

## **Concise Methodological Note on the System of Health Accounts according to SHA 2011 manual<sup>1</sup>**

### **1. Concise description of the System of Health Accounts (SHA 2011) - definition of Health Expenditure**

The health sector absorbs 8-10% of the GDP in most of the developed countries. As a consequence, it is very important for all these countries to depict in an accurate and timely manner the total funding of health expenditure, the direction of health expenditure towards the individual sub-sectors of the health system (outpatient health care, hospitals, etc), as well as the economic burden of every financing agency (e.g., Ministry of Health, Social Security Funds, Households, etc).

According to Article 6 of the European Commission (EC) No 1338/2008 of the European Parliament and of the Council on Community statistics on public health issues and the respective Implementing Regulation and following the cooperation between Eurostat, the International Organizations that of OECD (Organization for Economic Cooperation and Development) and WHO (World Health Organization), the new SHA 2011 manual was compiled based on the International Classification of Health Accounts – ICHA. As a consequence, ELSTAT, further to gentlemen's Agreement with the European Committee, has already transmitted data to Eurostat and the International Organizations according to the new methodology SHA 2011<sup>2</sup> for the years 2009 up to 2013.

The System of Health Accounts relies on three main axes that depict:

- the economic burden of each financing agency (HF- Health Funding),
- the direction of health expenditure, by health care provider (HP- Health Provider),
- the direction of expenditure, by health care function (HC-Health Care).

The main purpose of recording health expenditure on the basis of the SHA 2011 is to achieve international comparability among similar aggregates of the funding of health expenditure, adhering at the same time to the basic principle, which should govern the elaboration and implementation of any system of international accounts. Additionally, among the purposes of the SHA developed by OECD are the following:

- I. Define internationally harmonized boundaries for health care and its main functions;

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<sup>1</sup> In June 2012 the Department of Nursing of the National and Kapodistrian University of Athens undertook the study of health expenditures according to the OECD system, further to the Memorandum of Cooperation that was signed on 29/12/2010 between ELSTAT, the Ministry of Health & Social Solidarity and the National and Kapodistrian University of Athens. ELSTAT received the completed study of the University (tables for the years 2003 until 2011 along with relevant Methodological Notes) in January 2013.

<sup>2</sup> Please see relevant transition table from SHA 1.0 to SHA 2011 codes in the Annex of the present concise Methodological Note.

- II. Make a distinction and correlate the main functions of health care with other functions relevant to health care in the context of the cross-sectoral structure of healthcare policy which impacts on multiple sectors of social life;
- III. Present tables on financial flows in combination with the classification of social security schemes and other financing mechanisms;
- IV. Present the main available aggregates aiming at offering the possibility to make a comparative study of the microeconomic structure of health care services;
- V. Create a framework for the continuous monitoring of the performance of health care services;
- VI. Monitor the financial consequences of the performance of health care services;
- VII. Monitor the financial consequences stemming from any health care reforms and the relevant health care policies;
- VIII. Develop a framework for the economic analysis of healthcare systems, which will be fully harmonized with the National Accounts (*A System of Health Accounts*, 2011).

More specifically, on the basis of the aforementioned system (SHA 2011), for each expenditure category the following items are depicted:

- The funding agency - e.g., the Ministries (HF 1.1.), Social Security Funds (HF 1.2), Households (HF 3.1), etc.
- The health care provider to which this expenditure is directed- e.g., General Hospitals (HP 1.1), Offices of physicians (HP 3.1), Offices of dentists (HP 3.2), etc.
- The health care function pertaining to each expenditure- e.g., Inpatient curative care (HC 1.1), Outpatient curative care (HC 1.3), etc.

The SHA 2011 has been adopted by most of OECD countries since all Member States of the EU are obliged to implement this system (pursuant to Community legislation) in order to transmit economic data for health care (from 2003 onwards) to OECD, Eurostat and WHO, through a common questionnaire jointly developed by the above three Organizations.

### **Health expenditure**

In the framework of SHA 2011, Funding of Health Expenditure is defined as the Funding on Consumption Expenditure of resident units on health care goods and services, irrespective of where that consumption takes place (i.e., in the economic territory of the country or abroad), and irrespective of the funding agency (which may be in the economic territory of the country or abroad). Therefore, imports of health care goods and services must be included, while exports must be excluded.

Other types of expenditure that are linked to health care, such as the funding of expenditures on investment, the funding of expenditure on research and training, are distinguished in the SHA and are registered separately under the category of expenditure on Health Care-Related functions (HCR).

According to SHA 2011 the concept of Public or Private Funding of Expenditure is defined on the basis of the type (public or private) of the funding agency and on the basis of the type (public or private) of the Health Care Provider. For example, *public funding of expenditure on hospitals* does not mean the total expenditure of the public hospitals but the total amount of funding that both the public and the private hospitals get by the public funding agencies (Ministries, Social Security Funds).

Moreover, according to the SHA 2011, the expenditure directed to a healthcare provider (e.g., Hospitals –HP.1) in some cases includes more than one health care function. This means that, for example, the amount related to the expenditures intended to hospitals is bigger than the amount corresponding to the expenditure on inpatient curative care (HC 1.1). This can be explained by the fact that the hospitals, through their outpatients departments, also provide outpatient care services and the corresponding expenditures are recorded under the code HC 1.3

The harmonization of the national health expenditure data with the standards laid down by the System of Health Accounts 2011 is expected to contribute, *inter alia*, to the following:

- Drawing up healthcare policy at national level,
- Provision of reliable data to international organizations, e.g., the Statistical Office of the European Union (Eurostat), thus ensuring international comparability among similar aggregates of health expenditure.

## **2. Collection and classification of primary data for the compilation of the SHA 2011 in Greece**

The SHA 2011 for Greece was developed in line with the bottom-up approach and following the funding agencies perspective. Each funding agency was asked to provide primary data on health expenditure for the years 2009-2013. The funding agencies were not asked to fill in a standard questionnaire where they would have to classify their health expenditure, in order to avoid any classification errors and inconsistencies among the various financing agencies. On the contrary, the agencies

were asked to provide their expenditure data on the basis of the national expenditure classification codes (KAE).

Expenditure data were transmitted by the following agencies:

- **Ministries**
  - a. Ministry of Health and Social Solidarity
  - b. Ministry of Finance
  - c. Ministry of National Defence
  - d. Ministry of Education and Religious Affairs
  - e. Ministry of Culture and Sports
  - f. Ministry of Interior
  
- **Social Security Funds – SSFs**
  - a. Greek National Health Service Organisation (EOPYY)
  - b. Social Insurance Institute (IKA)
  - c. Agricultural Insurance Organisation (OGA)
  - d. Civil Servants' Health Insurance Fund (OPAD) and Health Insurance Fund of Employees in Local Government (TYDKY)
  - e. Social Security Fund for the Self-employed (OAEE)
  - f. Greek Health Care Scheme for Seamen (Seamen's Home)
  - g. Social Security Fund for Bank Employees and Social Utilities (TAITEKO)

The aforementioned agencies account for 95% of the total population for which agencies undertake health care expenditures. The total expenditure for all the Social Security Funds (SSFs) was imputed on the basis of the total of beneficiaries of healthcare services.

- **Hellenic Association of Insurance Companies (EAEE)**

The agency transmitted aggregated expenditure data on inpatient and outpatient health care and separately expenditure data on inpatient care for the years 2009, 2010 and 2011. The transmitted data were based on an internal survey conducted by EAEE itself on 9, 14 and 15 health insurance companies, respectively. The total number of insurance companies that are active in the health insurance branch amounts to more than 20. The transmitted data included expenditure on accidents, illnesses, childbirth, both in terms of money paid and in terms of allowances paid by the insurance companies, as well as data concerning the per capita remuneration of health providers (in particular for outpatient health services).

- **Local Government**
- **Individual non-governmental organizations / The Church of Greece**
- **Managing Authority of the Ministry of Health**

Every national expenditure code number (KAE) was correlated and dully classified on the basis of the SHA codes by: funding agency – HF (HF 1.1-Ministry of Health, HF 1.2-SSF, HF 3.1-Households, etc), health provider – HP (HP 1.1-General Hospitals,

HP 3.4- Outpatient care centers, HP 3.1- Offices of physicians, etc) and by health care function HC (HC 1.1 – Inpatient curative care, HC 4.2 – Diagnostic imaging, etc).

The data were classified at 2-digit level of SHA 2011 codes, which fully satisfies the requirements set out by the international organizations. In addition, for national purposes, the financing agencies, the health providers and the health care functions were also classified at lower level of analysis. Furthermore, the SHA health care functions codes (HC) were correlated and matched with the codes of the international Classification Of the Functions of Government- COFOG.

Finally it should be noted that the SHA compilers received information from the *National Accounts of ELSTAT*, concerning:

- Expenditure data on gross fixed capital formation in the health sector
- Health Expenditure data of households (Household Budget Survey)
- Expenditure of non-profit institutions, which are active in the health sector
- Data on non-governmental organizations
- Current revenues and current expenditures of the sub-sectors of General Government mainly that of the sub- sector of Central Government (State), of the SSFs and public hospitals.
- Data on payables of the SSFs towards public hospitals.

### **3. Presentation of the primary data deriving from the funding agencies**

#### **Social Security Funds (SSFs)**

The main social security funds (EOPYY, IKA, OAEE, OGA OPAD), were able to provide data on the undertaken obligations pertaining to health expenditure, by KAE code and on a yearly basis, irrespective of the time of payment.

Calculation of the total health expenditure of the social security funds was carried out as follows:

Analytical data were collected for the major social security funds of EOPYY, IKA, OGA, OAEE, TYDKY, and TAYTEKO. By dividing the total amount of health expenditures of the above-mentioned funds with the total amount of health expenditures of the total number of the SSFs, an adjustment coefficient by each specific kind of health expenditures of the remaining funds is derived (which is 7% for each of the years 2009 to 2011). The adjustment coefficient is then applied to the particular health expenditures of the minor SSFs. An assumption therefore was made regarding the distribution of the particular health expenditures of the minor SSFs which is assumed to be identical to the distribution of the particular health expenditures of the major SSFs. Finally the data of health expenditures of OPAD and the Seaman's Home fund were added.

Any administrative expenditure of the funds pertaining to the health branch were also taken into consideration for the calculation of the total health expenditure.

In the cases where the allocation of the expenditure into the various health providers / health care functions was not very clear, the following approaches were used:

- The total expenditure directed to hospitals (for all the SSFs, cumulatively) was allocated into the three main groups of hospitals i.e., general, psychiatric and specialized hospitals, on the basis of the established entitlements of the hospitals of the National Healthcare System (ESY) for 2010, as these are published on ESY.net, which is an accounting system developed in the Ministry of Health and Social Solidarity collecting detailed data on revenues and expenditures of public hospitals. This is a detailed system that monitors public hospitals' revenues according to their origin (payments from SSFs, payments from the Central Government, and payments from households) and expenses (public hospitals procurements on a monthly basis, pharmaceutical products and hospital treatment costs as well as data on wages).

The variables concerning health expenditure that are monitored by the SSFs, by health expenditure KAE code are the following:

<b>KAE code</b>	<b>Description</b>
0671	Medical care
0672	Pharmaceutical care
0673	Hospital treatment
0674	Additional care
0675	Dental care
0676	Preventive care
0679	Other services

The variables concerning health expenditure that are monitored by OPAD, by KAE code are the following

<b>KAE code</b>	<b>Description</b>
0521	Pharmaceutical care
0522	Medical care
0523	Paraclinical examinations
0524	Dental care
0525	Expenditure on inpatient care abroad
0526	Inpatient care in public hospitals
0527	Inpatient care in private hospitals and clinics
0528	Allowance for natural (vaginal) childbirth
0529	Other hospital treatment expenditure

### **Ministry of Health and Social Solidarity (YYKA)**

More specifically, as regards the Budget of the Ministry of Health and Social Solidarity, the following apply:

- The agencies providing healthcare services are financed through Expenditure Account No 210 "Health Expenditure", the agencies providing welfare services are financed through Expenditure Account No 220 "Welfare Expenditure" and the expenditure of the Central Services of the Ministry are

financed through Expenditure Account No 110. The Hellenic Authority for Medically Assisted Reproduction and the Supplies Committee are financed through different Expenditure Accounts, namely the accounts No 230 and 240 respectively. All of these five Expenditure Accounts are broken down in individual expenditure codes (KAE).

- The subsidies to all the hospitals of the National Health System (and to the Health Centres belonging to the hospitals), to other public health care providers and healthcare educational institutes are covered at the expense of the relevant appropriation of the Expenditure Account No Φ.210 code expenditures KAE No 2311, 2319, 2322, 2323, 2821, 5117, usually intended to cover operational needs, supplies and research programmes.
- The expenditure on wages and salaries for the hospitals of the National Health System (and to the Health Centres belonging to the hospitals) are covered at the expense of the relevant appropriation of the Expenditure Account No Φ.210 (code expenditures KAE No 0200, 0300 and 0500).
- The existing codification does not allow for the breakdown of the provided credits by operational function, and in addition there is no distinction made between the amounts that are directed to the hospitals of ESY, mostly pertaining to inpatient care, and the amounts that are directed to the Health Centres pertaining to outpatient care.
- The allocation of funding according to hospital categories (general, psychiatric, specialized) or rehabilitation centers is not yet possible.
- The subsidies to the other health care providers are normally covered by separate code KAE numbers of the budget; for example, the subsidy to the Hellenic Centre for Disease Control and Prevention (KEELPNO) is covered through code KAE No 2541, the subsidy to the Therapy Centre for Dependent Individuals (KETHEA) is covered through code KAE No 2545, the subsidy to the Onassio Cardiac Surgery Centre is covered through code KAE No 2543 and the subsidy to OPAD is covered through code KAE No 2315.

As already mentioned above, the wage and salary costs of the Public Hospitals and of the Health Centres are covered by the Ministry of Health and Social Solidarity (YYKA) and more specifically by the expenditure account 'Health Expenditure' (No 210), mostly through code expenditures KAE No 0200, 0300, 0500. After the signing of relevant Ministerial Decisions, the SHA 2011 compilers dully allocated the amounts paid by the Ministry of Health to the years 2009-2013.

### **Ministry of National Defense**

Through the division of Health of the Ministry of Defense (GEETHA) data was requested regarding health expenditures that are funded by the Ministry of Defense. Data were provided analytically per cohort (for the year 2010, about 110 million euros for all three cohorts). The expenditure codes that are used reflect financial activities. Meanwhile, in some cases there is no available information of the supplier of health care.

Moreover, data was requested and received regarding training expenditures of medical staff within the corresponding military schools (Medical, Nursing etc). Those expenditures are included within the relevant health activities according to SHA 2011.

### **Ministry of Education**

Regarding university hospitals Areteio and Aiginitio, which are not included within the Health Budget of the Ministry of Health and Social Solidarity (YYKA) as the Ministry of Education funds them, the subsidies they received from the Regular Government Budget were derived from their budgets available on ESY.net of 2011.

### **Ministry of Interior, Public Administration and Decentralization-Local Authorities**

Through the Coordination Unit and the Management Unit of other Resources for the Development of Human Resources, data was requested regarding programs such as «*Aid at Home*», which basically concerns medical care. Data was provided per Prefecture (upon availability) for the years 2009 to 2013 and per public and private agency such as Local Government (OTA) and Legal Entities under Public Law (NPDD). In total, expenditures were estimated at about 67 million euros for the year 2010.

Moreover, in order to estimate the actual amount of expenditure codes relating to local authorities, data relating to medical care was requested by the SHA compilers on residential clinics, social pharmacies etc. Such requests for data were sent by the compilers of the SHA to 41 Municipalities that have developed health care activity. Only 12 of them have provided the requested data, with the total amount of health expenditures amounting to 6 million euro. In the cases where Municipalities also included expenditures relating to the «*Aid at Home*» program, those expenditures were exempted from the expenditures received by the Ministry of Internal Affairs so as to avoid double recording.

### **Non-Governmental Organisations (NGOs)- Church of Greece**

For the years 2009 to 2012 data regarding health expenditures by the major Non-Governmental Organizations, according to the list sent to the compilers of SHA 2011 by the Ministry of Health and Social Solidarity (YYKA), were requested from such organizations. Within the Ministry's list, there were 1.032 Non Governmental Organizations, from which 30-40 was singled out due to their national range of activity. For the year 2013, data were collected by the Department of Household Accounts and Non profit Institutions of ELSTAT.

As far as the Church of Greece is concerned, the Holy Synod provided data relating to health expenditures for the years 2009, 2010, 2011, 2012 and 2013.

### **Household Budget Survey (HBS)**

ELSTAT carries out the Household Budget Survey (HBS) on a nationwide sample of households where, among other things, there is clear reference to *health net*



*expenditures.* The survey is in full compliance with the COICOP system in order to record household expenditures for any purposes (Classification of Individual Consumption according to Purpose). Health sector is recorded under code 06 and within ELSTAT's surveys; it is analyzed further, to the 7- digit code level. Data that is collected from households referring to health expenditures per provider of health care must be crosschecked with the corresponding income data of each provider of health care.

Variables related to health care expenditures in the Household Budget Survey (HBS), classified by COICOP code, are provided below.

COICOP Code	Description
06	HEALTH
<b>061</b>	<b>Medicine, Pharmaceuticals, therapeutic appliances and equipment</b>
0611	<i>Pharmaceutical products</i>
0612	<i>Other pharmaceutical products</i>
0613	<i>Therapeutic appliances and equipment</i>
<b>062</b>	<b>Medical Services per Specialty (outside Hospital)</b>
0621	<i>Medical services</i>
0622	<i>Dental services</i>
0623	<i>Paramedical services</i>
<b>063</b>	<b>Inpatient Care</b>
0631	Inpatient Care

The table below presents data relating to health accounts regarding Expenditure Codes of the Household Budget Survey (HBS) for the year 2011 in euros. Expenditure Codes of households relating to health are classified according to both health care services (code HC-Health Care) and health care providers (code HP-Health Providers). For instance, during 2011 households paid the amount of 1,322.09 million euro for expenses relating to pharmaceutical products (to the provider of health under code HP5.1-Pharmacies) while in the same year households paid the amount of 355.67 million euros for hospital treatment within general public hospitals (to the provider of health care under code HP1.1 – Inpatient care).

HC	AD-Code	Description	Year	Amount	HP
5.2	0613	Medical Devices	2011	117,094,633.00	5.2
1.1	0631101	Public Inpatient care	2011	11,855,819.00	1.1
1.3	06233	Other non hospital services	2011	12,188,102.00	3.3

1.1	0631101	Public Inpatient care	2011	27,663,578.00	1.1
5.2	0613	Medical Devices	2011	46,837,853.00	5.2
5.2	0613	Medical Devices	2011	58,547,317.00	5.2
5.1	0612	Non Durables medical goods	2011	104,257,962.00	5.1
4.1	06231	Services of microbiological laboratories and diagnostic imaging centers	2011	135,483,806.00	4.2
1.3	06232	Services of paramedical personnel	2011	150,023,806.00	3.3
4.2	06231	Services of microbiological laboratories and diagnostic imaging centers	2011	203,225,708.00	4.2
1.1	0631101	Public Inpatient care	2011	355,674,573.00	1.1
1.1	0631102-0631105	Private Inpatient care	2011	936,632,260.00	1.1
1.3	0621	Medical care	2011	969,604,420.00	3.1
5.1	0611	Pharmaceutical	2011	1,322,093,851.00	5.1
1.3	0622	Dental care	2011	1,477,955,572.00	3.2

#### **4. Classifications required for the compilation of the SHA 2011**

##### **Classification of health funding agencies (HF)**

The classification below provides the description of funds financing the health sector and their correlation to the coding of SHA 2011 at two-digit level.

**HF1.1** Agencies of Central Government such as the Ministry of Health and Social Solidarity, the Ministry of Finance, the Ministry of Education, the Ministry of National Defense and other local administrative agencies.

**HF1.2** Insurance foundations like the Greek National Health Service Organisation (EOPYY), Social Insurance Institute (IKA), Agricultural Insurance Organization (OGA), Social Security Fund for Self Employed Professionals (OAEE), Civil

Servants' Health Insurance Fund (OPAD), Health Insurance Fund of Employees in Local Government (TYDKY), Social Security Fund for Bank Employees and Social Utilities (TAITEKO), Greek Healthcare Scheme (Seaman's Home).

**HF.2.1** Private insurance, private insurance companies.

**HF.3.1** Household payments, that is direct payments of users of healthcare services as they are derived from the Household Budget Survey (HBS) that contain households' participation in the cost of healthcare services (medicines, visits at outpatient hospitals), participation in expenses that are mostly covered by private insurance, visits to private clinics, and participation in expenses to private hospitals by households.

**HF.2.2** Charity institutes, Church of Greece and Non-Governmental organizations.

**HF.2.3** Various companies producing tradable goods and health services.

**HF.4** Health expenditures funded by the rest of the world.

### **Classification of Health Providers (HP)**

Health providers are classified according to the categories shown below:

**HP1:** Hospitals (private and public).

**HP2:** Structures of nursing care and assisted living (addressing mobility problems, reintegration, residential long-term facilities, nursing homes etc.).

**HP3:** Other non-hospital services (day clinics, private clinics, health centers, diagnostic centers).

**HP4:** Providers of ancillary services.

**HP5:** Retailers, and other sources for medical products (pharmacies, retailers of hearing aids, eyeglasses etc).

**HP6:** Provision and management of health care products.

**HP7:** Agencies that are entrusted with the administration of health issues along with health insurance (where both the National Medicine Organization (EOF) and the Hellenic Food Authority (EFET) are included).

**HP8:** Other industries.

**HP9:** Rest of the world.

**HP0:** All agencies that are not included elsewhere.

### **Classification of health care activities (HC)**

The text below presents a classification and assignment of health activities according to the international classification as defined by the System of Health Accounts (SHA 2011). Each financial institution was requested to analyze health expenditure according to the international codification depending on the activity and according to the national codification, i.e., that of expenditure codes (KAE). In several cases, the national approach to recording those health expenses either does not reflect with clarity the corresponding health activities or within one code more than one activity is included (e.g., non-hospital activities and inpatient activities). Consequently, it has

been necessary to develop the so-called “keys” in order to classify and assign the national health activities to the various kinds of health care providers.

### **A. Inpatient curative care services HC.1.1**

Under this category are included activities relating to inpatient services in either public, private, psychiatric and special treatment hospitals.

Moreover, in no SSF data is the kind of hospital to which payments for inpatient services were disbursed shown according to the category of the hospital (general, psychiatric, and specialized).

Expenditure codes of sector 210 “Health Expenses” of the Ministry of Health and Social Solidarity (YYKA) relating to wage and operational expenses of public hospitals do not reflect health activities (for example distinction between in patient and out patient care) or health providers (distinction between general, psychiatric and specialized public hospitals).

All codes relating to wage and operational expenses of public hospitals are covered by the Ministry of Health and Social Solidarity (YYKA). Expenses relating to wages covered by the Ministry of Health and Social Solidarity (YYKA) were distributed as follows: 91% to public general hospitals, 5% to public psychiatric hospitals and 4% to public specialized hospitals. Operational expenses were allocated as follows: 90% to public general hospitals, 3% to public psychiatric hospitals and 7% to public specialized hospitals for the years 2009 and 2010, while there has been a slight difference in the distribution in 2011 in accordance with the data derived from ESY.net, which provides data on public hospitals’ sources of revenues and their field of specialization (general, psychiatric or specialized hospital).

In the codes of the Household Budget Survey (HBS) relating to inpatient expenses there is a clear distinction between public and private hospitals, but still there is no distinction regarding the allocation of expenses among the categories of hospitals (general, psychiatric and specialized hospitals). Thus, the allocation of inpatient services to private hospitals was based on the turnovers of the corresponding categories of private hospitals as follows: 78% to private general hospitals, 6% to private psychiatric hospitals and 16% to private specialized hospitals (data derived from a census conducted by the private survey company ICAP covering the sector of private health).

Allocation of households’ healthcare expenses to public hospitals (general, psychiatric and specialized hospitals) was realized taking into consideration the percentage allocation of hospitals’ operational expenditure since household payments are directed to cover such operational expenditures. On the basis of data received from ESY.net, allocation of households’ expenses in public hospitals was distributed as follows: 90% to public general hospitals, 7% to public specialized hospitals, and 3% to public psychiatric hospitals.

### **B. Day cases of curative care HC.1.2**

Under this category are classified all expenses relating to blood dialysis that are covered by any Social Security Fund (SSF), but with no evidence for the health provider (public or private hospitals, independent blood dialysis units). For this reason, a special 'key' had to be established based on the distribution of patients per health provider according to the data received by the Coordination Service of Chronic Kidney Failure.

### **C. Outpatient curative care HC.1.3**

This category reflects medical and paramedical examination for patients from outside the hospital. Moreover, services such as mobile care units, private clinics and diagnostic centers are also included under this category.

The Social Insurance Institute (IKA) has reported the expenses relating to wages and operational expenses of polyclinics with the following breakdown: 77% for medical services, 11% for dental services, 8% for clinic services, and 4% for imaging laboratories (imaging labs). Similarly, the Social Security Fund for Self Employed Professionals (OAEE) and the Social Security Fund for Bank Employees and Social Utilities (TAITEKO) have also reported with the needed breakdown the expenses of this category.

### **D. Inpatient rehabilitative care HC.2.1 and day cases of rehabilitative care HC.2.2**

**Inpatient rehabilitative care** includes medical and paramedical services to patients that are rehabilitated in such centers. This category also includes subsidies by the Ministry of Health and Social Solidarity (YYKA) to centers of rehabilitation and restoration but also, medical expenses that all Social Insurance Funds (SSFs) have paid to such rehabilitation centers.

### **E. Inpatient long-term nursing care HC.3.1 and Long-term nursing care: home care HC.3.3**

In the category of inpatient long-term facilities are included nursing care facilities for patients in hospitals with continuous needs, while in the category of long-term nursing care, medical and paramedical facilities are provided to patients from outside the hospital, while being at home on a continuous basis.

In the category inpatient long-term nursing care are also included healthcare expenses code no 067331 of the Agricultural Insurance Organization (OGA) and code no 0527-05 (Healthcare expenses to specialized institutions and schools) of the Civil Servants' Health Insurance Fund (OPAD), as well as the transfers made by the Ministry of Health and Social Solidarity to long term care facilities.

## **F. Services of clinical laboratories HC.4.1 and lab's imaging diagnostics HC.4.2**

The first category of clinical laboratories services includes services such as medical examinations, diagnostic tests, etc. The second category of imaging diagnostics includes services of diagnostic examinations such as X-rays, CAT scans and BMI tests.

Expenses relating to paramedical examination of the Civil Servant's Health Insurance Fund (OPAD) and those recorded by the Ministry of Defense were allocated as follows: 40% to services of clinical laboratories and 60% to labs' imaging diagnostics for specific code numbers that relate to categories HC.4.1 and HC.4.2. This percentage allocation follows the Household Budget Survey allocation of households' expenses for the same services.

Expenses relating to paramedical exams covered by the Social Security Fund for Self Employed Professionals (OAEE) were allocated as follows: 40% to services of clinical laboratories and 60% to labs' imaging diagnostics. Primary data were received from the fund of OAEE and used for this percentage allocation.

For the Social Insurance Institute (IKA) personnel data were used in order to derive the percentage of employees performing clinical laboratory tasks and imaging diagnostics tasks in the clinics of IKA. It was estimated that 8% of the total wage cost refers to clinical laboratories and 4% of the total wage cost refers to diagnostic tasks.

## **G. Patient transport and emergency rescue services HC.4.3**

This category includes ambulance services to and from the medical units for the provision of medical treatment. Moreover, it includes patients' transportation with private vehicles in case the patient is compensated for the relevant expenses.

In this category are reflected all relevant expenditure codes of EOPYY, of the Social Insurance Institute (IKA) (specific code number 0687 – Expenses for the transfer of patients), the Agricultural Insurance Organization (OGA) (specific code number 068731 – Expenses for the transfer of patients), the Social Security Fund for Self Employed Professionals (OAEE) (specific code number 0687 – Expenses for the transfer of patients). Similarly there are specific code numbers for this category of expenses for the Social Security Fund for Bank Employees and Social Utilities (TAITEKO), the Civil Servants' Health Insurance Fund (OPAD), the Health Insurance Fund of Employees in Local Government (TYDKY), as well as the expenditure codes of 2314 and 2324 of the Ministry of Health and Social Solidarity (YYKA).

## **H. Pharmaceutical and other medical non-durables HC.5.1**

This category includes various pharmaceutical products such as medicines, sera, vaccines, bandages etc.

As far as the SSFs are concerned, the following expenditure codes of SSFs are included: Expenditure Code 672A of the Social Insurance Institute (IKA), Expenditure Code 067231 of the Agricultural Insurance Organization (OGA) and Expenditure Code 0672.01 of the Social Security Fund for Self Employed Professionals (OAEE).

### **I. Therapeutic appliances and other medical durables HC.5.2**

This category includes medical supplies such as eyeglasses, hearing aids, orthopedic devices etc. The corresponding expenditure codes relating to this category are: 1313 of the National Insurance Foundation (IKA), 067431 of the Agricultural Insurance Organization (OGA), 0529-03 of the Civil Servant's Health Insurance Fund (OPAD) etc.

### **J. Prevention and public health services HC.6**

This category includes services relating to the prevention of contagious diseases, health conditions at work and all other services relating to public health services. This category includes mainly agency 230 – The Hellenic Authority for Medically Assisted Reproduction of the Ministry of Health and Social Solidarity (YYKA), and the expenditure code 2312 of the Ministry of Health and Social Solidarity (YYKA).

### **K. General Government-health administration HC.7.1**

This category includes all administrative expenses relating to the operation of the health sector both at the level of Ministries and SSFs.

## **5. Aggregation of data and deduction of the results**

In order for the three tables of HC (Health Care) by HF (Health Funding), HC (Health Care) by HP (Health Providers), and HP (Health Providers) by HF (Health Funding) to be correctly compiled, one summary table has been compiled in excel format, which includes all necessary aggregations. More specifically, data is entered within the summary excel type table and in every entry relating to a specific expenditure code is given a labeling based on the characteristics below:

- If the entered amounts refer to cash or to an accounting basis.
- Codification of the subsidiary fund according to Health Accounts System (SHA 2011).
- Name of the subsidiary fund e.g., National Insurance Foundation (IKA), the Ministry of Health and Social Solidarity (YYKA).
- Codification of health activity according to the System of Health Accounts (SHA 2011).
- Codification of health activity according to international system COFOG.
- Reference to the «Key», which facilitated the distribution of the total amount of each expenditure category into sub-categories.

- National codification used for the description of the type of expenditure. These are called expenditure codes. In cases where these codes are missing this is due to the fact that the codes have not been provided by the subsidiary funds.
- The description of the activity in which the expenditure is being referred to, in words.
- The actual year of the specific category of expenditure.
- ⊖ The actual amount that corresponds to each category of expenditure. Codification of health provider according to System of Health Accounts (SHA 2011). Codification of health provider according to the most analytical classification of the System of Health Accounts (SHA 2011).
- Description in words of the health providers e.g., Multi-clinics, Social Insurance Institute (IKA), public and private general hospitals.
- The correction factor based on the total of population covered that is being used in some categories in order to estimate their final configuration as for instance, expenditures of the biggest Social Security Funds (SSFs) (e.g. Greek National Health Service Organisation (EOPYY), Social Insurance Institute (IKA), the Agricultural Insurance Organization (OGA), the Social Security Fund for Self Employed Professionals (OAEE), the Health Insurance Fund of Employees in Local Government (TYDKY), the Social Security Fund for Bank Employees and Social Utilities (TAITEKO), which are multiplied with a specific factor in order to derive the full expenditures for all the Social Security Funds (SSF's) of the country.
- Formation of the final amount of each expenditure category after the adjustments.

The compilation of the excel table allows for the compilation, at a second stage, of the double entry tables and more specifically of the following tables:

HC \* HF: Health Care \* Health Funding.

The table presents the financial burden of each funding agency by health care function

HC \* HP: Health Care \* Health Providers.

The table depicts the allocation of health expenditure by health provider and by health care function.

HP \* HF: Health Providers \* Health Funding.

The table presents the financial burden of each funding agency by health provider.



The aforementioned tables were compiled for the years 2009 to 2013.

The following table is a concise description<sup>3</sup> of the basic table from which the aforementioned individual tables are extracted, on the basis of the aforementioned classification. This table also allows for the compilation of other data, such as part of the matrix for the amounts paid by the SSFs or by a specific Fund (e.g. IKA) to the public or private hospitals or to the private diagnostic centres, through the compilation of a part only of the HP \* HF table.

HF	HC	AD-Code	DESCRIPTION	YEAR	AMOUNT	HP Code1
HF.1.2	5.2	O674	Additional Care	2011		5.2
HF.1.2	5.2	O674	Additional Care	2011		5.2
HF.1.2	5.2	O674	Additional Care	2011		5.2
HF.1.2	1.3	O675	Dental Care	2011		3.2
HF.1.2	6.1	0676.	Preventive Care	2011		7.2
HF.1.2	9.0	0679.	Other Healthcare Services in Kind	2011		4.2
HF.1.1	1.1	0200, 0300, 0500, 2800, 5113	Wages to Public Hospitals and Health Centers -	2011		1.1
HF.1.1	5.1	0541	Pharmaceuticals	2011		5.1
HF.1.1	1.3	0542	Medical Care	2011		3.1
HF.1.1	4.1	0543	Paraclinical Examinations	2011		4.2
HF.1.1	4.2	0543	Paraclinical Examinations	2011		4.2
HF.1.1	1.3	0544	Dental Care	2011		3.2

<sup>3</sup> The actual working table includes more than 900 rows for the years 2009-2013.

HF.1.1	9.0	0545	Inpatient Care Abroad	2011		9.0
HF.1.1	1.1	0546	Inpatient Care in Public Hospitals	2011		1.1
HF.1.1	1.1	0547	Inpatient care in Private Hospitals	2011		1.1
HF.1.1	1.1	0548	Allowance for natural (vaginal) childbirth	2011		1.3
HF.1.1	1.1	0549	Other health care treatment expenditures	2011		1.1
HF.1.1	1.1	1200	Supply of medical material	2011		1.1
HF.2.5	6.5	ΓΓΓ	Occupational Health	2011		3.1

Any information collected through the health expenditure data, such as the Expenditure Code numbers (KAE), which are recorded by the health funding agencies, must be correlated and broken down both by health care provider (HP) and by health care function (HC).

## 6. Adjustments performed during the compilation data process of SHA

The vast majority of data on health expenditure were provided on a *cash basis* rather than on an *accounting basis*. This means that the undertaken obligations were recorded in the accounts of the corresponding agency only the moment when they were actually paid and not when they were accrued. Consequently, it was necessary to make important corrections and adjustments in order to record, to the greatest extent possible, the total final expenditure per year. Further to the above, compatibility was investigated between SHA data and the corresponding data of the National Accounts of ELSTAT, in cases where data were comparable. In particular, the following adjustments were performed:

1. The recording of the liabilities incurred due to the operational expenses of public hospitals and their recording to the respective years in which these liabilities correspond to and the relevant adjustment related to the recording of

- the financing data of health expenditures of public hospitals of the amounts disbursed from Central Government at the year of the respective disbursement.
2. Adjustment of the recording method related to current transfers of SSFs to public hospitals. The System of Health Accounts within the framework of the compatibility procedure with the respective ELSTAT' s National Accounts data proceeded into adjusting the relevant current transfers of SSFs to public hospitals and therefore adjusting the methodological handling of the above-mentioned transfers is identical.
  3. Recording of payables of Social Security Funds towards private health producers. The System of Health Accounts also includes the SSFS payables in the same way in which these payables are recorded at the National Accounts of ELSTAT (accrual basis of recording).

It must be also noted that during the compatibility process among the SHA system data and the respective data of the National Accounts of ELSTAT the methodological concept of the System of Health Accounts was perserved and the data were adjusted according to the above. Any differences noted are due to the different methodological approach among the two systems.

Another issue that had to be addressed was the fact that the national code numbers for expenditures (KAE) in some cases reflect expenditure on financial activities (e.g., expenditure on wages and salaries) and not on health care activities. Furthermore, in some cases, the codes do not depict in detail the direction of funding of expenditure by health provider (e.g., general hospitals, psychiatric hospitals, specialized hospitals). In order to allocate these aggregated categories of health expenditure into smaller, individual categories, 25 “keys” had to be developed, thus exploiting and combining expenditure data on operational and on financial activities of the healthcare units. The relevant “keys” mainly refer to asseccing of the health care activity (HC – Health Care) amount both by financing sector (HF Health Funding) and by health goods and services provider (HP – Health Provider). It must be noted that the compilation of “keys” is mainly based on the compilation of volume indices (health personel employment data) of the primary data of the organic health uniots involved.

## Annex

<b>Transition table from SHA 1.0 to SHA 2011 codes</b>		
<b>System of Health Accounts SHA 1.0</b>	<b>Funding Sectors (HF)</b>	<b>System of Health Accounts SHA 2011</b>
HF.1.1	General Government (excl. Social Security Funds)	HF.1.1
HF.1.2	Social Security Funds (SSFs)	HF.1.2
HF.2.2	Private Voluntary Insurance Schemes	HF.2.1
HF.2.3	Private Households Out-of pocket Expenditures	HF.3.1
HF.2.4	Non Profit Institutions Financing Schemes	HF.2.2
HF.2.5	Corporation Financing Schemes	HF.2.3
HF.3	Rest of the World	HF.4
HF.0	n.e.c	HF.0
<b>System of Health Accounts SHA 1.0</b>	<b>Health care providers (HP)</b>	<b>System of Health Accounts SHA 2011</b>
HP.1	Hospitals (public and private)	HP.1
HP.2	Residential, Long-term care facilities	HP.2
HP.3.1-3.4, HP.3.6	Providers of ambulatory health care	HP.3
HP.3.5, HP.3.9	Providers of ancillary services	HP.4
HP.4	Retailers and other providers of medical goods	HP.5
HP.5	Providers of preventive care	HP.6
HP.6	Providers of health care system administration and financing	HP.7
HP.7	Rest of Economy	HP.8
HP.9	Rest of the World	HP.9
HP.0	n.e.c	HP.0

Codification at the category of health care activities (HC-health care) remains unchanged between SHA 2011 & SHA 1.0.