 5.

P.41 Actual individual final consumption

It consists of the consumption goods or services acquired by individual households by expenditure or through social transfers in kind received from government units or NPISHs (SNA 93, 9.72).

The value of actual individual final consumption is given by the sum of three components:

- the *value of households' expenditure* on consumption goods and services including expenditure on non-market goods and services sold at prices that are not economically significant;
- the *value of the expenditure incurred by government units* on individual consumption goods or services provided to households as social transfers in kind;
- the *value of the expenditure incurred by NPISHs* on individual consumption goods or services provided to households as social transfers in kind.

The values of health expenditure on social transfers incurred by government units or NPISHs are equal to imputed values of the goods or services supplied to households less the amounts of any expenditure incurred by households when prices are charged that are not economically significant (SNA 93, 9.73). Expenditure incurred by households to acquire non-market health services produced by government units or NPISHs are included in the first component.

Individual goods or services as distinct from "public" goods or services have the following characteristics:

- it must be possible to observe and record the acquisition of the good or service by an individual household or member thereof and the time at which it took place;
- the household must have agreed to the provision of the good or services and take whatever action is necessary – for example going to a hospital;
- the good or service must be such that its acquisition by one household or person, or possibly by a small, restricted group of persons, precludes its acquisition by any other households or persons.

Government units and NPISHs also purchase consumption goods and services produced by market producers and supplied directly to households. The government unit or NPISH pays for the good or service, without engaging in any further processing of these goods and services, and ensures that they are distributed to households as social transfers in kind and are recorded under social assistance benefits in kind.

P.42 Actual collective final consumption

A collective consumption service is a service provided simultaneously to all members of the community or to all members of a particular section of the community, such as all households living in a particular region. Collective services are automatically acquired and consumed by all members of the community, or group of households, without any action on their part. By their nature, collective services cannot be sold to individuals on the market, and they are financed by government units out of taxation or other incomes (SNA 93, 9.43).

The characteristics of collective services may be summarised as follows:

- collective services can be distributed simultaneously to every member of the community, or of particular sections of the community;
- the use of such services is usually passive and does not require the explicit agreement or active participation of all the individuals concerned;
- the provision of a collective service to one individual does not reduce the amount available to the others in the same community or section of the community. There is no rivalry in acquisition (SNA 93, 9.83).

Actual collective final consumption corresponds to the actual final consumption of government units and is taken to be equal to the value of the expenditure they incur on collective services. Although collective services benefit the community, or certain section of the community, rather than the government, the actual consumption of these services cannot be distributed among individual households, or even among groups of households. It is therefore attributed to the same government units that incur the corresponding expenditure. Actual final consumption of government units is thus also equal to total final consumption expenditure of government less its expenditure on individual goods or services provided as social transfers in kind to households.

Note: Although NPISHs may provide services to groups of their members, the services are essentially individual rather than collective. In general, persons other than their members are excluded and derive no benefit from the services provided.

Therefore, all the services provided by NPISHs are by convention treated as individual (SNA 93, 9.85). All the goods and services covered by the final expenditure of NPISHs are therefore assumed to be provided to individual households as social transfers in kind. Actual collective final consumption here includes only the provision of collective health services such as the maintenance of public health.

D.3 Subsidies

Subsidies are current unrequited payments that government units make to enterprises on the basis of the levels of their production activities or the quantities or values of the goods or services which they produce, sell or import (SNA 93, 7.71). The SNA distinguishes subsidies on products (payable per unit of good or service) from other subsidies on production (not calculated per unit of good or services) often taking the form of regular transfers paid to cover persistent losses. It is important to recall that "subsidies do not include grants that governments may make to enterprises in order to finance their capital formation, such grants being treated as capital transfers" (SNA 93, 7.72).

Subsidies consist of regular transfers intended to compensate persistent losses as a result of charging prices which are lower than their average costs of production as a matter of deliberate government economic and social policy. In order to calculate the basic prices of the outputs of such enterprises, it is usually necessary to assume a uniform *ad valorem* implicit rate of subsidy on those outputs determined by the size of the subsidy as a percentage of the value of sales plus subsidy (SNA 93, 7.78).

Note: All transfers to public corporations and quasi-corporations operating in health care as non-market producers have to be reported under "Other current transfers" in the SHA, not under D.31 Subsidies. The term "subsidy" applies only to market producers.

D.5 Current taxes on income, wealth, etc.

D.51 Taxes on income

This item comprises taxes on incomes, profits and capital gains. They are assessed on the actual or presumed incomes of individuals, households, NPIs or corporations (SNA 93, 8.52).

Note: Normally, there are no income taxes "earmarked" for health. Government policy regarding income taxed on individual households can, however, indirectly influence household decisions on health care financing, *e.g.*, where tax deductions are granted to private households on private health insurance or direct out-of-pocket payment of health care services. For health policy analysis, this is an important piece of information and has therefore been integrated in the framework illustrated in Table 6.3.

D.61 Social contributions for health benefits

D.611 Employers' actual social contributions for health benefits

These are social contributions paid by employers to social security funds, insurance enterprises administering social insurance to secure social benefits for their employees. As employers' actual social contributions are made for the benefit of their employees their value is recorded as one of the components of compensation of employees together with wages and salaries in cash and in kind. The social contributions are then recorded as being paid by the employees as current transfers to the social security funds or insurance enterprises (SNA 93, 8.67).

Note: The accounts presented in the chapter use the SNA 93 distinction between employers' actual social contributions (D.6111); employees' actual social contributions (D.6112) and social contributions by self- and non-employed persons (D.6113) (see SNA 93, 8.68-9.74 for further explanations).

Although it is administratively more efficient for employers to pay the contributions on behalf of their employees, this must not be allowed to obscure the underlying economic reality. The payment made by the employer to the social security fund, insurance enterprise or autonomous pension fund, is not a current transfer by the employer. The transfer takes place between the employee and the social security fund, insurance enterprise or autonomous pension fund out of remuneration provided by the employer. It is customary to describe the employers' social contributions as being re-routed in the accounts *via* the employees' primary and secondary distribution of income accounts (SNA 93, 8.67).

For National Health Accounts a further breakdown of social contributions for health benefits into compulsory contributions and voluntary contributions would be a useful tool. This additional breakdown does not change the basic mechanism of the framework of Table 6.3 and has therefore been omitted in this manual.

D.612 Imputed social contributions for health benefits

These contributions correspond to social benefits provided directly by employers to their employees without creating a special fund (unfunded social insurance).

Note: See SNA 93, 8.71-8.74 for detailed accounting rules and recommendations on that item.

D.62 Social benefits other than social transfers in kind

This item comprises all health care social benefits that are either in cash or are not provided by social security funds. The SHA follows the SNA 93 recommendation to distinguish between social insurance benefits and social assistance benefits, and between benefits in cash and benefits in kind. The distinction between social security and other social insurance is an essential element of the ICHA-HF breakdown of sources of funding.

Note: The financial accounts of the SHA in its current version do not include health-related benefits in cash such as sickness leave or maternity leave, which would be recorded under the health-related function HC.R.7 and are not included in total current expenditure on health.

Two items under D.62 are therefore relevant for the SHA:

- social benefits in cash provided to private households as a support for home health care, and which can be considered a quasi-payment for corresponding household production;
- social insurance benefits of health care services and goods provided under private funded and unfunded social insurance to private households.

D.621 Social security benefits in cash

This item comprises social benefits in cash provided to private households as a support for home health care, and which can be considered a quasi-payment for corresponding household production.

Note: Sickness and invalidity benefits, maternity allowances are not recorded under this item as they are not part of the framework of transfers presented in this chapter.

D.622 Private funded social benefits

These are social insurance benefits of health care services and goods payable to households by insurance enterprises or other institutional units administering private funded social insurance (SNA 93, 8.79).

Note: Only benefits in kind will be recorded under this item. Reimbursements for employees' outlays on health care services should be treated in the SHA as benefits in kind, analogous to the treatment of social security benefits, reimbursements.

D.623 Unfunded employee social benefits
These are social benefits of health care services or goods provided by employers to their employees or their dependants by employers administering unfunded social insurance (SNA 93, 8.80).

Note: Only general medical services not related to the employee's work are included here. Services of occupational health care are recorded in the SHA under D.75 "Other current transfers".

Only benefits in kind will be recorded under this item. Reimbursements for employees' outlays on health care services, however, should be treated in the SHA as benefits in kind, analogous to the treatment of social security benefits, reimbursements in the SNA.

D.624 Social assistance benefits in cash
Social assistance benefits are current transfers payable to households by government units or NPISHs to meet the same needs as social insurance benefits but which are not made under a social insurance programme incorporating social contributions and social insurance benefits (SNA 93, 8.81-8.83).

Note: Examples are health care services reimbursements that are provided to persons which do not participate and are not eligible for the corresponding health care benefits under social insurance programmes. Included are additional benefits in certain instances for persons with partial coverage under social health care insurance.

D.63 Social transfers in kind

D.631 Social benefits in kind
These consist of individual goods and services provided as transfers in kind to individual households by government units (including social security funds) and NPISHs, whether purchased on the market or produced as non-market output by government units or NPISHs. They may be financed out of taxation, other government income or social security contributions, or out of donations and property income in the case of NPISHs (SNA 93, 8.99).

Note: If it is not possible to segregate the accounts of social security funds from those of other subsectors of government, it may be impossible to divide social benefits into those provided by social security and others. Social security benefits in kind are subdivided into two types: those where beneficiary households actually purchase the goods or services themselves and are then reimbursed, and those where the relevant services are provided directly to the beneficiaries (SNA 93, 8.99).

D.6311 Social security benefits, reimbursements
The reimbursement by social security funds of approved expenditure made by households on specified goods or services is a form of social benefit in kind (SNA 93, 8.101).

Note: Examples of expenditure that may be reimbursable are expenditure on medicines, medical or dental treatments, hospital bills, optometrists' bills, etc. The amount of the expenditure reimbursed is recorded as being incurred directly by the social security fund at the time the household makes the purchase, while the only expenditure recorded for the household is the difference, if any, between the purchaser's price paid and the amount reimbursed. Thus, the amount of the expenditure reimbursed is not treated as a current transfer in cash from the social security fund to households.

D.6312 Other social security benefits in kind
These consist of social transfers in kind, except reimbursements, made by social security funds to households (SNA 93, 8.103).

Note: Most of these are likely to consist of medical or dental treatments, surgery, hospital accommodation, spectacles or contact lenses, medical appliances or equipment, and similar goods or

services associated with the provision of health care. The services may be provided by market or non-market producers and should be valued accordingly. In both cases any nominal payments made by the householders themselves should be deducted (SNA 93, 8.103).

D.6313 Social assistance benefits in kind
Note: These consist of transfers in kind provided to households by government units or NPISHs that are similar in nature to social security benefits in kind but are not provided in the context of social insurance (SNA 93, 8.104).

D.632 Transfers of individual non-market goods and services

These consist of individual health care services and goods provided to private households free, or at prices which are not economically significant, by non-market producers of government units or NPISHs. Although some of the non-market services (in health) produced by NPISHs have some of the characteristics of collective services, all the non-market services produced by NPISHs are, for simplicity and by convention, treated as individual in nature (SNA 93, 8.105).

Note: Additional item to D.63: transfer of non-market occupational health services. These consist of occupational health services provided by employers to employees, free of charge. In the central system of SNA 93 they are accounted for as an internal intermediate consumption. For the purpose of a health satellite account, they are externalised and considered as a non-market output by employers and are included in households' actual final consumption.

D.7 Other current transfers

D.71 Net non-life insurance premiums

This consists of insurance premiums payable to private health and accident insurance minus service charges (SNA 93, 8.85).

Note: Accident insurance premiums should be included by a share of their insurance activities (insurance claims) that cover expenditure on health care services and goods.

D.72 Net non-life insurance claims

These transfers are the amounts payable in settlements of claims of health and accident insurance (SNA 93, 8.85).

Note: Accident insurance claims should be included by the share of an insurance corporation's activities (insurance claims) that cover expenditure on health care services and goods.

D.73 Current transfers within government

These consist of current transfers between different government units or different sub-sectors of general government. They include current transfers between different levels of government, such as frequently occur between central and state or local government units, and between government units and social security funds. They do not include transfers of funds committed to finance gross fixed capital formation, such transfers being treated as capital transfers (SNA 93, 8.90).

Note: These transfers can play an important role in health care financing. Their exact treatment so that they fit into the health accounting framework depends on the level of detail that is aimed at. The framework in Table 6.3 provides an example of a small country with two levels of government: central government and local government.

D.74 Current international co-operation

Current international co-operation consists of current transfers in cash or in kind between the governments of different countries or between governments and international organisations (SNA 93, 8.92).

Note: This includes transfers in kind in the form of medicines and the direct provision of health care services in a foreign country under, *e.g.*, international aid. Included are transfer payments to cover current expenditure on health in foreign countries that are channelled via government agencies in these countries.

D.75 Miscellaneous current transfers

These consist of all other different kinds of current transfers that are characteristic to health and that may take place between resident and non-resident units. Some of the more important are shown below (SNA 93, 8.93).

Provision of occupational health care
In accordance with the change of the production boundary of the SHA to include occupational health care in total current expenditure on health, the SHA includes occupational health care provided by employers under this item.

Current transfers to NPISHs
These are transfers in cash or kind received by NPISHs from other resident or non-resident institutional units in the form of membership dues, subscription, voluntary donations, etc., whether made on a regular or occasional basis. Such transfers are intended to cover the costs of non-market production of NPISHs or to provide the funds out of which current transfers may be made to resident or non-resident households in the form of social assistance benefits of health care services and goods. This includes transfers in kind in the form of gifts of medicine, etc., to charities for distribution to resident or non-resident households (SNA 93, 8.94).

Payments of compensation
These consist of current transfers paid by institutional units to other institutional units in compensation for injury to persons or damage to property caused by the former, excluding payments of non-life insurance claims. Payments of compensation could be either compulsory payments awarded by courts of law, or *ex gratia* payments agreed out of court (SNA 93, 8.98).

Note: This heading covers only compensation for injuries or damages caused by other institutional units. It also covers *ex gratia payments* made by government units or NPISHs in compensation for injuries or damages caused by natural disasters.

Other transfers related to health care
This list of transfers complement the toolbox presented here and could enter into more elaborate accounts. The recording of items, like taxes on products that are "earmarked" for health might give useful information for health policy analysis. They would fit into the system of financial accounts of Table 6.3 under various balancing items and could be recorded correspondingly as memorandum items.

For example, federal taxes "earmarked" for health such as certain taxes on alcohol or tobacco could be shown as memorandum item under corresponding transfers, *e.g.*, from general government to social security funds, if there is an explicit or implicit rule that these taxes should be used for financing social security funds. It is, however, important to understand that these additional items, though potentially influencing the behaviour of actors in the health care system, do not change the balancing items as they are defined here (Table 6.3 and the sector accounts in this annex). ■

7. PRICE AND VOLUME MEASUREMENT

INTRODUCTION

7.1. There is growing concern among policy-makers and statisticians that the difficult task of price and volume measurement in health care services needs more attention and that a greater share of statistical resources should be devoted to this task. Reported time series on health care prices are seriously deficient in many instances.

7.2. Health care has basic conceptual difficulties of price and volume measurement in common with other service industries, for instance, communication, computer and information services. The difficulties in price and volume measurement in health care are partly due to well-known fundamental measurement problems in service industries such as the definition of output, the appropriate choice of unit of measurement, and the monitoring of quality changes. Evidence from a number of recent studies suggests that substantial quality improvements in health care over the last two decades have been seriously underreported in real volume measurement [*e.g.*, Cutler, *et al.* (1996), Frank, *et al.* (1998)].

7.3. This chapter discusses some of the problems of current calculations of constant-price output of health care industries – services and goods – both for market and non-market production and comments on methodological problems of international price comparisons in this field. This chapter will skip the more technical parts of index numbers and concentrate on proposals of how to improve surveys on price and volume changes in health care services [see OECD (1996*e*) for a comprehensive review of various methods currently used for price measurement in health care services in OECD countries].

7.4. The chapter generalises methods that have been tested in several OECD countries which have launched projects to improve their countries' price and output measurement in health care industries, mainly by using directly measured output indicators. Results from these studies indicate that health care is an area where improved indica-

tors for price and output measurement are feasible where elaborate health information systems are in place.

THE ROLE OF VOLUME AND PRICE MEASUREMENT OF HEALTH CARE SERVICES

7.5. In many OECD countries, reported prices for health care services and goods have increased more rapidly than the price of other goods and services over the past two decades. In some instances, this excess of health care price inflation over the GDP deflator was an important argument underlying policies of budgeting or direct price control. Commonly used forecasting models of health expenditure for medium-term budgeting and planning usually have at their core a fundamental decomposition of expenditure growth into a volume and a price component.

7.6. The study of long-term impacts of health care services on the growth of service industries, overall economic productivity trends and relative prices also depends on the availability of reliable measures for price and volume in health care services and goods. Weaknesses in price and volume measurement of health care services have implications for the measurement of total GDP growth in real terms. Growth of real private household income might also be underestimated in countries where health care is an important component in the consumer price index (see Boskin *et al.*, 1996, for the USA). With some countries further advanced than others in replacing traditional price and volume estimates by new approaches, it may even be more difficult to compare productivity trends across countries.

MEASUREMENT OF CHANGES IN PRICE AND VOLUME IN THE FRAMEWORK OF THE SHA

7.7. Measurement of changes in price and volume can be analysed in the *System of Health Accounts* from two different perspectives depending on whether the primary aim is to measure changes in the volume of output or changes in purchasing power over some basket of final consumption goods and services.

7.8. For the first type of analysis, the System of National Accounts suggests a framework for compiling a consistent and integrated set of price and volume measures covering all flows of goods and services, as recorded in the supply and use tables (see Chapter 8, Tables 8.2 and 8.3 which cover the production and use side of health care within the total economy). For price and volume measurement, the production side of health care industries can be broken down into the categories shown in Table 7.1 according to major ICHA-HP (health care provider classification) categories with cross-reference to corresponding ISIC categories (see Chapters 4 and 10 for more detailed definitions of health care industries).

7.9. A second set of volume and price statistics for health care service industries contains "free standing" indices, such as consumer price indices. However, in this chapter it will be argued that the basic estimation strategies outlined below for measuring producer prices of

non-market and market production of health care services also provide an adequate starting point for measuring output and prices for a significant share of non-market services in health care, and also of health care services as part of the consumer price index (CPI).

Table 7.1. **Price and volume measurement for final use of output from various health care industries**

ICHA-HP code	Description	Industry is part of ISIC code	Non-market production	Market production
HP.1	Hospitals	8511	X	X
HP.2	Nursing and residential care facilities*	8519/8531	(X)	(X)
HP.3	Ambulatory health care	8512/8519	X	X
HP.4	Retail sale and other providers of medical goods	5231/5239/3311		X
HP.5	Public health services	8519	X	
HP.6	General health administration and insurance	7512/7530/6603	X	X
HP.9	(Rest of the economy)	(not part of medical industries)	(not part of medical industries)	(not part of medical industries)

* A majority of industries under HP.2 are secondary producers of health care services.

CURRENT SITUATION OF PRICE AND VOLUME MEASUREMENT

7.10. For market production in health the major problems and shortcomings of price measurement are:

- *fragmentation of services* into units of measurement that are of an input rather than an output type; examples are bed days in hospitals, fees for selected procedures that constitute only part of medical treatment;
- *use of regulated or administrated prices* from fee-for-service lists for selected procedures; distorted and volatile price movements are a frequent consequence of physicians performing more procedures to achieve similar medical results in order to obtain increased income under regulated prices, resulting in underestimation of actual price increases;
- inadequate treatment of *cost-sharing arrangements* of, *e.g.*, pharmaceuticals;
- relatively *small baskets* for the coverage of core health care services;
- inadequate surveys for determining weighting schemes;
- inadequate capturing of technological and therapeutical advances and *outdated baskets of services*;
- use of crude output measures such as number of visits to physicians, bed days.

7.11. For non-market production traditionally used estimation strategies focused on the following methods:

- the use of input or input price indicators as proxies for output (numbers employed, hours worked; wage indices; with/or without additional exogenous assumptions about

labour productivity trends);
- the use of composite indexes (mix of input and output indicators);
- the use of relevant CPI components for the deflation of non-market services.

PRICE AND OUTPUT MEASUREMENT FOR HEALTH CARE SERVICES: A PROPOSED STRATEGY

7.12. There is an emerging consensus that the use of input indicator methods is inadequate for price and volume measurement in non-market production of health care services. Indirect price measurement by constructing output indicators for volume measurement is seen as superior by researchers and statisticians in a growing number of countries. Consequently, this section focuses on suggestions for appropriate units of output for volume measurement. The following remarks on the definition of units of output are also relevant for the construction of price indices for market production.

Definition of the units of measurement

7.13. Fragmentation of services in the definition of output of health care has to be avoided. Instead, bundles of services that together constitute the treatment of an episode of illness can lead to more homogenous units of output that are better capable of tracking actual cost per treatment which, over time, may consist of a rapidly changing mix of services fostered by technological advances.

7.14. The cost-per-episode of illness approach has long been suggested as an alternative to traditional health care price indexes (Scitovski, 1967). Trial implementations along these lines show promising results (Australian Bureau of Statistics, 1997; and van Tuinen *et al.*, 1997). The further spread of this approach depends on the availability of case-based reporting systems, and on the integration of health care statistics into consistent and comprehensive information systems linking patient data with cost estimates.

7.15. Defining the treatment of an episode of illness as a statistical measurement unit has to take various parameters into account with the need for standard classification systems and patient information systems:
- the nature of the patient's underlying disorder (disease or impairment);
- the severity of cases (with/without complication);
- the patient's age and gender;
- the commonly performed interventions, resources and technology used (*e.g.*, type of surgery, physician's consultation, obstetric procedures, laboratory, etc.).

7.16. Diagnosis Related Groups (DRG) systems have been taken as the starting point for improved output indicators of non-market in-patient care in several recent pilot implementations (Australian Bureau of Statistics, 1997). There is a case for using prices for similarly defined bundles of services on the basis of correspondingly defined units of output and also for direct price measurement in market services.

7.17. The majority of recent proposals for improving the methodological underpinnings of health care price and volume indexes have concentrated on the production of hospitals, ambulatory care and medical goods.

Hospital care

7.18. For non-market production, treatment episodes as defined by DRG provide relatively uniform units of output for price and volume measurement. Unresolved questions pertain mainly to changes in quality over time. With a secular shift of treatment from hospital care towards ambulatory care, the remaining case-mix might consist of cases with increasing resource demands over time for all DRGs. Technological progress – especially in diagnostic procedures – can act in both ways. There may be increased numbers of cases detected at an early disease stage, thus reducing the average severity of cases, or, a more efficient pre-selecting of cases for non-hospital treatment might take place. This would leave a case-mix for hospital care that is more resource demanding.

7.19. Generally speaking, a basic problem of accurate price and volume measurement in health care is how to tackle the constant shift of some kinds of treatment from one provider industry to another. Among the most important examples are ambulatory surgery and the ambulatory treatment of major psychiatric disorders. These and related examples raise the question of whether the measurement of treatment episodes should stop at the production boundary between health care provider industries. Reduced resource utilisation (and shorter length of stay) in hospitals, *e.g.*, may be partly offset by increasing demand for health care in an ambulatory setting, such as improved drugs.

Other residential care

7.20. For non-market production, the numbers of cases and/or occupied beds are only rough indicators for output of nursing home-type facilities. The definition of case-mix is less developed for long-term care than for (acute) hospital care. The measurement of case-mix in nursing home care should include, besides age and gender, at least a basic scale for the help needed to perform activities of daily living (ADL-type categorisation).

Ambulatory health care

7.21. Ambulatory health care comprises a wide variety of rather heterogeneous industries (providers of care). In principle, the unit of measurement should again be a well-defined episode of treatment. The main difficulty for accurate price measurement of ambulatory care is in the fragmentation of services that constitute an episode of treatment. The number of patients, *e.g.*, is not a good proxy indicator for volume measurement.

Public health services and administration

7.22. The methodological foundation for defining volume measures for government administration and public health services is much weaker than that for health care services. Indicators such as numbers of forms processed or number of food inspections or number of vaccinations performed are far from being ideal indicators. From a public health perspective, one might argue that the number of procedures such as forms processed is not a "desired output" and should not be used as an indicator for increased productivity. The number of vaccinations, on the other hand, may be a closer proxy to an output indicator. Further study of volume and productivity measurement in health administration is needed before decisive progress can be made.

MEASUREMENT OF QUALITY CHANGES

7.23. Quality changes in health care services are difficult to monitor and presently go largely unrecorded. This is partly due to weaknesses in methodology. Besides the definition of quality measures, it is the separation of quality improvement from changing case-mix, and the standardisation of output for severity of patients treated (uniform units of measurement) which is difficult to achieve. There are, however, indicators that could serve at least as proxies for quality changes and which might not have been sufficiently exploited in price and volume measurement of health care services.

7.24. A list of examples for indicators of quality in health care are:

- rates of undesired outcome, such as:
  - recovery rates (average length of survival);
  - nosocomial infection rates;
  - number of re-admissions for selected in-patient treatments;
  - number of deaths during or following treatment;
- rates of adequately trained patients for optimal follow-up treatment, *e.g.* patient's compliance in dialysis treatment;
- rates of correct diagnosis of predominant illness (as confirmed by surgery, autopsy).

7.25. For measurement purposes, it has to be taken into account that these indicators are not independent of each other. An indicator like "length of stay for hospital treatment" is not a good proxy for quality changes, if taken for hospital output in isolation. Shorter length of stay is partly offset by more intensive utilisation of rehabilitative services (on an in-patient and out-patient basis) and/or more expensive treatment with pharmaceuticals in an out-patient setting.

OUTPUT VERSUS OUTCOME MEASUREMENT

7.26. A series of recent studies has attempted to adjust price movements of components of the CPI by measuring changes in outcomes of health care (Cutler, *et al.*, 1996 and Frank *et al.*,

1998). Widely used measures of outcome are indicators of gains in Quality Adjusted Life Years attributable to a specific treatment. There are several observations about this approach.

7.27. First, the SNA 93 explicitly distinguishes between outcome and output measurement in the context of the CPI, but the same arguments are relevant for non-market services:

> "The objective is to measure the quantities of services actually delivered to households. This should not be confused with the benefits derived from those services. The output of health services needs to be clearly distinguished from the health of the community. Indeed, one reason for trying to measure the output of health services may be to see the effect of an increase in the volume of health services on the health of the community. This obviously requires a measure of the volume of health services that is different from health itself. It is well-known that there are many factors such as sanitation, housing, nutrition, education, consumption of tobacco, alcohol and drugs, pollution, etc., whose collective impact on the health of the community may be far greater than that of the provision of health services." (SNA 93, para. 16.135-136)

7.28. Second, it has been argued that outcome in the sense of consequences of treatment on health status is only one among several aspects of quality. Other important aspects of quality that may not have a strong or direct impact on health status are accessibility of services and comfort (*e.g.* treatment of caries with or without local anaesthesia). Accessibility provides an example of possible conflicts between the goal of outcome maximisation and other quality criteria. For example, the concentration of specialised hospital care into large care units which treat a large number of similar cases may be an efficient way for improving outcomes while limiting accessibility.

A NOTE ON PURCHASING POWER PARITIES

7.29. For international price and volume comparisons in health care, many of the arguments presented in this chapter apply as well. There is an emerging consensus that output indicators are preferable to other ways of comparing prices in health care across countries. A proposal for the collection of market prices for a bundle of surgical procedures has recently been presented in the framework of the Eurostat-OECD Purchasing Power Parity Project. For the non-market sector of health care, the improvement of PPPs is currently under scrutiny.

8. THE SHA AND HEALTH SATELLITE ANALYSIS AND ACCOUNTS

8.1. A basic idea underlying this manual is that the accuracy and cross-national comparability of health expenditure estimates depend on precise definitions of the economic nature of underlying transactions and aggregates. Precise economic definitions furthermore help to avoid double counting as well as to prevent statistical omissions and thus foster the internal consistency of the framework. This is where a basic methodological compatibility with SNA accounting rules plays an important role. A certain degree of consistency between the central framework of the System of National Accounts and the SHA is also required for linking SHA statistics with other social and economic data. But this later aspect should not be the dominant one, as aggregate SNA statistics themselves may be of limited comparability, *e.g.* due to different coverage of the informal economy in the main aggregates.

8.2. The *System of Health Accounts* recommends for health accounting an economic framework and accounting rules, which are methodologically compatible with the System of National Accounts, 1993 Revision (SNA 93), wherever this is deemed appropriate (see the economic framework of expenditure definitions in Chapters 5 and 6).

8.3. This chapter explains the similarities in methodology and also the main differences between the SHA and health satellite accounts by explicitly referring to the SNA 93 recommendations on the construction of health satellite accounts (see SNA 93, Chapter XXI). The conceptual overlap of the System of Health Accounts (SHA) with health satellite accounts should become more transparent by this recast of SHA recommendations in technical terms of SNA 93. This chapter also builds a bridge between

SHA and health satellite accounts in order to assist developers of national health satellite accounts with guidelines.

8.4. Thus, this chapter has two purposes. First, it should help clarify and summarise the recommendations of the SHA regarding the appropriate degree of integration with the System of National Accounts from both a methodological point of view and from the point of view of optimal resource allocation in health statistics. Second, it provides explicit cross-references for specialists working on health satellite accounts in countries that decided to estimate health expenditure totals in such a framework. The chapter provides tools for researchers interested in satellite analysis.

8.5. In summary, the difference between the SHA and a health satellite account is not a fundamental one but rather lies in the priorities and the sequence of tasks to be tackled. The main difference between the SHA and health satellite accounts are the degree of integration of the underlying estimation systems and body of source statistics on which the SHA and health satellite accounts rest. The SHA estimates will make extensive use of all data sources available for analysing health care provision and financing whereas health satellite accounts in many cases have a focus on reconciling SNA input-output tables and core SNA aggregates with SHA aggregates. Although this reconciliation can be a powerful instrument to improve the quality of SNA estimates and also serve as additional quality check on SHA estimates, this is a resource demanding exercise that only few countries will be in a position to undertake in the near future.

WHAT ARE HEALTH SATELLITE ACCOUNTS?

8.6. The System of National Accounts (SNA) provides a comprehensive and consistent picture of the entire economy. Its recommendations on classifying activities, transactions, products, and institutions of the economy have been taken as starting points for the SHA framework of health accounting wherever this was deemed appropriate. Certain deficiencies with regard to health accounting have been identified in the central framework of the SNA 93.

8.7. Health accounting needs to aim at a more detailed look at health care industries and requires a certain degree of flexibility in applying SNA rules. With its concept of functionally-oriented satellite accounts, the SNA 93 provides a toolbox which extends core concepts of national accounting to serve the specific needs of socio-economic accounts for selected fields such as a nation's health care system.

8.8. To meet these requirements for health and other social fields (*e.g.* environmental protection, education, tourism) the authors of the SNA 93 included a Chapter XXI on "Functionally-oriented Satellite Accounts" with frequent references to health accounting.

Satellite accounts or systems generally stress the need to expand the analytical capacity of national accounting for selected areas of social concern in a flexible manner. Typically, satellite accounts or systems allow for:

- the provision of additional information on particular social concerns of a functional or cross-sector nature;
- the use of complementary or alternative concepts, including the use of complementary and alternative classifications and accounting frameworks, when needed to introduce additional dimensions to the conceptual framework of national accounts;
- extended coverage of costs and benefits of human activities;
- further analysis of data by means of relevant indicators and aggregates;
- linkage of physical data to data expressed in monetary terms.

Source: Adapted from SNA 93, para. 21.4

8.9. Important requirements for extending core concepts of SNA rules which apply to both health satellite accounts and the *System of Health Accounts* are (SNA 93, Chapter 21):

- the possibility to split joint products provided by an institutional unit into separate products (*e.g.*, social services combined with health care services);
- the possibility to separate occupational health that does not enter into final consumption in the central framework;
- a different treatment of subsidies to health care providers that go unrecorded in final consumption in the central framework;
- the need to add household production of long-term care which corresponds to certain types of social benefits in cash.

WHAT HAVE SHA AND HEALTH SATELLITE ACCOUNTS AND ANALYSIS IN COMMON?

8.10. This section illustrates how SHA terms can be translated into the framework used in a health satellite account. Two items are covered in more detail: the definition of specific goods and services and the production boundaries. The remaining points are summarised in Table 8.1. The detailed analysis of transfers and the identification of ultimate users and ultimate bearers of health expenses which are only sketched in the SNA 93 chapter on satellite accounts are dealt with in Chapter 6 of this manual.

Conceptual overlap of the SHA with health satellite accounts

8.11. The following steps are required in order to translate the economic framework of the SHA in terms of a health satellite account in a flexible way (SNA 93, para. 21.53, 21.54):

- a comprehensive listing of goods and services considered specific to the production of health care services (characteristic and connected);
- the determination of the boundary line of production to define total expenditure on health;
- the determination of activities for which capital formation will be recorded;

- the identification of specific transactions;
- the detailed analysis of transfers as an integrated part of health accounting;
- the identification of ultimate users and ultimate bearers of health expenses.

Specific goods and services

8.12. The starting point of the *System of Health Accounts* (SHA) is the definition of goods and services whose final consumption constitutes the core functions of a country's health care system. Analogously, the first step in designing a health satellite account is to define the goods and services specific to health (SNA, para. 21.61). Specific goods are further subdivided in the SNA recommendations into characteristic goods and connected goods. Characteristic goods and services are those of which the production side is studied in some detail, at least by cross-classifying goods and services and the institutions involved. The capital investment of these producers, the personnel they employ, etc., are to be analysed explicitly. In both the *System of Health Accounts*, and in health satellite accounts, these goods and services correspond to total expenditure on health.

8.13. *Connected goods and services* are those for which their conditions of production need not be monitored in detail. Corresponding outlays could be considered as expenditure on health in a wider sense for which the personnel employed is not considered as belonging to health care employment, nor is the investment into the producing units considered as investment into medical facilities. The corresponding item in the SHA are the functions HC.4, Ancillary services to health care and HC.5, Medical goods dispensed to out-patients.

The boundary line of production

8.14. The estimation of non-market products in the *System of Health Accounts* (SHA) (item 1.1.2 in Table 8.1) departs slightly from the treatment in the central framework of the SNA. In the *System of Health Accounts*, this item should include transfer payments to households with family members caring for patients at home (*e.g.* frail elderly people). These transfers are treated as quasi-salary and a corresponding "production value" should be calculated and included in total current health expenditure. Dependency allowances schemes provide transfers to households to cover a sizeable share of the costs of persons with severe functional mobility or cognitive handicaps.

Summary: expenditure totals in SHA and health satellite accounts

8.15. The consumption of specific goods and services corresponds to total current expenditure on health (minus occupational health care) in the *System of Health Accounts*. A separate reporting on market and non-market products is not of particular interest in the *System of Health Accounts* and therefore not included in the ICHA classification. This distinction is mainly required for estimation purposes.

Table 8.1. **Expenditure on health in health satellite accounts and in the SHA**

	Framework for components in satellite accounts (SNA 93, Table 21.1)	Expenditure components in the *System of Health Accounts* (SHA)
1	Consumption of specific goods and services	Total current expenditure on health (minus occupational health care)
1.1	Actual final consumption	
1.1.1	Market products	Market production of medical goods and services
1.1.2	Non-market products	Government and NPISH non-market production; household production of health care (quantified by transfer payments in the SHA)
1.2	Intermediate consumption	Occupational health care
1.2.1	Actual intermediate consumption	(does not apply to the SHA)
1.2.2	Internal intermediate consumption	Occupational health care
2	Capital formation in specific goods and services	(human investment: health status as a stock variable) (not integrated in the SHA)
3	Capital formation of characteristic activities in non-specific products	Investment into medical facilities
	Sum of items 1 to 3	Total expenditure on health
4	Specific current transfers (other than a counterpart of 1)	Health-related transfer payments (income maintenance in the form of cash-benefits to private households)
	Total uses of resident units	Total expenditure on health and health-related transfers to private households
6	Current uses of resident units financed by the rest of the world (less)	(covered in the SHA tables on flows of financing)
7	Capital uses of resident units financed by the rest of the world (less)	(not covered in the SHA)
	National expenditure on health	(no counterpart in the SHA)

DIFFERENCES BETWEEN THE SHA AND HEALTH SATELLITE ANALYSIS AND ACCOUNTS

8.16. Satellite accounts start from the definition of characteristic goods and services for the functionally defined field of study, investigate the production of these goods both in characteristic and other industries and identify the ultimate beneficiaries and sources of funding. Existing classifications for commodities, industries and sectors of the national economy are taken as a starting point in this process and used whenever this is deemed appropriate. Changes in the classifications used compared to the standard classifications that go along with the SNA 93 as well as changes in the definition of the boundaries of production are possible strategies in the construction of the satellite accounts as a flexible statistical instrument.

Differences in underlying information systems between the SHA and national accounts

8.17. The SHA follows the same sequence in the design of its accounts as described above. The situation in health accounting is, however, significantly different from that encountered by existing or currently developed systems of satellite accounts in areas such as environment, tourism, and agriculture for two main reasons:

- The definition of basic categories of commodities and functions of health care is largely uncharted territory. The Central Product Classification, *e.g.*, which is used in other accounting systems as a starting point, only provides categories of health care services that are defined in broad terms of health care service industries. The division of labour in providing health care across these health care industries varies, however, from country to country. Consequently, internationally comparable functions can hardly be derived from these largely circular definitions of health care services by industries.
- As health care is predominantly a public responsibility in OECD countries, health accounts have typically relied on administrative data with insufficient statistical resources devoted to the task of designing adequate surveys for standardised economic accounts. Research into health care services and health care service industries in a comprehensive way, as well as investigations into the socio-economic side of health care, have only recently attracted increasing funding in a growing number of OECD countries.

Should better statistics on the production side be a priority task in improving health care statistics?

8.18. To address the inadequacy of statistical resources in the area of health care services research, this manual suggests concentrating on the design of a clearly defined functional view on health care to complement traditional approaches which focused predominantly on institutional aspects. Improving health care statistics along these lines would strengthen the statistical foundation which is necessary for research into health care services – both in economic terms and for research – into the organisation of care, the resources available and their utilisation, both in monetary and non-monetary terms.

8.19. After this first step has been taken and corresponding classifications developed, tested and implemented on a pilot basis in several countries, the construction of a fully-fledged health satellite account could be desirable for some countries. Together with price indices for value added, already estimated in several OECD countries, productivity measures could then be constructed and monitored over time (as real per capita value added, real value added per full-time-equivalent personnel employed in health care services, etc.). The expansion of the SHA into a satellite account for health may be a desirable tool for health policy and structural economic analysis in a medium-term perspective. But estimating a complete picture of the value-added structure of health care production can be very cumbersome due to the heterogeneity of provider industries.

8.20. The following four additional accounts would provide extensions of the SHA relevant in the framework of a satellite account for health and for satellite analysis (see also the next section):

- production account and health care value added by health care industry;
- intermediate inputs to the production of health care industries by type of input;
- health care industries' gross capital stock;
- an input/output table of health care industries.

An illustrative economic model of supply and use in health care

8.21. For health satellite accounts, the production side of the economy can be divided into three kinds of activities: health care provider industries, other medical industries, other industries. Other medical industries are mainly acting as producers for intermediate consumption and for capital formation in the health care system, or for export. Part of final consumption in health care goods and services as well as part of intermediate products and gross capital formation is in turn imported. Expenditure of health care goods and services comprise both purchases and own final use. Own final use is non-market production by government and non-profit institutions serving households. Tables 8.2 and 8.3 translate the satellite input-output model outlined in the SNA 93 (Table 21.5) into an extension of the SHA that covers the production side.

8.22. Table 8.3 combines the production and use side of the health care system within the framework of the total national economy. This supply and use table shows the heterogeneity of the production process in medical service industries and the interaction of the institutional, functional and financing dimension of health accounts in the estimation process of total health.

8.23. Medical goods and services are produced both by the health care system (= institutionally-defined health care services industries), and by the rest of the economy. The producing units (institutions) of the health care system are those whose principal economic activity is the production of health care goods and services for final use (as part of private or government consumption). Part of total production of the health care system is exported.

8.24. A minor part of the production of health care service industries may, however, consist of intermediate products or non-health care products. In estimating total health expenditure, total gross production of the health care system will slightly differ from the sum of final consumption on health. University hospitals, *e.g.*, perform – besides providing health care – R&D and are involved in education and training of health personnel. Physicians in private practice may work part-time for hospitals, or for other office-based colleagues, in which case double-counting has to be avoided. Some office based physicians may work part-time for the pharmaceutical industry, publishers and the like – services that do not fall under functions of health care in the SHA. In addition, a small fraction of expenditure on health comprises sales of providers whose principal economic activity is distinct from

medical service functions. An example is sales of medical goods by retailers not specialised in medical goods.

8.25. The model in Tables 8.2 and 8.3 is illustrative only. As has been mentioned above, the input-output matrix of these two tables is not seen as a priority task in the framework of the SHA. The framework in these tables does, however, provide suggestions on how to check the consistency of statistics on expenditure flows of goods and services obtained from different statistical sources (surveys in health care provider industries, expenditure surveys, accounts of social insurance and government authorities, investment surveys, foreign trade statistics). Within this framework, it would be possible to calculate cross-checks for expenditure on health by comparing separate estimates for the production and for the use side of the accounts after the deduction of intermediate consumption and non-health-care production from total gross production. Inter-industry flows within medical service industries may be very small with the largest part of production going to final consumption.

8.26. The calculation of gross value added and its components would lead – together with the estimation of factor input (hours worked, amount and structure of capital) – to additional cross-checks and further insights into the cost-structure of health care production. These additional tables would lead to a full-fledged health satellite account.

Table 8.2. **SHA supply and use table (part 1)**

Resources	Total supply, purchasers' prices	Taxes on products minus subsidies on products*	Providers of health care services and goods					Other producers	Total economy	Imports of health care goods and services
			Total	Principal producers	Secondary producers	Occupational health care	Private households (home care)			
Goods and services supply:			Output							
Health care goods and services by function										
HC.1 Services of curative care										
HC.2 Services of rehabilitative care										
HC.3 Services of long-term nursing care										
HC.4 Ancilliary services to health care										
HC.5 Medical goods dispensed to out-patients										
Total supply of personal health care										
HC.6 Prevention and public health services										
HC.7 Health administration and health insurance										
Total supply of health care services and goods										
Other products										
Total										

(*): Including trade and transport margins which are of negligible magnitude for health care services and goods for final use.

Table 8.3. **SHA input-output table (part 2)**

Resources	Total uses in purchasers' prices	Taxes on products minus subsidies on products*	Providers of health care services and goods					Other producers	Total economy	Exports of health care goods and services	Final consumption expenditure			Gross capital formation
			Total	Principal producers	Secondary producers	Occupational health care	Private households (home care)				Households	NPISHs	Government	
Goods and services uses:			Intermediate consumption											
Health care goods and services by function														
HC.1 Services of curative care														
HC.2 Services of rehabilitative care														
HC.3 Services of long-term nursing care														
HC.4 Ancilliary services to health care														
HC.5 Medical goods dispensed to out-patients														
Total personal health care														
HC.6 Prevention and public health services														
HC.7 Health administration and health insurance														
Total health care services and goods														
Other products														
Total														
Total gross value added/GDP														
Compensation of employees														
Taxes on products														
Other taxes on production														
Subsidies on products														
Other subsidies on production														
Operating surplus, net														
Mixed income, net														
Consumption of fixed capital														
Operating surplus, gross														
Mixed income, gross														
Total														
Labour inputs														
Gross fixed capital formation														
Stock of fixed assets, net														

(*): Including trade and transport margins which are of negligible magnitude for health care services and goods for final use.

PART II
INTERNATIONAL CLASSIFICATION FOR HEALTH ACCOUNTS (ICHA)

9. ICHA-HC FUNCTIONAL CLASSIFICATION OF HEALTH CARE

Overview

9.1. The one-digit level of the functional classification (introduced in Chapter 3) is extended in this chapter by items at the two- and the three-digit level (Table 9.1) complemented by explanatory notes. The development of a fine structure of functions of health care at the three-digit level and beyond is, however, still experimental (see also the recommended additional dimensions for reporting under various functions of personal care that are outlined in Chapter 3, Table 3.2 and 3.3).

9.2. Annex 9.1 to this chapter discusses selected boundary issues of health care. Cross-classifications of the ICHA-HC with the functional classifications in the System of National Accounts are provided in Annex 9.2 to encourage the reconciliation of health accounting with the System of National Accounts and its accompanying classifications. A cross-classification of public health functions of the ICHA-HC is presented in Annex 9.3.

Functions of personal health care

9.3. Functions of personal health care comprise functions HC.1 to HC.5. These are services and goods that can be directly allocated to individuals as distinct from services provided to society at large (HC.6, Prevention and public health services; and HC.7, Health administration and health insurance). Functions of personal health care are both classified by *basic functions of care* (curative, rehabilitative and long-term nursing care) and by *mode of production* (in-patient, day care, out-patient, home care).

Curative, rehabilitative and long-term nursing care

9.4. The basic criterion for classifying health care services is the *type of episode of care* provided (curative, rehabilitative and long-term nursing care). Definitions developed by the Australian Health Data Committee, and by the US Joint Commission on Accreditation of Healthcare Organisations have been used as a model.

Modes of production

9.5. The following definitions of *mode of production* are used throughout the ICHA-HC classification for defining categories of personal health care services at the two-digit level.

In-patient care

9.6. An *in-patient* is a patient who is formally admitted (or "hospitalised") to an institution for treatment and/or care and stays for a minimum of one night in the hospital or other institution providing in-patient care. In-patient care is mainly delivered in hospitals, but partially also in nursing and residential care facilities or in establishments that are classified according to their focus of care under the ambulatory-care industry but perform in-patient care as a secondary activity. It should be noted that the term "in-patient" used in the SHA has a wider meaning compared to some national reporting systems where this term is limited to in-patient care in hospitals. Included are services delivered to in-patients in prison and army hospitals, tuberculosis hospitals, and sanatoriums. In-patient care includes accommodation provided in combination with medical treatment when the latter is the predominant activity provided during the stay as an in-patient.

9.7. Providing patients and patients' relatives with accommodation is considered an integral part of in-patient care. The hotel function of hospital care becomes apparent when patients are transferred to post-acute hospital wards or "hostels" providing less intensive and limited health care but which are functionally integrated in the provision of hospital care.

9.8. A stay in "hotel wards" is part of the therapeutic course and warrants to be recorded under total expenditure on health. This includes the hosting of patients' relatives whose presence is an indispensable part of therapy, for example in the case of severe treatment episodes of children; in particular those performed in highly specialised hospitals far away from the patient's hometown. In the case of developing countries the imputed or actual cost of services performed by patients' relatives in hospitals – including cooking, basic nursing care, and cleaning – would be included under this heading.

9.9. On the other hand, accommodation in institutions providing social services, where health care is an important but not predominant component should not be included in the health function. Examples might include institutions such as homes for disabled persons, nursing homes, and residential care for substance abuse patients.

Day care

9.10. Day care comprises medical and paramedical services delivered to patients that are formally admitted for diagnosis, treatment or other types of health care with the intention of discharging the patient on the same day. An episode of care for a patient who is admitted as a day-care patient and subsequently stays overnight is classified as an overnight stay or other in-patient case. Services for non-admitted patients that are extended to formal admission for day-care are considered as day care. A day patient (or "same-day patient") is usually admitted and then discharged after staying between 3 and 8 hours on the same day. Day care is usually performed in institutions or wards specialised for this kind of care (for example elective surgery).

Out-patient care

9.11. This item comprises medical and paramedical services delivered to out-patients. An out-patient is not formally admitted to the facility (physician's private office, hospital out-patient centre or ambulatory-care centre) and does not stay overnight. An out-patient is thus a person who goes to a health care facility for a consultation/treatment, and who leaves the facility within several hours of the start of the consultation without being "admitted" to the facility as a patient. It should be noted that the term "out-patient" used in the SHA has a wider meaning compared to some national reporting systems where this term is limited to care in out-patient wards of hospitals. In the SHA, all visitors to ambulatory care facilities that are not day cases or over-the-night cases, are considered out-patients.

Home care

9.12. This item comprises medical and paramedical services delivered to patients at home. It excludes the consumption of medical goods (pharmaceuticals, other medical goods) dispensed to out-patients as part of private household consumption. Included are obstetric services at home, home dialysis, telematic services and the like.

Table 9.1. **ICHA-HC classification of functions of health care: three-digit level**

ICHA code	Functions of health care
HC.1	Services of curative care
HC.1.1	In-patient curative care
HC.1.2	Day cases of curative care
HC.1.3	Out-patient curative care
HC.1.3.1	Basic medical and diagnostic services
HC.1.3.2	Out-patient dental care
HC.1.3.3	All other specialised health care
HC.1.3.9	All other out-patient curative care
HC.1.4	Services of curative home care
HC.2	Services of rehabilitative care
HC.2.1	In-patient rehabilitative care
HC.2.2	Day cases of rehabilitative care
HC.2.3	Out-patient rehabilitative care
HC.2.4	Services of rehabilitative home care
HC.3	Services of long-term nursing care
HC.3.1	In-patient long-term nursing care
HC.3.2	Day cases of long-term nursing care
HC.3.3	Long-term nursing care: home care
HC.4	Ancillary services to health care
HC.4.1	Clinical laboratory
HC.4.2	Diagnostic imaging
HC.4.3	Patient transport and emergency rescue
HC.4.9	All other miscellaneous ancillary services
HC.5	Medical goods dispensed to out-patients
HC.5.1	Pharmaceuticals and other medical non-durables
HC.5.1.1	Prescribed medicines
HC.5.1.2	Over-the-counter medicines
HC.5.1.3	Other medical non-durables
HC.5.2	Therapeutic appliances and other medical durables
HC.5.2.1	Glasses and other vision products
HC.5.2.2	Orthopaedic appliances and other prosthetics
HC.5.2.3	Hearing aids
HC.5.2.4	Medico-technical devices, including wheelchairs
HC.5.2.9	All other miscellaneous medical durables
HC.6	Prevention and public health services
HC.6.1	Maternal and child health; family planning and counselling
HC.6.2	School health services
HC.6.3	Prevention of communicable diseases
HC.6.4	Prevention of non-communicable diseases
HC.6.5	Occupational health care
HC.6.9	All other miscellaneous public health services

Table 9.1. **ICHA-HC Classification of functions of health care** (cont.)

ICHA code	Functions of health care
HC.7	Health administration and health insurance
HC.7.1	General government administration of health
HC.7.1.1	General government administration of health (except social security)
HC.7.1.2	Administration, operation and support activities of social security funds
HC.7.2	Health administration and health insurance: private
HC.7.2.1	Health administration and health insurance: social insurance
HC.7.2.2	Health administration and health insurance: other private

ICHA code	Health-related functions
HC.R.1	Capital formation of health care provider institutions
HC.R.2	Education and training of health personnel
HC.R.3	Research and development in health
HC.R.4	Food, hygiene and drinking water control
HC.R.5	Environmental health
HC.R.6	Administration and provision of social services in kind to assist living with disease and impairment
HC.R.7	Administration and provision of health-related cash-benefits

EXPLANATORY NOTES TO THE ICHA-HC CLASSIFICATION OF FUNCTIONS

HC.1 Services of curative care

This item comprises medical and paramedical services delivered during an episode of curative care. An *episode of curative care* is one in which the principal medical intent is to relieve symptoms of illness or injury, to reduce the severity of an illness or injury or to protect against exacerbation and/or complication of an illness and/or injury which could threaten life or normal function.

Includes: obstetric services; cure of illness or provision of definitive treatment of injury; the performance of surgery; diagnostic or therapeutic procedures.

Excludes: palliative care.

HC.1.1 In-patient curative care

In-patient curative care comprises medical and paramedical services delivered to in-patients during an episode of curative care for an admitted patient.

Includes: overnight stays. During an *overnight stay*, in-patients leave the hospital or other institutions the day following the day of admission but usually not less than twelve hours after admission.

Note: the SHA suggests to further disaggregated this category by ICD and DRG groups, where available (see Chapter 3, Table 3.3).

HC.1.2 Day cases of curative care

Services of curative day care comprise medical and paramedical services delivered to day-care patients

during an episode of curative care such as ambulatory surgery, dialysis, and oncological care.

Includes: ambulatory surgery day care, which is all elective invasive therapies provided, under general or local anaesthesia, to day-care patients whose post-surveillance and convalescence stay requires no overnight stay as an in-patient.

Note: for countries using ICD-9-CM coding (International Classification of Disease, Clinical Modification), surgical procedures are defined by the codes 01 to 86. Ambulatory surgery procedures constitute a subclass of surgery amenable to ambulatory care.

HC.1.3 Out-patient curative care

Services of out-patient curative care comprise medical and paramedical services delivered to out-patients during an episode of curative care. Out-patient health care comprises mainly services delivered to out-patients by physicians in establishments of the ambulatory health care industry. Out-patients may also be treated in establishments of the hospital industry, for example in specialised out-patient wards, and in community or other integrated care facilities.

HC.1.3.1 Basic medical and diagnostic services
This item comprises services of medical diagnosis and therapy that are common components of most medical encounters and that are provided by physicians to out-patients. These include routine examinations, medical assessments, prescription of pharmaceuticals, routine counselling of patients, dietary regime, injections and vaccination (only if not covered under public-health prevention programmes). They can be part of initial medical attention and consultation or of follow-up contacts. Routine administrative procedures like filling in and updating patients' records are usually an integral part of basic medical services.

Excludes: home visits by general practitioners and primary care physicians; paramedical services prescribed by physicians and performed under their own responsibility by paramedical professionals, either in their own practice or in a setting affiliated with physicians, or group practices.

Note: most items under Section 5 (Therapeutic Procedures) and many of the items of Section 8 (Clinical and Administrative Services) of the IC-Process-PC fall under this category (see IC-Process-PC, 1986). Exceptions to this rule are physical therapy (IC-Process-PC, 55), reproductive and urologic system procedures (56), obstetrical procedures (57) and psychological counselling/assessment and health education (82, 84).

Basic medical services are distinct from more specialised services in that they can typically be performed without using sophisticated medical equipment. When medical records do not allow for a separation of activities by physicians into the components defined under HC.1.3, a separation of services according to professions should be used as a first approximation.

HC.1.3.2 Out-patient dental care
This item comprises dental medical services (including dental prosthesis) provided to out-patients by physicians. It includes the whole range of services performed usually by medical specialists of dental care in an out-patient setting such as tooth extraction, fitting of dental prosthesis and dental implants.

Note: dental prostheses are treated in the SHA as intermediate products to the production of services of dental care and thus are always included under expenditure on dental care.

HC.1.3.3 All other specialised health care
This item comprises all specialised medical services provided to out-patients by physicians other

than basic medical and diagnostic services and dental care. Included are mental health and substance abuse therapy and out-patient surgery.

HC.3.1.9 All other out-patient curative care
This item comprises all other miscellaneous medical and paramedical services provided to out-patients by physicians or paramedical practitioners. Included are services provided to out-patients by paramedical professionals such as chiropractors, occupational therapists, and audiologists. Included are also paramedical mental health and substance abuse therapy, and speech therapy. This item includes paramedical traditional health care services.

Includes: diagnostic physical therapy, physical therapy exercise and other therapeutical procedures, such as hydrotherapy and heat therapy; orthotic and prosthetic care; attention to wounds; osteopathic treatment; speech therapy; training and medical rehabilitation for the blind.

HC.1.4 Services of curative home care

This item comprises all medical and paramedical curative services provided to patients at home.

Note: this includes home visits to provide curative care, including diagnostic procedures by general practitioners; specialised services such as home dialysis; obstetric services; telematic services. When curative home care is provided in combination with social services such as homemaking or "meals on wheels", these services should be recorded separately as they are not part of expenditure on health in the definition of the SHA.

HC.2 Services of rehabilitative care

This item comprises medical and paramedical services delivered to patients during an episode of rehabilitative care. Rehabilitative care comprises services where the emphasis lies on improving the functional levels of the persons served and where the functional limitations are either due to a recent event of illness or injury or of a recurrent nature (regression or progression). Included are services delivered to persons where the onset of disease or impairment to be treated occurred further in the past or has not been subject to prior rehabilitation services.

Note: rehabilitative care is generally more intensive than traditional nursing facility care and less than acute (curative) care. It requires frequent (daily to weekly) recurrent patient assessment and review of the clinical course and treatment plan for a limited (several days to several months) time period, until a condition is stabilised or a pre-determined treatment course is completed.

HC.2.1 In-patient rehabilitative care

This item comprises medical and paramedical services delivered to in-patients during an episode of rehabilitative care for an admitted patient.

HC.2.2 Day cases of rehabilitative care

This item comprises medical and paramedical services delivered to day-care patients during an episode of rehabilitative care.

HC.2.3 Out-patient rehabilitative care

This item comprises medical and paramedical services delivered during an episode of rehabilitative care to out-patients.

HC.2.4 Services of rehabilitative home care

This item comprises medical and paramedical services delivered to patients at home during an episode of rehabilitative care.

HC.3 Services of long-term nursing care

Long-term health care comprises ongoing health and nursing care given to in-patients who need assistance on a continuing basis due to chronic impairments and a reduced degree of independence and activities of daily living. In-patient long-term care is provided in institutions or community facilities. Long-term care is typically a mix of medical (including nursing care) and social services. Only the former is recorded in the SHA under health expenditure.

HC.3.1 In-patient long-term nursing care

This item comprises nursing care delivered to in-patients who need assistance on a continuing basis due to chronic impairments and a reduced degree of independence and activities of daily living. In-patient long-term nursing care is provided in institutions or community facilities. Long-term care is typically a mix of medical and social services. Only health care services are recorded in the SHA under personal health care services.

Includes: long-term health care for dependent elderly patients. This includes respite care and care provided in homes for the aged by specially trained persons, where medical nursing care is an important component. This type of care can be provided in combination with social services that should, however, be recorded separately, as they are not part of expenditure on health in the SHA.

This includes hospice or palliative care (medical, paramedical and nursing care services to the terminally ill, including the counselling for their families). Hospice care is usually provided in nursing homes or similar specialised institutions.

Also included is in-patient long-term nursing care for mental health and substance abuse patients where the care need is due to chronic or recurrent psychiatric conditions as defined by the list provided in ICD-9-CM, code 94.

HC.3.2 Day cases of long-term nursing care

This item comprises nursing care delivered to day cases of patients who need assistance on a continuing basis due to chronic impairments and a reduced degree of independence and activities of daily living. Day-care nursing care is provided in institutions or community facilities.

Includes: day cases of long-term nursing care for dependent elderly patients.

HC.3.3 Long-term nursing care: home care

This item comprises ongoing medical and paramedical (nursing) health care provided to patients who need assistance on a continuing basis due to chronic impairments and a reduced degree of independence and activities of daily living. This type of home care can include social services such as homemaking and "meals on wheels" which should, however, be recorded separately, as they are not part of expenditure on health.

HC.4 Ancillary services to health care

This item comprises a variety of services, mainly performed by paramedical or medical technical personnel with or without the direct supervision of a medical doctor, such as laboratory, diagnosis imaging and patient transport.

HC.4.1. Clinical laboratory

This item covers the following services: urine, physical and chemical tests, blood chemistry, automated blood chemistry profiles, haematology, immunology, faeces, microbiologic cultures, microscopic examination, specialised cytology and tissue pathology, all other miscellaneous laboratory tests.

Note: this list is based on agreements reached under ICPM and IC-Process-PC, and comprises the families of clinical and pathology tests as listed in the IC-Process-PC (IC-Process-PC, 1986, Section 2). An alternative list is provided by ICD-9-CM: 90 Microscopic examination-I, 91 Microscopic examination-II.

HC.4.2. Diagnostic imaging

This item comprises diagnostic imaging services provided to out-patients.

Note: Diagnostic imaging comprises the following items described in the ICD-9-CM procedure component: 87 Diagnostic radiology, 88 Other diagnostic radiology and related techniques. The corresponding sub-headings given in the IC-Process-PC (IC-Process-PC, 1986, Section 3) are: Plain X-ray, bone; Soft tissue imaging, plain (excluding nuclear scanning, nuclear magnetic resonance, ultrasound); Contrast X-rays or photoimaging; Computerised tomography and nuclear magnetic imaging; Nuclear scanning; Diagnostic ultrasound; All other miscellaneous diagnostic imaging (arteriography using contrast material, angiocardiography, phlebography, thermography, bone mineral density studies).

HC.4.3 Patient transport and emergency rescue

This item comprises transportation in a specially-equipped surface vehicle or in a designated air ambulance to and from facilities for the purposes of receiving medical and surgical care. It also includes transportation in conventional vehicles, such as taxi, when the latter is authorised and the costs are reimbursed to the patient (*e.g.* for patients undergoing renal dialysis or chemotherapy).

Includes: emergency transport services of public fire rescue departments or defence that operate on a regular basis for civilian emergency services (not only for catastrophe medicine).

HC.4.9 All other miscellaneous ancillary services

This item comprises all other miscellaneous ancillary services to health care.

HC.5 Medical goods dispensed to out-patients

This item comprises medical goods dispensed to out-patients and the services connected with dispensing, such as retail trade, fitting, maintaining, and renting of medical goods and appliances. Included are services of public pharmacies, opticians, sanitary shops, and other specialised or non-specialised retail traders including mail ordering and teleshopping.

Note: the group of goods covered comprises essentially the products listed in the Classification of Individual Consumption by Purpose (COICOP, United Nations, 1998*b*) under 06.1, Medical products, appliances and equipment (see Annex A.6 to this manual).

This group covers medicaments, prostheses, medical appliances and equipment and other health related products provided to individuals, either with or without a prescription, usually from dispensing chemists, pharmacists or medical equipment suppliers and intended for consumption or use by a single individual or household outside a health facility or institution.

With COICOP being a one-dimensional classification, not primarily designed for the purposes of health accounting, a different regrouping was chosen for the proposed ICHA-HC. Renting and repair of therapeutic appliances and equipment is reported under the corresponding categories of goods. Also included is the service of dispensing medical goods, fitting of prostheses and services

like eye tests, in those cases where these services are performed by specially trained retail traders and not by medical professions.

Following COICOP recommendations, the following items are *excluded*: protective goggles, belts and supports for sport; veterinary products; sun-glasses not fitted with corrective lenses; medicinal soaps. The COICOP classifies all the medical products listed above as non-durables, whereas in several National Health Accounts, "Durable medical goods" are distinguished from consumable or disposable products.

Excludes: pharmaceuticals, prostheses, and other medical and health-related goods supplied to in-patients and day-care patients or products delivered to out-patients as part of treatment provided within the facilities of ambulatory care.

HC.5.1 Pharmaceuticals and other medical non-durables

This item comprises pharmaceuticals such as medicinal preparations, branded and generic medicines, drugs, patent medicines, serums and vaccines, vitamins and minerals and oral contraceptives.

HC.5.1.1 Prescribed medicines
Prescribed medicines are medicines, exclusively sold to customers with a medical voucher, irrespective of whether it is covered by public or private funding and include branded and generic products. In the SHA, this includes the full price with a breakdown for cost-sharing.

HC.5.1.2 Over-the-counter medicines
Over-the-counter medicines (OTC medicines) are classified as private households' pharmaceutical expenditure of non-prescription medicines.

Note: non-prescription medicines are often called over-the-counter (OTC). They may be included in physician prescriptions, though not reimbursed.

HC.5.1.3 Other medical non-durables
This item comprises a wide range of medical non-durables such as bandages, elastic stockings, incontinence articles, condoms and other mechanical contraceptive devices.

HC.5.2 Therapeutic appliances and other medical durables

This item comprises a wide range of medical durable goods such as glasses, hearing aids and other medical devices.

HC.5.2.1 Glasses and other vision products
This item comprises corrective eye-glasses and contact lenses as well as the corresponding cleansing fluid and the fitting by opticians.

HC.5.2.2 Orthopaedic appliances & other prosthetics
This item comprises orthopaedic appliances and other prosthetics: orthopaedic shoes, artificial limbs and other prosthetic devices, orthopaedic braces and supports, surgical belts, trusses and supports, neck braces.

Excludes: implants (HC.1, Curative care).

HC.5.2.3 Hearing aids
This item comprises all kinds of removable hearing aids (including cleaning, adjustment and batteries).

Excludes: audiological diagnosis and treatment by physicians (HC.1.3.3); implants (HC.1, Curative care); audiological training (HC.1.3.9).

HC.5.2.4 Medico-technical devices, incl. wheelchairs
This item comprises a variety of medico-technical devices such as wheelchairs (powered and unpowered) and invalid carriages.

HC.5.2.9 All other miscellaneous medical durables
This item comprises a wide variety of miscellaneous durable medical products not elsewhere classified such as blood pressure instruments.

Includes: specialised telematic equipment for emergency calls from the patient's home and/or for the remote monitoring of medical parameters.

Excludes: automatic staircase lifts; bathtub lifts and similar devices for adapting the housing situation of patients with transitory or chronic impairments.

Note: the above list corresponds to recommendations in COICOP (United Nations, 1998*b*).

HC.6 Prevention and public health services

Prevention and public health services comprise services designed to enhance the health status of the population as distinct from the curative services, which repair health dysfunction. Typical services are vaccination campaigns and programmes.

Note: prevention and public health functions included in the ICHA-HC do not cover all fields of public health in the broadest sense of a cross-functional common concern for health matters and public actions. Some of these broadly defined public health functions, such as emergency plans and environmental protection, are not part of expenditure on health. The most important of these public health functions are classified under various health-related functions in the ICHA-HC. A cross-classification of public health functions according to a broad WHO list of Essential public health functions [EPHFs, Bettcher (1998)] with ICHA-HC and COFOG (United Nations, 1998*b*) is provided in Annex 9.3 of this chapter.

HC.6.1 Maternal and child health; family planning and counselling

Maternal and child health covers a wide range of health care services such as genetic counselling and prevention of specific congenital abnormalities, prenatal and postnatal medical attention, baby

Table 9.2. **Maternal and child health in the ICPM**

ICPM code	Description
4.20	Prenatal screening investigation
4.21	Neonatal screening for abnormality
4.22	Other infancy screening examination
4.23	Childhood screening examination
(4-60 to 4.72)	Maternal and child health care
4.60	Initial ambulatory medical attention, current pregnancy
4.61	Initial medical ambulatory attention after delivery
4.62	Subsequent medical ambulatory, current pregnancy
4.63	Public health nurse (prenatal/postnatal care)
4.65	Contraceptive procedures
4.66	Eugenic procedures
4.67	Child medical guidance
4.69	Participation in other health activities of maternal and child care
4.70	Premature care at home
4.71	Well-baby health care
4.72	Pre-school child health care

Source: ICPM (WHO, 1978, Chapter 4).

health care, pre-school and school child health, and vaccinations.

Note: an illustration of the range of activities covered under this item is provided by the cross-classification with ICPM presented in Table 9.2.

HC.6.2 School health services

This item comprises a variety of services of health education and screening (for example, by dentists), disease prevention, and the promotion of healthy living conditions and lifestyles provided in school. This includes basic medical treatment if provided as an integral part of the public health function, such as dental treatment.

Includes: interventions against smoking, alcohol and substance abuse.

Excludes: vaccination programmes (HC.6.3).

HC.6.3 Prevention of communicable diseases

This item comprises compulsory reporting and notification of certain communicable diseases and epidemiological enquiries into communicable disease; efforts to trace possible contacts and origin of disease; prevention of tuberculosis and tuberculosis control (including systematic screening of high risk groups); immunisation/vaccination programmes (compulsory and voluntary); vaccination under maternity and child health care.

Excludes: vaccination for occupational health (HC.6.5); vaccination for travel and tourism on the patients' own initiative (HC.1.3.1).

HC.6.4 Prevention of non-communicable diseases

This item comprises public health services of health education, disease prevention, and the promotion of healthy living conditions and lifestyles such as services provided by centres for disease surveillance and control; and programmes for the avoidance of risks incurred and the improvement of the health status of nations even when not specifically directed towards communicable diseases.

Includes: interventions against smoking, alcohol and substance abuse such as anti-smoking campaigns; activities of community workers; services provided by self-help groups; general health education and health information of the public; health education campaigns; campaigns in favour of healthier life-styles, safe sex, etc.; information exchanges: *e.g.* alcoholism, drug addiction.

Excludes: public health environmental surveillance and public information on environmental conditions.

Note: health promotion and disease prevention presents a difficult boundary issue for which no international classification exists. The boundaries drawn in National Health Accounts are usually linked to the identification of specific programmes of screening and health check-ups with a legally or administratively defined, limited coverage reimbursed separately under public or private health programmes. Examples are screening of blood pressure, diabetes, and certain forms of cancer, dental health, and "health check-ups".

Prevention is, in many instances, a reason for encounter in primary care and not a separate procedure. This means that the same procedure (for example, many diagnostic procedures) can be either performed as preventive measures for screening purposes or as diagnostic procedures in the case of an acute health problem. The criterion for including services under this item is whether prevention is provided as a social programme (public or private, including occupational health) or is requested on the patient's own initiative.

HC.6.5 Occupational health care

Occupational health care comprises a wide variety of health services such as surveillance of employee health (routine medical check-ups) and therapeutic care (including emergency health care services) on or off-business premises (including government and non-profit institutions serving households). This excludes, however, remuneration-in-kind of health services and goods that constitute household actual final consumption rather than intermediate consumption of business.

Note: occupational health care corresponds to class 05.2: Health in the Classification of the Outlays of Producers by Purpose (United Nations, 1998*b*) applied to intermediate consumption of producers. Occupational health care is an intermediate consumption within the business sector.

Occupational health care is only part of a broader range of activities that aim at improving the working environment in its relation to health. Occupational health activities to improve ergonomy, safety and health and environmental protection at the workplace, accident prevention, etc., should be distinguished from occupational health care. They are not to be recorded under health care activities in the SHA.

HC.6.9 All other miscellaneous public health services

This item comprises a variety of miscellaneous public health services, such as operation and administration of blood and organ banks, and the preparation and dissemination of information on public health matters not classified elsewhere.

Includes: public health environmental surveillance and public information on environmental conditions.

HC.7 Health administration and health insurance

Health administration and health insurance are activities of private insurers and central and local authorities, and social security. Included are the planning, management, regulation, and collection of funds and handling of claims of the delivery system.

HC.7.1 General government administration of health

HC.7.1.1 General government administration of health (except social security)

This item comprises a variety of activities of overall government administration of health that cannot be assigned to HC.1-HC.6: activities such as formulation, administration, co-ordination and monitoring of overall health policies, plans, programmes and budgets (COFOG, class 07.6).

Includes: preparation and enforcement of legislation and standards for the provision of health services, including the licensing of medical establishments and medical and paramedical personnel; production and dissemination of general information, technical documentation and statistics on health (other than those classified under HC.6, Prevention and public health).

Excludes: compilation of health statistics by a central statistical agency (COFOG, division 01, General Public Services); administration of public security; law and order activities; fire service activities; defence activities; road traffic control (COFOG, division 03, Public Order and Safety).

HC.7.1.2 Administration, operation and support activities of social security funds

This item comprises the administration, operation and support of social security funds covering health services. Social security funds are defined in Chapters 6 and 11 on the financing of health care.

HC.7.2 Health administration and health insurance: private

HC.7.2.1 Health administration and health insurance: social insurance

This item comprises the administration and operation of private social health insurance. Private social insurance is defined in Chapters 6 and 11 on the financing of health care.

HC.7.2.2 Health administration and health insurance: other private

This item comprises the administration and operation of all other private health and accident insurance including private for-profit insurance (as defined in Chapters 6 and 11 on the financing of health care).

HC.R. Health-related functions

HC.R.1 Capital formation of health care provider institutions

This item comprises gross capital formation of domestic health care provider institutions excluding those listed under HP.4, Retail sale and other providers of medical goods.

HC.R.2 Education and training of health personnel

This item comprises government and private provision of education and training of health personnel, including the administration, inspection or support of institutions providing education and training of health personnel. This corresponds to post-secondary and tertiary education in the field of health (according to ISCED-97 code) by central and local government, and private institutions such as nursing schools run by private hospitals.

Note: if properly accounted for, education and training of health personnel is not an overlapping function between health and education. In teaching hospitals, for example, it would be desirable to have separate budgets for care provided, R&D, and for training. Where detailed accounts are missing, statistical practice as designed for UNESCO/OECD/Eurostat data collections on education and training is an alternative option (UNESCO/OECD/Eurostat, 1995).

Education and training of health personnel takes place mainly at ISCED-levels 5 (non-university degree tertiary level) to 7 (university tertiary level of education, leading to a second or further university degree or equivalent). The following institutions are involved:

- paramedical schools (ISCED 5);
- undergraduate schools in medical/paramedical departments (ISCED 6);
- graduate schools in medical/biomedical departments (ISCED 7).

Medical education and training corresponds in the list of fields of study (at the tertiary level of education) provided by the ISCED manual (UNESCO, 1996) to the category Medical science and health-related (ISCED code 50). The ISCED manual, furthermore, has a category Health-related auxiliary programmes (ISCED 50) at the upper secondary level of education for vocational and technical programmes.

Complete costs would include expenditure for universities and other training institutions. Salaries of medical interns and residents or trainee nurses are reported under expenditure on health, for the services rendered. The training expenditure are also reported in the educational accounts. The intent of this category is to include expenditure for training that are closely linked to the care of patients in health care services rather than in expenditure on education and training. The following recommendation for university hospitals is taken from the UNESCO/OECD/Eurostat manual:

"Expenditure of or for teaching hospitals (sometimes referred to as academic hospitals or university hospitals) should not be included in education expenditure, except to the limited extent that they are directly and specifically related to the training of medical personnel. In particular, all costs of patient care other than general expenses of academic hospitals should be excluded from the education figures, even if the education authorities must pay such expenses.

Expenditure for research in academic hospitals should also be excluded, except that no attempt should be made to distinguish between the research and non-research portions of the time of teaching staff whose compensation is otherwise considered part of education expenditure." (UNESCO/OECD/Eurostat, 1995)

HC.R.3 Research and development in health

This item comprises R&D in health according to the following definition:

"R&D programmes directed towards the protection and improvement of human health. It includes R&D on food hygiene and nutrition and also R&D on radiation used for medical purposes, biochemical engineering, medical information, rationalisation of treatment and pharmacology (including testing medicines and breeding of laboratory animals for scientific purposes) as well as research relating to epidemiology, prevention of industrial diseases and drug addiction." (OECD, 1994*d*, *Frascati Manual,* p. 122)

Note: government involvement in health R&D is classified in the COFOG as part of the health function (COFOG, 07.5 R&D Health).

The *Frascati Manual* (OECD, 1994*d*) provides detailed definitions of R&D in business and government activities, including non-profit institutions and institutions of higher education. The *Frascati Manual* is the joint product of national experts on R&D in OECD Member countries, the OECD Secretariat and other international organisations. These guidelines are consistent with UNESCO recommendations.

The *Frascati Manual* discusses boundary problems between R&D, education, and health care and other industries providing guidelines for standard reporting in these and other fields, drawing the boundary line distinguishing the field from health care and from education and training of health personnel. The *Frascati Manual* provides the basic definitions of R&D:

"Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications.

R&D covers three distinct activities: basic research, applied research and experimental development. Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. Applied research is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience that is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed." (OECD, 1994*d*, *Frascati Manual,* p. 29)

The basic criterion for distinguishing R&D from related activities is "the presence in R&D of an

appreciable element of novelty and the resolution of scientific and/or technological uncertainty, *i.e.* when the solution to a problem is not readily apparent to someone familiar with the basic stock of commonly used knowledge and techniques in the area concerned." "... In the field of medicine, routine autopsy on the causes of death is simply the practice of health care and not R&D; special investigation of a particular mortality in order to establish the side effects of certain cancer treatments is R&D. Similarly, routine tests such as blood and bacteriological tests carried out for doctors, are not R&D but a special programme of blood tests in connection with the introduction of a new drug is R&D." (OECD, 1994*d*, *Frascati Manual,* p. 33)

The following recommendation regarding the borderline between specialised health care and R&D from the *Frascati Manual* on R&D statistics should be adopted for the collection of health care statistics:

> "In university hospitals where, in addition to the primary activity of health care, the training of medical students is of major importance, the activities of teaching, R&D and advanced as well as routine health care are frequently very closely linked. 'Specialised health care' is an activity which normally is to be excluded from R&D. However, there may be an element of R&D in what is usually called 'advanced health care', carried out, for example, in university hospitals. It is difficult for university doctors and their assistants to define that part of their overall activities which is exclusively R&D. If, however, time and money spent on routine health care are included in the R&D statistics, there will be an over-estimate of R&D resources in the medical sciences. Usually such advanced health care is not considered R&D and all health care not directly linked to a specific R&D project should be excluded from the R&D statistics." (OECD, 1994*d*, *Frascati Manual*, p. 37)

R&D in health, when measured according to the rules of the *Frascati Manual*, excludes outlays by pharmaceutical firms, shown separately. For data collection on R&D, international standards exist. More details on data collection and international standards for reporting in R&D are documented in the *Frascati Manual* (OECD, 1994*d*).

Activities of R&D in health care should exclude all education and training of health personnel in universities and special institutions of higher and post-secondary education. However, research by postgraduate students carried out at universities and university hospitals in medical sciences should be counted, wherever possible, as part of R&D in health care. R&D outlays by pharmaceutical firms have to be distinguished from other related scientific and technological activities (*Frascati Manual*, p. 30-33), such as, for example, patent and licence work.

HC.R.4 Food, hygiene and drinking water control

This item comprises a variety of activities of a public health concern that are part of other public activities such as inspection and regulation of various industries, including water supply.

Note: activities under this item are part of various COFOG functions [COFOG, 04 Economic Affairs (various industries); and 06.3 Water supply which includes Supervision and regulation of water purity].

HC.R.5 Environmental health

This item comprises a variety of activities of monitoring the environment and of environmental control with a specific focus on a public health concern.

Note: lacking an agreed link to international standard definitions for environmental health, it is suggested that it should comprise various items under

Table 9.3. **Selected environmental health functions**

COFOG code	COFOG function	Examples of "Environmental health" items covered
05	*Environment protection*	
05.1	Waste management	Safety measures and monitoring of health hazards connected to these services
05.2	Waste water management	Safety measures and monitoring of environmental standards or other quality norms
05.3	Pollution abatement	Activities relating to the prevention, monitoring, abatement and control of noise and the pollution of air, water bodies and soil
05.5	R&D in environmental protection	R&D in public health issues of environmental protection
05.6	Environmental protection n.e.c	Production and dissemination of public information about health risks associated with environmental situation

Source: Adapted from United Nations (1998*b*).

COFOG function 05, Environment Protection. A list of such health-related functions is given in Table 9.3.

HC.R.6 Administration and provision of social services in kind to assist living with disease and impairment

This item comprises (non-medical) social services in kind provided to persons with health problems and functional limitations or impairments where the primary goal is the social and vocational rehabilitation or integration.

Includes: education of bed-bound children and special schooling for the handicapped (ICD-9-CM, 93.82); occupational therapy (ICD-9-CM, 93.83); vocational rehabilitation and sheltered employment (ICD-9-CM, 93.85).

Note: the provision of health care benefits in kind under social protection arrangements is in some cases closely intertwined with the provision of social benefits in kind to assist living with disease and medical impairment.

HC.R.7 Administration and provision of health related cash-benefits

This item comprises the administration and provision of health-related cash benefits by social protection programmes in the form of transfers provided to individual persons and households. Included are collective services such as the administration and regulation of these programmes.

Note: the provision of health care benefits in kind under social protection arrangements is in some cases closely intertwined with the provision of social protection in the form of transfers (cash benefits) to individual persons and households. The COFOG and the European System of integrated Social Protection Statistics (ESSPROS) use the list of social protection functions shown in Table 9.4 together with examples of health-related benefits.

The Sickness function refers to the provision of social protection in the form of cash benefits that replace in whole or in part loss of earnings during a temporary inability to work due to sickness or injury; administration and operation of such so-

Table 9.4. **Health-related cash benefits**

COFOG class	Social protection function	Examples of health-related cash benefits
10.1	Sickness and disability	Sickness and disability benefits
10.2	Old age	Health-related early retirement
10.4	Family and children	Maternity leave
10.5	Unemployment	Vocational rehabilitation
10.6	Social exclusion n.e.c.	Health care benefits to homeless people

Source: United Nations (1998*b*), ESSPROS MANUAL (1996).

cial protection programmes. This includes benefits in kind provided to help persons temporarily unable to work due to sickness or injury with daily tasks (home help, transport facilities, etc.) (COFOG, United Nations 1998*b*).

It is recommended to include under function HC.R.7 most payments falling under the Sickness function. The remaining items should be seen as a list of examples to be used in checking if cash benefits other than Sickness benefits are covered by health programmes (which is often the case for traditional social insurance countries with a historically grown complex mix of services covered by "health insurance"). It would be desirable that, for health accounting, these supplementary benefits be shown separately in order to interpret aspects of financing (such as contribution rates) correctly. ■

ANNEX 9.1. FURTHER BOUNDARY QUESTIONS OF HEALTH CARE

THE BORDERLINE BETWEEN HEALTH CARE AND OTHER SOCIAL SERVICES

National Health Accounts draw different borderlines between health care and other social services across countries and comprise grey areas when social services involve a significant but not dominant health care component in, *e.g.*, long-term care for dependent elderly people. This may be the case in home care, other forms of institutional care, such as protective custody in mental health institutions, homes and protected working places for disabled persons, and rehabilitation programmes for drug addicts.

The ground rule should be to report institutional care under health care where institutionalisation is necessary for the person's health or where the health care component in question is most efficiently provided in an institutional setting. For other forms of care, where the medical component is important but not dominant (less than half of the total cost), a health care component could be separated by estimating genuine health care resources by evaluating their input in the form of labour and (intermediate) or final use of medical goods. Only labour input of medical professions performing medical functions (in the sense of the ICHA functional classification) would be counted as a first approximation. In these cases, the accommodation function in these institutions would be excluded from the health care function.

Non-medical components (in the above sense) of occupational and other rehabilitation programmes, with the goal of retraining and social and occupational integration, should not be reported as health expenditure. Spa therapy sessions for mainly medical and curative purposes should be distinguished from spa sessions for recreation or rehabilitation.

THE BORDERLINE BETWEEN HEALTH CARE AND OTHER MEDICAL INTERVENTIONS

The application of medical knowledge and technology pursued not for purposes of cure and relief but in the form of interventions aiming at enhancing human mental or physical capacity beyond natural limits or for other non-medical goals, may pose puzzling boundary issues in the future. Cosmetic surgery unrelated to the reconstruction of traumatic damages, in-vitro

fertilisation, and brain chips for other than medical-therapeutical or diagnostic purposes fall into this category. Doping and the intake of steroids in bodybuilding are other well-known examples.

At the moment, health statistics usually include all services that are legal medical intervention on humans performed by licensed health professionals. Thus, the decisive criterion is more whether the profession performing a task is officially recognised as belonging to the medical profession rather than whether the services rendered are health care in the sense of exclusively or predominantly aiming at enhancing the health of patients. For the time being, the quantities of resources involved may be negligible. In the future, more specific guidelines may have to be developed.

THE BORDERLINE BETWEEN PUBLIC HEALTH AND OTHER GOVERNMENT FUNCTIONS

A wide range of government functions outside of health care deal with public safety and the protection of population health. For health accounting, the organisation and performance of these services has to be separated from the health care function. Ambulance and rescue services of a general nature but organised by fire-protection services belong to health care. Base hospitals belong to the health care function, not the military and civil defence. Medical facilities reserved for war or peacetime disaster, on the other hand, belong to public safety or the military and defence function. A range of public safety measures (road and vehicle safety, construction and housing standards, veterinarian services and product safety monitoring) are in some countries administered by public health authorities but are not included in the SHA boundaries of health care. ■

ANNEX 9.2. CROSS-CLASSIFICATION WITH SNA CLASSIFICATIONS

This annex provides a cross-classification of the ICHA-HC with SNA 93 functional classifications (Table 9.5). Additional detail and explanatory notes on the SNA functional classifications are provided in Annex A.6 of this manual. ■

Table 9.5. **Cross-classification of ICHA-HC and SNA 93 classifications**

ICHA	Functions of health care	COICOP households	COICOP NPISHs	COICOP government	COFOG	COPNI
	ICHA-HC function is mainly part of SNA 93 code:					
HC.1	Services of curative care					
HC.1.1	In-patient curative care	06.3	13.2.7	14.2.7	07.3	02.3
HC.1.2	Day cases of curative care	06.3	13.2.7	14.2.7	07.3	02.3
HC.1.3	Out-patient curative care	06.2	–	–	07.2	02.2
HC.1.3.1	Basic medical and diagnostic services	06.2.1	13.2.4	14.2.4	07.2.1	–
HC.1.3.2	Out-patient dental care	06.2.2	13.2.5	14.2.5	07.2.3	02.2.2
HC.1.3.3	All other specialised health care	06.2.1	13.2.6	14.2.4	07.2.3	–
HC.1.3.9	All other out-patient curative care	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.1.4	Services of curative home care	06.2.1 (06.2.3)	13.2.4 (13.2.7)	14.2.6	07.2.4 (07.3)	02.2
HC.2	Services of rehabilitative care	–	–	–	–	–
HC.2.1	In-patient rehabilitative care	06.3	13.2.7	14.2.7	07.3	02.2.3
HC.2.2	Day cases of rehabilitative care	06.3	13.2.7	14.2.7	07.3	02.2.3
HC.2.3	Out-patient rehabilitative care	06.2.3 (06.2.1)	13.2.6 (13.2.4)	14.2.6 (14.2.4)	07.2.4, 07.2.1	02.2.3
HC.2.4	Services of rehabilitative home care	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.3	Services of long-term nursing care					
HC.3.1	In-patient long-term nursing care	06.3	13.2.7	14.2.7	07.3	02.3
HC.3.2	Day cases of long-term nursing care	06.3	13.2.7	14.2.7	07.3	02.2.3
HC.3.3	Long-term nursing care: home care	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.4	Ancillary services to health care					
HC.4.1	Clinical laboratory	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.4.2	Diagnostic imaging	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.4.3	Patient transport and emergency rescue	06.2.3 (06.3)	13.2.6 (13.2.7)	14.2.6 (14.2.7)	07.2.4 (07.3)	02.2.3, (02.3)
HC.4.9	All other miscellaneous ancillary services	06.2.3	13.2.6	14.2.6	07.2.4	02.2.3
HC.5	Medical goods dispensed to out-patients					
HC.5.1	Pharmaceuticals and other medical non-durables					
HC.5.1.1	Prescribed medicines	06.1.1	13.2.1	14.2.1	07.1.1	02.1.1
HC.5.1.2	Over-the-counter medicines	06.1.1	13.2.1	14.2.1	07.1.1	02.1.1
HC.5.1.3	Other medical non-durables	06.1.2	13.2.2	14.2.2	07.1.2	02.1.2
HC.5.2	Therapeutic appliances and medical equip. *(durables)*	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.5.2.1	Glasses and other vision products	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.5.2.2	Orthopaedic appliances and other prosthetics	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.5.2.3	Hearing aids	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.5.2.4	Medico-technical devices, including wheelchairs	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.5.2.9	All other miscellaneous medical goods	06.1.3	13.2.3	14.2.3	07.1.3	02.1.3
HC.6	Prevention and public health services	–	–	–	–	–
HC.6.1	Maternal & child health, family planning & counselling	–	–	14.2.8	07.4	02.4
HC.6.2	School health services	–	–	14.2.8	07.4	02.4
HC.6.3	Prevention of communicable disease	–	–	14.2.8	07.4	02.4
HC.6.4	Prevention of non-communicable disease	–	–	14.2.8	07.4	02.4
HC.6.4	Occupational health care	–	–	–	–	–
HC.6.9	All other miscellaneous collective health services	–	–	14.2.8	07.4, 07.6	02.4
HC.7	Health administration and health insurance	–	–	–	–	–
HC.7.1	Health administration and health insurance: public	–	–	–	07.6.0	–
HC.7.2	Health administration and health insurance: private	12.5.3	–	–	–	–

ANNEX 9.3. CROSS-CLASSIFICATIONS FOR PUBLIC HEALTH FUNCTIONS

Table 9.6. **Cross-classification of EPHFs, ICHA-HC and COFOG**

EPHF	Description	ICHA-HC	COFOG code
1	*Prevention, surveillance and control of communicable and non-communicable diseases*		
	Immunisation	6.3	07.4
	Disease outbreak control	6.3	07.4
	Disease surveillance	cross-funct. (6. and 7.)	cross-funct. (07.4 and 07.6)
	Prevention of injury	5.4 (and cross-funct.)	07.4 (and cross-funct.)
2	*Monitoring the health situation*		
	Monitoring of morbidity and mortality	cross-funct. (6. and 7.)	cross-funct. (07.4 and 07.6)
	Evaluation of the effectiveness of promotion, prevention and services programmes	cross-funct. (6. and 7.)	cross-funct. (0.7.4 and 0.7.6)
	Assessment of the effectiveness of public health functions	6. and 7.	0.7.4 and 0.7.6
	Assessment of population needs and risks to determine which subgroups require service	cross-funct. (6. and 7.)	cross-funct. (0.7.4 and 0.7.6)
3	*Health promotion*		
	Promotion of community involvement in health	6.9 and 7.	0.7.4 and 0.7.6
	Provision of information and education for health and life skill enhancement in school, home, work and community settings	cross-funct. (6. and 7.)	cross-funct. (0.7.4 and 0.7.6)
	Maintenance of linkages with politicians, other sectors and the community in support of health promotion and public health advocacy	strategic aspect	strategic aspect
4	*Occupational health*	(6.5)	–
	Setting occupational health and safety standards	7.	07.6.0

Note: cross-funct.: cross-functional issue; (R.x): WHO function overlaps with R.x (although not identical).

Table 9.6. **Cross-classification of EPHFs, ICHA-HC and COFOG (cont.)**

EPHF	Description	ICHA-HC	COFOG code
5	*Protecting the environment*		
	Production and protection of, and access to, safe water	(R.4)	06.3.0
	Control of food quality and safety	R.4	cross-funct. (04; 07.04.0)
	Provision of adequate drainage, sewerage and solid waste disposal services	R.4	05.1 and 05.2
	Control of hazardous substances and wastes	–	05.1 and 05.2
	Provision of adequate vector control measures	5.3.1	07.04.0
	Ensure protection of water and soil resources	(R.5)	(05.3; 05.4 and 05.6)
	Ensure environmental health aspects are addressed in development policies, plans, programmes and projects	strategic aspect	strategic aspect
	Prevention and control of atmospheric pollution	(R.5)	05.3
	Ensure adequate prevention and promote environmental services	strategic aspect	strategic aspect
	Ensure adequate inspection, monitoring and control of environmental hazards	strategic aspect	strategic aspect
	Controlling radiation	R.5	05.3
6	*Public health legislation and regulations*		
	Review, formulate and enact health legislation, regulations and administrative procedures	6.	07.6.0
	Ensure adequate legislation to protect environmental health	cross-funct. (1. - 4.)	cross-funct.
	Health inspection and licensing	6.	07.6.0
	Enforcement of health legislation, regulations and administrative procedures	cross-sectoral	cross-sectoral
7	*Public health management*		
	Ensuring health policy, planning and management	6.1.1 (and cross-sectoral)	07.6.0 (and cross-sectoral)
	Use of scientific evidence in the formulation and implementation of public health policy	strategic aspect	strategic aspect
	Public health and health systems research	R.3	07.4.0
	International collaboration and co-operation in health	6.1 (and cross-sectoral)	01.2 (and cross-sectoral)
8	*Specific public health services*		
	School health services	5.2	07.4.0
	Emergency disaster services	–	03.2.0 and 03.6.0
	Public health laboratory services	5.3.1	07.4.0
9	*Personal health care for vulnerable and high risk populations*	cross-funct. issue	cross-funct. issue
	Maternal health care and family planning	5.1	07.4.0 and 10.4.0
	Infant and child care	5.1.1	07.4.0

Note: cross-funct.: cross-functional issue; (R.x): WHO function overlaps with R.x (although not identical).
Source: Adapted from Bettcher (1998) and United Nations (1998*b*).

10. ICHA-HP CLASSIFICATION OF HEALTH CARE PROVIDERS

Overview

10.1. The ICHA-HP provider classification (Table 10.1) is a refined and modified version of the health-relevant parts of the International Standard Industrial Classification, ISIC, Rev. 3 (United Nations, 1990). The majority of health care providers in that classification is contained in Section N, Health and Social Work (see also Annex A.5 of this manual). Health insurance, administration and social security are classified in ISIC under the insurance industry or public administration and compulsory social security.

10.2. The contents of individual categories of health care services under Health and Social Work is defined in ISIC under three broad terms of activities: Hospital activities (ISIC 8511), Medical and dental practice activities (ISIC 8512), and Other human health activities (ISIC 8519). Explanatory notes and further health-relevant industries in ISIC are listed in Annex A.5 of this manual with their original explanatory text. It is recommended that a well-defined link be established in actual data collections between the provider dimension of the System of Health Accounts and national industrial statistics.

10.3. For health accounting, more detailed explanations and a substantially longer list of health care providers are necessary than is provided by the ISIC. For the refinements of ISIC appropriate for the ICHA-HP classification, the draft common industrial classification of NAFTA countries, the North American Industrial Classification System, NAICS 1998, served as a model for both basic definitions and for the presentation of specific items of the ICHA-HP. The terminology is modified in some instances to include additional material so as to better take into account the situation in other OECD countries or to abbreviate and simplify NAICS definitions.

10.4. Health accountants at national and cross-national levels should establish an exchange of information with the macro-economic accountants in their countries to ensure that health

care providers are allocated in the same way in both systems. This concerns, *e.g.* the classification of hospitals as public or private corporations. The co-ordination of classifications is particularly important regarding health care insurance, for which the SHA adopts the SNA 93 principles of breaking down insurance into social security, social insurance and other insurance enterprises.

10.5. In its present version, the institutional classification has been designed to allow cross-classification of expenditure on health reported under the medical functions (HC.1-HC.7). For health-related functions (such as education and R&D) specific institutional classifications have been designed and recommended for international comparisons. These have not been reproduced here (see UNESCO/OECD/Eurostat, 1995, and the *Frascati Manual*, OECD, 1994*d*).

Table 10.1. **ICHA-HP classification of providers of health care: three-digit level**

ICHA code	Health care provider industry
HP.1	Hospitals
HP.1.1	General hospitals
HP.1.2	Mental health and substance abuse hospitals
HP.1.3	Speciality (other than mental health and substance abuse) hospitals
HP.2	Nursing and residential care facilities
HP.2.1	Nursing care facilities
HP.2.2	Residential mental retardation, mental health and substance abuse facilities
HP.2.3	Community care facilities for the elderly
HP.2.9	All other residential care facilities
HP.3	Providers of ambulatory health care
HP.3.1	Offices of physicians
HP.3.2	Offices of dentists
HP.3.3	Offices of other health practitioners
HP.3.4	Out-patient care centres
HP.3.4.1	Family planning centres
HP.3.4.2	Out-patient mental health and substance abuse centres
HP.3.4.3	Free-standing ambulatory surgery centres
HP.3.4.4	Dialysis care centres
HP.3.4.5	All other out-patient multi-speciality and co-operative service centres
HP.3.4.9	All other out-patient community and other integrated care centres
HP.3.5	Medical and diagnostic laboratories
HP.3.6	Providers of home health care services
HP.3.9	Other providers of ambulatory health care
HP.3.9.1	Ambulance services
HP.3.9.2	Blood and organ banks
HP.3.9.9	Providers of all other ambulatory health care services

Table 10.1. **ICHA-HP classification of providers of health care: three-digit level (cont.)**

ICHA code	Health care provider industry
HP.4	Retail sale and other providers of medical goods
HP.4.1	Dispensing chemists
HP.4.2	Retail sale and other suppliers of optical glasses and other vision products
HP.4.3	Retail sale and other suppliers of hearing aids
HP.4.4	Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids)
HP.4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods
HP.5	Provision and administration of public health programmes
HP.6	General health administration and insurance
HP.6.1	Government administration of health
HP.6.2	Social security funds
HP.6.3	Other social insurance
HP.6.4	Other (private) insurance
HP.6.9	All other providers of health administration
HP.7	Other industries (rest of the economy)
HP.7.1	Establishments as providers of occupational health care services
HP.7.2	Private households as providers of home care
HP.7.9	All other industries as secondary producers of health care
HP.9	Rest of the world

EXPLANATORY NOTES TO THE ICHA-HP CLASSIFICATION OF HEALTH CARE PROVIDERS

HP.1 Hospitals

This item comprises licensed establishments primarily engaged in providing medical, diagnostic, and treatment services that include physician, nursing, and other health services to in-patients and the specialised accommodation services required by in-patients. Hospitals may also provide out-patient services as a secondary activity. Hospitals provide in-patient health services, many of which can only be provided using the specialised facilities and equipment that form a significant and integral part of the production process. In some countries, health facilities need in addition a minimum size (such as number of beds) in order to be registered as a hospital.

HP.1.1 General hospitals

This item comprises licensed establishments primarily engaged in providing diagnostic and medical treatment (both surgical and non-surgical) to in-patients with a wide variety of medical conditions. These establishments may provide other services, such as out-patient services, anatomical pathology services, diagnostic X-ray services, clinical laboratory services, operating room services for a variety of procedures, and pharmacy services.

Illustrative examples

- general acute care hospitals;
- community, county, and regional hospitals (other than speciality hospitals);
- hospitals of private non-profit-organisations (*e.g.* Red Cross) (other than speciality hospitals);
- teaching hospitals; university hospitals (other

than speciality hospitals);
- army, veterans, and police hospitals (other than speciality hospitals);
- prison hospitals.

Note: included are integrated community care centres providing both in-patient and out-patient services but which are primarily engaged in in-patient services.

HP.1.2 Mental health and substance abuse hospitals

This item comprises licensed establishments that are primarily engaged in providing diagnostic and medical treatment, and monitoring services to in-patients who suffer from mental illness or substance abuse disorders. The treatment often requires an extended stay in an in-patient setting including hostelling and nutritional facilities. Psychiatric, psychological, and social work services are available at the facility. These hospitals usually provide other services, such as out-patient care, clinical laboratory tests, diagnostic X-rays, and electroencephalography services.

Cross-references
- establishments primarily engaged in providing treatment of mental health and substance abuse illnesses on an out-patient basis are classified under HP.3.4.2, Out-patient mental health and substance abuse centres;
- establishments referred to as hospitals that are primarily engaged in providing in-patient treatment of mental health and substance abuse illness with the emphasis on counselling rather than on medical treatment are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities;
- establishments referred to as hospitals that are primarily engaged in providing residential care for persons diagnosed with mental retardation are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities.

HP.1.3 Speciality (other than mental health and substance abuse) hospitals

This item comprises licensed establishments primarily engaged in providing diagnostic and medical treatment to in-patients with a specific type of disease or medical condition (other than mental health or substance abuse). Hospitals providing long-term care for the chronically ill and hospitals providing rehabilitation, and related services to physically challenged or disabled people are included in this item. These hospitals may provide other services, such as out-patient services, diagnostic X-ray services, clinical laboratory services, operating room services, physical therapy services, educational and vocational services, and psychological and social work services.

Illustrative examples
- specialised acute hospitals;
- specialised emergency centres;
- orthopaedic hospitals;
- speciality sanatoriums (primarily engaged in medical post-acute, rehabilitative and preventive services);
- oriental (traditional) medicine hospitals;
- special hospitals for infectious disease (tuberculosis hospitals; hospitals for tropical diseases).

Cross-references
- establishments licensed as hospitals primarily engaged in providing diagnostic and therapeutic in-patient services for a variety of medical conditions, both surgical and non-surgical, are classified under HP.1.1, General hospitals;
- establishments known and licensed as hospitals primarily engaged in providing diagnostic and treatment services for in-patients with psychiatric or substance abuse illnesses are classified under HP.1.2, Mental health and substance abuse hospitals;

- establishments referred to as hospitals but primarily engaged in providing in-patient nursing and rehabilitative services to persons requiring convalescence are classified under HP.2.1, Nursing care facilities;
- establishments referred to as hospitals but primarily engaged in providing residential care of persons diagnosed with mental retardation are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities;
- establishments referred to as hospitals but primarily engaged in providing in-patient treatment for mental health and substance abuse illnesses with the emphasis on counselling rather than medical treatment are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities.

HP.2 Nursing and residential care facilities

This item comprises establishments primarily engaged in providing residential care combined with either nursing, supervisory or other types of care as required by the residents. In these establishments, a significant part of the production process and the care provided is a mix of health and social services with the health services being largely at the level of nursing services.

Note: a wide range of institutions providing long-term care (both health and social services) exists in most countries. The exact classification in the corresponding types of institutions (Nursing care facilities, Residential mental retardation, mental health and substance abuse facilities, Community care facilities for the elderly, Other residential care facilities) depends on the country-specific division of labour in the care process, especially in long-term care. As a general rule, in health accounting all institutions should be listed, where a considerable share of all activities performed in that institution have a medical component or consist of nursing care with a strong medical component, usually performed by medical personnel acting as employees of the institution. But only an estimate to the medical part of expenditure of the establishments under HP.2 is recorded in the expenditure accounts of the SHA.

Cross-references

Institutions where medical interventions are more of an incidental character or are performed by visiting doctors and/or nurses are excluded. This should also apply to institutions with a physician acting as director of *e.g.*, a home for handicapped persons, where medical and nursing care accounts for only a small share of the overall activity of that institution. Another example of institutions of this type is residential homes for the elderly with visiting nurses. Nurses visiting these institutions should be reported separately as a corresponding category of ambulatory care (HP.3).

HP.2.1 Nursing care facilities

This item comprises establishments primarily engaged in providing in-patient nursing and rehabilitative services. The care is generally provided for an extended period of time to individuals requiring nursing care. These establishments have a permanent core staff of registered or licensed practical nurses who, along with other staff, provide nursing and continuous personal care services.

Note: medical nursing care facilities provide predominantly long-term care but also occasionally acute health care and nursing care in conjunction with accommodation and other types of social support such as assistance with day-to-day living tasks and assistance towards independent living. Nursing homes provide long-term care involving regular basic nursing care to chronically ill, frail, disabled or convalescent persons or senile persons placed in an in-patient institution. Health care and treatment have to constitute an important part

of the activities provided to be included in the SHA. Hostels with only limited medical assistance, such as supervision of compliance with medication, should be excluded.

Illustrative examples

- convalescent homes or convalescent hospitals (other than mental health and substance abuse facilities);
- homes for the elderly with nursing care;
- in-patient care hospices;
- nursing homes;
- rest homes with nursing care;
- skilled nursing facilities (USA);
- teaching nursing homes.

Cross-references

- assisted-living facilities with on-site nursing care facilities are classified under HP.2.3, Community care facilities for the elderly;
- mental health convalescent homes are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities.

HP.2.2 Residential mental retardation, mental health and substance abuse facilities

This item comprises establishments (*e.g.* group homes, hospitals, intermediate care facilities) primarily engaged in providing in an in-patient setting domiciliary services for persons diagnosed with mental retardation. These facilities may provide some health care, though the focus is on room and board, protective supervision, and counselling. Residential mental health and substance abuse facilities comprise establishments primarily engaged in providing residential care and treatment for patients with mental health and substance abuse illnesses. These establishments provide room, board, supervision, and counselling services. Although health care services may be available at these establishments, they are incidental to the counselling, mental rehabilitation, and support services offered. These establishments generally provide a wide range of social services in addition to counselling.

Illustrative examples

- alcoholism or drug addiction rehabilitation facilities (other than licensed hospitals);
- mental health halfway houses (USA);
- mental health convalescent homes or hospitals;
- residential group homes for the emotionally disturbed;
- MENCARE (Sweden).

Cross-references

- establishments primarily engaged in providing treatment of mental health and substance abuse illnesses on a predominantly out-patient basis are classified under HP.3.4.2, Out-patient mental health and substance abuse centres;
- establishments known and licensed as hospitals primarily engaged in providing in-patient treatment of mental health and substance abuse illnesses with an emphasis on medical treatment and monitoring are classified under HP.1.2, Mental health and substance abuse hospitals.

HP.2.3 Community care facilities for the elderly

This item comprises establishments primarily engaged in providing residential and personal care services for elderly and other persons (1) unable to fully care for themselves and/or (2) unwilling to live independently. The care typically includes room, board, supervision, and assistance in daily living, such as housekeeping services. In some instances these establishments provide skilled nursing care for residents in separate on-site facilities. Assisted living facilities with on-site nursing care facilities are included in this item. Homes for the elderly without on-site nursing care facilities are also included.

Illustrative examples

- assisted-living facilities;
- continuing-care retirement communities;
- homes for the elderly without nursing care.

HP.2.9 All other residential care facilities

This item comprises establishments primarily engaged in providing residential care (other than residential mental retardation, mental health, and substance abuse facilities and community care facilities for the elderly) often together with supervision and personal care services.

Illustrative examples

- group homes for the hearing or visually impaired;
- group homes for the disabled without nursing care.

Cross-references

- residential mental retardation facilities are classified under HP.2.2, Residential mental retardation, mental health and substance abuse facilities;
- continuing-care retirement communities and homes for the elderly without nursing are classified under HP.2.3, Community care facilities for the elderly;
- establishments primarily engaged in providing in-patient nursing and rehabilitative services are classified under HP.2.1, Nursing care facilities.

HP.3 Providers of ambulatory health care

This item comprises establishments primarily engaged in providing health care services directly to out-patients who do not require in-patient services. This includes establishments specialised in the treatment of day-cases and in the delivery of home care services. Consequently, these establishments do not usually provide in-patient services. Health practitioners in ambulatory health care primarily provide services to patients visiting the health professional's office except for some paediatric and geriatric conditions.

HP.3.1 Offices of physicians

This item comprises establishments of health practitioners holding the degree of a doctor of medicine or a qualification at a corresponding level (ISCO-88 fourth degree level), primarily engaged in the independent practice of general or specialised medicine (including psychiatry, psychoanalysis, osteopathy, homeopathy) or surgery. These practitioners operate private or group practices in their own offices (*e.g.*, centres, clinics) or in the facilities of others, such as hospitals or health maintenance organizations (HMO) type medical centres.

Illustrative examples

- general practitioners in private offices;
- specialists of a wide range of specialities in private offices;
- establishments known as medical clinics which are primarily engaged in the treatment of out-patients (Korea, Japan).

Cross-references

- free-standing medical centres primarily engaged in providing emergency health care for accident or catastrophe victims and free-standing ambulatory surgical centres are classified under HP.3.4, Out-patient care centres.

HP.3.2 Offices of dentists

This item comprises establishments of health practitioners holding the degree of Doctor of dental medicine or a qualification at a corresponding level (ISCO-88 fourth degree level), primarily engaged in the independent practice of general or specialised dentistry or dental surgery. These practitioners operate private or group practices in their own offices (*e.g.*, centres, clinics) or in the facilities of others, such as hospitals or HMO medical

centres. They can provide either comprehensive preventive, cosmetic, or emergency care, or specialise in a single field of dentistry.

Cross-references

- dental laboratories primarily engaged in making dentures, artificial teeth, and orthodontic appliances for dentists are classified under HP.4.4, Retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids);
- establishments of dental hygienists primarily engaged in cleaning teeth and gums or establishments of denturists primarily engaged in taking impressions for and fitting dentures are classified under HP.3.3, Offices of other health practitioners.

HP.3.3 Offices of other health practitioners

This item comprises establishments of independent health practitioners (other than physicians, and dentists), such as chiropractors, optometrists, mental health specialists, physical, occupational, and speech therapists and audiologists establishments primarily engaged in providing care to outpatients. These practitioners operate private or group practices in their own offices (*e.g.*, centres, clinics) or in the facilities of others, such as hospitals or HMO medical centres.

Note: this item includes paramedical practitioners providing so-called "traditional medicine" without a doctor's approbation. Some form of legal registration and licensing (implying a minimum of public control over the contents of care provided) is regarded as a necessary condition in order to be reported as paramedical practitioner in many countries.

Illustrative examples

- nurses;
- acupuncturists' offices (other than physicians);
- chiropractors;
- physiotherapists and physical therapists;
- occupational and speech therapists;
- audiologists;
- dental hygienists' offices;
- denturists' offices;
- dieticians' offices;
- homeopaths' offices (other than physicians);
- inhalation or respiratory therapists' offices;
- midwives' offices;
- naturopaths' offices (other than physicians);
- podiatrists' offices;
- registered or licensed practical nurses' offices;
- practitioners of Chinese medicine and other forms of traditional medicine; formal licensing may not be required as criteria for recognition as health practitioner in countries where these forms of medicine have been an integral part of medical practice for a long time;
- oriental (traditional) medicine clinics (Korea).

Cross-references

- the independent practice of medicine and mental health by physicians is classified under HP.3.1, Offices of physicians;
- the independent practice of dentistry is classified under HP.3.2, Offices of dentists;
- the independent practice of home health care services is classified under HP.3.6, Providers of home health care services.

HP.3.4 Out-patient care centres

This item comprises establishments engaged in providing a wide range of out-patient services by a team of medical, paramedical and often also support staff, usually bringing together several specialities and/or serving specific functions of primary care. These establishments generally treat patients who do not require in-patient treatment.

HP.3.4.1 Family planning centres

This item comprises establishments with medical staff primarily engaged in providing a range of fam-

ily planning services on an out-patient basis, such as contraceptive services, genetic and prenatal counselling, voluntary sterilisation, and therapeutic and medically indicated termination of pregnancy.

Illustrative examples

- pregnancy counselling centres;
- birth control clinics;
- childbirth preparation classes;
- fertility clinics.

HP.3.4.2 Out-patient mental health and substance abuse centres

This item comprises establishments with medical staff primarily engaged in providing out-patient services related to the diagnosis and treatment of mental health disorders and alcohol and other substance abuse. These establishments generally treat patients who do not require in-patient treatment. They may provide a counselling staff and information regarding a wide range of mental health and substance abuse issues and/or refer patients to more extensive treatment programmes, if necessary.

Illustrative examples

- out-patient alcoholism treatment centres and clinics (other than hospitals);
- out-patient detoxification centre and clinics (other than hospitals);
- out-patient drug addiction treatment centres and clinics (other than hospitals);
- out-patient mental health centres and clinics (other than hospitals);
- out-patient substance abuse treatment centres and clinics (other than hospitals).

Cross-references

- hospitals primarily engaged in the in-patient treatment of mental health and substance abuse illnesses with an emphasis on medical treatment and monitoring are classified under HP.1.2, Mental health and substance abuse hospitals;
- establishments primarily engaged in the in-patient treatment of mental health and substance abuse illness with an emphasis on residential care and counselling rather than medical treatment are classified under HP.2.2, Residential mental health and substance abuse facilities.

HP.3.4.3 Free-standing ambulatory surgery centres

This item comprises establishments with physicians and other medical staff primarily engaged in providing surgical services (*e.g.*, orthoscopic and cataract surgery) on an out-patient basis. Out-patient surgical establishments have specialised facilities, such as operating and recovery rooms, and specialised equipment, such as anaesthetic or X-ray equipment.

Cross-references

- physician walk-in centres are classified under HP.3.1, Offices of physicians;
- hospitals that also perform ambulatory surgery and emergency room services are classified under HP.1, Hospitals.

HP.3.4.4 Dialysis care centres

This item comprises establishments with medical staff primarily engaged in providing out-patient kidney or renal dialysis services.

HP.3.4.5 All other out-patient multi-speciality and co-operative services centres

This item comprises establishments with medical staff primarily engaged in providing general or specialised out-patient care (other than family planning centres, out-patient mental health and substance abuse centres, free-standing ambulatory surgical centres and kidney dialysis centres and clinics). Centres or clinics of health practitioners with different degrees from more than one speciality practising within the same establishment (*i.e.,* physician and dentist) are included in this item.

Note: included are health maintenance organisation (HMO) medical centres and clinics.

HMO type medical centres comprise establishments with physicians and other medical staff primarily engaged in providing a range of out-patient health care services to the HMO subscribers with a focus generally on primary health care. These establishments are owned by the HMO. Included are HMO establishments that both provide health care services and underwrite health and medical insurance policies. Included are integrated community care centres providing both in-patient and out-patient services primarily engaged in out-patient services.

Illustrative examples

- out-patient community centres and clinics;
- multi-speciality out-patient polyclinics;
- multi-speciality HMO medical centres and clinics.

Cross-references

- physician walk-in centres are classified under HP.3.1, Offices of physicians;
- centres and clinics of health practitioners primarily engaged in the independent practice of their profession are classified under HP.3.1, Offices of physicians; HP.3.2, Offices of dentists; and HP.3.3, Offices of other health practitioners;
- HMO establishments (other than those providing health care services) primarily engaged in underwriting health and medical insurance policies are classified under HP.6, General health administration and insurance.

HP.3.4.9 All other out-patient community and other integrated care centres

This item comprises establishments with medical staff primarily engaged in providing general or specialised out-patient care (other than family planning centres, out-patient mental health and substance abuse centres, free-standing ambulatory surgical centres and kidney dialysis centres and clinics) where the focus is not on care provided by multi-speciality teams.

Cross-references

- centres or clinics of health practitioners with different degrees from more than one speciality practising within the same establishment (*i.e.*, physician and dentist) are classified under HP.3.4.5, All other out-patient multi-speciality and co-operative services centres.

HP.3.5 Medical and diagnostic laboratories

This item comprises establishments primarily engaged in providing analytic or diagnostic services, including body fluid analysis and diagnostic imaging, generally to the medical profession or the patient on referral from a health practitioner.

Illustrative examples

- diagnostic imaging centres;
- dental or medical X-ray laboratories;
- medical testing laboratories;
- medical pathology laboratories;
- medical forensic laboratories.

Cross-references

Establishments, such as dental, optical, and orthopaedic laboratories, primarily engaged in providing the following activities to the medical profession, respectively: making dentures, artificial teeth, and orthodontic appliances to prescription; making lenses to prescription; and making orthopaedic or prosthetic appliances to prescription are classified under HP.4, Retail sale and other providers of medical goods.

HP.3.6 Providers of home health care services

This item comprises establishments primarily engaged in providing skilled nursing services in the home, along with a range of the following: personal care services; homemaker and companion services; physical therapy; medical social services; medications; medical equipment and supplies; counselling; 24-hour home care; occupation and

vocational therapy; dietary and nutritional services; speech therapy; audiology; and high-tech care, such as intravenous therapy.

Illustrative examples

- community nurses and domiciliary nursing care (including child day-care in the case of sickness);
- home health care agencies;
- in-home hospice care services;
- visiting nurse associations.

HP.3.9 Other providers of ambulatory health care

This item comprises a variety of establishments primarily engaged in providing ambulatory health care services (other than offices of physicians, dentists, and other health practitioners; out-patient care centres; medical laboratories and diagnostic imaging centres; and home health care providers).

HP.3.9.1 Ambulance services

This item comprises establishments primarily engaged in providing transportation of patients by ground or air, along with health care. These services are often provided during a medical emergency but are not restricted to emergencies. The vehicles are equipped with lifesaving equipment operated by medically trained personnel.

Note: this item includes ambulance services provided in peacetime, non-disaster situations by the army, police or fire brigade.

Cross-references

Establishments primarily engaged in providing transportation of the disabled or elderly (without providing health care, such as taxi drivers) are classified under HP.7, All other industries.

HP.3.9.2 Blood and organ banks

This item comprises establishments primarily engaged in collecting, storing and distributing blood and blood products and storing and distributing body organs.

Illustrative examples

- blood donor stations.

HP.3.9.9 Providers of all other ambulatory health care services

This item comprises establishments primarily engaged in providing ambulatory health care services (other than offices of physicians, dentists, and other health practitioners; out-patient care centres; medical and diagnostic laboratories; home health care providers; ambulances; and blood and organ banks).

Illustrative examples

- health screening services (except by offices of health practitioners);
- hearing testing services (except by offices of audiologists);
- pacemaker monitoring services;
- physical fitness evaluation services (except by offices of health practitioners);
- smoking cessation programmes.

HP.4 Retail sale and other providers of medical goods

This item comprises establishments whose primary activity is the retail sale of medical goods to the general public for personal or household consumption or utilisation. Establishments whose primary activity is the manufacture of medical goods for sale to the general public for personal or household use are also included as well as fitting and repair done in combination with sale.

HP.4.1 Dispensing chemists

This item comprises establishments primarily engaged in the retail sale of pharmaceuticals to the general public for personal or household consumption or utilisation. Instances when the processing

of medicine may be involved should be only incidental to selling. This includes both medicine with and without prescription.

Illustrative example

- public pharmacies.

Cross-references

- pharmacies in hospitals serving mainly out-patients are part of establishments classified under HP.1, Hospitals;
- specialised dispensaries where the continuous monitoring of compliance and treatment plays an important role (such as for diabetes patients), are classified under HP.3.4, Out-patient care centres.

HP.4.2 Retail sale and other suppliers of optical glasses and other vision products

This item comprises establishments primarily engaged in the retail sale of optical glasses and other vision products to the general public for personal or household consumption or utilisation. This includes the fitting and repair provided in combination with sales of optical glasses and other vision products.

HP.4.3 Retail sale and other suppliers of hearing aids

This item comprises establishments primarily engaged in the sale of hearing aids to the general public for personal or household consumption or utilisation. This includes the fitting and repair provided in combination with the sale of hearing aids.

HP.4.4 Retail sale and other suppliers of medical appliances (other than optical goods and hearing aids)

This item comprises establishments primarily engaged in the sale of medical appliances other than optical goods and hearing aids to the general public with or without prescription for personal or household consumption or utilisation. Included are establishments primarily engaged in the manufacture of medical appliances but where the fitting and repair is usually done in combination with manufacture of medical appliances.

HP.4.9 All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods

This item comprises establishments engaged in the sale of other miscellaneous retail sale of medical goods to the general public for personal or household consumption or utilisation (included are sales other than by shops, such as electronic shopping and mail-order houses).

Illustrative examples

- sale of fluids *(e.g.* for home dialysis);
- all other miscellaneous health and personal care stores;
- all other sale of pharmaceuticals and medical goods;
- electronic shopping and mail-order houses specialised in medical goods.

HP.5 Provision and administration of public health programmes

This item comprises both government and private administration and provision of public health programmes such as health promotion and protection programmes.

Illustrative examples

- government provision and administration of public health programmes (as part of ISIC class 7512);
- public health department/district (USA: local health agency).

HP.6 General health administration and insurance

This item comprises establishments primarily engaged in the regulation of activities of agencies that

provide health care, overall administration of health policy, and health insurance.

Note: the role and definition of health insurance and other forms of financing health care are discussed in more detail in Chapters 6 and 11.

HP.6.1 Government administration of health

This item comprises government administration (excluding social security) primarily engaged in the formulation and administration of government policy in health and in the setting and enforcement of standards for medical and paramedical personnel and for hospitals, clinics, etc., including the regulation and licensing of providers of health services.

Illustrative examples
- ministry of Health;
- board of Health;
- food and drug regulation agencies;
- agencies for the regulation of safety on the workplace.

Cross-references
Government health agencies mainly engaged in providing public health services even if predominantly of a collective nature (surveillance, hygiene), are classified under HP.5, Provision and administration of public health programmes.

HP.6.2 Social security funds

This item comprises the funding and administration of government-provided compulsory social security programmes compensating for reduction of loss of income or inadequate earning capacity due to sickness (as part of ISIC 7530).

Illustrative examples
- administration of compulsory social health insurance and sickness funds;
- administration of compulsory employer's sickness funds;
- administration of compulsory social health insurance covering various groups of state employees (army, veterans, railroad and other public transport, police, state officials, etc.).

HP.6.3 Other social insurance

This item comprises the funding and administration of social health insurance (other than government-provided compulsory social security programmes).

Illustrative examples
- administration of private social health insurance and sickness funds;
- administration of complementary social insurance (*e.g.* mutualité);
- administration of employer's social health insurance programmes (other than government social security and government health programmes for state employees).

HP.6.4 Other (private) insurance

This item comprises insurance of health other than by social security funds and other social insurance (as part of ISIC class 6603). This includes establishments primarily engaged in activities involved in or closely related to the management of insurance (activities of insurance agents, average and loss adjusters, actuaries, and salvage administration; as part of ISIC class 6720).

HP.6.9 All other providers of health administration

This includes private establishments primarily engaged in providing health administrations (other than private social and other private insurance).

HP.7 Other industries (rest of the economy)

This item comprises industries not elsewhere classified which provide health care as secondary producers or other producers. Included are producers of occupational health care and home care provided by private households (see Chapter 5 for the corresponding definitions and accounting rules for these specific items).

Illustrative examples

- occupational health care services not provided in separate health care establishments (all industries);
- military health services not provided in separate health care establishments;
- prison health services not provided in separate health care establishments;
- school health services.

HP.7.1 Establishments as providers of occupational health care services

This item comprises establishments providing occupational health care as ancillary production (see Chapter 5 for the corresponding definitions and accounting rules).

HP.7.2 Private households as providers of home care

This item comprises private households as providers of home care (see Chapter 5 for the corresponding definitions and accounting rules).

HP.7.9 All other industries as secondary producers of health care

This item comprises all other industries providing health care as secondary or other producers of health care.

Illustrative examples

- military health services not provided in separate health care establishments;
- prison health services not provided in separate health care establishments;
- school health services.

HP.9 Rest of the world

This item comprises all non-resident units providing health care for the final use by resident units. ■

ANNEX 10.1. CROSS-CLASSIFICATION OF ICHA-HP WITH ISIC, REV. 3

Table 10.2 cross-classifies the ICHA-HP with International Standard Industrial Classification (ISIC, Rev. 3). Many of the providers under HP.2 are at the boundary of health care. ■

Table 10.2. **Cross-classification of ICHA-HP with ISIC, Rev. 3 classes**

ICHA-HP code	Description	ISIC class
HP.1	Hospitals	
HP.1.1	General hospitals	8511
HP.1.2	Mental health and substance abuse hospitals	8511
HP.1.3	Speciality (other than mental health and substance abuse) hospitals	8511
HP.2	Nursing and residential care facilities	
HP.2.1	Nursing care facilities	8519/8531
HP.2.2	Residential mental retardation, mental health and substance abuse facilities	8519/8531
HP.2.3	Community care facilities for the elderly	8519/8531
HP.2.9	All other residential care facilities	8519/8531
HP.3	Providers of ambulatory health care	
HP.3.1	Offices of physicians	8512
HP.3.2	Offices of dentists	8512
HP.3.3	Offices of other health practitioners	8519
HP.3.4	Out-patient care centres	8519
HP.3.4.1	Family planning centres	8519
HP.3.4.2	Out-patient mental health and substance abuse centres	8519
HP.3.4.3	Free-standing ambulatory surgery centres	8519
HP.3.4.4	Dialysis care centres	8519
HP.3.4.5	Other out-patient multi-speciality and co-operative service centres	8519/8531
HP.3.4.9	All other out-patient care centres	8519/8531

Table 10.2. **Cross-classification of ICHA-HP with ISIC, Rev. 3 classes (cont.)**

ICHA-HP code	Description	ISIC class
HP.3.5	Medical and diagnostic laboratories	8519
HP.3.6	Home health care services	8519/8531
HP.3.9	All other ambulatory health care	8519
HP.3.9.1	Ambulance services	8519
HP.3.9.2	Blood and organ banks	8519
HP.3.9.9	All other ambulatory health care services	8519
HP.4	Retail sale and other providers of medical goods	
HP.4.1	Dispensing chemists	5231
HP.4.2	Retail sale and other suppliers of optical glasses and other vision products	5239
HP.4.3	Retail sale and other suppliers of hearing aids	5239
HP.4.4	Retail sale and other suppliers of medical appliances (other than optical goods and hearing aids)	5239
HP.4.9	All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods	5231/5239
HP.5	Provision and administration of public health programmes	
HP.6	Health administration and insurance	
HP.6.1	Government administration of health	7512
HP.6.2	Social security funds	7530
HP.6.3	Other social insurance	–
HP.6.4	Other (private) insurance	6603
HP.6.9	All other health administration	–
HP.7	All other industries (rest of the economy)	–
HP.7.1	Establishments as providers of occupational health care services	–
HP.7.2	Private households as providers of home care	–
HP.7.9	All other industries as secondary producers of health care	–

11. ICHA-HF CLASSIFICATION OF HEALTH CARE FINANCING

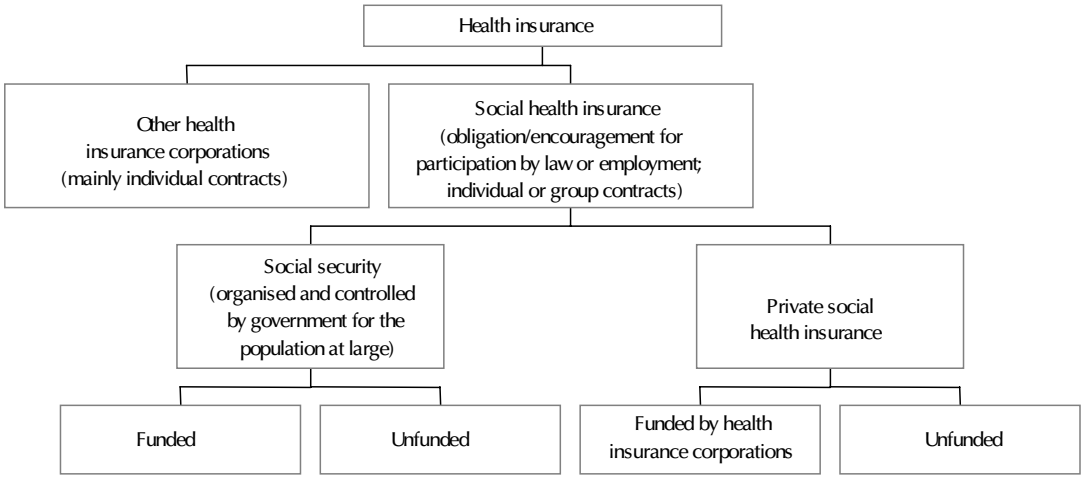
Overview

11.1. The study of health care financing in health accounts starts with the basic sectoral division of the national accounts, *i.e.* government agencies, public and private insurance. Table 11.1 shows the proposed ICHA-HF classification of sources of funding. It is recommended that use be made of SNA 93 guidelines for allocating sources of funds to the categories of the ICHA-HF classification. Consultation between statisticians responsible for the SHA and their colleagues of national accounting should ensure that sources of funding are allocated in the same way in the two reporting systems.

11.2. When consumption is recorded on an expenditure basis, the purpose is to identify the institutional units that incur the expenditure and hence control and finance the amounts of such expenditure. The first step towards a cross-classification of expenditure on health and their financing will be to recall some basic definitions of national accounting and how they apply to total expenditure on health and its components.

11.3. The ICHA-HF classification follows the first three levels of the decision tree for classifying health insurance (Figure 11.1). There is a basic distinction between social health insurance and other health insurance. Social insurance is either organised and controlled at various levels of government or organised privately. The ICHA-HF does not distinguish between funded and unfunded insurance, although different estimation methods may correspond to these two forms of insurance (see SNA 93, Annex IV for more detail).

Figure 11.1. **SNA classification of health insurance**



SOCIAL INSURANCE AND SOCIAL SECURITY

11.4. Social health insurance exists in different institutional forms, according to the regulations governing the individual insurance funds. Moreover, it is not always easy to draw an appropriate boundary line between social health insurance and privately funded and unfunded health insurance. Guidelines for this distinction are provided by SNA 93, Annex IV.

11.5. A *social health insurance* is one where the policy-holder is obliged or encouraged to insure by the intervention of a third party. For example, government may oblige all employees to participate in a social security programme; employers may make it a condition of employment that employees participate in an insurance programme specified by the employer; an employer may encourage employees to join a programme by making contributions on behalf of the employee; or a trade union may arrange advantageous insurance cover available only to the members of the trade union. Contributions to social insurance programmes are usually paid on behalf of employees, though under certain conditions non-employed or self-employed persons may also be covered.

11.6. An insurance programme is designated as a social insurance programme if at least one of the following three conditions are met (SNA 93, Annex IV, para. 4.111):

- participation in the programme is compulsory either by law or by the conditions of employment; or
- the programme is operated on behalf of a group and restricted to group members; or
- an employer makes a contribution to the programme on behalf of an employee.

11.7. *Social security funds* are social insurance programmes covering the community as a whole or large sections of the community that are imposed and controlled by a government unit. They generally involve compulsory contributions by employees or employers or both, and

the terms on which benefits are paid to recipients are determined by a government unit. Social security funds have to be distinguished from other social insurance programmes which are determined by mutual agreement between individual employers and their employees.

11.8. Social security funds may be distinguished by the fact that they are organised separately from the other activities of government units and hold their assets and liabilities separately from the latter. They are separate institutional units because they are autonomous funds, they have their own assets and liabilities and engage in financial transactions on their own account. The amounts raised, and paid out, in social security contributions and benefits may be deliberately varied in order to achieve objectives of government policy that have no direct connection with the concept of social security as a scheme to provide social benefits to members of the community (SNA 93, Annex IV, para. 4.112)

11.9. It should be noted that the SHA recommends following the SNA 93 rule on how to treat programmes that are set up by governments for their employees only. These programmes are not to be regarded as social security funds.

Table 11.1. **ICHA-HF classification of health care financing: three-digit level**

ICHA code	Sources of funding
HF.1	General government
HF.1.1	General government excluding social security funds
HF.1.1.1	Central government
HF.1.1.2	State/provincial government
HF.1.1.3	Local/municipal government
HF.1.2	Social security funds
HF.2	Private sector
HF.2.1	Private social insurance
HF.2.2	Private insurance enterprises (other than social insurance)
HF.2.3	Private household out-of-pocket expenditure
HF.2.3.1	Out-of-pocket excluding cost-sharing
HF.2.3.2	Cost-sharing: central government
HF.2.3.3	Cost-sharing: state/provincial government
HF.2.3.4	Cost-sharing: local/municipal government
HF.2.3.5	Cost-sharing: social security funds
HF.2.3.6	Cost-sharing: private social insurance
HF.2.3.7	Cost-sharing: other private insurance
HF.2.3.9	All other cost-sharing
HF.2.4	Non-profit institutions serving households (other than social insurance)
HF.2.5	Corporations (other than health insurance)
HF.3	Rest of the world

EXPLANATORY NOTES TO THE ICHA-HF CLASSIFICATION OF SOURCES OF FUNDING

HF.1 General government

This item comprises all institutional units of central, state or local government, and social security funds on all levels of government. Included are non-market non-profit institutions that are controlled and mainly financed by government units.

Note: for more detailed definitions and guidelines for sectoring financing units in the ICHA-HF see SNA 93, 4.113-4.130.

HF.1.1 General government excluding social security funds

This item comprises all institutional units of central, state or local government. Included are non-market non-profit institutions that are controlled and mainly financed by government units (SNA 93, 4.113).

Note: the importance of financing in health care by state budgets depends on the basic organisation of a country's health care system. Financing out of the state budget constitutes the major form of health care financing in highly integrated health care systems, where government bodies on state and regional levels are directly responsible for both financing and producing health care services. The share of government financing is usually less important in countries with a health care system of the "social insurance-type", where social security funds act as intermediary financing funds.

In every OECD country, governments are at least partly responsible for health care financing, by caring for specific groups of the population (the elderly, unemployed, pensioners, those living on social aid, etc.). Government bodies also play an important role in health care by subsidising providers, and through financing capital formation of government owned provider institutions.

HF.1.1.1 Central government
This item comprises all institutional units making up the central government plus those NPIs that are controlled and mainly financed by central government (SNA 93, 4.117-4.122).

HF.1.1.2 State/provincial government
The state/provincial government sector consists of state governments which are separate institutional units plus those NPIs that are controlled and mainly financed by state government. "States" and "provinces" may be described by different terms in different countries. In small countries, individual states/provinces and state/provincial governments may not exist (SNA 93, 4.123-4.127).

HF.1.1.3 Local/municipal government
The local government sub-sector consists of local governments that are separate institutional units plus those NPIs which are controlled and mainly financed by local governments. In principle, local government units are institutional units whose fiscal, legislative and executive authority extends over the smallest geographical areas distinguished for administrative and political purposes (SNA 93, 4.128).

Note: local government units may be described by different terms in different countries. Alternative terms are *e.g.* "municipalities" or "counties". Units of local government supplying health care on a non-market basis remain an integral part of the local government unit to which they belong (SNA 93, 4.129).

HF.1.2 Social security funds

The social security funds sub-sector consists of the social security funds operating at all levels of government. Social security funds are social insurance schemes covering the community as a whole

or large sections of the community and that are imposed and controlled by government units (SNA 93, 4.130).

Note: more detailed definitions and guidelines for social security and other social insurance are given in the introductory text of the chapter.

HF.2 Private sector

This sector comprises all resident institutional units which do not belong to the government sector.

Note: for a breakdown of health spending by source of funding, it is recommended to distinguish at least the following five sub-sectors: private social insurance, private insurance enterprises (other than social insurance), private household out-of-pocket expenditure, NPISHs and corporations (other than health insurance).

HF.2.1 Private social insurance

This sector comprises all social insurance funds other than social security funds.

Includes: programmes that are set up by government for their employees only.

Note: for the definition of social insurance see the introduction of this chapter for more details.

HF.2.2 Private insurance enterprises (other than social insurance)

This sector comprises all private insurance enterprises other than social insurance.

Note: this sector comprises both for-profit and non-for-profit insurance schemes other than social insurance. See the introduction to this chapter for the definition of social insurance schemes and Chapter 6 for the differences in reporting contributions and insurance premiums between social insurance and other (private) insurance.

HF.2.3 Private household out-of-pocket expenditure

The definition of a household which is adopted by survey statisticians familiar with the socio-economic conditions within a given country is likely to approximate closely the concept of a household as defined in the SNA and consequently will also be in most cases appropriate for the purposes of health accounting (see SNA 93, 4.134).

Note: for a more detailed breakdown of out-of-pocket payments by private household, the following definitions are relevant (adapted from the glossary in OECD, 1992, p. 9):

- *out-of-pocket payments*: payments borne directly by a patient without the benefit of insurance. They include cost-sharing and informal payments to health care providers;
- *cost-sharing*: a provision of health insurance or third-party payment that requires the individual who is covered to pay part of the cost of health care received. This is distinct from the payment of a health insurance premium, contribution or tax which is paid whether health care is received or not. Cost-sharing can be in the form of *deductibles*, *co-insurance* or *co-payments*;
- *co-payment*: cost-sharing in the form of a fixed amount to be paid for a service.
- *co-insurance*: cost-sharing in the form of a set proportion of the cost of a service. In France and Belgium, "ticket modérateur".
- *deductibles*: cost sharing in the form of a fixed amount which must be paid for a service before any payment of benefits can take place.

Private funding is at the moment the least reliable component of health care financing (mainly due to uncertainties with respect to the amount of out-of-pocket payments to health care providers and

pharmacies) and also one of the major sources of estimation error in total expenditure on health in many countries. Data sources for a detailed breakdown of out-of-pocket financing by private households are consequently one of the weak points on existing health accounts in many countries. For this reason, more specific household surveys for tracking private expenditure on a regular basis are recommended.

HF.2.4 Non-profit institutions serving households (other than social insurance)

Non-profit institutions serving households (NPISHs) consist of non-profit institutions which provide goods or services to households free or at prices that are not economically significant (SNA 93, 4.64).

Note: relevant as sources of funding of health care are in particular charities, relief or aid agencies that are created for philanthropic purposes and not to serve the interests of the members of the association controlling the NPISH. Such NPISHs may provide health care goods or services on a non-market basis to households in need, including households affected by natural disasters or war. The resources of such NPISHs are provided mainly by donations in cash or in kind from the general public, corporations or governments. They may also be provided by transfers from non-residents, including similar kinds of NPISHs resident in other countries (SNA 93, 4.67).

HF.2.5 Corporations (other than health insurance)

This sector comprises all corporations or quasi-corporations whose principal activity is the production of market goods or services (other than health insurance). Included are all resident non-profit institutions that are market producers of goods or non-financial services (SNA 93, 4.68).

HF.3 Rest of the world

This item comprises institutional units that are resident abroad.

Note: relevant financing flows for health accounting between the domestic economy and the rest of the world comprise mainly transfers related to current international co-operation (*e.g.*, foreign aid) and private insurance premiums/claims. Imports of health care services by households travelling abroad are recorded under HF.2.3, Private households. ■

ANNEXES

ANNEX A.1.
MEASUREMENT OF HUMAN RESOURCES IN HEALTH CARE

INTRODUCTION

The analysis of, and the underlying data collection on Human Resources in Health Care (HRHC) require specific attention in international comparisons in order to better monitor the effects of recent health care reform and rapid structural change in health care systems in many countries. *Human Resources in Health Care (HRHC)* or the equivalent concept of *medical and para-medical personnel* describe the special skilled labour force necessary for providing qualified health care. The defining criteria are *field of study*, *educational level*, and *profession*.

To establish and maintain a coherent system for monitoring stocks and flows of health care personnel on national level and to integrate these into a system which is capable of showing the links to the education of health care personnel as well as to health accounts, serves as a multi-purpose tool for:

- linking manpower data to the financial data of the SHA;
- planning of education and employment in health care;
- projections of the potential labour force for health care.

The establishment of statistical links between data on personnel and health accounts in monetary terms is indispensable to track the employment effects of health care industries and productivity trends in care provision.

The basic ideas of the following guidelines for the measurement of human resources in health care and essential parts of the methodology for the collection, interpretation and analysis of statistics on health care personnel have been borrowed from the OECD/Eurostat *Canberra Manual on the Measurement of Human Resources Devoted to Science and Technology* (OECD/Eurostat, 1995) with some changes to the text to apply it specifically to health.

It should, however, be noted that the concept of HRHC defined in this annex covers only part of the total employment in health care. Measures of overall employment in health care are given below (see standard Table 10 in Chapter 2 of this manual as well as Chapter 4).

Available information about HRHC

A number of national and international data sets contain information about HRHC. Their coverage and reliability vary both across data sets and over time, as commented in the *OECD Health Data* sources and methods. Medical and para-medical personnel (number of physicians, dentists, and other medical professionals) have been included in several international data bases. The quality of this data, however, differs substantially. Unqualified international comparisons of, for example, physicians per 100 inhabitants, or similar indicators can be misleading.

Data used in international comparisons stem, in many cases, from data sets of national administrative records. Problems arise because the methodologies and classifications are frequently incompatible and collection systems still differ widely. Available information on HRHC can be seriously biased when data is collected from registries of qualified personnel. These registers do not provide sufficient information regarding the number of personnel active in the field, nor do they indicate the hours worked, etc.

The scope of HRHC: basic concept

Human Resources in Health Care (HRHC) or the equivalent concept of medical and para-medical personnel describe the special skilled labour force necessary for providing qualified health care. The defining criteria are *field of study*, *educational level*, and *profession*.

HRHC should be distinguished from total employment in health care industries which is a more comprehensive concept that includes all persons employed by health care provider industries irrespective of whether they belong to health care professions or not (*i.e.* including administrative staff and staff ancillary to health care). Besides, not all medical and para-medical personnel are actually employed in health care (or in the active labour force).

HRHC refers to medical and para-medical personnel actually or potentially performing the functions HC.1 to HC.7 of the ICHA classification as health care professionals with *skills* obtained through *education*, which usually gives rise to *formal qualifications* in the form of degrees or diplomas.

To become an active member in a category of HRHC often requires additional *registration* or *accreditation*. Before commencing a profession, such as a family doctor, legal procedures are usually required. Registration or accreditation procedures may vary substantially across countries. Moreover, different registration procedures may be necessary for the same person and the same job in order to establish contracts with different funders (*e.g.* a doctor working in a private practice for both private insurance and under public programmes).

As registries do not predominantly serve statistical purposes, their quality as a data source has to be scrutinised. The criteria applied in accreditation are not uniform across OECD countries and a doctor loosing his or her accreditation (*e.g.*, due to a legal dispute in one country), may opt to go to another country or take a health care job of a different qualification (normally lower) which in both cases allows him or her to still be counted under an HRHC category. For this reason, registration (accreditation) has not been selected as a statistical criterion when qualifying a person in a HRHC category.

Not every person actually or potentially engaged in health care activities or occupations is monitored under HRHC principles, only those with a

minimum level of skills. The chief focus is on compiling and analysing data concerning HRHC categories with university level education, followed by HRHC categories with non-university level education.

The following sections suggest a number of breakdowns for HRHC statistics, and cross-reference them with international classifications and the ICHA provider classification. They deal with the level and field of study of HRHC, their labour force status, occupations, and institutional category of providers for those in employment. Some further information (age, gender, national origins, etc.) may be usefully compiled to supplement basic HRHC data.

DEFINING CRITERIA FOR HRHC

Two main systems can be used to identify HRHC: by *qualification* (people with the formal education which allows them to be so employed; complemented by accreditation where required) and by *occupation* (people employed in health care activities at the appropriate level). The selection of either approach as the primary dimension of analysis will depend on the question being considered. Data on occupation relates to demand-side or utilisation issues such as "How many people are actually employed as HRHC?" Data on qualification is useful when looking at supply-side issues such as "What is the pool of people potentially available to work in health care?" The basic definition recommended here follows the qualification dimension.

It is important to recognise that not all those with the appropriate qualifications will necessarily be employed in their corresponding health care occupations. Some will be inactive (retired, unemployed, etc.), others will be employed in non-health care occupations (clerical staff, policy-makers). The interest here is to distinguish between occupations which form part of a "health care career" and those which do not.

> HRHC comprises people who have successfully completed education at the third level in a medical field of study.

Levels of education are defined in the UNESCO International Standard Classification of Education (ISCED) (UNESCO, 1996). Education at the third level covers studies leading to a first or higher university degree and also other studies at post-secondary level leading to awards not fully equivalent to a first university degree (formal definitions of these categories are given below). Successfully completed education at a given level leads to a formal *qualification.*

Occupation is defined in terms of jobs (or posts). A *job* is a defined set of tasks and duties carried out (or meant to be carried out) by one person. Jobs require skills which may be acquired via education or on-the-job training. In theory, persons may be classified by occupations in terms of a past, present or future job. The definition relates to *current employment* only. Employment in turn refers to any kind of work, even as little as several hours per week, for pay (paid employment) or profit (self-employment) during a reference period.

Examples of HRHC:

- qualified and employed as HRHC:
  - physician working in a hospital;
  - qualified nurse working in a community centre;
  - dentist practising in his/her own dental office.
- qualified as HRHC but not so employed:
  - unemployed physician;
  - qualified nurse staying at home to raise his/her children;
  - researcher in the pharmaceutical industry with a university degree in medicine.

HEALTH PROFESSIONS BY EDUCATION: ISCED

To obtain internationally compatible data, standard classifications are applied to define "education at the third level in a medical field of study" and "health care occupation". The International Standard Classification of Education (ISCED), UNESCO (1996), is the most relevant source here. It is a classification both of levels of education and fields of study.

Levels of education

ISCED distinguishes seven levels of education (together with a residual category for education not definable by level), grouped into three broad levels. For the purpose of defining HRHC, the third level of education is relevant. This comprises ISCED categories 5, 6 and 7, which are defined as follows:

- *ISCED category 5:* "education at the third level, first stage, of the type that leads to an award not equivalent to a first university degree";
- *ISCED category 6:* "education at the third level, first stage, of the type that leads to a first university degree or equivalent";
- *ISCED category 7:* "education at the third level, second stage, of the type that leads to a post-graduate university degree or equivalent".

Hence attributions should be made on the basis of the highest qualification that a person holds:

- university-level qualifications are defined as covering ISCED levels 6 and 7;
- non-university level qualifications are defined as covering ISCED level 5.

HRHC can hence be split into three major categories according to the level of degree:

- degrees from paramedical schools (ISCED level 5);
- undergraduate degrees from medical/paramedical departments of schools and universities (ISCED level 6);
- graduate degrees from medical/biomedical departments of universities (ISCED level 7).

Field of study

ISCED defines medical sciences as one among twenty-one main fields of study. Medical and health related programmes are: "Medicine, surgery and medical specialities, hygiene and public health, physiotherapy and occupational therapy; nursing, midwifery, medical X-ray techniques and other programmes in medical diagnostic and treatment techniques; medical technology, dentistry, stomatology and odontology, dental techniques, pharmacy, optometry, other." (UNESCO, 1996)

HEALTH PROFESSIONS BY OCCUPATIONS: ISCO

Coverage of HRHC in terms of occupation

The starting point for classifying occupations is the International Standard Classification of Occupations (ISCO) (ILO, 1990*a*). ISCO-88 distinguishes between ten major professional groups. Two are of specific interest to HRHC: "Professionals" (major group 2) and "Technicians and associate professionals" (major group 3).

In the ISCO, occupations usually correspond to unique educational levels. Table A1.1 provides a comprehensive list of medical professions in ISCO major groups 2 and 3. For health and social services occupations, however, the ISCO states that:

> "It became apparent that differences in formal educational requirements were most prominent in the cases of some of the *teaching, health and social services occupations*. In some countries, it is necessary to have a university degree in order to be able to practise these occupations, while in other countries lower-level educational certificates are considered sufficient. In order to accommodate these differences, parallel oc-

Table A1.1. **Health professions in the International Standard Classification of Occupations (ISCO-88)**

ISCO-88 code	Label
Major group 2	**Professionals**
22	Life sciences and health professionals
222	Health professionals (except nursing)
2221	Medical doctors
2222	Dentists
2224	Pharmacists
2229	Health professionals (except nursing) n.e.c
223	Nursing and midwifery professionals
2230	Nursing and midwifery professionals
Major group 3	**Technicians and associate professionals**
32	Life sciences and health associate professionals
322	Modern health associate professionals (except nursing)
3221	Medical assistants
3222	Sanitarians
3223	Dieticians and nutritionists
3224	Optometrists and opticians
3225	Dental assistants
3226	Physiotherapists and related associate professionals
3228	Pharmaceutical assistants
3229	Modern health associate professionals (except nursing) n.e.c
323	Nursing and midwifery associate professionals
3231	Nursing associate professionals
3232	Midwifery associate professionals
324	Traditional medicine practitioners and faith healers
3241	Traditional medicine practitioners
3242	Faith healers

Source: ILO (1990*a*).

cupational groups were created in ISCO-88 major groups 2 and 3 – Professionals and Technicians and associate professionals, respectively." (ISCO-88, p. 8)

The Professionals group (major group 2) is defined as follows:

"This major group includes occupations whose main tasks require a high level of professional knowledge and experience in the fields of physical and life sciences, or social sciences and humanities. The main tasks consist of increasing the existing stock of knowledge, applying scientific and artistic concepts and theories to the solution of problems, and teaching about the foregoing in a systematic manner. Most occupations in this major group require skills at the ISCED categories 6 or 7." (ILO, 1990*a*, p. 6)

Using this definition, all people working in ISCO major group 2 can be considered HRHC. The reverse is not true; not all university-level HRHC are employed in ISCO major group 2. They may work in other occupations, including groups 0

and 1, be unemployed or no longer part of the labour force.

The Technicians and associate professionals group (major group 3) is defined as follows:

> "This major group includes occupations whose main tasks require technical knowledge and experience in one or more fields of physical and life sciences, or social sciences and humanities. The main tasks consist of carrying out technical work connected with the application of concepts and operational methods in the abovementioned fields, and in teaching at certain education levels. Most occupations in this major group require skills at the ISCED category 5". (ILO, 1990*a*, p. 6)

Boundaries of HRHC and related occupations

In addition to ISCO groups 2 and 3, some HRHC-relevant occupations may be identified in major group 1 ("Legislators, senior officials and managers"), especially among the managers. The following subgroups seem to be of specific interest: "Directors and chief executives" (subgroup 121), "Production and operations department managers" (subgroup 122), and "General managers" (subgroup 131). Managers employed in health care activities (122) are either also qualified at the appropriate level in a medical field of study or should be excluded from HRHC. This means that members of the management will be HRHC only by qualification, not on the basis of their occupation.

Moreover, Table A1.1 does not list the unit groups 2113 Chemist, pharmaceutical, and 2212 Pharmacologist, pathologists and related professionals, professions assumed to work mainly in health R&D. Professions that are not HRHC according to the definition suggested in this annex, include 3443 Government social benefits officials, 2445/2446 Welfare/Social work professionals and 3460 Social work associate professionals, though some persons in the latter two categories may perform genuine health care tasks. Persons employed as personal care workers without qualifications at ISCED and above should be excluded from HRHC. Corresponding ISCO categories are 5132 Institution-based personal care workers, 5133 Home-based personal care workers, and 5139 Personal care and related workers n.e.c.

TOTAL HEALTH CARE SERVICES EMPLOYMENT

A working definition

Total health care services employment is the number of full-time equivalent persons employed in health care service industries in the institutional boundaries proposed in Chapter 4 and further elaborated in Chapter 5. Besides employment of HRHC personnel, administrative, technical and other supportive staff are included as are personnel working for profit and non-profit medical benefit insurers. Excluded are health professionals working outside health care services (*e.g.* physicians employed in industry). Also excluded are employees of pharmaceutical and medical equipment manufacturing (Other medical industries, see Chapters 4 and 5). Generally speaking, all employment involved in the intermediate production of health care service industries should be excluded.

HRHC by industries of employment

It is important to know the industries of employment in order to understand the spread of HRHC across the health care system. This breakdown will be related to HRHC in employment, due to the difficulties in classifying unemployed and especially those out of the labour force by industry. It is recommended that personnel according to institutional categories of the ICHA-institutional classification should be recorded for HRHC.

HEAD-COUNT OR FULL-TIME EQUIVALENCE?

Two approaches are of interest when measuring human resources: head-count data and full-time equivalence (FTE) data. In the head-count series people are, in principle, counted once (at a given moment in time) and classified once according to relevant criteria. In the FTE series the head-counts of persons working part-time or on several jobs or activities are reduced to actual or normal working time.

Head-count data is most commonly used because it is normally easier to collect and compare while the concept of full-time equivalence may sometimes be more subjective or less easily understood. Availability of head-count statistics may be a prerequisite for calculating the corresponding FTE data. The final choice between head-counts and FTE depends on what has to be measured. The FTE approach is preferable for specific issues, such as measuring health care activities, or when there are significant numbers of part-time jobs, as is frequently the case in health care. Measuring FTEs is indispensable for linking data on personnel to value added series in the SHA and in calculating non-market production and productivity trends.

Head-count

Head-count data is useful for the measurement of both stocks and flows. It allows the analysis to be related to the educational supply data and the flows in the system, as well as to other kinds of statistics based on the individual (such as demographic and employment statistics). By comparing data for several points in time, this approach makes it possible to calculate net changes in the HRHC stock and average growth rates.

Three options for measurement in terms of head-count are in principle available:

- the number of HRHC on a given date (for instance, mid-year);
- the average number of HRHC during the (calendar) year;
- the total number of HRHC during the (calendar) year.

The first and second options appear to be most relevant for the measurement of HRHC stocks, and are those generally used for other statistics of human resources (employment, recruitment, etc.) with annual or quarterly survey periodicity. The third option appears to be more suited for measuring flows or for deriving flow data from stock series for persons who are HRHC only by reason of their occupation. If such a person joins and leaves a health care occupation several times within a year, he/she is counted several times in the third option but only once, if at all, in the others. Therefore, a comparison between stock figures based on first and second options and third option gives a rough idea about multiple flows, possibly more at micro levels, for measuring the HRHC in specific areas with high staff mobility or turnover (as may be the case in nursing professions).

Full-time equivalence (FTE)

FTE conversions vary across countries but are taken, unless otherwise noted, to be 35 hours or more per week and a gradual convergence to consensus with rules of SNA 93 (para. 17.14 to 17.18) is desirable. The FTE approach is appropriate when one wishes to use data on HRHC employment as a proxy for the amount (or the volume) of activities carried out or services supplied.

For people with one major and one minor occupation, it may be possible to use modified head-count data by allocating individuals to their main activity. For example, in the case of a working student, the ILO specifies that the employment predominates. In other cases, calculation in FTE is the only efficient method.

The revised System of National Accounts (SNA 93, para. 15.102) suggests two approaches to measure FTE:

- *total hours worked*, which are the aggregate number of hours actually worked during the period in employee and self-employment jobs;
- *full-time equivalent jobs*, which are total hours worked divided by average annual hours worked in full-time jobs.

The latter approach can be calculated more approximately as "number of jobs on a full-time basis". At present, it is the method most commonly used in national accounts satellite tables, but it is felt that it no longer deals with part-time employment satisfactorily and the revised SNA recommends "total hours worked" as the best means for its main use of labour-input data, *i.e.* the measurement of productivity.

A BASIC FRAMEWORK FOR INTEGRATING EDUCATION AND PERSONNEL DATA

A schematic model

Stocks can be measured at many levels of detail, but the major policy interest is usually in national stocks. International flows of HRHC have long been monitored in connection with "brain drain" and "brain gain" issues for instance. Globalisation of health care and economic activities and hence of work and residence patterns hinders the measurement of national stocks of HRHC defined in terms of residence. The System of National Accounts sets out guidelines for dealing with traditional cases such as international organisations, embassies and foreign military bases. Furthermore, it is by no means unusual, at least within the EU area, for an HRHC to be officially resident in one country and work in another. Special arrangements are proposed to deal with people whose residence and employment vary, notably for the measurement and analysis of regional stocks of HRHC.

Particular attention is paid to the "pipeline" of flows into the HRHC stock via the education system. This is very important for reasons of policy and planning as students, especially foreign students, receive separate treatment in national accounts and labour force data.

It is important when measuring HRHC to distinguish between stocks and flows. Stocks generally provide a snapshot picture at a particular point in time. Flows relate to movements in or out of a stock (inflows and outflows) over a given period, usually a year. An example of a stock figure is the number of Ph.D.s in medicine employed in a given country and institutional category of health care providers on a given date. An HRHC stock can be defined as the number of people at a particular point in time who fulfil the conditions of the definition of HRHC.

HRHC flows can be defined as the number of people who do not fulfil any of the conditions for inclusion in HRHC at the beginning of a time period but gain at least one of them during the period (inflow) as well as the number of people who fulfil one or other of the conditions of the definition of HRHC at the beginning of a time period and cease to fulfil them during the period (outflow). An example of an HRHC inflow is the number of pharmacists graduating from a country's universities in a given year.

In principle a flow is either into the stock or out of it. It may also be useful to consider "internal flows", which can be defined as flows within a stock over a given time period. Internal flows of HRHC can be defined as people who are part of the HRHC stock, some of whose characteristics change during the time period considered without, however, losing the essential characteristics for inclusion in HRHC. Examples of internal flows of HRHC are people who change their category of provider institution of employment, or achieve a qualification at a higher ISCED level.

Figure A1.1. **National stock and flows of HRHC: a schematic model**

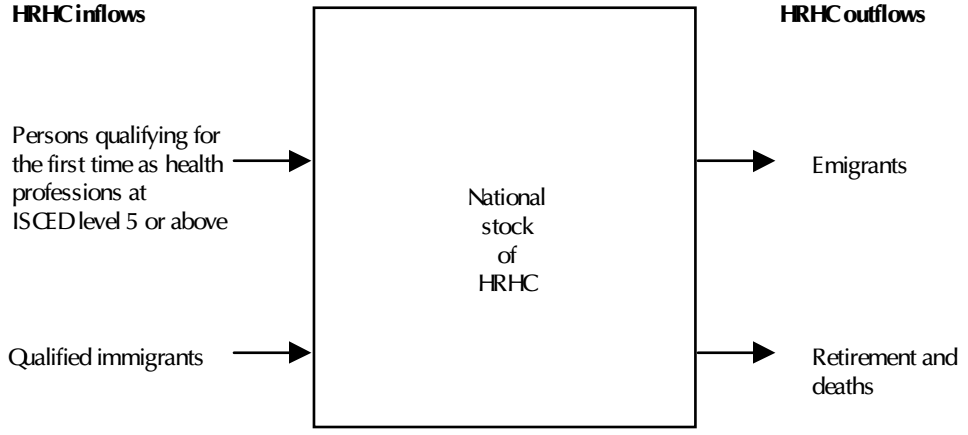


Figure A1.1 shows the HRHC stocks (of a country, for example) and the inflows and outflows, but not the internal HRHC flows and is illustrative only. Further subdivisions of the stocks and flows can be made showing more disaggregated levels. The national stock includes unemployed, inactive and retired people as well as those in work.

It is worth describing the inflows and outflows from the HRHC stock of a country in more detail. On the day they successfully complete third-level education in a medical field of study, people enter the HRHC stock regardless of their other characteristics, such as employment status or nationality. A country's HRHC stock can also increase through immigrants who are already qualified on entry. The outflows from the HRHC stock of a country are deaths, emigrants and people beyond an appropriately defined age limit (75 years or ten years after retirement). Qualified persons do not leave the national HRHC stock because of unemployment or retirement. The coverage of some of these external flows is described further in the following sections, dealing with the "pipeline" from the higher education sector, and defining the "national" aspect of national stocks and associated flows.

According to a number of characteristics, the HRHC stock can be split into many subsets within a country or a region, for example:

- the stock of HRHC employed in key health care occupations, in total or by kind of occupation; examples: number of physicians, pharmacists, qualified nurses;
- the stock of HRHC at a given educational level, in total or by field of study; examples: number of Ph.D. holders, number of pharmacists with a Ph.D.;
- the stock of HRHC split according to gender, age, or other personal characteristics; examples: number of female physicians aged under forty, number of female dentists.

Flows, like stocks, can be subdivided in many different ways, according to personal characteristics, geographical characteristics (place of departure or arrival), or type of flow. Three main categories of flows have already been identified – inflows, outflows and internal flows – and types of inflows and outflows were illustrated in Figure A1.1.

Examples of internal flows are:

- previously inactive people, entering a health care occupation, for example: a medical doctor returning to work after taking care of his or her children for some years;
- qualified persons becoming inactive, for example: family doctor retiring at the age of 60;
- qualified persons who were employed in a health care occupation and who move to a non-health care activity, for example: a physician becoming a consultant in the pharmaceutical industry;
- flows between different fields of health care activities, employment with different provider categories, or different status of employment;
- flows between ISCED levels 5, 6 and 7, for example: a medical assistant successfully completing university with a Ph.D.; flows between regions within countries, for example: nurses leaving the new *Bundesländer* in Germany to work in the old *Bundesländer*.

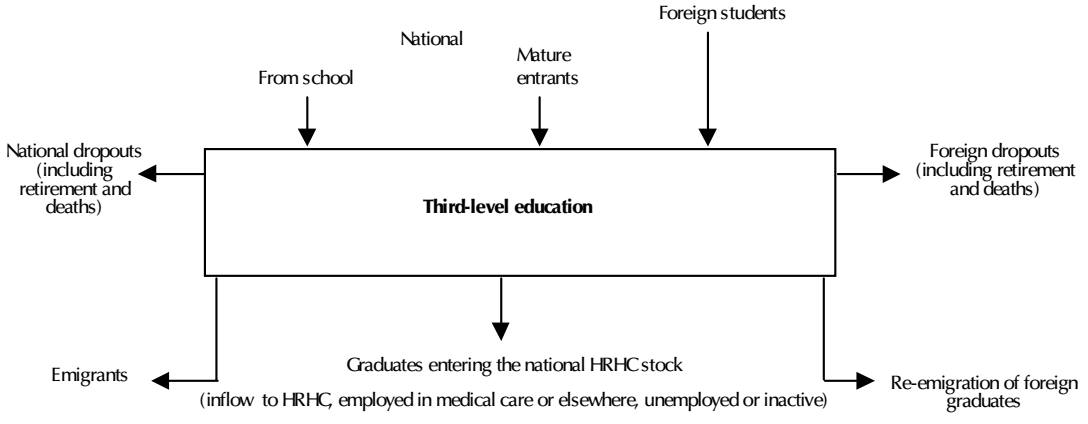
The pipeline

A leading inflow to a country's stock of HRHC is the output of its higher education system. The flow into, through and out of higher education has been called the pipeline. There are a series of key flows and critical points in the pipeline, all of which can be relevant. The inflows and outflows are illustrated in Figure A1.2. Again, each of these flows can be considered separately by field of health care study, level of qualification, and in relation to personal characteristics, such as age, gender and nationality.

Flows of foreign students have been shown separately in Figure A1.2 for three reasons. First, removing them from the HRHC figures may give a very different picture of trends in the "national" system. Second, they may be dealt with by different policy agencies (*e.g.* development aid) and subject to different regimes (*i.e.* fees) within universities or colleges, and often have visas which preclude them staying on once they have graduated. The third reason is that, for the revised System of National Accounts, they are not resident in their country of study and thus, unless they become resident upon completing their studies, do not enter the host's stock.

Note that people entering third-level education ("inputs") or already in the pipeline ("throughputs") are not HRHC until they graduate ("outputs"). All the same, information on these first two categories

Figure A1.2. **The major flows in the pipeline**



(student enrolments) is important since these numbers are one of the principal statistical elements for predicting the future supply of HRHC.

HRHC by labour force status

The main focus tends to be on HRHC personnel with full-time, permanent jobs. Given developments in the health care labour market, it is also important to identify part-time workers and, if possible, people with short-term contracts plus the number of unemployed. Similarly, HRHC out of the labour force must be divided between those who are still "in the pipeline" (notably postgraduate students), those who have left the system (the retired) and the rest.

The categorisation shown in the list below is recommended. With the exception of the breakdown of "employees", the categories are those proposed by the *ILO Manual* (ILO, 1990*b*). In line with ILO recommendations, students and retired people who undertake any economic activity, however small, during the reference period are to be treated as economically active (employed or unemployed). Only those with no economic activity at all should be treated as out of the labour force (SNA 96, 6.19-6.22, Domestic and personal services for own final consumption within households). Accordingly, the numbers of HRHC out of the labour force and attending educational institutions will not be the same as the number of HRHC enrolled for full-time (let alone part-time) studies – a point to be remembered when data are being compiled from multiple sources.

The dividing line (20 hours per week) between "full-time" and "part-time" refers to "usual hours of work", *i.e.* the modal value of "time actually worked" over a long period. In principle this breakdown should be applied to the national (or regional) stock in terms of residence. In order to do so it is necessary to ensure that the numbers in the labour force include persons resident in the country but employed or registered as unemployed in another, and exclude persons employed (or registered unemployed) in the country but not resident there.

The following breakdown shows types of data needed to build up the breakdown of national stocks.

In the labour force

Employed:
- armed forces;
- civilian employment;
  - employees;
  - full-time, permanent staff;
  - part-time, permanent staff (normally defined as under 20 hours per week);
  - short-term contract staff (defined as contracts having a duration of less than 3 years);
  - self-employed

Unemployed (and available for work)

Out of the labour force

- attending educational institutions (for example postgraduate students not elsewhere classified);
- engaged in household duties (not elsewhere classified);
- retired or old age n.e.c.;
- other inactive (infirmity, disablement, etc.) n.e.c.

ANNEX A.2. INTERNATIONAL CLASSIFICATION OF PROCEDURES IN MEDICINE

The International Classification of Procedures in Medicine (ICPM) was published by WHO in 1978 for trial purposes. This classification has been adopted by a few countries and used as a basis for national classifications of surgical operations by a number of other countries. It is for this reason used as an illustrative reference at some instances in Chapter 9 of this manual.

It should be noted that, because of the rapid advances in medical methodology, WHO decided that there should be no revision of the ICPM in conjunction with the Tenth Revision of the ICD (ICD-10, 1992). Only the basic structure of two-digit levels is reproduced in Table A2.1. For explanatory notes and further detail see WHO (1978).

Table A2.1. **ICPM chapters and divisions**

ICPM chapters		
1.	Procedures for medical diagnosis	
2.	Laboratory procedures	
3.	Radiology and certain other applications of physics in medicine	
4.	Preventive procedures	
5.	Surgical procedures	
6./7.	Drugs, medicaments and biological agents	
8.	Other therapeutical procedures	
9.	Ancillary procedures	
ICPM divisions		**ICPM codes (two-digit level)**
1. Procedures for medical diagnosis		
1	Initial medical attention	1.10 - 1.12
2	Subsequent medical attention	1.13 - 1.15
3	Consultation	1.16 - 1.18
4	New-born services	1.19
5	Examination of special systems	1.20 - 1.27
6	Examination of other special systems	1.30 - 1.37
7	Biopsy	1.40 - 1.49
8	Surgical biopsy	1.50 - 1.59
9	Endoscopy	1.60 - 1.69
10	Physiological function tests	1.70 - 1.76
11	Exploratory diagnostic procedures	1.80 - 1.89
12	Other procedures for diagnosis	1.90 - 1.99

Table A2.1. **ICPM chapters and divisions (cont.)**

2.	*Laboratory procedures*	
1	Clinical chemistry of blood	2.10 - 2.18
2	Clinical chemistry of other body fluids	2.20 - 2.28
3	Chemical function tests	2.30 - 2.36
4	Endocrine function tests and enzymes	2.40 - 2.49
5	Microbiology	2.50 - 2.57
6	Seriology and immunology	2.60 - 2.68
7	Mycology and parasitology	2.70 - 2.75
8	Haematology	2.80 - 2.88
9	General pathology	2.90 - 2.97
3.	*Radiology & certain other applications of physics in medicine*	
4.	*Preventive procedures*	
1	Certain health examinations	4.10 - 4.19
2	Screening examination	4.20 - 4.27
3	Prevention and control of infectious diseases	4.30 - 4.38
4	Prophylaxis and control of other general diseases	4.40 - 4.48
5	Control of local conditions	4.50 - 4.55
6	Maternal and child health care	4.60 - 4.79
5.	*Surgical procedures*	
6./7.	*Drugs, medicaments and biological agents*	
8.	*Other therapeutical procedures*	
1	Removal of unwanted material	8.10 - 8.19
2	Correction of misplacement	8.20 - 8.29
3	Immobilisation and support	8.30 - 8.38
4	Skeletal and other traction	8.40 - 8.48
5	Other mechanical procedures	8.50 - 8.58
6	Other therapy by physical agents	8.60 - 8.69
7	Respiratory procedures	8-70 - 8.78
8	Procedures affecting circulatory system	8.80 - 8.88
9	Pre- and postoperative procedures	8.89
10	Monitoring of patient	8.90 - 8.99
9.	*Ancillary procedures*	
1	Other therapy	9.10 - 9.19
2	Other care	9.20 - 9.29
3	Anatomo-physiological assistance	9.30 - 9.37
4	Physiotherapeutic and related techniques	9.40 - 9.49
5	Other rehabilitation	9.50 - 9.59
6	Psychotherapy	9.60 - 9.68
7	Socio-psychological and other specialised therapy	9.70 - 9.77
8	Long-term and follow-up procedures	9.80 - 9.82

Source: WHO (1978), *International Classification of Procedures in Medicine*, Vol. 1.

ANNEX A.3. INTERNATIONAL CLASSIFICATION OF PRIMARY CARE

The International Classification of Process in Primary Care (IC-Process-PC) was developed by the World Organisation of National Colleges, Academies, and Academic Associations of General Practitioners/Family physicians (WONCA) in collaboration with the North American Primary Care Research Group (NAPCRG). Notes on the general construction of the classification are summarised below (IC-Process-PC, 1986, p. 7). The recently published second edition of the International Classification of Primary Care (ICPM-2, 1998) provides a similar breakdown of procedures that is roughly compatible with the IC-Process-PC reproduced below. The IC-Process-PC provides more detail and precision and has for this reason been chosen instead of ICPM-2 for the purposes of the illustrations used in Chapter 9 on the ICHA-HC functional classifications.

The rubrics contained in this classification were selected because of frequency of uses as determined by field trials. The several sections of the classification are numbered from 1 to 9 as follows:

- site and duration of service;
- clinical laboratory;
- diagnostic imaging (including X-ray, nuclear scanning, ultra-sound, etc.);
- diagnostic procedures other than clinical laboratory and imaging;
- therapeutic procedures;
- therapeutic: drugs and pharmaceuticals;
- clinical and administrative services;
- disposition (follow-up).

The arrangement of the sections of the classification are consistent with a logical progression of the patient's encounter with a provider, beginning with the site and duration of services, progressing through diagnostic and therapeutic procedures, and concluding with plans for disposition (follow-up). Section 6 and 7 "Therapeutic: drugs and pharmaceuticals" occupies two sections because of the large number of rubrics required. The contents of Section 1 (Site and duration of service) and 9 (Disposition; follow up) are not listed in Table A3.1, as they are not relevant to the construction of the ICHA-HC functional classification.

Table A3.1. **IC-Process-PC: Sections and main headings**

IC-Process-PC number	IC-Process-PC item
Section 2	*Clinical laboratory*
20	Urine, physical and chemical tests
21	Blood chemistry (including tests on whole blood, plasma, or serum)
22	Automated blood chemistry profiles
23	Haematology
24	Immunology
25	Faeces
26	Microbiology: cultures
27	Microscopic examination
28	Specialised cytology and tissue pathology
29	Laboratory tests n.e.c.
Section 3	*Diagnostic imaging*
30	Plain X-ray, bone
31	Soft tissue imaging, plain (excluding nuclear scanning, nuclear magnetic resonance, ultrasound)
32	Contrast X-rays or photo-imaging
33	Computerised tomography and nuclear magnetic imaging
34	Nuclear scanning
35	Diagnostic ultrasound
39	Diagnostic imaging n.e.c.
Section 4	*Diagnostic procedures other than clinical laboratory and imaging*
40	Diagnostic skin testing and allergy testing
41	Electrical tracings
42	Endoscopy
43	Ocular testing
44	Hearing and vestibular testing
45	Pulmonary function tests
46	Assessment of foetal status
49	Diagnostic procedures other than clinical laboratory and imaging n.e.c.
Section 5	*Therapeutic procedures*
50	Repair or immobilisation
51	Excision, incision, biopsy, aspiration, or removal of tissue or body fluids
52	Destruction or cauterisation
53	Injection
54	Pressure, compression, dilation, tamponade or dressing
55	Physical therapies
56	Reproductive and urologic system procedures (including pregnancy termination), (excluding all other obstetrical procedures: section 57)
57	Obstetrical procedure (excluding pregnancy termination: 560)
58	Miscellaneous procedures
59	Procedures n.e.c

Table A3.1. **IC-Process-PC: Sections and main headings (cont.)**

Section 6 and 7	*Therapeutic: drugs and pharmaceuticals*
60	Alimentary tract
61	Metabolism
62	Blood and blood-forming organs
63	Cardiovascular system
64-65	Dermatologicals
66	Genito-urinary system and sex hormones
67	Systemic hormonal preparations (excluding sex hormones)
68	General anti-infectives, systemic
70	Musculo-skeletal system
71	Central nervous system
72	Parasitology
73	Respiratory system
74	Sensory organs
79	Various
Section 8	*Clinical and administrative services*
80	Complete medical assessment/health examination
81	Limited medical assessment/health examination
82	Psychological counselling/assessment and health education
83	Psychological counselling/assessment and health education:
84	Counselling/assessment and health education: sexuality and pregnancy
85	Service without assessment, examination, or counselling
89	Clinical and administrative services n.e.c

ANNEX A.4.
HEALTH IN THE CENTRAL PRODUCT CLASSIFICATION

The Central Product Classification (CPC) is part of the family of the United Nations classifications covering the whole economy (such as the International Standard Industrial Classification, and the SNA 93 classifications of expenditure by purpose). There exist in fact close links between all these three classifications. These links are apparent for those health care services, which are defined in terms of provider industries. Health care services are defined in the CPC in group 931, Human health services, which comprises three classes (Hospital services, Medical and dental services, Other human health services) and eight subclasses.

The *System of Health Accounts* is based on a two-dimensional approach that classifies expenditure on health separately by function (ICHA-HC functional classification) and by provider industry (ICHA-HP provider classification). The broad categories of health care services provided by the CPC are, for this reason, not sufficiently mapped to ICHA (two-dimensional) entities to be of specific use in the proposed health accounts. Relevant parts of the CPC are reproduced in Table A4.1 mainly to illustrate the structure behind the two related classifications, ISIC and SNA 93 functional classification, that are presented in the subsequent Annexes A.5 and A.6 of this manual. The CPC references to services of accident and health insurance (Class 7132) and administrative health care services (Subclass 91122) are also provided in Table A4.1, followed by explanatory notes.

EXPLANATORY NOTES TO TABLE A4.1

71320 Accident and health insurance services

This subclass includes:

- underwriting services of insurance policies which provide protection for hospital and medical expenses not covered by government programs and usually, other health care expenses such as prescribed drugs, medical appliances, ambulance, private duty nursing, etc.;
- underwriting services of insurance policies which provide protection for dental expenses;
- underwriting services of insurance policies which provide protection for medical expenses

Table A4.1. **Health care commodities in the CPC, Version 1**

Group	Class	Subclass	Title	Corresponding ISIC
Section 7			*Financial and related services; real estate services; rental and leasing services*	
Division 71			Financial intermediation, insurance and auxiliary services	
713			Insurance and pension services (excluding reinsurance services), except compulsory social security services	
	7132	71320	Accident and health insurance services	6603
Section 9			*Community, social and personal services*	
Division 91			Public administration and other services to the community as a whole; compulsory social security services	
911			Administrative services of the government	
	9112		Administrative services of agencies that provide educational, health care, cultural and other social services excluding social security services	
		91122	Administrative health care services	7512
Division 93			Health and social services	
931			Human health services	
	9311	93110	Hospital services	8511
	9312		Medical and dental services	
		93121	General medical services	8512
		93122	Specialised medical services	8512
		93123	Dental services	8512
	9319		Other human health services	
		93191	Deliveries and related services, nursing services, physiotherapeutic and para-medical services	8519
		93192	Ambulance services	8519
		93193	Residential health facilities services other than hospital services	8519
		93199	Other human health services n.e.c.	8519

incurred when travelling outside a certain geographic area;

- underwriting services of insurance policies which provide periodic payments when the insured is unable to work as a result of a disability due to illness or injury;
- underwriting services of insurance policies which provide accidental death and dismemberment insurance, that is payment in the event that an accident results in death or loss of one or more bodily members (such as hands or feet) or the sight of one or both eyes.

91122 Administrative health care services

This subclass includes:

- public administrative services for all kinds of health and social services;
- management, operation, inspection and support services for general and specialised medical or dental hospitals and clinics, plus nursing and convalescent home services;
- administration, management, operation and support services in public health matters, such as blood-bank operation services, disease detection

services, prevention services, management of drug quality programmes, birth control services, etc. These services are frequently provided by special teams or individual health professionals not connected with a hospital, clinic or practitioner.

This subclass does not include:
- sickness benefit services, cf. 91310;
- social work services, cf. 933.

93110 Hospital services

This subclass includes:
- surgical services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient;
- medical services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient;
- gynaecological and obstetrical services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient;
- rehabilitation services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient;
- psychiatric services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient;
- other hospital services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient. These services comprise medical, pharmaceutical and paramedical services, nursing services, laboratory and technical services including radiological and anaesthesiological services, etc.;
- military hospital services;
- prison hospital services.

This subclass does not include:
- services delivered by hospital out-patient clinics, cf. 9312;
- dental services, cf. 93123;
- ambulance services, cf. 93192.

93121 General medical services

This subclass includes:
- services consisting of the prevention, diagnosis and treatment by doctors of medicine of physical and/or mental diseases of a general nature, such as:
  - consultations
  - physical check-ups, etc. These services are not limited to specified or particular conditions, diseases or anatomical regions. They can be provided in general practitioners' practices and also delivered by out-patient clinics, clinics attached to firms, schools, etc.

93122 Specialised medical services

This subclass includes:
- consultation services in paediatrics, gynaecology-obstetrics, neurology and psychiatry, and various medical services;
- surgical consultation services;
- treatment services in out-patients clinics, such as dialysis, chemotherapy, insulin therapy, respirator treatment, X-ray treatment and the like;
- functional exploration and interpreting of medical images (X-ray photographs, electrocardiograms, endoscopies and the like).

This subclass does not include:
- services of medical laboratories, cf. 93199.

93123 Dental services

This subclass includes:
- orthodontic services, *e.g.* treatment of protruding teeth, crossbite, overbite, etc., including

dental surgery even when given in hospitals to in-patients;
- services in the field of oral surgery;
- other specialised dental services, *e.g.* in the field of periodontics, paedondontics, endodontics and reconstruction;
- diagnosis and treatment services of diseases affecting the patient or aberrations in the cavity of the mouth, and services aimed at the prevention of dental diseases.

Note: these dental services can be delivered in health clinics, such as those attached to schools, firms, homes for the aged, etc., as well as in own consulting rooms. They cover services in the field of general dentistry, such as routine dental examinations, preventive dental care, treatment of caries, etc.

93191 Deliveries and related services, nursing services, physiotherapeutic and para-medical services

This subclass includes:
- services such as supervision during pregnancy and childbirth;
- supervision of the mother after birth;
- services in a field of nursing care (without admission), advice and prevention for patients at home, the provision of maternity care, children's hygiene, etc.;
- services provided by physiotherapists and other para-medical persons (including homeopathological and similar services);
- physiotherapy and para-medical services are services in the field of physiotherapy, ergo therapy, occupational therapy, speech therapy, homeopathy, acupuncture, nutrition, etc. These services are provided by authorised persons, other than medical doctors.

93192 Ambulance services

This subclass includes:
- services involving transport of patients by ambulance, with or without resuscitation equipment or medical personnel.

93193 Residential health facilities services other than hospital services

This subclass includes:
- combined lodging and medical services provided without the supervision of a medical doctor located on the premises.

93199 Other human health services n.e.c.

This subclass includes
- services provided by medical laboratories;
- services provided by blood, sperm and transplant organ banks;
- dental testing services;
- medical analysis and testing services;
- other human health services n.e.c.

ANNEX A.5.
HEALTH CARE IN ISIC, THIRD REVISION

The International Standard Industrial Classification (ISIC) provides a set of activity categories for classifying industries that is widely used in national and international statistical work. The ICHA-HP classification of health care provider industries retains a basic compatibility with health care industries as defined in the ISIC – albeit only at an aggregate level. As has been stated, this manual recommends maintaining close links between the *System of Health Accounts* and industrial statistics. Table A5.1 shows the structure of health care service industries according to ISIC, Rev. 3 and is followed by explanatory notes (United Nations, 1990, ISIC, Rev. 3).

EXPLANATORY NOTES TO TABLE A5.1.

523 Other retail trade of new goods in specialised stores

5231 Retail sale of pharmaceutical and medical goods, cosmetic and toilet articles

This class includes the specialised retail trade of pharmaceutical, medical and orthopaedic goods; perfumery articles, cosmetic articles and toilet soaps.

660 Insurance and pension funding, except compulsory social security

6603 Non-life insurance

This class includes insurance (including reinsurance) of non-life business (*e.g.* accident, fire, health, property, motor, marine, aviation, transport, pecuniary loss and liability insurance).

751 Administration of the State and the economic and social policy of the community

7512 Regulation of the activities of agencies that provide health care, education, cultural services and other social services, excluding social security

This class includes public administration of programmes and administration of R&D policies and associated funds intended to increase personal well-being. Administration of health care, promotion and protection programmes. Administration of primary, secondary, post-secondary and special retraining programmes. Administration of programmes to provide recreational and cultural services, such as performing arts or fitness and amateur sport programmes. Sponsoring of recreational and cultural activities. Distribution of

Table A5.1. **Health care service industries according to ISIC**

Tabulation categories	Group	Class	Description
G			Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
	Division 52		Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
	523	5231	Retail sale of pharmaceutical and medical goods, cosmetic and toilet articles
J			Financial intermediation
	Division 66		Insurance and pension funding, except compulsory social security
	660		Insurance and pension funding, except compulsory social security
		6603	Non-life insurance
L			Public administration and defence; compulsory social security
	Division 75		Public administration and defence; compulsory social security
	751		Administration of the State and economic and social policy of the community
		7512	Regulation of the activities of agencies that provide health care education, cultural services and other social services excluding social security
	753	7530	Compulsory social security activities
N			Health and social work
	Division 85		Health and social work
	851		Human health activities
		8511	Hospital activities
		8512	Medical and dental practice activities
		8519	Other human health activities

grants to artists. Administration of potable water supply programmes. Administration of refuse collection and disposal operations. Administration of environment protection programmes, such as water purification and pollution control. Administration of housing programme.

753 *7530 Compulsory social security activities*

This class includes the funding and administration of government-provided social security programmes. Social security services may be defined as chiefly transfer payment to compensate for reduction or loss of income or inadequate earning capacity. Compulsory social security normally covers sickness, accident and unemployment insurance and retirement pensions. Also more specific risks leading to loss of income may be covered: maternity, temporary disablement, widowhood, family increase.

Exclusions: direct provision of welfare services and other social work with accommodation is classified in class 8531, and without accommodation in class 8532, respectively.

851 Human health activities

8511 Hospital activities

This class includes the activities of general and specialised hospitals, sanatoria, preventoria, asylums, rehabilitation centres, leprosaria, dental centres and other health institutions that have accommodation facilities, including military base and prison hospitals. The activities are chiefly directed to in-patients and carried out under the direct supervision of medical doctors. They comprise the services of medical and paramedical staff, laboratory and technical facilities, including radiological and anaesthesiological services, food and other hospital facilities and resources such as emergency room services.

Exclusions: health activities for military personnel in the field are classified in class 7522 (Defence activities). Dental activities without accommodation are classified in class 8512 (Medical and dental practice activities). Activities carried out predominantly for out-patients are classified in class 8519 (Other human health activities), as are activities of ambulances.

Veterinary activities are classified in class 8520.

8512 Medical and dental practice activities

This class includes consultation and treatment activities of general physicians and medical specialists including dentists. It involves activities of doctors of general medicine or medical specialists or surgeons in health institutions (including hospital out-patient clinics and departments of prepaid groups of physicians) or private practice. Included are activities carried out in clinics such as those attached to firms, schools, houses for the aged, labour organisations and fraternal organisations as well as in-patients' homes. Patients are usually ambulatory and can be referred to specialists by general practitioners. Dental activities may be of general or specialised nature and can be carried out in a private practice or in out-patient clinics including clinics attached to firms, schools, etc., as well as in operating rooms.

Exclusions: in-patient hospital activities are classified in class 8511 (Hospital activities). Para-medical activities such as those of midwives, nurses and physiotherapists are classified in class 8519 (Other human health activities).

8519 Other human health activities

This class includes all activities for human health not performed by hospitals or by medical doctors or dentists. This involves activities or, under the supervision of, nurses, midwives, physiotherapists or other para-medical practitioners in the field of optometry, hydrotherapy, medical massage, occupational therapy, speech therapy, chiropody, homeopathy, chiropractice, acupuncture, etc. These activities may be carried out in health clinics such as those attached to firms, schools, homes for the aged, labour organisations and fraternal organisations, in residential health facilities other than hospitals, as well as in own consulting rooms, patients' homes or elsewhere. Included are the activities of dental auxiliaries such as dental therapists, school dental nurses and dental hygienists, who may work remote from the dentist but who are supervised periodically by the dentist. Also included are clinics, pathological and other diagnostic activities carried out by independent laboratories, of any kind, activities of blood banks, ambulance and air-ambulance activities, residential health facilities except hospitals, etc.

Exclusions: production of artificial teeth, dentures and prosthetic appliances by dental laboratories are classified in class 3311 (Manufacture of medical and surgical equipment and orthopaedic appliances). Testing activities in the field of food hygiene are classified in class 7422 (Technical testing and analysis).

ANNEX A.6.
HEALTH IN THE SNA CLASSIFICATIONS ACCORDING TO PURPOSE

The SNA 93 includes four classifications of expenditure according to purpose (formerly called functional classifications):

- COICOP: Classification of Individual Consumption by Purpose;
- COPNI: Classification of the Purposes of Nonprofit Institutions Serving Households;
- COFOG: Classification of the Functions of Government;
- COPP: Classification of the Outlays of Producers by Purpose.

"Health" is one of the purposes (functions) that is common to all four of these classifications. The distinction between individual and collective consumption is implemented in the revised system of classifications of expenditure according to purpose in the following way (United Nations, 1998*b*, p. 5):

- COICOP is used to classify individual consumption expenditure of households, NPISHs and general government;
- COPNI and COFOG are used to classify a range of transactions, including outlays on final consumption expenditure, intermediate consumption, gross capital formation and capital and current transfers, by NPISHs and general government respectively;
- COPP is used to classify intermediate consumption and capital outlays of financial and non-financial corporate and unincorporated enterprises.

This annex lists relevant health sections of the SNA 93 functional classifications for reference in health accounting. More detail can be found in United Nations (1998*b*). Table A6.1 provides an overview on health care items in the four classifications.

Table A6.1. **Health in the SNA classifications of expenditure according to purpose**

Purpose	COICOP: households	COICOP: NPISHs	COICOP: government	Actual individual consumption	COPNI	COFOG	COPP
Health	06	13.2	14.2	06 + 13.2 + 14.2	02	07	05.2
Medical products, appliances and equipment	06.1	–	–	–	02.1	07.1	–
Pharmaceutical products	06.1.1	13.2.1	14.2.1	–	02.1.1	07.1.1	–
Other medical products	06.1.2	13.2.2	14.2.2	–	02.1.2	07.1.2	–
Therapeutic appliances and equipment	06.1.3	13.2.3	14.2.3	–	02.1.3	07.1.3	–
Out-patient services	06.2	–	–	–	02.2	07.2	–
Medical services	06.2.1	13.2.4	14.2.4	–	02.2.1	–	–
General medical services	–	–	–	–	–	07.2.1	–
Specialised medical services	–	–	–	–	–	07.2.2	–
Dental services	06.2.2	13.2.5	14.2.5	–	02.2.2	07.2.3	–
Paramedical services	06.2.3	13.2.6	14.2.6	–	02.2.3	07.2.4	–
Hospital services	06.3	13.2.7	14.2.7	–	02.3	07.3	–
General hospital services	–	–	–	–	–	07.3.1	–
Specialised hospital services	–	–	–	–	–	07.3.2	–
Medical and maternity centre services	–	–	–	–	–	07.3.3	–
Nursing and convalescent home services	–	–	–	–	–	07.3.4	–
Other health services (health n.e.c., COFOG)	–	13.2.8	–	–	02.6	07.6	–
Public health services	–	–	14.2.8	–	02.4	07.4	–
Health R&D	–	–	–	–	02.5	07.5	–

HEALTH IN THE CLASSIFICATION OF INDIVIDUAL CONSUMPTION (COICOP)

COICOP is an integral part of the 1993 SNA, but it is intended also for use in three other statistical areas, namely: household budget surveys; consumer price indices; international comparison programmes (PPPs). COICOP classes are divided into services (S), non-durables (ND) and semi-durables (SD) and durables (D). This allows analysis of goods that are identified as durables as stock of goods for use similar to capital goods. The SHA, however, does not use this subdivision for final consumption of health care goods and services.

Health in COICOP (private households): definition by class

06. Health

This division also includes health services purchased from school and university health centres.

06.1 Medical products, appliances and equipment

This group covers medicaments, prostheses, medical appliances and equipment and other health-related products purchased by individuals or households, either with or without a prescription,

usually from dispensing chemists, pharmacists or medical equipment suppliers. They are intended for consumption or use outside a health facility or institution. Such products supplied directly to out- patients by medical, dental and paramedical practitioners or to in-patients by hospitals and the like are included in out-patient services (06.2) or hospital services (06.3).

06.1.1 Pharmaceutical products (ND)

- Medicinal preparations, medicinal drugs, patent medicines, serums and vaccines, vitamins and minerals, cod liver oil and halibut liver oil, oral contraceptives.

Excludes: veterinary products (09.3.4); articles for personal hygiene such as medicinal soaps (12.1.3).

06.1.2 Other medical products (ND)

- Clinical thermometers, adhesive and non-adhesive bandages, hypodermic syringes, first-aid kits, hot-water bottles and ice bags, medical hosiery items such as elasticised stockings and knee-supports, pregnancy tests, condoms and other mechanical contraceptive devices.

06.1.3 Therapeutic appliances and equipment (D)

- Corrective eye-glasses and contact lenses, hearing aids, glass eyes, artificial limbs and other prosthetic devices, orthopaedic braces and supports, orthopaedic footwear, surgical belts, trusses and supports, neck braces, medical massage equipment and health lamps, powered and unpowered wheelchairs and invalid carriages, "special" beds, crutches, electronic and other devices for monitoring blood pressure, etc.
- Repair of such articles.

Includes: dentures but not fitting costs.

Excludes: hire of therapeutic equipment (06.2.3); protective goggles, belts and supports for sport (09.3.2); sun-glasses not fitted with corrective lenses (12.3.2).

06.2 Out-patient services

This group covers medical, dental and paramedical services delivered to out-patients by medical, dental and paramedical practitioners and auxiliaries. The services may be delivered at home, in individual or group consulting facilities, dispensaries or the out-patient clinics of hospitals and the like.

Out-patient services include the medicaments, prostheses, medical appliances and equipment and other health-related products supplied directly to out-patients by medical, dental and paramedical practitioners and auxiliaries.

Medical, dental and paramedical services provided to in-patients by hospitals and the like are included in hospital services (06.3).

06.2.1 Medical services (S)

- Consultations of physicians in general or specialist practice.

Includes: services of orthodontic specialists.

Excludes: services of medical analysis laboratories and X-ray centres (06.2.3); services of practitioners of traditional medicine (06.2.3).

06.2.2 Dental services (S)

- Services of dentists, oral-hygienists and other dental auxiliaries.

Includes: fitting costs of dentures.

Excludes: dentures (06.1.3); services of orthodontic specialists (06.2.1); services of medical analysis laboratories and X-ray centres (06.2.3).

06.2.3 Paramedical services (S)

- Services of medical analysis laboratories and X-ray centres.
- Services of freelance nurses and midwives.

- Services of freelance acupuncturists, chiropractors, optometrists, physiotherapists, speech therapists, etc.
- Medically-prescribed corrective-gymnastic therapy.
- Out-patient thermal bath or seawater treatments;
- Ambulance services.
- Hire of therapeutic equipment.

Includes: services of practitioners of traditional medicine.

06.3 Hospital services

Hospitalisation is defined as occurring when a patient is accommodated in a hospital for the duration of the treatment. Hospital day care and home-based hospital treatment are included as are hospices for terminally-ill persons.

This group covers the services of general and specialist hospitals, the services of medical centres, maternity centres, nursing homes and convalescence homes which chiefly provide in-patient health care, the services of institutions serving old people in which medical monitoring is an essential component and the services of rehabilitation centres providing in-patient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support.

Hospitals are defined as institutions which offer in-patient care under direct supervision of qualified medical doctors. Medical centres, maternity centres, nursing homes and convalescent homes also provide in-patient care but their services are supervised and frequently delivered by staff of lower qualification than medical doctors.

This group does not cover the services of facilities, such as surgeries, clinics and dispensaries, devoted exclusively to out-patient care (06.2). Nor does it include the services of retirement homes for elderly persons, institutions for disabled persons and rehabilitation centres providing primarily long-term support (12.4).

06.3.0 Hospital services (S)

Hospital services comprise the provision of the following services to hospital in-patients:

- Basic services: administration; accommodation; food and drink; supervision and care by non-specialist staff (nursing auxiliaries); first-aid and resuscitation; ambulance transport; provision of medicines and other pharmaceutical products; provision of therapeutic appliances and equipment.
- Medical services: services of physicians in general or specialist practice, of surgeons and of dentists; medical analyses and X-rays; paramedical services such as those of nurses, midwives, chiropractors, optometrists, physiotherapists, speech therapists, etc.

12. Miscellaneous goods and services

12.5 Insurance

Service charges for insurance are classified by type of insurance, namely: life insurance and non-life insurance (that is, insurance in connection with the dwelling, health, transport, etc.). Service charges for multi-risk insurance covering several risks should be classified on the basis of the cost of the principal risk if it is not possible to allocate the service charges to the various risks covered.

Service charge is defined as the difference between claims due and premiums earned and premium supplement.

12.5.3 Insurance connected with health (S)

- Service charges for private sickness and accident insurance.

Health in COICOP (NPISHs): definition by class

13.2 Health

The same function is covered under COPNI Groups 02.1 to 02.6.

This group corresponds to Division 06 (individual consumption expenditure of households on health) and Group 14.2 (individual consumption expenditure of general government on health).

13.2.1 Pharmaceutical products (ND)
- As specified in COPNI 02.1.1. Corresponds to (06.1.1) and (14.2.1).

13.2.2 Other medical products (ND)
- As specified in COPNI 02.1.2. Corresponds to (06.1.2) and (14.2.2).

13.2.3 Therapeutic appliances and equipment (D)
- As specified in COPNI 02.1.3. Corresponds to (06.1.3) and (14.2.3).

13.2.4 Out-patient medical services (S)
- As specified in COPNI 02.2.1. Corresponds to (06.2.1) and (14.2.4).

13.2.5 Out-patient dental services (S)
- As specified in COPNI 02.2.2. Corresponds to (06.2.2) and (14.2.5).

13.2.6 Out-patient paramedical services (S)
- As specified in COPNI 02.2.3. Corresponds to (06.2.3) and (14.2.6).

13.2.7 Hospital services (S)
- As specified in COPNI 02.3.0. Corresponds to (06.3.0) and (14.2.7).

13.2.8 Other health services (S)
- As specified in COPNI 02.4.0, 02.5.0 and 02.6.0.

Health in COICOP (government): definition by class

14.2 Health

The same function is covered under COFOG Groups 07.1 to 07.4.

This group corresponds to Division 06 (individual consumption expenditure of households on health) and Group 13.2 (individual consumption expenditure of NPISHs on health).

14.2.1 Pharmaceutical products (ND)
- As specified in COFOG 07.1.1. Corresponds to (06.1.1) and (13.2.1).

14.2.2 Other medical products (ND)
- As specified in COFOG 07.1.2. Corresponds to (06.1.2) and (13.2.2).

14.2.3 Therapeutic appliances and equipment (D)
- As specified in COFOG 07.1.3. Corresponds to (06.1.3) and (13.2.3).

14.2.4 Out-patient medical services (S)
- As specified in COFOG 07.2.1 and 07.2.2. Corresponds to (06.2.1) and (13.2.4).

14.2.5 Out-patient dental services (S)
- As specified in COFOG 07.2.3. Corresponds to (06.2.2) and (13.2.5).

14.2.6 Out-patient paramedical services (S)
- As specified in COFOG 07.2.4. Corresponds to (06.2.3) and (13.2.6).

14.2.7 Hospital services (S)
- As specified in COFOG 07.3.1, 07.3.2, 07.3.3 and 07.3.4. Corresponds to (06.3.0) and (13.2.7).

14.2.8 Public health services (S)
- As specified in COFOG 07.4.0.

HEALTH IN COPNI: DEFINITION BY CLASS

02. Health

This division includes the following NPISHs:
- general and specialised hospitals, nursing and convalescence homes, medical and maternity centres, hospices for terminally-ill persons;
- surgeries, clinics, vaccination centres and dispensaries;
- rehabilitation centres where the objective is to treat patients rather than to provide long-term support;
- volunteer organisations for ambulance crews and paramedical personnel that provide emergency medical services;
- organisations that promote public health and health education;
- organisations that provide medical services to persons who are victims of wars, famines and natural catastrophes whether in their own country or abroad;
- organisations that undertake research and scientific studies on medical and health matters and trust funds or charitable organisations that finance such activities;
- charitable foundations that provide financial support for hospitals, nursing homes, surgeries, etc. and charitable foundations that provide financial support for patients.

Includes: hospitals, nursing homes, surgeries, etc., funded by religious organisations.

Excludes: residential homes for elderly or disabled persons (05.1.0); shelters for homeless persons (05.1.0).

02.1 Medical products, appliances and equipment

This group covers medicaments, prostheses, medical appliances and equipment and other health-related products obtained by individuals or households, either with or without a prescription, usually from dispensing chemists, pharmacists or medical equipment suppliers. They are intended for consumption or use outside a health facility or institution. Such products supplied directly to out-patients by medical, dental and paramedical practitioners or to in-patients by hospitals and the like are included in out-patient services (02.2) or hospital services (02.3).

02.1.1 Pharmaceutical products
- Provision of pharmaceutical products such as medicinal preparations, medicinal drugs, patent medicines, serums and vaccines, vitamins and minerals, cod liver oil and halibut liver oil, oral contraceptives.

02.1.2 Other medical products
- Provision of medical products such as clinical thermometers, adhesive and non-adhesive bandages, hypodermic syringes, first-aid kits, hot-water bottles and ice bags, medical hosiery items such as elasticised stockings and knee-pads, pregnancy tests, condoms and other mechanical contraceptive devices.

02.1.3 Therapeutic appliances and equipment
- Provision of therapeutic appliances and equipment such as corrective eye-glasses and contact lenses, hearing aids, glass eyes, artificial limbs and other prosthetic devices, orthopaedic braces and supports, orthopaedic footwear, surgical belts, trusses and supports, neck braces, medical massage equipment and health lamps, powered and unpowered wheelchairs and invalid carriages, "special" beds, crutches, electronic and other devices for monitoring blood pressure, etc.

Includes: dentures but not fitting costs; repair of therapeutic appliances and equipment.

Excludes: hire of therapeutic equipment (02.2.3).

02.2 Out-patient services

This group covers medical, dental and paramedical services delivered to out-patients by medical, dental and paramedical practitioners and auxiliaries. The services may be delivered at home, in individual or group consulting facilities, dispensaries or the out-patient clinics of hospitals and the like.

Out-patient services include the medicaments, prostheses, medical appliances and equipment and other health-related products supplied directly to out-patients by medical, dental and paramedical practitioners and auxiliaries.

Medical, dental and paramedical services provided to in-patients by hospitals and the like are included in hospital services (02.3).

02.2.1 Medical services

- Provision of medical services by general medical practitioners and specialist medical practitioners.

Includes: services of orthodontic specialists.

Excludes: services of medical analysis laboratories and X-ray centres (02.2.3); services of practitioners of traditional medicine (02.2.3).

02.2.2 Dental services

- Provision of dental services by dentists, oral-hygienists and other dental auxiliaries.

Includes: fitting costs of dentures.

Excludes: dentures (02.1.3); services of orthodontic specialists (02.2.1); services of medical analysis laboratories and X-ray centres (02.2.3).

02.2.3 Paramedical services

- Provision of paramedical services such as:
  - services of medical analysis laboratories and X-ray centres;
  - services of nurses and midwives;
  - services of acupuncturists, chiropractors, optometrists, physiotherapists, speech therapists, etc.;
  - medically-prescribed corrective-gymnastic therapy;
  - out-patient thermal bath or seawater treatments;
  - ambulance services other than hospital ambulance services;
  - hire of therapeutic equipment.

Includes: services of practitioners of traditional medicine.

Excludes: public health service laboratories (02.4.0); laboratories engaged in determining the causes of disease (02.5.0).

02.3 Hospital services

Hospitalisation is defined as occurring when a patient is accommodated for the duration of the treatment. Hospital day care and home-based hospital treatment are included as are hospices for terminally-ill persons.

This group covers the services of general and specialist hospitals, the services of medical centres, maternity centres, nursing homes and convalescence homes which chiefly provide in-patient services, the services of institutions serving old people in which medical monitoring is an essential component and the services of rehabilitation centres providing in-patient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support.

Hospitals are defined as institutions which offer in-patient care under direct supervision of qualified medical doctors. Medical centres, maternity centres, nursing homes and convalescent homes also provide in-patient care but their services are

supervised and frequently delivered by staff of lower qualification than medical doctors.

This group does not cover facilities, such as surgeries, clinics and dispensaries, devoted exclusively to out-patient care (02.2). Nor does it include retirement homes for elderly persons, institutions for disabled persons and rehabilitation centres providing primarily long-term support (05.1).

02.3.0 Hospital services

- Provision of the following services to hospital patients:
  - basic services: administration; accommodation; food and drink; supervision and care by non-specialist staff (nursing auxiliaries); first-aid and resuscitation; ambulance transport; provision of medicines and other pharmaceutical products; provision of therapeutic appliances and equipment;
  - medical services: services of physicians in general or specialist practice, of surgeons and of dentists; medical analysis and X-rays; paramedical services such as those of nurses, midwives, chiropractors, optometrists, physiotherapists, speech therapists, etc.

02.4 Public health services

02.4.0 Public health services

- Provision of public health services such as preparation and dissemination of information on public health matters, family planning services, blood-bank operation (collecting, processing, storing, shipping), disease detection (cancer, tuberculosis, venereal disease), prevention (immunisation, inoculation), monitoring (infant nutrition, child health), epidemiological data collection and so forth.

Includes: public health services delivered by special teams to groups of clients, most of whom are in good health, at work places, schools or other non-medical settings; public health services not connected with a hospital, clinic or practitioner; public health services not delivered by medically qualified doctors; public health service laboratories.

Excludes: medical analysis laboratories (02.2.3); laboratories engaged in determining the causes of disease (02.5.0).

02.5 R&D health

02.5.0 R&D Health

- Applied research and experimental development on subjects related to health.

02.6 Other health services

02.6.0 Other health services

- Health services provided by NPISHs and not classified under (02.1.1) to (02.5.0).

HEALTH IN COFOG: DEFINTION BY CLASS

07. Health

Government outlays on health include expenditures on services provided to individual persons and services provided on a collective basis. Expenditures on individual services are allocated to groups (07.1) through (07.4); expenditures on collective services are assigned to groups (07.5) and (07.6).

Collective health services are concerned with matters such as formulation and administration of government policy; setting and enforcement of standards for medical and paramedical personnel and for hospitals, clinics, surgeries, etc.; regulation and licensing of providers of health services; and applied research and experimental development into medical and health-related matters. However, overhead expenses connected with ad-

ministration or functioning of a group of hospitals, clinics, surgeries, etc., are considered to be individual expenditures and are classified to groups (07.1) through (07.4) as appropriate.

07.1 Medical products, appliances and equipment

This group covers medicaments, prostheses, medical appliances and equipment and other health-related products obtained by individuals or households, either with or without a prescription, usually from dispensing chemists, pharmacists or medical equipment suppliers. They are intended for consumption or use outside a health facility or institution. Such products supplied directly to out-patients by medical, dental and paramedical practitioners or to in-patients by hospitals and the like are included in out-patient services (07.2) or hospital services (07.3).

07.1.1 Pharmaceutical products

- Provision of pharmaceutical products such as medicinal preparations, medicinal drugs, patent medicines, serums and vaccines, vitamins and minerals, cod liver oil and halibut liver oil, oral contraceptives.
- Administration, operation or support of the provision of pharmaceutical products.

07.1.2 Other medical products

- Provision of medical products such as clinical thermometers, adhesive and non-adhesive bandages, hypodermic syringes, first-aid kits, hot-water bottles and ice bags, medical hosiery items such as elasticised stockings and knee-pads, pregnancy tests, condoms and other mechanical contraceptive devices.
- Administration, operation or support of the provision of prescribed other medical products.

07.1.3 Therapeutic appliances and equipment

- Provision of therapeutic appliances and equipment such as corrective eye-glasses and contact lenses, hearing aids, glass eyes, artificial limbs and other prosthetic devices, orthopaedic braces and supports, orthopaedic footwear, surgical belts, trusses and supports, neck braces, medical massage equipment and health lamps, powered and unpowered wheelchairs and invalid carriages, "special" beds, crutches, electronic and other devices for monitoring blood pressure, etc.
- Administration, operation or support of the provision of prescribed therapeutic appliances and equipment.

Includes: dentures but not fitting costs; repair of therapeutic appliances and equipment.

Excludes: hire of therapeutic equipment (07.2.4).

07.2 Out-patient services

This group covers medical, dental and paramedical services delivered to out-patients by medical, dental and paramedical practitioners and auxiliaries. The services may be delivered at home, in individual or group consulting facilities, dispensaries or the out-patient clinics of hospitals and the like.

Out-patient services include the medicaments, prostheses, medical appliances and equipment and other health-related products supplied directly to out-patients by medical, dental and paramedical practitioners and auxiliaries.

Medical, dental and paramedical services provided to in-patients by hospitals and the like are included in hospital services (07.3).

07.2.1 General medical services

This class covers the services provided by general medical clinics and general medical practitioners.

General medical clinics are defined as institutions which chiefly provide out-patient services which

are not limited to a particular medical speciality and which are chiefly delivered by qualified medical doctors. General medical practitioners do not specialise in a particular medical speciality.

- Provision of general medical services.
- Administration, inspection, operation or support of general medical services delivered by general medical clinics and general medical practitioners.

Excludes: services of medical analysis laboratories and X-ray centres (07.2.4).

07.2.2 Specialised medical services

This class covers the services of specialised medical clinics and specialist medical practitioners.

Specialised medical clinics and specialist medical practitioners differ from general medical clinics and general medical practitioners in that their services are limited to treatment of a particular condition, disease, medical procedure or class of patient.

- Provision of specialised medical services.
- Administration, inspection, operation or support of specialised medical services delivered by specialised medical clinics and specialist medical practitioners.

Includes: services of orthodontic specialists.

Excludes: dental clinics and dentists (07.2.3); services of medical analysis laboratories and X-ray centres (07.2.4).

07.2.3 Dental services

This class covers the services of general or specialist dental clinics and dentists, oral hygienists or other dental operating auxiliaries.

Dental clinics provide out-patient services. They are not necessarily supervised or staffed by dentists, they may be supervised or staffed by oral hygienists or by dental auxiliaries.

- Provision of dental services to out-patients.
- Administration, inspection, operation and support of dental services delivered by general or specialist dental clinics and by dentists, oral hygienists or other dental auxiliaries.

Includes: fitting costs of dentures.

Excludes: dentures (07.1.3); services of orthodontic specialists (07.2.2); services of medical analysis laboratories and X-ray centres (07.2.4).

07.2.4 Paramedical services

- Provision of paramedical health services to out-patients.
- Administration, inspection, operation or support of health services delivered by clinics supervised by nurses, midwives, physiotherapists, occupational therapists, speech therapists or other paramedical personnel and of health services delivered by nurses, midwives and paramedical personnel in non-consulting rooms, in patients' homes or other non-medical institutions.

Includes: acupuncturists, chiropodists, chiropractors, optometrists, practitioners of traditional medicine, etc.; medical analysis laboratories and X-ray centres; hire of therapeutic equipment; medically-prescribed corrective-gymnastic therapy; out-patient thermal bath or seawater treatments; ambulance services other than ambulance services operated by hospitals.

Excludes: public health service laboratories (07.4.0); laboratories engaged in determining the causes of disease (07.5.0).

07.3 Hospital services

Hospitalisation is defined as occurring when a patient is accommodated in a hospital for the du-

ration of the treatment. Hospital day care and home-based hospital treatment are included as are hospices for terminally-ill persons.

This group covers the services of general and specialist hospitals, the services of medical centres, maternity centres, nursing homes and convalescence homes which chiefly provide in-patient services, the services of military base hospitals, the services of institutions serving old people in which medical monitoring is an essential component and the services of rehabilitation centres providing in-patient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support.

Hospitals are defined as institutions which offer in-patient care under direct supervision of qualified medical doctors. Medical centres, maternity centres, nursing homes and convalescent homes also provide in-patient care but their services are supervised and frequently delivered by staff of lower qualification than medical doctors.

The group does not cover facilities such as military field hospitals (02.1), surgeries, clinics and dispensaries devoted exclusively to out-patient care (07.2), institutions for disabled persons and rehabilitation centres providing primarily long-term support (10.1.2), retirement homes for elderly persons (10.2.0). Neither does it cover payments to patients for loss of income due to hospitalisation (10.1.1).

Hospital services include medicaments, prostheses, medical appliances and equipment and other health-related products supplied to hospital patients. It also includes non-medical expenditure of hospitals on administration, non-medical staff, food and drink, accommodation (including staff accommodation), etc.

07.3.1 General hospital services

- Provision of general hospital services.
- Administration, inspection, operation or support of hospitals that do not limit their services to a particular medical speciality.

Excludes: medical centres not under the direct supervision of a qualified medical doctor (07.3.3).

07.3.2 Specialised hospital services

Specialised hospitals differ from general hospitals in that their services are limited to treatment of a particular condition, disease, or class of patient, for example, diseases of the chest and tuberculosis, leprosy, cancer, otorhinolaryngology, psychiatry, obstetrics, paediatrics and so forth.

- Provision of specialised hospital services.
- Administration, inspection, operation or support of hospitals that limit their services to a particular medical speciality.

Excludes: maternity centres not under the direct supervision of a qualified medical doctor (07.3.3).

07.3.3 Medical and maternity centre services

- Provision of medical and maternity centre services.
- Administration, inspection, operation or support of medical and maternity centre services.

07.3.4 Nursing and convalescent home services

Nursing and convalescent homes provide in-patient services to persons recovering from surgery or a debilitating disease or condition that requires chiefly monitoring and administering of medicaments, physiotherapy and training to compensate for loss of function or rest.

- Provision of nursing and convalescent home services.
- Administration, inspection, operation or support of nursing and convalescent home services.

Includes: institutions serving old people in which medical monitoring is an essential component;

rehabilitation centres providing in-patient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support.

07.4 Public health services

07.4.0 Public health services

- Provision of public health services.
- Administration, inspection, operation or support of public health services such as blood-bank operation (collecting, processing, storing, shipping), disease detection (cancer, tuberculosis, venereal disease), prevention (immunisation, inoculation), monitoring (infant nutrition, child health), epidemiological data collection, family planning services and so forth.
- Preparation and dissemination of information on public health matters.

Includes: public health services delivered by special teams to groups of clients, most of whom are in good health, at work places, schools or other non-medical settings; public health services not connected with a hospital, clinic or practitioner; public health services not delivered by medically qualified doctors; public health service laboratories.

Excludes: medical analysis laboratories (07.2.4); laboratories engaged in determining the causes of disease (07.5.0).

07.5 R&D health

Definitions of basic research, applied research and experimental development are given under (01.4) and (01.5).

07.5.0 R&D Health

- Administration and operation of government agencies engaged in applied research and experimental development related to health.
- Grants, loans and subsidies to support applied research and experimental development related to health undertaken by non-government bodies such as research institutes and universities.

Includes: laboratories engaged in determining the causes of disease.

Excludes: basic research (01.4.0).

07.6 Health n.e.c.

07.6.0 Health n.e.c.

- Administration, operation or support of activities such as formulation, administration, co-ordination and monitoring of over-all health policies, plans, programmes and budgets; preparation and enforcement of legislation and standards for the provision of health services, including the licensing of medical establishments and medical and paramedical personnel; production and dissemination of general information, technical documentation and statistics on health.

Includes: health affairs and services that cannot be assigned to (07.1), (07.2), (07.3), (07.4) or (07.5);

HEALTH IN COPP: DEFINITION BY CLASS

05. Outlays on human resource development

Outlays on human resource development may be defined as a set of activities undertaken to improve efficiency of human resources as well as granting benefits to the employees. They include also outlays on the respective equipment, facilities, personnel, etc.

Excludes: payments in kind such as in food or clothing, free or subsidized housing, safety devices

and measures at work, day-care centres for children; contributions to cultural, recreational and educational facilities serving the general public.

05.2 Outlays on health

Outlays on medical services such as the provision of emergency medical services, routine medical check-ups, etc., as well as on the respective equipment, facilities and personnel.

ACRONYMS

ADL	Activities of Daily Living
ATC	Anatomic Therapeutic Chemical Classification System
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption by Purpose
COPP	Classification of the Outlays of Producers by Purpose
CPC	Central Product Classification
CPI	Consumer price index
DALY	Disability adjusted life years
DDD	Defined Daily Dose (pharmaceuticals)
DRG	Diagnosis Related Groups
EPHFs	Essential public health functions (WHO)
EU	European Union
Eurostat	Statistical Office of the European Communities
FTE	Full-time equivalent
GDP	Gross domestic product
GFS	Manual on Government Finance Statistics (IMF)
HCFA	Health Care Financing Administration (USA)
HRHC	Human resources in health care
IARIW	International Association for Research on Income and Wealth
ICD-9	International Classification of Disease, 9th Revision
ICD-9-CM	International Classification of Disease, 9th Revision, Clinical Modification
ICD-10	International Classification of Disease, 10th Revision
ICD-10-CM	International Classification of Disease, 10th Revision, Clinical Modification
ICHA	International Classification for Health Accounts
ICHA-HC	ICHA classification of health care functions
ICHA-HP	ICHA classifications of health care providers
ICHA-HF	ICHA classification of sources of funding
ICIDH	International Classification of Impairment, Disability and Handicaps
ICIDH-2	International Classification of Impairment, Activities and Disablement
ICNP	International Classification for Nursing Practice

ICPC	International Classification of Primary Care
ICPC-2	International Classification of Primary Care, Second Edition
ICPM	International Classification of Procedures in Medicine
IC-Process-PC	International Classification of Primary Care – Process component
ILO	International Labour Organisation
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ISCED-97	International Standard Classification of Education, 1997 Edition
ISCO-88	International Standard Classification of Occupations, 1988
ISIC	International Standard Industrial Classification of All Economic Activities
JCAHO	US Joint Commission on Accreditation of Healthcare Organizations
NA	National Accounts
NAFTA	North American Free Trade Organisation
NAICS	North American Industry Classification System
NCU	National Currency Unit
n.e.c.	not elsewhere classified
NHA	National Health Accounts
NPISHs	Non-profit institutions serving households
OECD	Organisation for Economic Co-operation and Development
OTC	Over-the-counter
PAHO	Pan-American Health Organization
PPP	Purchasing power parity
R&D	Research and development
SHA	System of Health Accounts
SITC	Statistical International Trade Classification
SNA	System of National Accounts
SNA 93	System of National Accounts, 1993 Revision
UN	United Nations
VAT	Value added tax
WONCA	World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (known more briefly as the World Organisation of Family Doctors)
WHO	World Health Organisation

p	When a letter "p" appears after a code in a cross-classification, it indicates that only part of this entry corresponds to the item referred to.

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