

HLA

Implementing the Concept of Health Care Manpower in Member States on a Prototype Basis

Reference of call for Proposal: 2002/S 170-136143
Date of dispatch to the Commission: October 14, 2002

November 2004

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EXECUTIVE SUMMARY

According to the Terms of Reference this Report has three objectives:

- a) EVALUATION OF DATA SOURCES referring to the existing statistical data and meta information in MS on Health Care Manpower data in a SHA framework, as described in the final report of the predecessor project and including a potential update of data sources;
- b) an INITIAL COLLECTION OF SAMPLE DATA in MS based on this updated list of available data sources;
- c) a RECOMMENDATION OF DATA SOURCES TO USE enumerating the data sources to include in the final collection of prototype data based on the evaluation of the initial collection of sample data with respect to validity, quality, completeness and comparability.
- d) suggest PROCEDURES TO IMPROVE DATA QUALITY, both in a short-term perspective (by means of e.g. estimation techniques) and in a longer-term perspective (by means of e.g. additional or improved data collection).

EVALUATION OF DATA SOURCES

The framework for the evaluation of the data sources (statistical data and meta information) in MS on Health Care Manpower is determined on one hand by the methodology of the System of Health Accounts, and on the other, by the demands for manpower information for health policy, which goes beyond SHA, particularly with respect to quality issues, integration and surveillance of the labour market of health professions.

From SHA it follows that any useful link of Health Care Manpower data to Health Accounts requires comparability of the production boundary and of the breakdown to production units. Here, the international classification of providers ICHA-HP offers the link. Furthermore, the involvement of manpower in the production of certain services is of interest from the consumption point of view. As a consequence of the “uno-actu principle” of the production and consumption of health services, manpower might be expressed by the international classification of ICHA-HF using monetary conversion rates from SHA.

With respect to the qualitative dimension of manpower SHA uses the term Human Resources in Health Care (HRHC) which refers to ISCO. The manual distinguishes between health professions (HRHC) and other employment. Latter includes administrative staff and staff ancillary to health care. Concerning ISCO the situation is principally similar to expenditure accounts. Sufficient data are available in MS to have at least estimates at the one-digit level. However, the data are not harmonised and the quality of reporting differs. We draw this conclusion based on the following information:

- a) on the meta data and information collected for the 10 countries analysed in the predecessor report, and
- b) the practical implementation of Health Labour Accounts linked to SHA in three countries (see country report in the appendix).

The distinction between health and non-health professions in the health sector requires a clear definition which types of professions are included under health professions. There is a different tradition in the MS to define health professions particularly with respect to social care professions in the health sector. The SHA manual defines health professions as *Human Resources in Health Care* (HRHC) or the equivalent concept of medical and paramedical personnel, that is the special skilled labour force necessary for providing qualified health care. The defining criteria are *field of study*, *educational level*, and *profession*, whereas health professionals include also paramedical professions. “HRHC comprises people who have successfully completed education at the third level in a medical field of study“ (OECD 2000, p. 161). The SHA manual does not consider the categories „244 Social science and related professionals“ and „346 Social work associate professionals“ as health professional. But in practice, these categories are of importance in long-term nursing care. Within the country studies of this report social care profession working in the health sector are therefore generally included under health professions.

The review has shown that in the 3 countries analysed, the following basic data is available to compile HLA in coordination with SHA.

- a) total workforce (full-time/part-time)
- b) profession (health, non-health professions)
- c) qualification (partly)
- d) age and gender (partly)
- e) salaries (partly).

For a large part of the health system, this approach would lead to similar total estimates as a consequence of the “uno-actu principle” of the production and consumption of services. However, it is clear that the breakdown differs.

INITIAL COLLECTION OF SAMPLE DATA

We focused on initial data collection on three countries in order:

- a) to define the demands for data collection
- b) to co-ordinate with EUCOMP
- c) to avoid confronting members with unnecessary data requests.

The results were HLA. The elements are summarized in the following:

Table 1: Elements of HLAs in B, D, and NL

	Belgium	Germany	The Netherlands
Completeness (SHA production boundary)	Yes	Yes (Persons delivering dependency care in households paid by cash benefits are counted in extended health labour accounts)	yes
Breakdown ICHP	2-digit hospitals only 1-digit	2-digit hospitals 2-digit not compiled	2-digit
FTE	Yes	Yes	Yes
Health professions/ Non-health professions	Yes	Yes	Yes
Gender		Yes	No
Age		Yes	No
Compensation		No (However, it is possible to integrate this part)	
	Partly	Partly	Partly
Link to SHA	Not completed	yes	Yes

The compiled HLA in the three countries link health manpower information with meta data of EUCOMP and data of SHA. The first step was to combine the data of the predecessor project and EUCOMP in a common database. The second step was to compile health manpower by EUCOMP actors. After a first evaluation it was agreed in co-ordination with the Core Group CARE to collect the data on the medium level of actor groups and link the information to results of SHA to realize consistent reporting of information about health expenditure and health manpower. Table 2 exhibits as result total health employment per 1,000 as well as the share of FTEs within the boundaries of SHA.

Table 2: Health Employment by HP-Codes – B, D, and NL

HP-Code	HP-Code Name	B (2002)	D (2001)	NL (2000)
Head counts per 1,000 inhabitants				
1.0	Hospitals	15,3	14,9	16,5
2.0	Nursing and residential care facilities	11,8	5,8	19,3
3.0	Providers of ambulatory health care	14,7	17,2	14,7
4.0	Retail sale and other providers of medical goods	1,6	3,8	3,2
5.0	Provision of public health programs	0,7	0,6	0,7
6.0	Health administration and insurance	3,6	2,6	0,9
7.0	Other industries (rest of the economy)	1,8	1,2	0,7
	Total	49,4	46,1	55,9
Share of FTE on head counts				
1.0	Hospitals	0.78	0.76	0.72
2.0	Nursing and residential care facilities	0.72	0.78	0.61
3.0	Providers of ambulatory health care	0.86	0.79	0.65
4.0	Retail sale and other providers of medical goods	0.82	0.84	0.79
5.0	Provision and administration of public health programs	0.89	0.84	0.80
6.0	Health administration and insurance	0.87	0.86	0.80
7.0	Other industries (rest of the economy)	0.85	0.83	0.80
	Total	0.80	0.79	0.67

Source: Country reports on HLA

RECOMMENDATIONS

From the analysis of the data of the predecessor project, of the three country reports and the link to EUCOMP and SHA we recommend:

- the collection of data at the level of actor groups i.e. between the actors of EUCOMP and the 1-digit classification of SHA;
- the collection of data in co-ordination with expenditures in order to have consistent figures between SHA and HLA;
- concentration on the number of jobs, FTEs, health-professions and non-health professions;
- making an inventory of health professions.

SUGGESTIONS OF PROCEDURES TO IMPROVE DATA QUALITY

Short-term procedures to improve data quality are the introduction of a software program in which data and meta data can be collected in a consistent way together with expenditure (see below). MS should be encouraged to develop HLA together with SHA. Together with software tool it would be helpful to give the country clear guidelines on

the integration of statistics. Rules developed for the implementation of Social Accounting Matrices (SAMs) and Labour Accounts can be applied.

Long-term procedures to improve data quality are to extend the Labour Force Surveys for the health care sector.

DEVELOPMENT OF AN ELECTRONIC FILE

Based on the above recommendations we started to develop an integrated database (EUCOMP, SHA, HLA) for the collection of data for HLA in the light of EUCOMP I and the results of the predecessor project.

Based on the recommendations of an internal meeting of the three institutes BASYS, HIVA and NIVEL with a member of the Core group, it was decided to organise the link between EUCOMP actors and HLA at a medium level of actor groups. This would allow a detailed list of actors to be maintained and enable the aggregation of actors at a level feasible for labour and health expenditure accounting.

The co-ordination of data collection with EUCOMP was considered critical. Only integrated files with clear interfaces guarantee a clean update of the database and avoid unnecessary work by the Statistical Offices and other involved institutes in the MS. In many countries several individuals are involved in producing data and meta data related to SHA. It is necessary to bundle these activities to secure economies of scope.

FURTHER ASPECTS

There are further issues in the context of HLA, which are relevant for human resources development within the health sector and which were not elaborated in this project, as

- Migration of health professions
- Human capital formation
- Productivity measurement.

The migration of health professions between Member States and the rest of the world, as well as changes in current and future requirements for health manpower might be of particular interest concerning shortages of some health professions. Education and training is an important dimension of the analysis of inflows to labour market and the qualifications of health professions. Finally, labour productivity is a key economic indicator for the analysis of economic growth, health manpower planning, and efficiency.

FINAL CONCLUSION

A critical evaluation of the project would lead to the conclusion that there is no substitute for doing HLA “the hard way”: consistently go through all the information available for both SHA and HLA and thus compile expenditure and manpower data in much the same way, at least as far as possible. Using different data sources for SHA and HLA will always lead to consistency problems.

However, a more optimistic evaluation of the project leads to the conclusion that there are ways to compile data from different sources in such a way that a satisfying level of validity, quality, consistency and comparability is reached. This approach involves using the HCP.EXE software that was developed in this project, which forces the entering of both data and meta data on functions (EUCOMP), expenditure (SHA) and manpower (HLA). For the three countries this has led to a more complete and consistent picture of health manpower then before. But it is not the final picture. As in the case of development of SHA international reconciliation of the assumptions used to compile the data are necessary.

From the experiences in this project follows that a general mandate to develop SHA would also help to develop HLA, because Table 10 of the SHA manual (Version 1.0) requires HLA.

Table 3: Health Labour Accounts applications used by Member States

Country	Software installed	Data delivered	Reason	Coherence with SHA	Consistency in time
A	No	No	No mandate	-	-
B	Yes	1997, 2002	Developed in the project	Compilations are not completely finished	Yes
D	Yes	1995-2002	Established since 2000	Yes	1992-2002
DK	Yes	Not yet	Lack of resources	Yes	1997-1999
E	Yes	Not yet	Preparation not finished	Yes	(1999-2001)
GR	No	No	-	-	-
F	No	No	-	-	-
I	Yes	No	No mandate for SHA and HLA, differences to Eucomp II to be clarified	-	-
IRL	Not yet	No	Lack of resources	-	-
L	Yes	Not yet	Preparation not finished	Yes	-
NL	Yes	1998-2002	Developed in the project	Yes	1998-2002
P	Yes	2002, meta data + data for hospitals	Priority is to develop SHA, the HLA	Planned	-
SF	Not yet	No	Lack of resources	Yes	No
S	No	No	No mandate for HLA	-	No
UK	No	No	No mandate for HLA	Yes	1997-2002

Source: Compilation, BASYS.

METHODOLOGY

INTRODUCTION

Labour Accounting Systems are using various data sources to compile coherent aggregates. Some statistics focus on the total, others on parts of the total. Their reliability often varies. Experiences with Health Labour Accounts show that the HLA has to build bottom-up and can neither be derived from Labour Force Survey nor Labour Accounts from SNA exclusively. The problem is similar to SHA, all available statistics has to be linked in a consistent way, where SHA provides the main framework. As manpower is the most important production factor the consistency can be proved also by linking production values to manpower, usually described as labour productivity. The comparison of productivity ratios among different actors as well as among countries can substantially support the review of the outcome of the labour accounts.

BOUNDARY

Prerequisite for the compilation of the labour working in the health sector is the definition of the boundaries of the health sector. Two definitions are commonly used by Statistical Offices of the Member States for the production boundary of the health sector. Those defined by ESA and those by SHA. However, existing labour accounts of some MS deviate from these definitions.

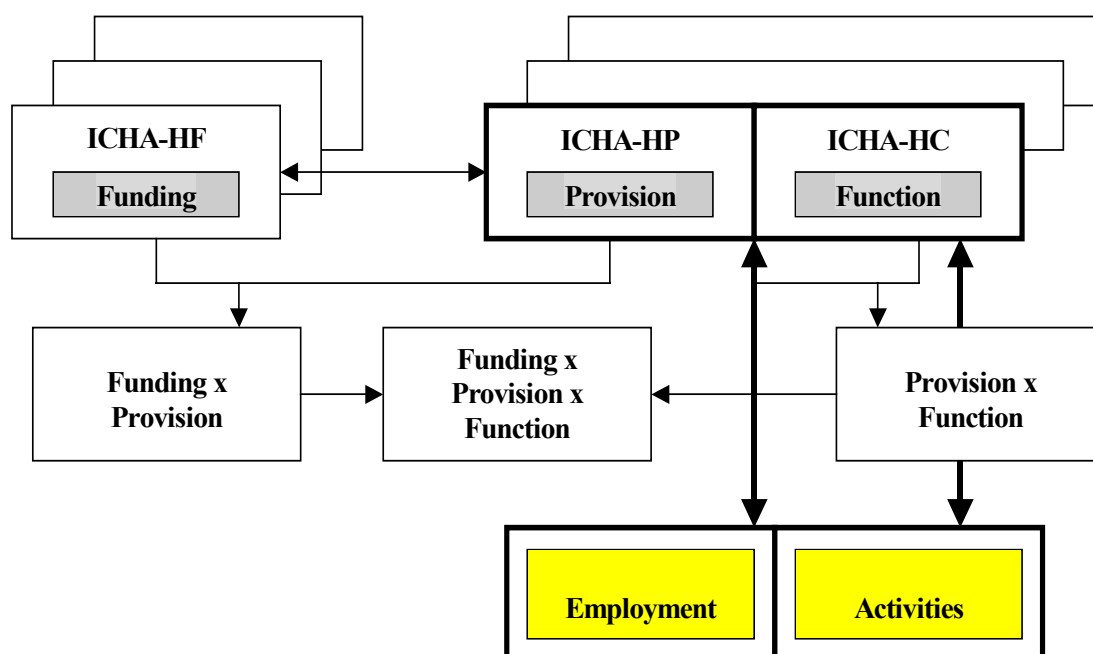
COMBINING SYSTEM OF HEALTH ACCOUNTS WITH HEALTH LABOUR ACCOUNTS

In SHA, manpower is linked to the Classification of Health Care Provision (ICHA-HP). The classification of health care providers 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 to the SHA (see Graph 1).

EUCOMP provides a further breakdown of HP categories into national actors. Based on the structure of actors meta data were collected on labour statistics for each HP actor considering following dimensions:

- a) total workforce (full-time/part-time)
- b) profession
- c) qualification
- d) age and gender
- e) salaries.

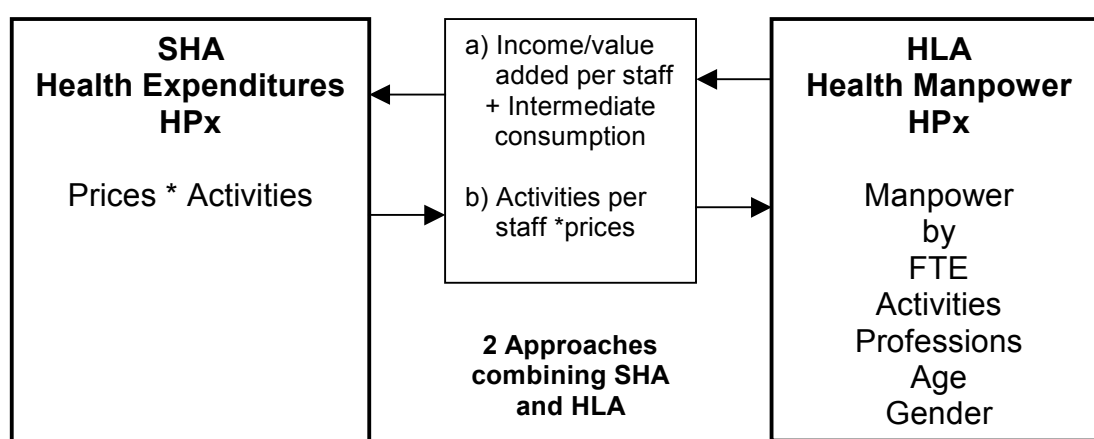
Graph 1: Link of Employment to ICHA-HP



In principle, there are two approaches to link manpower and health expenditures (see Graph 2)

- The first approach takes the inputs and the distribution of cost to wages, intermediate consumption etc.
- The second approach focuses on the output produced by health manpower.

Graph 2: Value added versus activities as link



In producing HLA, a huge variety of figures have to be combined in a consistent way. There are the integrated estimates from the sector 85 of national accounts, and basic

statistics from central registers of information as well as results labour force survey and business surveys (structure of earnings survey, labour cost survey. The compilation procedures can be summarised under the heading of statistical integration. The standard procedure for the building of a labour-oriented Social Accounting Matrices (SAM) goes through the following steps:

1. Identification of useful data sources. This step occasionally includes *matching* of several micro-data files in order to obtain the set of interest variables for each individual as well as the difficult step of harmonising the variables with the NA concepts, here SHA.
2. Aggregation of the integrated data sets to produce decomposition of the traditional SHA figures according to functional classifications (e.g. age and gender). At this stage *calibration* techniques for micro-data are often useful in order to reduce the traditional drawbacks of survey results, such as sampling fluctuations and non-response bias. The third aim of calibration is to achieve numerical consistency in estimates from different surveys and/or registers.
3. If some inconsistencies between the estimates obtained by aggregation of micro-data and the SHA figures are still present, *regularisation* or *balancing* techniques can be used in order to obtain strict numerical consistency in the macro-data.

ACTIVITIES AND FUNCTIONAL BREAKDOWN

Within the predecessor's project, information on the main activities of professions was not collected. However, in order to distinguish the role of different professions in the delivery of the functions (care, cure, prevention, distribution of services and activities), one step might be helpful to include actual activities of health professions in the further analysis. This would help to increase the knowledge on the reason for the wide variation of doctors and nurses within MS, and to better deal with manpower shortages in the health sector.

Obviously, both the professional as well as the educational classification do not properly classify human resources by their functions in the health sector as organization, and, rapidly changing environments lead to different activities of the same type of profession. Physicians and nurses might work in care and in cure and partly substitute each other. As one might anticipate, it is the pressure on productivity of human resources in health care, that drives the system towards new institutional solutions and professions.

The development of a functional classification of manpower may start from different strands, as the functions defined by SHA or the actual produced services and goods or the legal regulations. From the SHA perspectives, the link between SHA functions and manpower activities is of particular interest.

ACTORS AND ACTIVITIES ACCORDING TO EUCOMP

Meta data on the structure of production of Member States health services were collected by the EUCOMP project. The actors classification by the EUCOMP approach provides for each MS a comprehensive list of all relevant providers. The project aimed to produce a functional breakdown of health care systems in Member States, by reference to international health care classifications, detailing health care functions performed, as well as the activities linked to these functions. On top of that the project created a standardised comparative picture of all MS's health care systems by means of country profiles. The feasibility of the system was tested by applying it to existing national data sets relating to health care delivery in selected areas in Member States. In a broader sense, the project also aimed to contribute to the development of comparable EU health care indicators and to assist Member States in health care policy making by sharing the functional descriptions of their health care systems and enabling the sharing of well-defined comparable data by Member States starting in selected areas.

Fixed process elements of the EUCOMP system included functions, activities and mode of production of health care providers. Variable process elements of this system referred to providers of health care. They defined the national work sharing applied by supplying functions in general and activities in particular by modes of production. By reclassifying national actors into HP-Actors of SHA EUCOMP provides a framework which encompasses data independent of the provider structures in Member States whilst still integrating with details of the organisation of health care in a way that clearly shows the impact of provider structures in each country.

However, there are still problems to be solved which derive from differences regarding national traditions, the remaining responsibility for the organisation of health care with the MS, and, therefore, differences regarding the legal basis for organising health care in the various Member States. All this results in the insufficient comparability of health care data across Europe. The solutions proposed within this project included the notion of creating a system that does not depend on National Health Care organisations, which will neither replace existing national data collections nor national definitions.

Activities of health care delivery and activities of health professions are closely connected. The update of activities in the EUCOMP project has to be considered. It is foreseen, that the work on activities is co-ordinated by an experienced external expert.

INDICATORS

The development of Health Labour Accounts and of System of Health Accounts is justified by the information they prepare. Combining the two approaches offers advantages particularly with respect to monitor input productivity and check consistency of health accounts in relation to labour market developments (Graph 3). Indicators are compiled by combining often different statistical sources. Comparability and reliability of the indicators depend on the consistency of the definitions and classifications used in these sources.

Graph 3: Linkage between different accounting frameworks

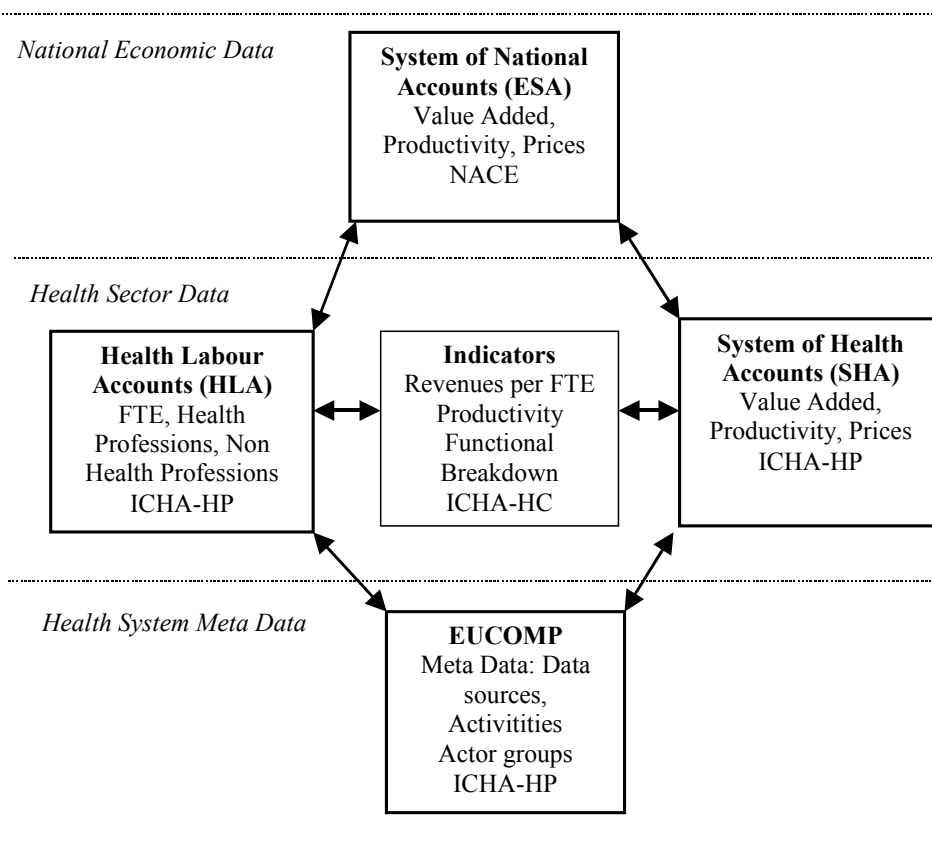


Table 4: Indicators in the field of human resources of health care

Indicator	Definition	Stratify by:			Data Availability and sources
		Head counts	FTE	Gender	
1 st priority					
4.2.2 Manpower					
a) Health service employment	Number of persons; per 1,000 population; % of total employment	X	X	X	National registers/ Hospital statistics
b) HP.1 Hospitals	Total employment in general hospitals, mental health and substance abuse hospitals, specialty (other than mental health and substance abuse) hospitals	X	X	X	
c) HP.2 Nursing and residential care facilities	Total employment in nursing care facilities, residential mental retardation, mental health and substance abuse facilities, community care facilities for the elderly and in all other residential care facilities	X	X	X	
d) HP.3 Providers of ambulatory health care	Total employment in offices of physicians, offices of dentists, offices of paramedical practitioners, out patient care centres, medical and diagnostic laboratories, providers of home health care services and other providers of ambulatory care.	X	X	X	
e) HP.4 Retail sale and other providers of medical goods	Total employment in dispensing chemists, retail sale and other suppliers of optical glasses and other vision products, retail sale and other suppliers of hearing aids, retail sale and other suppliers of medical appliances (other than optical glasses and hearing aids), and all other miscellaneous sale and other suppliers of pharmaceuticals and medical goods	X	X	X	
f) HP.5 Provision and administration and insurance	Provision and administration of public health programmes	X	X	X	
g) HP.6 General health administration	Government administration of health, social security funds, Other social insurance, other (private) insurance, and other providers of health administration				
h) Hospital staff ratio (HP1):	Hospital staff/number of beds	X			
i) Nurses staff ratio (HP1):	Nurses staff/ number of beds	X			
2 nd priority					
4.2.3 Health professions					
j) Physicians employed	Number of persons; per 100,000 population	X	X	X	
k) Nurses employed	Number of persons; per 100,000 population	X	X	X	
l) Midwives employed	Number of persons; per 100,000 population	X	X	X	
m) Dentists employed	Number of persons; per 100,000 population	X	X	X	
n) Pharmacists	Number of persons; per 100,000 population	X	X	X	
o) Paramedical professions	Number of persons; per 100,000 population	X	X	X	
3 rd priority					
4.2.4 Income and productivity					
p) Income of doctors, nurses, etc.	Yearly gross income	X		X	
2 nd Priority					
4.2.5 Labour market					
q) Unemployment rate of doctors, nurses, etc.	Unemployed/employment	X		X	Labour market statistic

Source: BASYS (2001).

The predecessors report discussed the selection and definition of manpower indicators in the health sector from four strands (see Table 4):

- a) The role of manpower in the production of health services
- b) The role of manpower as cost driver of health expenditures
- c) The role of manpower to secure quality of health services and
- d) The value of employment as basis for income and economic growth.

Some of these indicators are also proposed by ECHI II (see Annex C).

With respect to further indicator development the project propose to give priority to the indicators proposed by the EUROSTAT METHOD project. Labour productivity and density of health professions are to most important indicators identified in the Method project. The link between health expenditures as per cent of GDP and labour productivity and manpower density are described in Box 1. Obviously, as consequence of the different sources available HLA is a precondition to give reliable estimates on the development of labour productivity within the health sector.

Box 1: Health Manpower, Productivity and Sustainability

Productivity can be discussed as productivity within health systems and productivity of health systems. Productivity within health system is usually measured by calculating the ratio of output to input, e.g. hospital cases to hospital staff. By combining the productivity formula with the condition of sustainable financing we receive equation (1):

$$\frac{\text{THE}}{\text{Y}} = \frac{\text{Output}}{\text{Health Labour}} * \frac{\text{Health Manpower}}{\text{Inhabitants}} * \frac{\text{Price per output unit}}{\text{Y/inhabitants}} \quad (1)$$

The first term in equation (1) presents nothing else than the **productivity of health labour**. In reality, the health production function is certainly more complex and includes also other input factors as medical technology or pharmaceuticals. However, any increase of labour productivity (II) exhibits the impact of these other factors. To sum up, productivity focuses on the technical relation between input and output. Therefore, productivity is a measure for the performance of the input factors.

The second term measures the **density of active manpower** in the health sector in relation to the number of inhabitants. In general, training standards of most professions active in the sector are regulated. Additionally, often restrictions are imposed linked to planning procedures of health manpower.

The third term exhibits the **relative price** what inhabitants have to pay for the utilization of health services as compared to all other goods. Obviously this price depends on the income of health professions as compared to the income of all other professions.

Source: BASYS, CEPS-INSTEAD, CREDES, IGSS (2004)

DATA EVALUATION

CRITERIA

The framework for the evaluation of the data sources (statistical data and meta information) in MS on Health Care Manpower is determined on one hand by the methodology of the System of Health Accounts, and on the other, by the demands for manpower information for health policy, which goes beyond SHA, particularly with respect to quality issues, integration and surveillance of the labour market of health professions.

From SHA it follows that any useful link of Health Care Manpower data to Health Accounts requires comparability of the production boundary and of the breakdown to production units. Here, the international classification of providers ICHA-HP offers the link between the output produced by health care providers and the input of human resources in the production process.

Furthermore, the involvement of manpower in the production of certain services is of interest from the consumption point of view. The functional classification, however, requires an idea of the activities performed by health manpower. In general, this type of information is not available. But SHA compiles health expenditures by ICHA-HC. As a consequence of the “uno-actu principle” of the production and consumption of health services, manpower might be expressed by the international classification of ICHA-HC using monetary conversion rates from SHA.

The second criteria goes beyond SHA insofar as the manual refers to ISCO and ISCED with respect to the qualitative dimension of manpower: The issue that ISCO is not a sufficient concept for the description of the actual activities performed by health professions and of the provision of services is not developed. The description of health manpower by type of health professions is an important aspect which can be fully integrated in health labour accounts.

The migration of health professions between Member States and the rest of the world, as well as changes in current and future requirements for health manpower are further issues which might be of particular interest in the context of studying imbalances in health labour markets and in manpower planning. However, migration is not discussed in this report as we focused in the first step to establish basic information about stocks of manpower in the MS. As migration of professions plays in some countries an important role information on the professional mobility might be added in further work.

EXISTING STATISTICAL DATA ON MANPOWER AND META INFORMATION IN THE MS:

Annex 1 of the predecessor project (“Health Care Human Resources”) provides detailed information on the statistics. For ten countries, meta data on the sources of data are provided using the following structure:

- a) Establishment Register
- b) Business Survey
- c) Census
- d) Micro census (sample survey)
- e) Registers (individual)
- f) Composite Statistics.

An overview on the completeness of the reported meta data by countries and actors can be seen in the following table. Belgium data were collected during the project.

Table 5: Reported Metadata by ICHA-HP (one-digit)

Country	Sources	Sources and Actors		HP1	HP2	HP3	HP4	HP5	HP6	HP7	Others
Austria	x										
Belgium*	x	x	x	x	x	x	x	x	x	x	
Denmark	x	x	x	x	x	x	x		x	x	x
Finland	x	x	x	x	x	x	x		x	x	x
France											
Germany	x	x	x	x	x	x	x	x	x	x	x
Greece											
Ireland	x										
Italy	x	x	x	x	x	x	x	x	x	x	
Luxembourg	x										
Netherlands	x	x	x	x	x	x	x	x	x	x	
Portugal	x	x	x	x	x	x	x	x	x		
Spain	x	x	x	x							x
Sweden											
United Kingdom	x	x	x	x	x	x	x	x	x	x	
Iceland	x	x	x	x	x	x	x	x		x	x
Switzerland	x										
Norway	x	x	x	x	x	x	x	x	x	x	

* collected in the Belgium HLA.

The table exhibits, that the development of HLA is not a principal problem of missing data. This is confirmed by the country reports on HLA. The challenge is to integrate the various statistics in a consistent way.

Together with experts in MS we started to collect an initial data sample from the data sources dealt with during the “evaluation of data sources”. The samples to be included was thoroughly selected in a way, which allowed

- a) to evaluate data quality and comparability,
- b) to calculate meaningful indicators based on relations to national SHA health expenditure aggregates, and, based on the results thereof
- c) to recommend which data sources to be included in the final collection of prototype data and which not.

The initial collection of sample data, its evaluation and the recommendations concerning the data source to be used for the prototype data collection were discussed with experts from the TF/CARE and from MS.

The decision on the data sources to be included in the FINAL COLLECTION OF PROTOTYPE DATA was based on validity, reliability, comparability and SHA compliance. It will establish guidelines for best practice in data collection.

Actors are the principal health care units in SHA; all information should be linked to actors. In the data collection process a co-ordination with EUCOMP was made by integrating EUCOMP meta-data on actors.

COUNTRY REPORTS ON HEALTH LABOUR ACCOUNTS

It was planned from the beginning to make the Evaluation of the existing data in several steps based on criteria and analysis of the collected data. Starting point are the collected data in the first phase. These were brought together with latest information on EUCOMP and listed for the three countries in the organisation of the project. Because Health Labour Accounts are not yet performed in most Member States, we decided to focus the initial collection of data on three countries in order

- a) to define the demands for data collection
- b) to co-ordinate with EUCOMP
- c) not to confront members with unnecessary data requests.

The experiences of Health Labour Accounts in the three countries are described in detail in the attached country reports. Figures are presented in the following table:

Table 6: Health Labour (Head Counts) by HP-Codes in 1000

HP-Code	HP-Code Name	B (2002)	D (2001)	NL (2000)
1.0	Hospitals	157.6	1229	262.6
1.1	General hospitals	157.6	1109	207.4
1.2	Mental health and substance abuse hospitals	0	0	43.3
1.3	Speciality hospitals	0	120	11.9
2.0	Nursing and residential care facilities	121.9	475	306.8
2.1	Nursing care facilities	76.5	475	111.6
2.2	Residential mental retardation	6.2	0	94.4
2.3	Community care fac. for the elderly	0	0	100.8
2.9	All other residential care facilities	39.2	0	0
3.0	Providers of ambulatory health care	151.2	1418	234.3
3.1	Offices of physicians	36.3	646	33.4
3.2	Offices of dentists	8.3	315	18.3
3.3	Offices of other health care services	32.6	185	29.9
3.4	Out-Patient care centres	0	0	30.6
3.5	Medical and diagnostic laboratories	3.4	0	8.4
3.6	Providers of home health care services	69.6	190	111.4
3.9	Other providers of ambulatory health care	0.9	82	2.3
4.0	Retail sale and other providers of medical goods	16.4	317	50.8
4.1	Dispensing chemists	15.9	162	19.5
4.2	Retail sale other suppliers of optical glasses and other vision	0	0	7
4.3	Retail sale and other suppliers of hearing aids	0	0	0
4.4	Retail sale and other suppliers of med. appliances	0.6	155	0
4.9	All other misc. Sale and other suppliers of pharm. And med. Goods	0	0	24.3
5.0	Provision and administration of public health programs	7.0	50	11.5
6.0	Health administration and insurance	36.7	214	13.7
6.1	Government administration of health	8.7	214	0
6.2	Social security funds	28.0	0	13.7
6.3	Other social insurance	0	0	0
6.4	Other private insurance	0	0	0
6.9	All other providers of health administration	0	0	0
7.0	Other industries (rest of the economy)	19.0	96	10.4
7.1	Establishments as providers of occupational health care services	0	96	10.4
7.9	All other industries as secondary producers of health care	19.0	0	0
9.0	Rest of the world	0	0	0
Total		509.9	3,799	890.1

An overview on the share of the FTEs on head counts by 1-digit level of HP-actor groups for Belgium, Germany, and the Netherlands can be seen in the following table:

Table 7: Share of the FTEs on head counts and expenditures per FTE

HP-Code	HP-Code Name	B 2002	D 2001	NL 2000
Share of FTE on head count				
1.0	Hospitals	0.78	0.76	0.72
2.0	Nursing and residential care facilities	0.72	0.78	0.61
3.0	Providers of ambulatory health care	0.86	0.79	0.65
4.0	Retail sale and other providers of medical goods	0.82	0.84	0.79
5.0	Provision and administration of public health programs	0.89	0.84	0.80
6.0	Health administration and insurance	0.87	0.86	0.80
7.0	Other industries (rest of the economy)	0.85	0.83	0.80
9.0	Rest of the world			
	Total	0.80	0.79	0.67
Expenditures per FTE				
1.0	Hospitals		74,567	64,838
2.0	Nursing and residential care facilities		43,016	49,340
3.0	Providers of ambulatory health care		53,738	64,647
4.0	Retail sale and other providers of medical goods		176,341	144,000
5.0	Provision and administration of public health programs		94,167	54,891
6.0	Health administration and insurance		70,410	138,818
7.0	Other industries (rest of the economy)		105,200	131,325
9.0	Rest of the world			
	Total		72,802	67,750

Expenditures per FTE are presently only available for the two countries Germany and Netherlands.

Based on the experiences with the experiences within the three countries an electronic questionnaire was developed and sent to all MS except Greece because of the additional cost for software development. Details of this application are presented in chapter well as the logical

DATA ON HEALTH CARE PROFESSIONS

Data on health professions are provided by all MS, but by different sources and in different quality. The analysis of the data of the Eurostat Labour Force Survey (LFS) exhibits great variations in the number of people employed in the area of health and social work which are not consistent with data from register (Table 8). HLA can also help here to reach a more consistent structure by relating health professions to there working place (HP codes).

One particular issue in this context is the working status of health profession. Often employed health professions work as self-employed in different health care settings. Working-time accounts together with the compilation of health expenditures can help to compile FTE data for health professions.

Table 8: People employed in health and social work per 1000 inhabitants

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Total	40,0	47,8	88,7	43,4	17,3	20,6	40,8	36,4	22,2	34,5	67,1	36,0	24,8	63,1	85,4	50,4
200 Professions	8,6	19,7	7,1	7,0	5,4	8,3	4,4	14,6	5,3	4,6	13,8	4,7	6,2	24,3	11,8	14,7
222 Health professionals*	3,9	4,3	3,8	4,4	4,8	3,6	3,5	3,0	4,3	4,6	3,3	3,9	5,3	4,4	3,6	3,0
223 Nursing/midwifery professionals	2,6	10,9	1,5	0,0	0,1	3,5	0,0	10,5	0,0	0,0	3,7	0,0	0,0	12,9	4,4	8,5
244 Social science and related professionals	1,3	3,6	0,6	2,1	0,1	0,7	0,4	0,6	0,1	0,0	4,6	0,4	0,5	4,2	2,4	1,8
299 Other	0,9	1,0	1,3	0,6	0,4	0,5	0,5	0,6	0,9	0,0	2,2	0,4	0,4	2,7	1,5	1,4
300 Technicians and associate professionals	12,6	8,2	30,1	19,1	4,9	2,1	12,8	4,4	10,0	11,5	25,6	17,4	3,1	18,3	19,7	9,5
322 Health associate professionals	2,2	3,6	3,8	2,2	0,7	1,2	1,6	1,7	2,2	2,3	5,4	2,9	0,8	2,1	2,4	2,8
323 Nursing/midwifery associate professionals	5,5	0,5	9,0	9,2	3,2	0,0	6,3	0,6	5,8	6,9	12,4	10,3	0,0	13,9	6,3	2,0
346 Social work associate professionals	1,9	0,0	0,9	3,8	0,2	0,2	1,2	1,1	0,6	0,0	2,9	2,7	0,0	1,0	1,9	3,0
399 Other	2,9	4,0	16,4	3,9	0,8	0,8	3,7	1,4	1,5	4,6	5,0	1,5	2,3	1,4	9,2	1,7
400 Clerks	3,2	3,8	4,5	2,2	1,9	1,5	4,2	3,6	2,0	2,3	4,3	1,5	2,9	3,5	3,4	5,6
411 Secretaries	1,1	1,6	2,4	0,6	0,8	0,4	1,6	1,1	0,9	2,3	1,1	1,0	0,4	1,4	1,8	1,5
419 Office clerks	0,8	1,8	0,8	1,0	0,9	0,8	0,3	1,1	0,2	0,0	0,9	0,4	0,0	0,6	0,7	1,6
499 Other	1,3	0,5	1,1	0,6	0,2	0,4	2,3	1,1	0,9	0,0	2,3	0,2	2,5	1,5	0,9	2,5
500 Service workers	11,0	8,2	37,6	10,2	3,0	6,2	15,3	8,6	3,4	6,9	13,9	6,8	8,4	12,0	45,2	13,4
512 Housekeeping and restaurant service	1,0	1,4	0,9	1,8	0,6	0,6	0,9	1,1	0,0	2,3	1,5	1,1	1,1	1,0	1,3	1,2
513 Personal care and related service	9,9	6,8	36,7	8,2	2,3	5,5	14,4	7,2	3,1	4,6	12,3	5,6	7,0	11,0	43,6	12,0
599 Other	0,2	0,0	0,0	0,3	0,1	0,0	0,1	0,3	0,2	0,0	0,1	0,0	0,3	0,2	0,3	0,1
<i>Notably: Health Professionals outside sector N</i>																
000 Altogether	2,4	3,4	2,3	2,5	1,4	2,2	3,6	1,4	1,0	4,6	3,0	1,7	0,9	4,4	3,4	2,3
222 Health professionals*	0,9	1,4	0,9	1,0	1,1	1,1	1,4	0,6	0,6	2,3	0,6	0,9	0,5	1,7	0,7	0,6
223 Nursing/midwifery professionals	0,2	0,7	0,0	0,0	0,0	0,3	0,0	0,3	0,0	0,0	0,1	0,0	0,0	0,6	0,6	0,5
322 Health associate professionals	1,1	1,5	1,3	1,3	0,2	0,8	1,6	0,6	0,4	2,3	2,0	0,7	0,4	1,7	1,7	1,1
323 Nursing/midwifery associate professionals	0,2	0,0	0,0	0,2	0,1	0,0	0,5	0,0	0,1	0,0	0,3	0,1	0,0	0,2	0,4	0,1

* The term health professionals in the item 222 of the LFS refer to medical professionals (except nursing).

Source: Compilations BASYS based on LFS - EUROSTAT (2002).

The distinction between health and non-health professions in the health sector requires a clear definition which types of professions are included under health professions. There is a different tradition in the MS to define health professions particularly with respect to social care professions in the health sector. The SHA manual defines health professions as *Human Resources in Health Care* (HRHC) or the equivalent concept of medical and paramedical personnel, that is the special skilled labour force necessary for providing qualified health care. The defining criteria are *field of study*, *educational level*, and *profession*, whereas health professionals include also paramedical professions. "HRHC comprises people who have successfully completed education at the third level in a medical field of study" (OECD 2000, p. 161). The SHA manual does not consider the categories „244 Social science and related professionals“ and „346 Social work associate professionals“ as health professional. But in practice, these categories are of importance in long-term nursing care.

Within the country studies of this report social care profession working in the health sector are therefore generally included under health professions.

PRELIMINARY CONCLUSIONS

With respect to ICHA-HP the situation is principally similar to expenditure accounts. There are sufficient data in MS available to have at least estimates at the one-digit level. However, the data are not harmonised. We draw this conclusion based on the information

- a) on the collected meta data information for the 10 countries of the predecessors report, and
- b) the practical implementation of Health Labour Accounts linked to SHA in three countries (see country report in the appendix).
- c) the discussion of the reports and the application in the Carberry meeting.

Result of the review is that in the 3 analysed countries basic data is available to compile HLA in coordination with SHA.

- a) total workforce (full-time/part-time)
- b) profession (health, non health professions)
- c) qualification (partly)
- d) age and gender (partly)
- e) salaries (partly).

For a large part of the health system this approach would lead to comparable total estimates of health expenditures and health labour as a consequence of the “uno-actu principle” of the production and consumption of services. Certainly the breakdown by actors varies as providers fulfil different activities. However, it would be a major step forward as compared to the present situation.

DEVELOPMENT OF A CONCEPT FOR IMPROVED HEALTH CARE MANPOWER DATA IN MEMBER STATES

HEALTH CARE MANPOWER DATA IN A SHA FRAMEWORK

Based on the experience acquired during the INITIAL COLLECTION OF SAMPLE DATA we developed a draft concept for improved Health Care Manpower data including standards for reporting and description of the tools for data collection. Furthermore, we recommend procedures, which can properly “fill” data gaps in a short-term perspective such as estimation procedures. We also make recommendations on how data gaps in MS could be overcome consistently and cost-effectively in a longer-term perspective, e.g. by means of additional or modified data collections.

ACTORS AND ACTOR GROUPS

The concept proposed starts around national actors groups. We believe that the level of actors listed in EUCOMP I are sometimes too disaggregated for the purpose of manpower data collection. As all actors are linked to HP-Codes this allows to present the national morphology of providers in the structures of SHA.

In this project it was necessary to specify in which ways actor groups for linking statistical data sources to actors as defined in EUCOMP coincide with HP categories. This was organised by the software HCP.EXE which requested the user to link the actor groups at the one-digit or two-digit level. However, the possibility to make actor groups for the three-digit level exist. As long as collection of statistics starts from the institutional structure of the health and social care sector, at least this detail on the morphology of the sector should be maintained in the data collection, guaranteeing national recognition without hampering international comparison. However, it is important to secure that actors are exclusively linked to one HP-Category.

BALANCING OF INFORMATION

Usually, one data source does not provide all information needed for HLA. Therefore, it is necessary to combine information from different data sources. In developing an international comparable labour accounting system for the health sector, certain principles should be considered, which can be derived from the accounting standards of international organisations, particularly the principles defined by ILO, SNA/ESA, LEG on Social Accounting Matrices and EUCOMP. These general principles for the accounting Human Resources of European Health Systems are

- a) *Complete coverage* (of all economic activities and the economically active population)
- b) *Compliance* with ILO and SNA etc. concepts

- c) *Transformation* of data referring to single days or weeks to monthly, quarterly or annual averages
- d) *Consistency*, the data satisfy accounting relationships between, e.g. jobs, employed persons, hours worked and wage sum, in addition tables are available to describe the links between the labour accounts and the primary sources
- e) *High quality* because the best sources are used for different variables and sub-populations and data are adjusted in four steps (see later)
- f) *Comparability* over time: adjustments must be made for breaks in time series
- g) *Timeliness*, frequently available short-term estimates can be incorporated through their links with the source data
- h) *Transparency* of the compilations
- i) *Work organisation*: top-down statistical co-ordination and a minimum distance to the source statistics.

The four steps in the common methodology are:

- j) Harmonisation of variables, classifications, measurement units and reference periods (ex-post co-ordination)
- k) Adjustment for (incomplete) coverage
- l) Verification of accounting relationships and correction of measurement errors
- m) Balancing of remaining (small) differences.

DEVELOPMENT OF AN ELECTRONIC FILE

According to the TOR, we were responsible for preparing a draft and a final version of

- a) the MS Access database or MS Excel spreadsheet, which holds the FINAL COLLECTION OF PROTOTYPE DATA on Health Care Manpower from MS together with the respective meta data and the procedures used for data compilation, and
- b) the manuscript for a Eurostat publication (on 'Health Care Manpower in Europe in the framework of System of Health Accounts'). This publication will present the results of the FINAL COLLECTION OF PROTOTYPE DATA with an additional focus on
 - 1) inter-country comparisons and
 - 2) statistical analyses linking these data to health expenditures.

The results of the evaluation of the INITIAL COLLECTION OF SAMPLE DATA under a) and the PROCEDURES TO IMPROVE DATA QUALITY developed and implemented under b) are included when judged necessary and appropriate.

In the first phase of this project, the data collected in the predecessors project were already made available in MS Access. Furthermore, all data were linked to EUCOMP I. In the future, an interface to EUCOMP II should secure the link to updated meta information of EUCOMP II. For that it would be helpful to link the development more closely to EUCOMP.

Details of the logical data model of the application are delivered in ANNEX B.

From SHA, it follows that any useful link of Health Care Manpower data to Health Accounts requires comparability of the production boundary and of the breakdown to production units (actors). However, the detailed structure of actors in EUCOMP might make it unnecessarily difficult to compile the figures as well as to collect meta data on data sources at the level of actors. For example, the EUCOMP database contains 87 actors for Germany, but health expenditures are only compiled for 15 actor groups. Therefore, it was decided to develop an application that allows bundling the actors to meaningful groups. The main purpose of the application *HCP.exe* is to support this grouping process and to collect both data and meta data on health labour while allowing to update the former collected data.

STRUCTURE OF THE APPLICATION

The software contains three types of files

- a) the MS Access database including information for all MS
- b) the *HCP.exe* file of the application
- c) supporting files for the application.

The Access database includes all former collected data from MS.

- Meta data on statistics (sources) of health manpower
- Meta data on statistics (sources) of health manpower by actors
- Actors of EUCOMP

HCP.exe contains two main windows. The first window is used to group actors into actor groups, e.g. grouping local, regional and central hospitals as hospital.¹ The second window is used in the collection of figures and the metadata related to these figures. A “Task” button can be pressed to switch between the two windows.

1 In principle, the collection of data can be also done at level of actors. In this case, one actor would form an actor group.

Graph 4: Application windows HLA2

HCP

File Language Task 2

ActorGroupID 5000 ActorGroup HP-Code NACE

Record << < > >> of 0

In this area you define groups of actors. Only for these aggregated actors data on employment and expenditures are gathered.
Please do not aggregate too much because the more detailed the data are the better the international comparison will be.

Local Name HP-Code 10 - Hospitals n.e.m.

English Name NACE

Linked Actors

Actor	HPCode	Name
-------	--------	------

Available Actors

Actor	HPCode	Name
5034	120	Psykiatrisk hospital
5038	130	Somatisk hospital
5037	130	Sanatorium
5035	130	Revalideringsklinik
5011	130	Genoptræningscenter
5006	130	Fertilitetsklinik
5010	130	Fødeklinik
5025	210	Plejehjem
5016	230	Institutioner for ældre
5015	290	Hospice
5030	310	Praktiserende speciallæge
5001	310	Almen Praktiserende Læge
5032	320	Praktiserende tandlæge
5007	330	Fodterapeut
5028	330	Praktiserende fysioterapeut
5017	330	Jordemor

Actors

New Edit Delete

HCP

File Language Task 2

ActorGroupID 5000 ActorGroup Hospital HP-Code 10 NACE 8511

Record << < 1 > >> of 1

In this area you edit the expenditure and employment data for the actorgroups as well as the sources where the data come from.
To edit a comment please double-click on it.

Year 2000

This number Comment Source

Job Count in 1.000

is from a source is computed

Full time equivalents in 1.000

is from a source is computed

Expenditure in Mio. €

is from a source is computed

Save

Available Sources

Source	Name
5000	Løn- og beskæftigelsesregisteret
5010	Bevægelsesregisteret
5020	Statistisk tiårsoversigt
5030	Statistisk Årbog
5040	Det Fælleskommunale Løndatakontor
5050	Sygeskrivningens forhandlingsudvalg
5060	Sundhedsstyrelsen
5070	Lægemiddelstyrelsen
5080	Statens Serum Institut
5090	Statens Institut for Folkesundhed
5100	Sundhedsvæsenets Patientklagenævn
5110	Patientkadeankenævnet
5120	Lægemiddelskadenævnet
5130	Det Ethiske Råd
5140	Embedslægeinstitutionerne
5150	Sundhedsministeriet
5160	Danmarks Statistik
5170	Dansk Institut for Sygehusvæsen

Sources

New Edit Delete

PROCEDURE TO ADD DATA

Countries were asked to group the actors starting from their own experiences in health accounts. In the case they didn't have experience in health accounts, they were asked to follow the 2-digit HP codes. It was not expected that they went beyond this level of detail. The look-up field for adding the HP-Code contained 35 2-digit actors.

Countries were then asked to add for each selected year and actor group three values:

- Jobs in 1000
- FTE in 1000
- Health Expenditure in Mio €.

The countries were notified that the figures are closely linked by the "Health expenditures per Job" or "Health Expenditures per FTE".

In the case the figures are computed using estimation techniques, countries were asked to describe the method. They were also asked to add the data sources. In the case the data source was not listed, they could add new data sources. In this case the application opens a special window.

IMPLEMENTATION

The implementation of the software in the countries show mixed results (Table 9): There are mainly three reasons that HLA is presently only implemented in few countries.

- In the MS, where SHA is not developed, it is difficult to develop HLA .
- Some MS do not have the mandate to develop HLA additional to SHA.
- This is sometimes linked to the lack of human resources or financial resources.

From the experiences in this project follows that a general mandate to develop SHA would also help to develop HLA, because Table 10 of the SHA manual (Version 1.0) requires HLA.

Table 9: Health Labour Accounts applications used by Member States

Country	Software installed	Data delivered	Reason	Coherence with SHA	Consistency in time
A	No	No	No mandate	-	-
B	Yes	1997, 2002	Developed in the project	Compilations are not completely finished	Yes
D	Yes	1995-2002	Established since 2000	Yes	1997-2002
DK	Yes	Not yet	Lack of resources	Yes	
E	Yes	Not yet	Preparation not finished	Yes	1999-2001
GR	No	No	-	-	-
F	No	No	-	-	-
I	Yes	No	No mandate for SHA and HLA, differences to Eucomp II to be clarified	-	-
IRL	Not yet	No	Lack of resources	-	-
L	Yes	Not yet	Preparation not finished	Yes	-
NL	Yes	1998-2002	Developed in the project	Yes	1998-2002
P	Yes	2002, meta data + data for hospitals	Priority was first to develop SHA	Planned	-
SF	Not yet	No	Lack of resources	Yes	No
S	No	No	No mandate for HLA	Planned	No
UK	No	No	No mandate for HLA	Yes	1997-2002

Source: Compilation, *BASYS*.

ORGANISATION OF THE PROJECT AMONG PARTICIPATING INSTITUTES

The project was organised by BASYS around the particular competencies of the three Institutes: BASYS, NIVEL, and HIVA. Insofar additional competencies were required, this was included in co-ordination with the EUROSTAT.

It was agreed in the first project group meeting that the three institutes describe in the first step the situation in their own countries and develop HLA according to the dimensions shown in Graph 5 with the priorities on total figures for health labour, FTEs, and linked health expenditures (column 1 and 4 in Graph 5). The further breakdown into health professions and non-health professions should be considered insofar possible.

Graph 5: Main Dimensions of HLA

		Full-time Part-time Age-Gender Qualification	Full-time Part-time Age-Gender Qualification Activities	Full-time Part-time Age-Gender Qualification Activities	Income Wages and salaries
		Total Workforce (1)	Health professions (2)	Non-Health Professions (3)	Health expenditures (4)
HP1	Hospitals				
HP2	Dependency care institutions				
HP3	Outpatient care				
HP4	Distribution				
HP5	Public health				
HP6	Administration				
HP7	Others				
			Active Professions outside health	Active Professions outside health	
			Total health professions	Total health professions	

It was agreed to document the results into country reports and to present it to other Member States. Parallel the electronic file was developed to collect data from other Member States.

CO-ORDINATION WITH OTHER PROJECTS

RELATION TO OTHER PROJECTS

Already in the predecessors project a close co-ordination was made with the EUCOMP project. EUCOMP provides a breakdown of HP categories into national actors. Based on the structure of actors the first EUROSTAT health manpower project collected meta data on labour statistics for each HP actor considering following dimensions:

- a) total workforce (full-time/part-time)
- b) profession
- c) qualification
- d) age and gender
- e) salaries.

These meta data were used as starting information and were compared with the information used in health labour accounts.

The HLA Project is one of a series of European Projects aiming to improve information on health care in MS. The project has been closely developed with all projects listed in Table 10. With respect to ECHI we see this project as input. The list of indicators produced by ECHI so far is listed as annex. It is proposed to present the indicators proposed in co-ordination with Core group "Care".

CO-ORDINATION WITH EUCOMP II

The development of the electronic file started with data delivered to BASYS from the EUCOMP I. In order to avoid any double work in Statistical Offices we tried from the beginning to guarantee co-ordination with EUCOMP II. However, because of two reasons different electronic files were developed in the end. Firstly, EUCOMP II focused on an update of the meta-data information for actors for 2002. Secondly, we focused on the collection of actual data for 2000 and for the latest available year in health accounts. Thirdly, within the given financial constraints and given time frame of the projects the development of a common software was not possible.

CO-ORDINATION WITH MDS

In co-ordination with the Eurostat Grant project "System of Health Accounts (SHA) in the EU: Definition of a Minimum Data Set and of Additional Information Needed to Analyse and Evaluate SHA" a common workshop was carried out in August 25-27, 2004 at Carberry Tower, Scotland. The minutes of this meeting are presented in the Annex A.:

Table 10: List of relevant EU projects and expected output

Short Title	Projects (Title)	Institutes	Expected Outputs	Need of co-ordination
METHOD	Development of a Methodology for Collection and Analysis of Data on Efficiency and Effectiveness in Health Care Provision Eurostat Grant:	BASYS CREDES	a) To <i>evaluate</i> 1) the demand for information and analysis relating to efficiency and effectiveness and to <i>evaluate</i> 2) the MS' ability to supply the data needed for this demand; b) Based on the findings of the evaluation, to develop a <i>methodology for collection and analysis of data</i> , consisting of a <i>framework concept</i> (3) of efficiency and effectiveness analysis, a <i>suggested list of detailed data needed</i> for applying that framework concept (4), and of <i>recommendations on data collection and analysis</i> (5);	With respect to macro efficiency with Eurostat Grant MDS and Eurostat Projects SHA and HLA
MDS	System of Health Accounts (SHA) in the EU: Definition of a Minimum Data Set and of Additional Information Needed to Analyse and Evaluate SHA Eurostat Grant:	BASYS CREDES -CEPS- IGSS	a) To <i>evaluate</i> the demand for SHA data and the MS' ability to supply these data; b) To develop a <i>concept</i> for a minimum data set (MDS) and of additional data considered necessary, based on the findings of the evaluation; c) To <i>co-ordinate</i> with other relevant projects and activities	MS' ability to supply SHA data is also part of Eurostat Project SHA and HLA
SHA	Statistical Analysis and Reporting of Data on Health Accounts Eurostat Project: Reference: 2001/S 144-0989/EN	BASYS	a) an evaluation of existing statistical data and meta information in the Member states relating to Health Account data and health expenditures, b) a comprehensive proposal on how to improve the calculation of SHA-base health expenditure data in the MS, based on the finding of the evaluation, c) a proposal of procedures, which could contribute to greater synergies in the implementation process.	The procedures to implement SHA is also part of the Eurostat Grant GUIDE
HLA	Implementing the Concept of Health Care Manpower in Member States on a Prototype Basis Eurostat Project: Reference: 2002/S 170-136143	BASYS HIVA NIVEL	a) Evaluate all existing statistical data and meta information in Health Care Manpower in MS as described in the final report of the predecessor project (EVALUATION OF DATA SOURCES), including a potential update of the data sources. Start the INITIAL COLLECTION OF SAMPLE DATA, the evaluation of the associated data quality and comparability and draft the recommendation of data sources to be included in the FINAL COLLECTION OF PROTOTYPE DATA b) Develop a draft concept for improved Health Care Manpower data in Member States c) Prepare a draft electronic file (MS Access or MS Excel) containing the FINAL COLLECTION OF PROTOTYPE DATA on Health Care Manpower and draft a manuscript for a Eurostat publication, which contains the final draft concept for improved Health Care Manpower data in Member States under b) and the results obtained on its basis Delivery of the final data file and final manuscript for publication as described under c)	With respect to metadata and update a co-ordination with SHA an EUCOMP is necessary
GUIDE	SHA Guidelines Eurostat Grant	ONS	Practical guidance, illustrated where possible with examples, to aid to compile SHA.	With respect to recommendation for implementation with Eurostat project SHA
EUCOMP	Towards Comparable Health Care Data in the EU Eurostat Grant	NEHB	Metadata on functional breakdown of health care systems in Member States, by reference to international health care classifications, detailing health care functions performed, as well as the activities linked to these functions.	EUCOMP I already finished, EUCOMP II with respect to metadata collection with SHA and HLA
AGESEX	Eurostat Grant	CEPS- IGSS		AGESEX already finished: results are important with respect to Eurostat Grants EFF and MDS and EU Grants GUIDE and ECHI
ECHI	Integrated approach to establishing European Community Health Indicators EU Grant	RIVM	Proposing a comprehensive list of health indicators ' <i>to contribute to the establishment of a Community health monitoring system</i> ', in order to: a) Measure health status, its determinants and the trends therein throughout the Community; b) Facilitate the planning, monitoring and evaluation of Community Programmes and actions, and c) Provide MS with appropriate health information to make comparisons and support their health policies.	Co-ordination with ECHI II necessary after decision on care indicators

Table 11: Methodologies used in the various EU projects

Short Title	Objectives of methodology development	Methodology for analysis and compilation of data	Methodology for data collection
METHOD	Based on the findings of the evaluation, to develop a <i>methodology for collection and analysis of data</i> , consisting of a <i>framework concept</i> of efficiency and effectiveness analysis	Production of health according health economic and public health approaches as well as health system analysis	Reporting in the framework of SHA and existing instruments used by EUROSTAT and MS
MDS	To develop a <i>concept</i> for a minimum data set (MDS) and of additional data considered necessary, based on the findings of the evaluation.	Macroeconomic framework of health, health system according to SHA and WHO 2000; compilation of indicators in relation to basic health policy objectives	Reporting of MDS by an annual electronic data file a) data b) indicators c) meta data
SHA	a) comprehensive proposal on how to improve the calculation of SHA-base health expenditure data in the MS, based on the finding of the evaluation, b) proposal of procedures, which could contribute to greater synergies in the implementation process.	Macroeconomic framework behind SHA	Definition of links and interfaces to other data reporting systems as EUCOMP or MDS; reporting of accounting data and meta data on accounting
HLA	a) Develop a draft concept for improved Health Care Manpower data in Member States b) Prepare a draft electronic file (MS Access or MS Excel) containing the FINAL COLLECTION OF PROTOTYPE DATA on Health Care Manpower	Macroeconomic framework behind System of Health Accounts (SHA) and Health Labour Accounts (HLA) and their links to ESA	Reporting of HLA data by an electronic file with interfaces to EUCOMP and HLA
GUIDE	Develop guidelines for compilation of SHA	Interpretation of Manual of System of Health Accounts (SHA) including experiences in MS	
EUCOMP	Update of meta data on health care provision and financing in MS	Health system's approach	Reporting of Metadata on health systems
ECHI	Methodology for health indicators to contribute to the establishment of a Community health monitoring system	Delphi	?

Table 12: Approaches to data and meta data evaluation

Short Title	Objectives of data evaluation	Approach	Expected Output
METHOD	Evaluation of a) the demand for information and analysis relating to efficiency and effectiveness and to <i>evaluate</i> b) the MS' ability to supply the data needed for this demand.	a) Literature review on indicators for efficiency, effectiveness, access and sustainability b) Analysis of health care data provision to international Organisations and in national reports c) Eventually Questionnaire to MS	List of data needed Together with input from methodological Framework concept for data collection
MDS	Evaluation of a) the demand for SHA data and b) the MS' ability to supply these data	a) Review of justification for SHA by producers guidelines, b) Review of policy reports using Health accounts information c) Literature Review on indicators for efficiency, effectiveness, access and sustainability d) Analysis of health care data provision to international Organisations and by national reports	Definition of a minimum data set
SHA	Evaluation of existing statistical data and meta information in the Member states relating to Health Account data and health expenditures.	a) Questionnaire to MS b) Review of Health accounts data produced by MS	The procedures to implement SHA is also part of the EUROSTAT Grant GUIDE
HLA	Evaluation of all existing statistical data and meta information in Health Care Manpower in MS as described in the final report of the predecessor project (EVALUATION OF DATA SOURCES), including a potential update of the data sources.	Review data provided in the predecessors report	With respect to meta data and update a co-ordination with SHA an EUCOMP is necessary
EUCOMP	Evaluation of Meta data on functional breakdown of health care systems in Member States, by reference to international health care classifications, detailing health care functions performed, as well as the activities linked to these functions.	Questionnaire to MS based on modified software of EUCOMP I	EUCOMP I already finished, EUCOMP II with respect to meta data collection with SHA and HLA

BELGIUM: COUNTRY REPORT HEALTH LABOUR ACCOUNTS

DRAFT

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1. INTRODUCTION

1.1 Objectives of the project and the report

There is a growing concern in Belgium about the need for proper assessment of health expenditures and health manpower, the first in view of the budgetary implication of demand and supply driven factors on the health insurance, the latter in view of planning manpower needs and avoiding shortages. The changing institutional responsibilities and the growing diversity within the sector and changing borderlines between health and social care created a complex patchwork of responsibilities and sources of information. This led to a lack of overview and harmonisation. Borderlines between regions, authorities and health and care aspects imply that exhaustiveness of figures and overviews is less and less guaranteed. Some 15 years ago we concluded that some 15 authorities were responsible for health and social care in Belgium. Since then the picture became not less complicated.² However, despite or because, the system of social protection is running well and it provides important micro-information. This probably explains the delay for Belgium to comply with international demands for exhaustive statistics on satellite accounts for the health care sector and manpower resources.

This report combines the state of the art of the most recent efforts in Belgium to comply with those international demands with our own research efforts on satellite accounts and health manpower planning, sometimes inspired by the same principals of national accounting, sometimes referring already to the new international standards of ASHA. New initiatives on manpower data collection in the health sector are emerging in Belgium (see further the Register of Medical Professions). They are to a large extent bottom-up approaches. Ad hoc data collection is feasible, but not exhaustive. We conclude with the recommendation that in the further construction of those bottom-up new systems of health manpower the demands of international data collection should be integrated so that it will be easier in the future to comply with those international demands. An initiative of a kind of round table will be proposed by HIVA, on the Eucomp II list that has been completed for this project. Finally we start with a first reference to the list of nursing professions that will be the transversal point of interest of the research part of HIVA in the Eurostat project.

2 As can be observed further from the EUCOMP-list of actors from Belgium hereafter.

1.2 *Health labour accounts in the past*

Integrated official health labour accounts did not exist explicitly in Belgium. What did exist is, with different sources and definitions, counts of medical and paramedical professions on the one side, employment statistics on the other side classified along activities but not along professions, except for independent workers. And finally there were, on an aggregated level the relevant sectors in the national accounts, including value added and employment. On the other hand labour force surveys could be used to describe the relevant labour market. Important, but only for medical professions, more recently including physiotherapy, there were the planning studies, within the context of controlling the medical workforce and medical supply.

Belgium was not one of the leading countries to introduce administratively concepts of health accounting or labour force accounting in the mid-nineties. In the academic field exercises coming close to those concepts of national (health) accounts and human resources accounts did exist and provide some insight in the complexity of the tasks to be done (Spinnewyn, Wouters, Pacolet, 1988; Pacolet, Van De Putte, Marchal, Dewilde, Verbrugghe, Strobbe, 2001). Following that project, Belgium participated partly in some international efforts to develop a methodology and classification for international health accounts. (Van Mosseveld, van Son 1999). Of a similar nature where more recently joint efforts for Flanders and Wallonia to develop manpower planning for the complete health and social care sector, concentrating on caring personnel with exclusion of physicians (HIVA and Socio-Economie de la Santé (SESA), U.C.L.). Today those two institutes are involved in a collaboration project with the Ministry of Health to organise the planning of the health workforce. Since regular economic and labour market sources do not include profession, those manpower-planning accounts were of the first to validate several (but most of the time not exhaustive or not timely available) information sources on qualification. Problematic is, however, that they remain ad hoc and so health labour accounts will remain estimates and not counts. None of the comprehensive labour statistics (as the employment statistics) include the diploma (except census data). More recently, Belgium started to classify its health expenditures statistics along the lines of the SHA classification. This project wants to combine this experience with the present steps to define health labour accounting in Belgium.

1.3 *Health labour accounts in the future*

For the medical profession (those included in a well defined list of professions of the Royal Decree 78)³ since 2003 a database called 'kadaster' (Register) will be created facilitating administrative requirements related with those professions, facilitation planning of the medical professions and improving the communication between providers, professionals and the users. This will improve the information about where what kind of medical professions and specialists are engaged, including for instance the important occurrence of combined jobs (independent and salaried), but no information will be available on total volume of activity. Combining the 'register' of health professions with the data warehouse of the social security contributors could reveal such information but it is not clear if this combination will be allowed although it seems essential for human resources accounting and manpower planning. (The Ministry of Health is verifying this possibility). At the same time, those needs and experiences call for the construction of a data warehouse for the health information itself.

3 See a.o. Wetsontwerp houdende oprichting van de federale databank van de beoefenaars van de gezondheidszorgberoepen.

Related with it, but again starting from the providers' viewpoint the Federal Ministry of Health is also studying/planning the restructuring of the data collection, including the data collection of manpower, in the institutions. This is larger than the health professions defined under Royal Decree 78, but is limited to the institutions. A reorganisation and more in depth utilisation of information as FINHOSTA (financial and manpower information on hospitals), on old age and nursing homes, on the activities of nurses and minimal clinical information etc would allow a better view of human resources used in the institutions. This can also be linked with diseases and DRG's, relevant indicators for defining output in health care production.

Several of the sources mentioned in the previous paragraph have been used on an ad hoc basis for our manpower planning research on the caring sector. They will be presented hereafter (Pacolet et. al. 2002) confirming the relevance of both strategies. The 'Register' mentioned above will help (but only partly) to complete health labour accounts in the future.

2. METHODOLOGY

2.1 *Organisation of National Labour accounts*

Detailed administrative sources are available on total employment (salaried and independent), classifiable along NACE-five-digit. The classification of the independent work along this line is only recently available. This classification does not allow a regrouping along occupations or education. A data warehouse has been installed in which several administrative sources can be consulted and in which the data are harmonised on matters as labour time and full time equivalent among others. The information is on individual level (it is a data warehouse constructed on the social security records). For the majority of records (with the exception of persons once in their life time unemployed) no information on qualification and profession is available.

Additional labour market information is obtainable from the Labour Force survey. This classification becomes less reliable on a 5-digit level, i.e. the level needed to identify relevant health and social care services.

According to the National Accounts sector N includes in Belgium a workforce of some 408,000 persons in 1998. This increased to some 434,000 according to the Central Planning Office in 2004. This includes caring and other personnel. It represents some 11.1% of total employment.

The sector definition of National Accounts is, however, more narrow than the SHA definition.

2.2 *Health and care professions*

For the moment we studied all professions in the health and caring sector, with exception of medical doctors. Since both health and social care industries involve both medical and caring personnel, this argues for the broad definition of health and caring sector, for reasons of exhaustiveness but also relevant borderlines (we should describe relevant labour markets when constructing human resources accounting). A combination of professions and educational level is even needed although this is related to ‘particularities’ of existing countries (see the proposals made in the OECD project on health manpower including ISCED and ISCO classification criteria, what only can be solved by using the greatest detail of national information).

Following health personnel (other than medical) is already partly identified in Belgium/Flanders (Box 2). The results are given for Flanders and Belgium in 4.3.

Box 2: Definition of other health and caring personnel

- A. Nurses and midwives
 - Higher Education nurses
 - Technical school–nurses
 - Midwives
 - Hospital assistants
- B. Caring professionals
 - Home care and care of the elderly
 - Child care
- C. Paramedical professionals
 - Occupational therapist
 - Podotherapist
 - Orthopaedist
 - Medical lab-technologist
 - Speech therapist
 - Nutritionist/dietician
 - Bandager
 - Orthesist
 - Prothesist
 - Orthoptist
- D. Physiotherapist: non university and university level
- E. Social workers
 - Welfare worker
 - Assistants in psychology
- F. Educators: secondary and post secondary and university level
- G. Personal and logistic assistants
- H. Others

Source: For more information: 'Plus est en vous herbekeken, deel 1' and the reports 'Vraag en aanbod'.

2.3 *Structuring of the information along the lines of the SHA.*

For the moment first detailed analysis are taking place on the construction of expenditures along the lines of ICHA- HC and HP. The framework has been constructed in collaboration between FOD Social Security and INR Institute of National Accounts. The database includes the most extended list of activities in health insurance, available in excel tables. It has to be studied if the bottom-up approach of the national accounts can provide similar information for employment.

No link has been made with employment and certainly not with professions.

The link with HP is possible when the NACE classification is acceptable, sometimes further decomposed along real services and providers.

In our manpower planning efforts for Flanders we applied information available on the level of providers/categories of providers (a greater detail than the 5-digit) but we could not obtain exhaustiveness of the information: the most important categories of professions and providers have been included however.

We applied our previous list of activities of the Statistic Netherlands Report on the health account we constructed in 1997 (Pacolet et al., 2001), what resulted among others in a detailed list of providers of relevance for the health and social care sector and in further suggestions for a more detailed NACE-classification for this sector. It resulted also in the expenditures account for health for Belgium and for care for Flanders. For 1988 we had a

similar account for Belgium for health and social care. No complete table is presently available for health and social care combined for Belgium.

There is no comparability between expenditures and employment. For employment for instance we applied at that time a larger coverage of industries (pharmaceutical industry for instance, the results for the labour accounts are given in 4.2), that in the definition of expenditures is already included in other expenditures.

2.4 *Streamlining HLA for Belgium with Eucomp II*

In the HLA and the expert system developed within the context of this project, reference to the actors list as documented in Eucomp I was made. For Belgium this actor list was not available. Due to additional support of the Belgian Federal Government, HIVA was able to complete a first version of Eucomp lists of actors and the related meta data.⁴ Since it was the last of the 15 EU Member States that was not present in the Eucomp I meta databank, it is a significant step forward in promoting as well the SHA, HLA and Eucomp in Belgium and supports the approach taken by Eurostat also in other initiatives (MDS, Health accounts according to age) to streamline data collection, or, in many occasions, starting data-collection.

The expert system of Eucomp II and HLA helps to document but also to structure the ‘picture’ of the national health (and social) care system. Proper categorising is here essential. The existing categories are sometimes too large, sometimes trivial small. The number of dimensions seems to increase. As long as those are additional dimensions and not redundant information, this seems to be the effort we need to make to improve the statistical apparatus. Belgium has the potential of a decentralised system of data-collection, instead of a top down approach. New initiatives as a data-warehouse for the labour force or a register of medical professions are part of this potential. We advocate on several occasions also the more detailed use of NACE classifications to harmonise international statistics and to avoid the multiplication of dimensions. Perhaps it helps also the construction of some dimensions of SHA and HLA. Hereafter we give complete list of Eucomp II actors as of 2002, regrouped for the HLA. Only two actors present in the Eucomp II (pharmaceutical industry and manufactures of orthopaedic instruments and prosthesis) are not included. It resulted in a 2-digit level of HP-actor groups, and some 3-digit level groups.

4 We thank the Federal Minister of Social affairs Rudy Demotte and the Federal Administration for the additional support. It was Annick Peetermans who completed this task at HIVA. At the Administration Dirk Moens has to be acknowledged for his support and comment on this work.

Table 13: Definition of actor groups in Eucomp II, Belgium 2002-2003

Actor-group	NACE/ Actor	HP-Code	Name
2000	85.110	10	Ziekenhuizen
	2001	110	Acuut ziekenhuis / Hôpital urgent
	2005	110	Militair ziekenhuis / Hôpital militaire
	2004	120	Psychiatrisch ziekenhuis / Hôpital psychiatrique
	2006	130	Revalidatieziekenhuis / Hôpital de rééducation
	2090	130	Penitentiair genees- en heelkundige centrum / Centre médico-chirurgical pénitentiaire
2001	85.315	20	Residentiële voorzieningen ouderen
	2002	210	Rust- en Verzorgingstehuis (RVT) / Maison de repos et de soins (MRS)
	2025	230	Dagverzorgingscentra voor ouderen (DVC) / Centres de soins de jour pour personnes âgées
	2032	230	Dienst voor kort verblijf voor ouderen (KV) / Accueil momentané pour des personnes âgées
	2102	230	Rustoord voor Bejaarden (ROB) / Maison de repos (MR)
	2106	230	Serviceflats / Résidences-services
	2125	230	Woningen voor ouderen / Maisons pour personnes âgées
2005		22	Residentiële voorzieningen voor psychiatrische stoornissen
	2065	220	Instelling voor sociaal verweer / Etablissement de défense sociale
	2087	220	Opvangcentrum voor drugsverslaafden / Centre d'accueil pour toxicomanes
	2098	220	Psychiatrisch Verzorgingstehuis (PVT)
	2099	220	Psychiatrische annex gevangenis / Annexe psychiatrique prison
2002		29	Alle andere residentiële zorgvoorzieningen
	2003	290	Medisch-Pedagogische instelling (MPI) / Service résidentiel pour jeunes
	2061	290	Hersteloorde / Centre de convalescence
	2071	290	Kuuroord - spa / Station thermale - spa
	2078	290	Medisch pediatrisch centrum / Centre médico-pédiatrique
	2083	290	Observatiecentra en behandelingscentra voor minderjarigen / Service résidentiels de transition
	2110	290	Tehuis voor kortverblijf voor gehandicapte personen/ Service de court-séjour
	2111	290	Tehuis voor niet-werkenden (TNW) / Services résidentiels pour adultes
	2112	290	Tehuis voor werkenden (TW) / Service résidentiel de nuit pour adultes
2006	85.120	31	Medische praktijken
	2058	310	Geneesheer-specialist / Médecin spécialiste
	2063	310	Huisartspraktijk / Médecin de famille
2007	85.130	32	Tandartspraktijken
	2088	320	Orthodont / orthodontiste
	2108	320	Tandarts / Dentist
2008		33	Niet medische zorgverstrekkers, exclusief kinesitherapeuten
	2041	330	Diëtist / Diététicien
	2044	330	Ergotherapeut / Ergothérapeute
	2069	330	Klinisch psycholoog - psychotherapeut / Psychologue clinicien - psychothérapeute
	2073	330	Logopedist / Logopède
	2091	330	Podoloog / Podologue
	2114	330	Thuisverpleging / Soins à domicile
	2123	330	Vroedvrouw / Sage-femme
	2129	330	Alternatief geneeskundige zonder artsdiploma / Médecin non officielle
2009	85.144	33	Kinesitherapeuten
	2068	330	Kinesitherapeut / Kinésithérapeute
2024		34	Ambulante opvang- en verzorgingsdiensten
	2018	341	Centrum voor prenatale begeleiding K&G / Consultation prénatale O.N.E.
	2055	341	Geboortehuis / Maison natale
	2019	342	Centrum voor Geestelijke Gezondheidszorg (CGG) / Service de santé mentale
	2020	342	Centrum voor alcohol en andere drugproblemen (CAD) / Centre d'aide aux addictions
	2030	342	Dienst voor beschut wonen / Habitation protégée
	2060	345	Geïntegreerde dienst Thuiszorg (GDT) / Service intégré de soins à domicile (SISD)
	2092	345	Polikliniek / Polyclinique
	2103	345	Samenwerkingsinitiatief Eerste Lijn (SEL)/ --
	2104	345	Samenwerkingsverband palliatieve zorg / Plateforme Soins palliatifs
	2116	345	Vertrouwenscentrum Kindermishandeling (VCK) / Service d'aide aux enfants maltraités

Table 13: Definition of actor groups. Continuation

Actor-group	NACE/ Actor	HP-Code	Name
	2022	349	Centrum voor ontwikkelingsstoornissen / Service d'aide précoce
	2024	349	Dagcentrum voor volwassen gehandicapten / Service d'accueil de jour pour adultes
	2029	349	Dienst voor begeleid wonen personen met een handicap / Hébergement protégées pour handicapées
	2036	349	Dienst voor plaatsing in gezinnen / Service de placement familial
	2038	349	Dienst voor thuisbegeleiding / Service d'aide à l'intégration
	2105	349	Semi-internaat voor schoolgaanden en niet schoolgaanden / Service d'accueil de jour pour jeunes
2011	85.141	35	Medische laboratoria
	2072	350	Labo voor medische analyse / Labo pour analyse médicale
2013		36	Thuiszorgdiensten
	2012	360	Agentschap voor PWA - Dienstencheck / --
	2017	360	Boodschappendienst / Service de livraison
	2027	360	Dienst opvang zieke kinderen / Service de garde d' enfants malades
	2028	360	Dienst voor Gezinszorg / Service d'aide aux familles
	2033	360	Dienst voor kraamhulp / Service d'aide à l'accouchement
	2034	360	Dienst voor logistieke hulp en aanvullende thuiszorg / Service de nettoyage
	2035	360	Dienst voor personenalarmering / Service système d'alarme
	2070	360	Klusjesdienst / Service de petits travaux
	2074	360	Lokaal dienstencentrum / ?
	2075	360	Maaltijdbedeling aan huis / Service de repas à domicile
	2085	360	Oppasdienst / service de gare-malade
	2089	360	Pedicure / Pédicure
	2118	360	Vervoerdienst / Service de transport
2012	85.145	39	Bloedbanken, organenbanken en dergelijke
	2016	392	Bloedtransfusiecentrum / Service de transfusions sanguines
2014	85.142	39	Ziekenvervoer
	2013	391	Ambulancedienst / Service d'ambulance
	2095	391	Privé ambulance dienst / Service d'ambulance privé
2016	52.310	41	Apotheken
	2015	410	Apotheek / Pharmacie
2026	52.485	42	Gespecialiseerde detailhandel optische glazen, opticiens
	2086	420	Optiek / opticien
2027	52.320	43	Kleinhandel en andere verstrekkers van hoorapparaten
	2062	430	Hoorcentrum - Audioloog / Centre auditif - audicien
2017	52.320	44	Kleinhandel in medische en orthopedische artikelen
	2077	440	Mediotheek - thuiszorgwinkel / Médiothèque - magasin pour soins à domicile
	2115	440	Uitleendienst medisch materiaal / Service de prêt matériels médicale
2028		49	Alle andere verstrekkers van medische goederen
	2042	490	Drogist / Droguerie
	2107	490	Supermarkt / Supermarché
	2113	490	Teleshopping - postorder / Télésopping - Commande par poste
	2128	490	Tandtechnisch labo / Laboratoire de mécanicien-dentiste
2010		50	Verstrekkers van openbare gezondheidszorg
	2014	500	Antigifcentrum / Centre antipoisons
	2021	500	Centrum voor leerlingbegeleiding / Centre psycho-médico-sociaux (CPMS)
	2023	500	Consultatiebureau voor het jonge kind K&G / Consultations pour enfants d'ONE
	2039	500	Diensten ter bescherming van de gezondheid / Services pour protection de la santé
	2059	500	Gezondheidspromotiediensten
	2067	500	Keuringscentrum voor sporters / Centre d'expertise pour sportifs
	2093	500	Preventiediensten / Services de prévention
2018	75.1	61	Overheidsadministratie gezondheidszorg
	2007	610	-- / Agence Wallonne Pour l'Intégration des Personnes Handicapées (AWIPH)
	2008	610	-- / Direction générale de l'Action sociale et de la Santé de la Région wallonne
	2009	610	-- / Service Bruxellois Francophone des Personnes Handicapées (SBFPH)
	2010	610	Abteilung Familie, Gesundheit und Soziales, Ministerium der Deutschsprachigen Gemeinschaft
	2026	610	Departement welzijn, volksgezondheid, cultuur (WVC) Vlaamse Gemeenschap

Table 13: Definition of actor groups. Continuation

Actor-group	NACE/ Actor	HP-Code	Name
	2040	610	Dienststelle des Deutschsprachigen Gemeinschaft für Personen mit einer Behinderung / --
	2043	610	Département d'aide à la Jeunesse, sport et santé de la Communauté française
	2045	610	FOD Defensie / SPF Défence
	2046	610	FOD Economie, KMO, Middenstand en Energie / SPF Economie, PME, Classes moyennes et Energie
	2047	610	FOD Sociale Zekerheid / SPF Sécurité sociale
	2048	610	FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu / SPF Santé publique
	2049	610	FOD Werkgelegenheid, Arbeid en Sociaal Overleg / SPF Emploi, Travail et Concertation sociale
	2054	610	Franse Gemeenschapscommissie / Commission Communautaire Française (COCOF)
	2056	610	Gemeenschappelijke Gemeenschapscommissie (GGC) / Commission communautaire commune (COCOM)
	2057	610	Gemeente / Commune
	2080	610	Ministerie van het Brussels Hoofdstedelijk gewest / Ministère de la Région de Bruxelles-capitale
	2081	610	Nationaal Instituut voor Oorlogsinvaliden, Oud-Strijders en Oorlogsslachtoffers (NIOOO) / Institut N
	2082	610	Openbaar Centrum Maatschappelijk Welzijn (OCMW) / CPAS
	2097	610	Provincie / Province
	2120	610	Vlaams Fonds voor Sociale Integratie van Personen met een Handicap (VFSIPH) / --
	2122	610	Vlaamse Gemeenschapscommissie (VGC) / Commission communautaire flamande
	2124	610	Wetenschappelijk Instituut voor Volksgezondheid / Institut Scientifique de Santé Publique
2019	75.30	62	Instellingen sociale zekerheid
	2031	620	Dienst Overzeese Sociale Zekerheid (DOSZ) / Office du Sécurité Sociale d'Outre Mer (OSSOM)
	2051	620	Fonds voor Arbeidsongevallen (FAO) / Fonds des Accidents du Travail (FAT)
	2052	620	Fonds voor beroepsziekten (FBZ) / Fonds des Maladies Professionnelles (FMP)
	2064	620	Hulp- en Voorzorgskas Zeevarenden (HVKZ) / Caisse de Secours et Prévoyance en faveur des Mariniers
	2101	620	Rijksinstituut Ziekte- en Invaliditeitsverzekering (Riziv) / Institut National d'Assurance Maladies
	2119	620	Verzekeringsinstelling (VI) / Organisme Assureur (O.A.)
2029	75.301	63	Andere sociale verzekeringen
	2121	630	Vlaams Zorgfonds / --
	2127	630	Zorgkas / --
2030	66.03	64	Andere (private) verzekeringen
	2096	640	Privé verzekeringsmaatschappij / Compagnie d'assurances privée
2031		69	Alle andere gezondheidsadministratie
	2011	690	Adviesorganen / Organismes consultatifs
2032		71	Verstrekken van beroepsgebonden gezondheidszorg
	2037	710	Dienst voor preventie en bescherming op het werk / Services de prévention et de protection au travail
2033		72	Privé-huishoudens als verstrekken van thuiszorg
	2076	720	Mantelzorg / Action médico-sociale
	2094	720	Private organisatie als verstrekken van thuiszorg / Organisations privées comme dispensateur de soi
	2126	720	Zelfhulpgroepen / Groupes d'entraide
2021		79	Alle andere industrie als secundaire producenten van gezondheidszorg
	2053	790	Fondsenwerbers / Récuteurs des fonds
	2066	790	Interimkantoor / Bureau d'intérimaire
	2079	790	Medische faculteiten / Facultés de médecine
	2084	790	Opleidingen in zorg- en paramedische beroepen / Formations de professions de soins ou paramédicale
	2100	790	Researchinstellingen in de sector gezondheidszorg / Instituts de recherche dans le secteur de la santé
	2109	790	Taxibedrijf / Compagnie de taxis

3. STATISTICS

A list of sources on labour market statistics used in general and for the health and social care more specific are included in Box 3 and Box 4.

Box 3: Statistical Sources for Labour

1. RIZIV (Belgian National Institute for Health and Invalidity Insurance)
The social contributions collected by the NOSS are divided among different institutions. One of them is the Belgian National Institute for Health and Invalidity Insurance (RIZIV), a public institution of social security. The insurance institutions refund the costs of medical care and award a disability benefit and motherhood benefit.
2. National Institute of Statistics (NIS) – sample survey into the working population (SEB): labour force survey
National Institute of Statistics (NIS) is the main official statistical institution in Belgium. The institution is responsible for the labour force survey.
3. National office for Social Security (NOSS) decentralised statistics: social security workers
The National Office of Social Security NOSS (RSZ) takes a central position in the Belgian social security system. Practically all contributions paid by the employers and the workers of the private sector and the public services, which amount to more than 1,000 billion francs annually, are handled by it. The NOSS is a semi-governmental body with legal status. The mission entrusted by law to the NOSS is twofold. It consists in: collecting, by way of a global contribution, the social security contributions paid by employers liable to pay such contributions (these contributions are destined to financing illness and disability benefits, unemployment benefits, retirement and survival pensions, reimbursement of health care costs, family allowances, holiday allowances) and ensuring the global financial management of the social security system and contributing to the transparency and efficiency of the financing of the social security system. They are the main source for statistics on employment in Belgium, centralising also information from other social security institutions on this matter (RSZPPO a.o.).
4. National office for Social Security – LATG (wage and working hours data base) - data bank: social security workers
5. National office for Social Security Provincial and local administrations: local sector (RSZPPO)
The RSZPPO organises the social security of the local authorities and disseminates also the labour market statistics of this sector.
6. National Institute for the Social Security of the Self-Employed (NISSE): independent workers
The National Institute for the Social Security of the Self-employed, the NISSE takes care of the social protection of self-employed persons. They not only make sure that the self-employed persons are properly insured and that they pay their contributions, but NISSE also help with the pension, family benefit and in case of illness and bankruptcy. In Belgium self-employed persons must take care of their own social security situation and contributions. This means that they must affiliate themselves with a social security fund and, in principle, pay contributions. The NISSE provides information along the line of profession (for instance doctors, dentists), but in future also along the NACE-classification.
7. Data warehouse ‘Labour market data’: interface with the above mentioned (and others) social security databases – Clearing house for Social Security information in Belgium
8. NIS-DBRIS (Database of NSI Statistical Information Providers) en crossroads Bank for the enterprises
9. Joint industrials committees
10. Social balance
11. Census 2001

Box 4: Specific statistical sources for the health and social sector

1. *Hospital sector*

The most important sources used for the hospital sector, are reported below. They were used for the general as well as the psychiatric hospitals.

- 1.1 Statistical Abstract of the hospitals (1 January 1997), Ministry of Social Affairs, Public health and Environment, Administration health care
- 1.2 MKG-data (national hospital registration system, minimal clinical data), Ministry of Social Affairs, Public health and Environment, Administration health care. The Minimal Clinical Data contain information about the hospital and the services (hospital and service number), the patients (sex, age) and their stay in the hospital (length of their stay, reason of admission), diagnosis and procedures (treatment). They are used as source of information to determine the financing of the hospitals.
- 1.3 MPG-data (Minimal psychiatric data), Ministry of Social Affairs, Public health and Environment, Administration health care, Cell psychiatric grant of care. Through the Minimal Psychiatric Data (MPG) psychiatric hospitals and psychiatric departments of general hospitals register psychiatric data about the patients (socio-economic characteristics), diagnosis and problems at the admission, treatment data, remaining problems at discharge.
- 1.4 MVG-data (Minimal nursing data), Ministry of Social Affairs, Public health and Environment, Administration health care, Cell MVG. In addition to the Minimal Clinical Data, the Minimal Nursing data are collected in the hospitals to get more information about the performances of the nursing work. The registration is obliged for all general hospitals and contains information about the institution and her services, the patients and their stay in the hospital, the nursing administered care (23 items: base care, technical care, quality care, non-somatic care and observation care), and staff data per nursing unit.

2. *Nursing*

- 2.1 The visa registration
- 2.2 Ministry of Public Health, service for nursing, midwifery en paramedical
- 2.3 RIZIV-number (Health insurance)
- 2.4 NVKVV (National Association of Catholic Flemish Nurses en Midwives)

3. *Sector of handicapped persons*

The research department of the Flemish Fund and of the Central waiting list data provides relevant information on the users of those services. A very rich and new data bank is the PPR, the permanent personnel of the Flemish Fund. This data bank was started on January the 1, 2000 but is still in a test phase. It contains information based on different variables concerning the sort of the contract, diploma, function, the sort of the institution where he/she is employed, number of hours worked, reason of recruitment (system where this took place), active or not, statute. The data sources include information for the most important care professions in the sector of handicapped persons (educators, social assistants en physiotherapists).

4. *Other welfare services: nursery and child care, youth welfare work and general social work*

More detailed information about the staff was available for the subsidised child care, the CKG's (centres for child and family support) and the private youth welfare work by anonymous staff files with for us the most important variables: age, type of contract, % part-time and full-time work, diploma, function, FTE. Also for the general social work, such a database exists at the administration and could be analysed for providing the labour accounts for this sector.

5. *In development: Register of medical professions by the Ministry of Health (Finhosta a.o.)*

6. *In development a data warehouse on the manpower in (health) care institutions*

4. RESULTS

We first looked up in the national accounts what the total employment is under N, for respectively Belgium and Flanders. It was in 2000 respectively 322,000 and 183,000 (see section 4.1). We confronted this information in section 4.2 with head counts in all the administrative data sources on employment (RSZ-salaried workers, RSZPPO–local authorities and RSVZ–independent workers) in the 5-digit NACE branches that we regrouped under HP classification. Of course this definition is larger, but the total head count reveals for Belgium in 2002 some 510,000 persons, and for Flanders some 284,941 (Table 17 and Table 18). Cross-checking with the NA is needed. For the moment we wanted this evidence to compare with the manpower accounting we obtained in ‘Plus est en vous’ according to providers against, and describing further health professions. We discuss the confrontation in section 4.3. In 4.2 we include also the result of the first attempt to use HLA as defined in the Expert system developed for this project. We finally provide some additional information on qualifications, based on the labour force survey.

4.1 *Health and social care in the national accounts, Belgium and Flanders*

Table 14: Connection between the different branches, the NACE-BEL and the institutional sectors

	Enterprises S.11	Financial institutions S.12	Government S.13	Households S.14	Izw's (non-profit institutions for the benefit of the households) S.15
L Public administration and defence, obliged social insurance			NACE-BEL 75 except for market inter communal		
M Education	NACE-BEL 80.4, 80.**5 (e.g. driving schools and flying schools)		NACE-BEL 80.1, 80.2, 80.3,	Self-employed of NACE-BEL 80.4	Non-profit units of NACE-BEL 80.42 e.g. make adults literate
N Health care and social services	NACE-BEL 85.1, 85.2, 85.311, 85.313, 85.314, 85.315, 85.321, 85.322 (e.g. hospitals, labs, institutions for handicapped persons, sheltered workshops, crèches, rest homes, nursing homes)		Only a few units: military hospital, medical school inspection	Self-employed of NACE-BEL 85.1, 85.2, 85.3 partly e.g. physicians, veterinarian, mothers who baby-sits other people's children	Non-profit units of NACE-BEL 85.316 and 85.323
O Collective services, socio-cultural and personal services*	Others NACE-BEL 90, 91, 92, 93		Only a few units: Palace of fine arts, National orchestra of Belgium, Muntscouwburg	Self-employed of NACE-BEL 90 and 93	NACE-BEL 91.2, 91.31, 91.32 + non-profit units of NACE-BEL 91.33, 92.5, 92.621

* Personal services refer to the NACE-BEL code 93, viz. other services, wash and dry-clean, do someone's hair and beauty care, funeral, personal hygiene, other services to persons

Source: NBB, Thiry B quoted in J. Pacolet a.o., 2002.

Table 15: Value added, salaries and workforce for the health and social sector

NACE N		Value added (in million euro – current prices)	Salaries (in million euro - current prices)	Workforce (x 1 000)	Value added/number of employees (1.000 Euro)	Remuneration employees/ number of employees (1.000 Euro)
<i>Belgium</i>						
	1995	11,750.8	7,798.7	272.4	43.14	28.63
	1996	12,133.8	8,135.5	278.9	43.51	29.17
	1997	12,392.6	8,610.3	289.4	42.82	29.75
	1998	12,707.8	8,964.9	297.5	42.72	30.13
	1999	13,952.3	9,515.2	309.4	45.09	30.75
	2000	15,004.1	10,083.0	322.6	46.51	31.26
	2001	16,289.5	10,844.4	345.6	47.13	31.38
<i>Flanders</i>						
	1995	6,559.2	4,333.6			
	1996	6,836.4	4,552.3			
	1997	7,014.5	4,830.3			
	1998	7,199.5	5,067.5	166.9	43.15	30.37
	1999	7,954.3	6,365.5	174.3	45.63	36.51
	2000	8,568.3	5,714.2	183.7	46.65	31.11
	2001	9,291.0				

Source: Nationale rekeningen, deel 2 gedetailleerde rekeningen en tabellen 2001; Regionale rekeningen 1995-2000; ECODATA.

Table 16: Product classification by activity CPA 96 for Health and social care available in SUT (Supply and use table) of SNA Belgium

SUT	CPA 96	Name SUT-product
85A01	85.11.00	Hospitals
85A02	85.12.00	Medical practises
85A03	85.13.00	Dentist practises
85A04	85.14.00	Other health care
85B01	85.20.00	Veterinary services
85C01	85.30.00	Social services, marketable
85C02	85.30.00	Social services, not marketable

Source: NBB (2001), De berekeningsmethode voor het bruto binnenlands product en bruto nationaal inkomen volgens ESR 1995.

4.2 ICHA-HP (Total, FTE, Head counts): labour accounts according to HP

We first give the results of our previous effort for 1997 and an update for 2001 of employment in the Belgian health and social care sector (Table 17). We also give the results for Flanders (Table 18). In Table 19 we reproduce here the list of actor groups as defined in the HLA system, completed with the for the moment available employment figures. Since the only accessible source for the moment is the employment statistics of the social insurance, the NACE-codes (in Belgium on a 5 digit level available) determines the available detail. We could have regrouped actors in HLA along the lines of the available statistics. For the moment we do not follow that strategy since already from our own exercises of health and labour accounts we concluded that more detail is needed. This can be obtained by disaggregating NACE-sector (and so HP actors, and actor groups) to a greater institutional detail.

The detailed list of actors/providers we used in our own attempt to construct a satellite account for health care and social care in Belgium and Flanders for 1997, was used here for testing the expert system of HLA. It can also be used for expenditures. For employment however there is no detailed link possible at the moment since we had to use the available NACE definitions. We finally used the available two-digit HP classification for regrouping actors. We could have regrouped actors further to the profile of the for the moment available information on employment but we preferred the extended list.

For manpower planning purposes also we used human resources (including the detail on professional categories) figures on the level of categories of providers or even certain types of activities, since it are these detailed categories that are influenced by the factors of relevance in planning exercises (age structure of patients, demand for the services, professional mix of the production function of relevance in those service, referring to the human resources dimension). Again this is a reason for a more detailed approach, or call it ‘bottom-up’ approach, that should be used in the context of SHA en HLA.

Administrative counts of FTE where available (source RSZ) for transforming the head counts in FTE for salaried employment in the private sector and the public sector other than local authorities. For the local public sector, RSZPPO, for the moment, only specific sector ratios of RSZ where used. Our previous manpower planning studies revealed that there is a slight difference between those two categories, but this is here neglected. The RSZPPO is working on further harmonised statistics on the employment in their services. For the independent workers, we used for all providers the FTE ratio obtained in NACE N. Here the FTE is higher than one, so the number in FTE is higher than the heads counted.

In total, the health labour force of 509 897 persons implies a work force in FTE of 408 857, what stand for an average share of FTE on head counts of 0.80, the same figure as in Germany and quite higher than the Netherlands. This observation is confirmed by the LFS that we used to describe in ongoing work for the Belgian Federal Government the total employment in the health and caring sector (sector N of NACE). The head counts of persons working in the sector N per 1000 inhabitants is in Belgium quite below the situation in the Netherlands, but almost similar when corrected for FTE⁵.

5 See Pacolet J., Deliège, D., e.a., *Vergrijzing en gezondheidszorg en ouderenzorg in België/Vieillissement, aide et soins de santé*, 2004, to be published.

Table 17: Employment in heads according to Providers, classified by NACE and regrouped by HP, Belgium, 1997, 2002.

HP	NACE		1997			2002			RSVZ (NISSE)	Total	
			RSZ (NOSS) decent- ralised	Public	Total	RSZ (NOSS) centra- lised	Private- non- profit institu- tion	Public			RSZPPO
			Private			Private without non- profit institu- tion					
Main occupation											
Health care											
O		Total	130 661	113 655	244 316	106 620	219 431	19 161	109 392	55 293 509 897	
1			70 218	70 834	141 052	18 263	82 975	9 342	47 032	0 157 612	
1,1	85.110	Hospital activities	70 218	70 834	141 052	18 263	82 975	9 342	47 032	157 612	
2			n.a.	n.a.	n.a.	19 621	68 712	0	33 626	0 121 959	
2,1	85.315	Nursing homes				18 942	28 689		28 913	76 544	
2,3	85.316	Other social services with housing				69	4 341		1 788	6 198	
2,9	85.311	Institutions for handicapped minors				57	12 322		1 403	13 782	
2,9	85.313	Institutions for problem children				100	8 485		534	9 119	
2,9	85.314	Institutions for handicapped adults				453	14 875		988	16 316	
3			26 320	1 406	27 726	14 776	57 514	6	27 614	51 286 151 196	
3,1	85.120	Medical practice activities	13 883	952	14 835	6 364	7 343		564	22 075 36 346	
3,2	85.130	Dental practice activities	1 497	7	1 504	1 648	75		10	6 595 8 328	
3,3	85.143	Paramedical activities, excluding physiotherapy	6 502	214	6 716	861	7 233		1 041	22 616 31 751	
3,3	85.144	Physiotherapy ¹	111	88	199	188	7		378	573	
3,3	85.146	Other activities with respect to health care	209	0	209	48	213			261	
3,5	85.141	Medical laboratories	2 428	111	2 539	2 881	270		240	3 391	
3,6	85.323	Other social services without housing				2 029	42 266	6	25 308	69 609	
3,9	85.142	Transport of the sick	405	34	439	621	104		73	798	
3,9	85.145	Blood banks, organ banks and the like	1 285	0	1 285	136	3			139	
4			11 044	0	11 044	12 328	103	0	0	4 007 16 438	
4	52.310	Dispensing chemist	10 631	-	10 631	11 816	46			4 007 15 869	
4	52.320	Retail sale of medical and orthopaedic goods	413	-	413	512	57			569	
5			4 728	135	4 863	4 274	2 193	156	372	0 6 995	
5	74.302	Technical tests and analyses	4 728	135	4 863	4 266	1 752			6 018	
	85.324	CLB-centres (school health services)				8	441	156	372	977	
6			12 859	24 513	37 372	28 894	481	7 312	0	0 36 687	
6	75.120	Regulation of the activities of agencies that provide health care, environment, education, cultural services en other social service	0	9 936	9 936	1 346	6	7 287		8 639	
6	75.301	Obligated social insurance	0	14 577	14 577	14 299	5	6		14 310	
6	75.302	National health service	12 859	0	12 859	13 249	470	19		13 738	

1 Are counted in NISSE under heading paramedical activities, together with for instance a growing number of self-employed nurses.

Table 17: Employment in heads according to Providers, classified by NACE and regrouped by HP, Belgium (continued)

HP	NACE		1997			2002			Main occupation	Total
			RSZ (NOSS) decentralised Private	Public	Total	RSZ (NOSS) centralised Private without non-profit institution	Private-non-profit institution	Public	RSZPPO	RSVZ (NISSE)
7			5 492	16 767	22 259	8 464	7 453	2 345	748	0
7	73.100	Research and experimental development on natural sciences and engineering	5 352	4 604	9 956	6 848	2 469	1 598		10 915
7	73.200	Research and experimental development on social sciences and humanities	140	213	353	159	113			272
7	80.421	Adult education	0	11 950	11 950	1 457	4 871	747	748	7 823
	24.421	Manufacturing of medicines	12 847	0	12 847	18 250	0			18 250
	24.422	Manufacturing of other pharmaceutical preparations	449	0	449	927	0			927
	33.103	Manufacturing of orthopaedic items and prosthesis	1 744	0	1 744	1 929	0			1 929
	33.401	Manufacturing of glasses	367	0	367	308	0			308
	35.430	Manufacturing of wheelchairs	117	0	117	105	1			106
	51.460	Wholesaler of pharmaceutical products	13 761	-	13 761	14 738	16			14 754
<i>Social care</i>										
	85.321	Crèches, baby sitters, and other nursery				624	6.391		6.437	13.452
	85.322	Sheltered employment				408	25.390		396	26.194
	75.115	OCMW (Public centres for social welfare)					0		12.785	12.785
	75.233	Other activities with respect to justice				2	98	48		148

Source: Pacolet et al., 2001, and calculations HIVA on RSZ-RSZPPO-RSVZ.

Table 17 bis: Employment in FTE according to Providers, classified by NACE and regrouped by HP, Belgium, 2002.

HP	NACE		RSZ (NOSS) centra- lised	2002		Total
				RSZPPO	RSVZ (NISSE)	
Main occupation						
<i>Health care</i>						
O		Total	264 171	81 100	63 587	408 857
1			86 685	36 869		123 554
1,1	85.110	Hospital activities	86 685	36 869		123 554
2			64 082	23 698		87 780
2,1	85.315	Nursing homes	33 132	20 112		53 244
2,3	85.316	Other social services with housing	9 397	1 065		10 462
2,9	85.311	Institutions for handicapped minors	6 781	422		7 203
2,9	85.313	Institutions for problem children	11 409	735		12 145
2,9	85.314	Institutions for handicapped adults	3 363	1 364		4 727
3			50 847	19 765	58 979	129 591
3,1	85.120	Medical practice activities	8 856	364	25 386	34 606
3,2	85.130	Dental practice activities	960	6	7 584	8 550
3,3	85.143	Paramedical activities, excluding physiotherapy	5 546	713	26 008	32 268
3,3	85.144	Physiotherapy ¹	89	172		260
3,3	85.146	Other activities with respect to health care	204			204
3,5	85.141	Medical laboratories	2 576	196		2 772
3,6	85.323	Other social services without housing	31 967	18 262		50 229
3,9	85.142	Transport of the sick	516	52		568
3,9	85.145	Blood banks, organ banks and the like	133			133
4			8 869		4 608	13 477
4	52.310	Dispensing chemist	8 388		4 608	12 996
4	52.320	Retail sale of medical and orthopaedic goods	481			481
5			6 004	209		6 213
5	74.302	Technical tests and analyses	5 664			5 664
	85.324	CLB-centres (school health services)	340	209		549
6			31 919	0		31 919
6	75.120	Regulation of the activities of agencies that provide health care, environment, education, cultural services en other social service	7 537	0		7 537
6	75.301	Obliged social insurance	12 435	0		12 435
6	75.302	National health service	11 946	0		11 946

1 Are counted in NISSE under heading paramedical activities, together with for instance a growing number of self-employed nurses.

Table 17 bis Employment in FTE according to Providers, classified by NACE and regrouped by HP, Belgium (continued)

HP	NACE		RSZ (NOSS) centra- lised	RSZPPO	2002 RSVZ (NISSE) Main occupation	Total
7			15 767	559		16 325
7	73.100	Research and experimental development on natural sciences and engineering	10 247	0		10 247
7	73.200	Research and experimental development on social sciences and humanities	233	0		233
7	80.421	Adult education	5 287	559		5 846
	24.421	Manufacturing of medicines	16 949			16 949
	24.422	Manufacturing of other pharmaceutical preparations	860			860
	33.103	Manufacturing of orthopaedic items and prosthesis	1 645			1 645
	33.401	Manufacturing of glasses	272			272
	35.430	Manufacturing of wheelchairs	92			92
	51.460	Wholesaler of pharmaceutical products	13 705			13 705
<i>Social care</i>						
	85.321	Crèches, baby sitters, and other nursery	4 795	4 400		9 194
	85.322	Sheltered employment	21 338	328		21 666
	75.115	OCMW (Public centres for social welfare)		9 993		9 993
	75.233	Other activities with respect to justice	110			110

Source: Pacolet et al., 2001, and calculations HIVA on RSZ-RSZPPO-RSVZ

Table 18: Employment in heads according to Providers, classified by NACE and regrouped by HP, Flanders, 2002

			RSZ centralised		RSZPPO	RSVZ (NISSE)	Total	
HP	NACE		Private without non-profit institution	Private- non-profit institution	Public	Main occupation		
<i>Health care</i>								
O	Total		39.790	136.504	6.797	61.924	39.919	284.941
1			9.345	48.751	5.040	21.386	0	84.522
1,1	85.110	Hospitals	9.345	48.751	5.040	21.386		84.522
2			5.253	46.281	0	21.490	0	73.024
2,1	85.315	Nursing homes	4.848	21.648		19.043		45.539
2,3	85.316	Other social services with housing	41	3.121		1.450		4.612
2,9	85.311	Institutions for handicapped minors		8.214		130		8.344
2,9	85.313	Institutions for problem children		4.024		236		4.260
2,9	85.314	Institutions for handicapped adults	364	9.274		631		10.269
3			7.855	36.133	0	18.291	37.576	99.855
3,1	85.120	Medical practice activities	3.936	3.511		49	11.127	18.623
3,2	85.130	Dental practice activities	874				3.833	4.707
3,3	85.143	Paramedical activities, excluding physiotherapy				669	22.616	29.599
3,3	85.144	Physiotherapy ¹	139					139
3,3	85.146	Other activities with respect to health care	45	175				220
3,5	85.141	Medical laboratories	1.742					1.742
3,6	85.323	Other social services without housing	124	26.728		17.573		44.425
3,9	85.142	Transport of the sick	321	79				400
3,9	85.145	Blood banks, organ banks and the like						0
4			5.221	72	0	0	2.343	7.636
4	52.310	Dispensing chemist	4.884	38			2.343	7.265
4	52.320	Retail sale of medical and orthopaedic goods	337	34				371
5			2.568	688	0	68	0	3.324
5	74.302	Technical tests and analyses	2.561	450				3.011
5	85.324	CLB-centres (school health services)	7	238		68		313
6			5.549	285	1.092	0	0	6.926
6	75.120	Regulation of the activities of agencies that provide health care, environment, education, cultural services en other social service						1.068
6	75.301	Obliged social insurance			6			6
6	75.302	National health service	5.548	285	19			5.852

1 Are counted in NISSE under heading paramedical activities, together with for instance a growing number of self-employed nurses.

Table 18: Employment in heads according to Providers, classified by NACE and regrouped by HP, Flanders, 2002 (continued)

HP	NACE		RSZ centralised		Public	RSZPPO	RSVZ (NISSE) Main occupation	Total
			Private without non-profit institution	Private- non-profit institution				
7			4.006	4.294	665	689	0	9.654
7	73.100	Research and experimental development on natural sciences and engineering						5.710
7	73.200	Research and experimental development on social sciences and humanities				31		74
7	80.421	Adult education	649	2.554	9	658		3.870
	24.421	Manufacturing of medicines	7.915					7.915
	24.422	Manufacturing of other pharmaceutical preparations	220					220
	33.103	Manufacturing of orthopaedic items and prosthesis						1.211
	33.401	Manufacturing of glasses	308					308
	35.430	Manufacturing of wheelchairs	105	1				106
	51.460	Wholesaler of pharmaceutical products	7.221	16				7.237
<i>Social care</i>								
	85.321	Crèches, baby sitters, and other nursery	271	3.543		2.821		6.635
	85.322	Sheltered employment	124	16.485		42		16.651
	75.115	OCMW (Public centres for social welfare)				2.625		2.625
	75.233	Other activities with respect to justice						0

Source: RSZ-RSZPPO-RSVZ.

Table 19: Employment and expenditures by Actorgroup of HLA for Belgium, 2002

Actor-group	HP-Code	Name	Employment (in Thsd.)	FTE (in Thsd.)	Expenditure (in Mio. €)
2000	10	Ziekenhuizen	157.612	-	-
2001	20	Residentiële voorzieningen ouderen	76.544	-	-
2005	22	Residentiële voorzieningen voor psychiatrische stoornissen	6.198	-	-
2002	29	Alle andere residentiële zorgvoorzieningen	39.217	-	-
2006	31	Medische praktijken	36.346	-	-
2007	32	Tandartspraktijken	8.328	-	-
2008	33	Niet medische zorgverstrekkers. exclusief kinesitherapeuten	32.012	-	-
2009	33	Kinesitherapeuten	0.573	-	-
2024	34	Ambulante opvang- en verzorgingsdiensten		-	-
2011	35	Medische laboratoria	3.391	-	-
2013	36	Thuiszorgdiensten	69.609	-	-
2012	39	Bloedbanken. organenbanken en dergelijke	0.139	-	-
2014	39	Ziekenvervoer	0.798	-	-
2016	41	Apotheken	15.869	-	-
2026	42	Gespecialiseerde detailhandel optische glazen, opticiens		-	-
2027	43	Kleinhandel en andere verstrekkers van hoorapparaten		-	-
2017	44	Kleinhandel in medische en orthopedische artikelen	0.569	-	-
2028	49	Alle andere verstrekkers van medische goederen		-	-
2010	50	Verstrekkers van openbare gezondheidszorg	6.995	-	-
2018	61	Overheidsadministratie gezondheidszorg	8.639	-	-
2019	62	Instellingen sociale zekerheid	28.048	-	-
2029	63	Andere sociale verzekeringen		-	-
2030	64	Andere (private) verzekeringen		-	-
2031	69	Alle andere gezondheidsadministratie		-	-
2032	71	Verstrekkers van beroepsgebonden gezondheidszorg		-	-
2033	72	Privé-huishoudens als verstrekkers van thuiszorg		-	-
2021	79	Alle andere industrie als secundaire producenten van gezondheidszorg	19.01	-	-
Sum			509.897	0	0

Following table illustrates that the narrowest definition of 'health' in Nace results in a much lower level of employment, illustrating that the HP classification invites for a rather large definition of health (providers).

Table 20: Employment in heads in health care in Belgium, 1982-1999

	1982	1990	1995	1996	1997	1998	1999
Independent health professions**	35 062	53 674	60 648	62 105	64 364	65 870	67 394
Employees working for a liberal professions in health care*	5 122	6 840	17 493	17 491	16 339	16 413	16 448
Employees in health care	122 052	147 563	146 298	147 378	152 439	156 195	159 880
Total health care	162 236	208 077	224 439	226 974	233 142	238 478	243 722
Proportion independents/total	25	29	35	35	35	35	34

* This is someone who is paid by physicians, dentists, pharmacists or paramedics.

** Registered persons in RSVZ (NISSE, National institute for the social security of the self-employed) en workers abroad are ignored, besides the statistics contain also the number of veterinarians up to 1994, from 1995 only physicians, dentists, pharmacists and paramedics are considered.

Source: Calculations HIVA on RSZ and RSVZ, in Pacolet, 2002.

4.3 ICHA-HP (Total, Health professions, Non health professions): Labour accounts along professional groups

Box 5: Glossary of relevant categories for nursing and caring personnel in the health and social care sector⁶

In a previous European research project for the European Hospital Sector (HOPE) a number of definitions have been developed on the basis of expert's opinions and existing national and international studies. These definitions have been used as a point of reference and inspiration for the Belgian Manpower Planning studies we conducted. The guiding principles are clear defined almost legalistic definitions of health professions and qualifications (in this case nursing and caring personnel) and real life definitions of industries, services that are included in health and social care. The importance of the use of clear and comprehensive definitions is clear: national assessment and cross-country comparisons can only be of value when it is certain that the information and especially figures provided for the different countries or different moment in time are based upon similar assumptions. This implies that even a meta data on those professions and industries as they change over time and differ between nations, should be constructed.

1. *Nursing/midwifery professionals*

The following classification has been made:

1. **'general-nurses (EC)'**: nurses with a diploma in accordance with EC Nursing Directives 77/452/EEC, 77/453/EEC, 77/454/EEC, 77/455/EEC and amendments of 10/10/1989 and 30/10/1989: 'nurses responsible for general care (NRGC)' with basic educational training of at least 3 years;
2. nursing professionals with an education differing from diplomas mentioned in the EC Nursing Directives :
 - 0 nurses with a basic specialist training, **'specialist nurses (non-EC)'**: a nurse other than a general trained nurse who receives a basic training in a speciality and is equipped to work only in this speciality;
 - 1 **'second level nurses (non-EC)'**: nurses with basic general training shorter than 3 years, second level nurses should be distinguished from 'caring personnel';
3. **midwives**:
 - 0 those with a training in accordance with the EC Midwifery Directives (80/154/EEC, 80/155/EEC, 80/156/EEC, 80/157/EEC);
 - 1 those with a training not in accordance with these EC Midwifery Directives.

2. *Caring professionals*

The EC directives for nurses do not refer to caring professionals, categories of health professionals who are unqualified as a nurse but of whom the scope of practice can overlap with nurses' tasks (e.g. care for the elderly in old age homes or at home). Caring professionals can be qualified as such or not (volunteers). Caring professionals (other than nurses and midwives) have not been included in the focus of the research.

3. *Paramedical professionals*

Paramedical professionals are non-medical, non-nursing, non-caring allied health professionals.

4. *Main competencies of nursing and caring professionals*

Nursing and caring professionals can perform tasks situated in different areas (Bakker & le Grand-van den Bogaard, 1988):

- 0 preventive and instructive tasks (informing patients or other nursing staff on treatments, providing health advice or instructions, ...);
- 1 caring and guiding tasks (providing aid in eating and drinking, providing aid in movements of the body, providing emotional support to patients, ...);
- 2 diagnostic and therapeutic tasks (administering medicines, taking care of wounds, administering oxygen, assisting doctors during operations, observing patients or registering reactions and symptoms, giving injections, ...);
- 3 co-ordinating tasks (co-ordinating the tasks the nurse has to perform herself and constructing a personal work plan, co-ordinating activities per patient and constructing a work plan per patient, co-ordinating, delegating and controlling tasks and activities of other members of the nursing and caring staff, ...);
- 4 reporting, registration and administrative tasks (participating in conversations about patients with other health professions, reporting facts and observations concerning the situation of a patient in order to develop a diagnosis and the right treatment for a patient, registering facts and observations concerning patients and nursing activities, ...);
- 5 housekeeping tasks (making beds, distributing meals, ...).

6 Based on Pacolet, Bouten, Versieck; Manpower problems in the nursing profession.

5. Sectors of employment/activity
The most important sectors in which nurses/midwives are active are the following:
a. General hospitals
0 short stay or acute (including day hospitals, assessment centres, maternity hospitals);
1 long term (including geriatric beds or units in general hospitals).
b. Psychiatric hospitals:
0 short stay or acute;
1 long term (including geriatric beds or units in psychiatric hospitals).
c. Residential services:
'Residential services' refer to non-hospital institutional nursing or care services offered to persons (elderly, disabled, psychiatric patients, ...) who cannot remain in their own home or stay with relatives, friends, etc.. They include nursing homes, old age homes, rehabilitation homes, ... The facilities may provide services on a temporary or on a permanent basis. Most countries make the distinctions between nursing homes or the equivalent for disabled and residential homes or the equivalent for disabled (Pacolet, Nijkamp et.al., 1991).
<u>Remark:</u> the criterion to distinguish hospital and non-hospital services can be the permanent presence of a medical specialist. However, the distinction is not always easy since residential care is becoming more and more 'medicalised'.
d. Community care: encompasses services provided to persons (elderly, disabled, psychiatric or other patients, ...) who live at home or in supported housing schemes (service flats, sheltered housing, ...) but have difficulties in managing activities of daily life or need medical or nursing care. The most important sectors are 'home nursing' (mainly district nursing but also preventive health care such as child care at home) and 'primary care' (general medical practice) (Pacolet, Nijkamp et.al., 1991).
e. Other sectors: education (in schools and in school related services, teaching), in industry (medical services in organisations and related services), employment in other public or private institutions (ministries, military services, the Red Cross, aid in developing countries, ...), ...

Table 21: Work volume (FTE) in the health care sector, by professional group and care institution (Flanders, 1995)

	Caring professionals	Nurses	Main- tenance	Admi- nistrat- ion	Log. Assis- tant	Kine- siothe- rapie	Para- medics	Edu- cators	Social assis- tants	Other	Total
Hospitals	5.538	25.147	10.285	6.097	577	978	3.365	-	318	8.882	61.187
Rest homes	8.750	5.984	6.246	1.337	-	234	276	-	960	1.359	25.146
The elderly and home care	8.797	50	1.606	146	-	-	-	-	424	87	11.110
Care of handicapped persons	1.488	361	2.151	687	-	355	430	5.453	266	1.810	13.001
Home nursing	64	6.771	67	195	-	7.593	4.485	-	-	48	19.223
Day-care centre	3.000	495	14	-	-	-	-	-	30	-	3.539
Socio-cultural sector	0	0	0	185	0	0	0	0	0	708	893
Other	699	2.903	630	125	0	549	5.077	1.810	2.608	6.000	20.401
Total	28.336	41.711	20.999	8.772	577	9.709	13.633	7.263	4.606	18.894	154.500
<i>Percentage</i>											
Hospitals	9,1	41,1	16,8	10,0	0,9	1,6	5,5	0,0	0,5	14,5	100,0
Rest homes	34,8	23,8	24,8	5,3	0,0	0,9	1,1	0,0	3,8	5,4	100,0
The elderly and home care	79,2	0,5	14,5	1,3	0,0	0,0	0,0	0,0	3,8	0,8	100,0
Care of handicapped persons	11,4	2,8	16,5	5,3	0,0	2,7	3,3	41,9	2,0	13,9	100,0
Home nursing	0,3	35,2	0,3	1,0	0,0	39,5	23,3	0,0	0,0	0,2	100,0
Day-care centre	84,8	14,0	0,4	0,0	0,0	0,0	0,0	0,0	0,8	0,0	100,0
Socio-cultural sector	0,0	0,0	0,0	20,7	0,0	0,0	0,0	0,0	0,0	79,3	100,0
Other	3,4	14,2	3,1	0,6	0,0	2,7	24,9	8,9	12,8	29,4	100,0
Total	18,3	27,0	13,6	5,7	0,4	6,3	8,8	4,7	3,0	12,2	100,0

Source: Calculations HIVA in M. Deschamps, J. Pacolet, E. Gos, 1998

Table 22: Employment of some major medical and caring personnel in the different sectors, in FTE, Flanders, 2000

	Hospitals	Rest + nursing homes	Home care	physio- therapy	Institutions for handicapped persons	Crèches and child care	Youth welfare work	Total
<i>Absolute</i>								
Higher Education nurses	17 765	2 247	3 483			1 079	20	24 594
Technical school-nurses	10 047	4 901	4 362			33	11	19 354
Hospital assistants	1 453	1 084	790			0		3 327
Total nurses	29 264	8 232	8 635			1 112	31	47 274
Caring professionals	5 200	10 361	10 163			3 394	31	29 149
Total nurses + caring professionals	34 464	18 593	18 798			4 506	62	76 423
physiotherapists				8 685		3		8 688
Paramedical professionals	5 631	1 427			1 101	7	101	8 267
Educators: higher education and university level					4 328	96	1 486	5 910
Technical educator					4 182	115	235	4 532
Total educators					8 510	211	1 721	10 442
Social workers		158			266	382	552	1 358
Total care professions	40 095	20 178	18 798	8 685	9 877	5 108	2 436	105 177
Logistic staff and cleaning women	11 756		5 951		2 247			19 954
Administrative staff	7 551				1 086			8 637
Others	1 131				264	165		1 560
Total staff	60 533	20 178	24 749	8 685	13 474	5 273	2 436	135 328
<i>In terms of percentages</i>								
Total nurses	61,9	17,4	18,3	0,0	0,0	2,4	0,1	100,0
Caring professionals	17,8	35,5	34,9	0,0	0,0	11,6	0,1	100,0
Total care professions	38,1	19,2	17,9	8,3	9,4	4,9	2,3	100,0

Source: Calculations HIVA in Pacolet, Van De Putte, Marchal, Cattaert, Coudron, 2002

In Table 21 we obtained for the major health and social care providers an overview in FTE for 154,000 units; in heads it is about 200,000. Those are figures for Flanders for the year 1995; not included were medical profession in the considered services, medical professions as independent workers and some industries (e.g. pharmacists) were not included in the definition of this manpower study. In Table 22 we obtain similar information but administrative and catering and cleaning personnel is not included any more, neither medical professions and independent workers and a list of other industries. The figures are for 2000 and again for Flanders only. In FTE we counted 135,000 units, in heads some 190,000. In Table 18 we had for Flanders a head count of 284,941 persons in the health and caring sector. The difference is partly traceable in the tables, but our ad hoc search for the manpower of the health and caring sector in those manpower studies seems to miss an important part of what is classified as employment in those industries. The use of employment figures along Nace lines of activities has the advantage that it seems to be more exhaustive. It has the disadvantage that professional information is missing, or relevant subcategories of providers can not be distinguished. A combination is thinkable. When we learn from Table 21 that about 1/3 of the total personnel is on top of the nursing and caring personnel, and would add that proportion in the Table 22 where only the latter categories are described, ($190000 + 50\% = 285000$), by accident identical to detailed counting – but that was for 2002 - based on the NACE-classification and the regular sources for employment statistics). If needed we could use this kind of information to construct in a ‘top down’ way a table of the professions in the health and social care sector. It would not be too far away from reality, probably because our manpower planning is also very detailed, but nevertheless we prefer a further ‘bottom-up’ approach to construct our health accounts.

4.4 Health professions by type (ISCO) and educational level ISCED

The labour force survey can help to combine professions and activities and so can be used to describe the educational level of the work force (using ISCO). Until now only aggregated information is available at level N. We provide the information for Flanders. Compared to more exhaustive assessments of the personnel we can only use the census data that allow a combination of sector and profession or educational level. For the use of national labour accounts that provide yearly statistics, more detailed administrative registers will be needed, or otherwise should be based on explicit ad hoc compilation who can be integrated later in a HLA. HIVA has in the context of manpower planning research developed.

Table 23: Employment in health care and social services (NACE N) according to ISCO-professions, sex (Flanders) and total number of people by ISCO-profession (place of work)¹, 1999

ISCO-group		NACE N				All NACE'S	% N
		Man	Woman	Total	% total N	Total	
ISCO 1	Legislators, senior officials and managers	2 062	1 901	3 963	1.6	236 979	1.7
ISCO 2	Professionals	26 398	75 539	101 937	41.6	375 225	27.2
ISCO 3	Technicians and associate professionals	10 844	25 092	35 936	14.7	240 960	14.9
ISCO 4	Clerks	2 625	16 924	19 549	8.0	305 380	6.4
ISCO 5	Service workers and shop and market sales workers	1 165	46 521	47 686	19.5	267 757	17.8
ISCO 6	Skilled agricultural and fishery workers	381	0	381	0.2	52 806	0.7
ISCO 7	Craft and related traders workers	1 981	369	2 349	1.0	289 758	0.8
ISCO 8	Plant and machine operators and assemblers	2 184	1 991	4 176	1.7	192 909	2.2
ISCO 9A	Elementary occupations	3 796	20 412	24 208	9.9	252 482	9.6
ISCO 9B	Handicapped persons in sheltered workshops	3 069	1 576	4 645	1.9	4 752	97.7
ISCO 0	Armed forces	0	0	0	0.0	17 650	0.0
Total		54 505	190 325	244 830	100.0	2 236 658	10.9

¹ Place where the job is practised: in this table people working in Flanders are taken into account

Source: NIS, Sociale statistieken, enquête naar de arbeidskrachten 1999 (Labour Force Survey).

Table 24: Employment of selected care professions¹ in the health care sector (NACE 85) in Flanders (place of residence), 1999-2000

ISCO-code	ISCO-description	1999	2000
222	Health professionals (except nursing) ²	22 757	22 647
223	Nursing and midwifery professionals	66 380	69 316
244	Social science and related professionals ³	19 978	19 939
322	Health associate professionals (except nursing) ⁴	19 888	23 898
323	Nursing and midwifery associate professionals	1 720	2 228
513	Personal care and related workers ⁵	39 508	43 460
Total considered health care professions ⁶		170 231	181 488

1 ISCO: International Standard Classification of Occupations

2 Health professionals includes medical doctors, dentists, veterinarians, pharmacists,...

3 Social science and related professionals includes social workers, but also economists, philosophers,...

4 Health associate professionals includes medical assistants, dental assistants, dieticians, opticians,...

5 Personal care and related workers includes child-care workers, institution-based personal care workers, home-based personal care workers

6 Only the health care professions are in the table, so that the total number is different from table 25.

Source: NIS, Enquête naar de arbeidskrachten (Labour Force Survey).

Table 25 Employment according to education¹ in the health care sector (NACE 85) in Flanders (place of residence)

	number			Percentages		
	NACE N 1999	NACE N 2000	All NACE'S 1999	NACE N 1999	NACE N 2000	All NACE'S 1999
Primary school	19 489	22 056	243 830	7.3	7.6	9.8
Lower secondary education	31 388	30 426	529 059	11.8	10.4	21.4
Higher secondary education	87 486	92 806	938 050	32.9	31.8	37.9
Higher education short type	78 420	96 589	424 289	29.5	33.1	17.1
Higher education long type & University education	49 394	50 188	340 896	18.6	17.2	13.8
Total	266 177	292 064	2 476 124	100.0	100.0	100.0

1 ISCED: International Standard Classification of Education

Source: NIS, Enquête naar de arbeidskrachten (Labour Force Survey).

4.5 ICHA-HC (FTE): Labour accounts by health function.

Finally the regrouping of information along categories of HC should be made. It is the 'golden standard'. The subdivision along function is not possible for the moment unless the way of actors/ providers is used. For the moment a detailed regrouping of expenditures along the HC is taking place by the Ministry of Social Affairs (D. Moens) for the year 1999. The translation of those detailed lists of activities-expenditures from the health insurance has not yet been taking place via the meta databank EUCOMP. But it will now be possible in the near future since now a Eucomp II list is available and ready for cross checking and further completion by combining it with SHA-information on HP and HC.

5. CONCLUSIONS

Applying the distinctions along providers side, making distinctions between health and social services or other, the NACE classification is not detailed enough. A 5-digit classification is defined on national level, at EU level the classification is only at 4-digit level. But even at national level those distinctions are not refined enough. The national Statistical Office is willing to consider a further detail of this classification. The CPA (Classification of Product by Activity in the European Union) illustrates that further subdivision is possible.

The ongoing revision of ISIC and CPC and NACE and CPA for respectively UN and Eurostat by 2007 should be taken as an opportunity to redefine the N or 85 category. The important work offered the last decade on issues of health and satellite accounts (see C. Van Mosseveld) and especially the observed and warranted request for detail registration and unbundling of branches in activities might be feasible within the context of NACE, and the definition of economic entities. There is a world of difference of detailed information collected in Eucomp and satellite accounts and the aggregated level of treating health and social sector in NACE. This is the more problematic since the present strategy will further lead to the consequence that basic and aggregated information in national accounting will not go in more detail than 3 to 4 digit level of NACE, what does not recall real, and quite distinct types of activities.

Belgium is underway to organise and complete its data collection along the lines of SHA. The functional approach seems to be the most comparable but also the most time-consuming since it requires an additional reclassification. The regrouping of workforce along those categories will be even more problematic. As a means of production they are the best attributable to providers. Although the relation between functions, services provided, and workforce is obvious it will require an additional probably bottom-up approach of human resource statistics.

An important difficulty encountered in our own attempts to construct some kind of satellite account for health and social care came to the conclusion that the detail (even on a 5-digit level) is not adapted to the needs of satellite accounts (in general or in the SHA framework). The CPA classification was the only one we discovered that, for instance for social sector, provided more detail. We recognise for Belgium clear categories of health and social care providers in those product classifications. Is that not what HLA and SHA should be about? Our own reading of the recently published standard work on satellite accounting in health of C. van Mosseveld is that further detail in basic data collection is needed and that CPA gives some starting point. Although the distinction between CPA and NACE is not clear, the more since they are treaded in conjunction, and because it seems that CPA is more detailed than NACE and is perhaps just the further detail of NACE. This argues for applying the same detail at least in NACE.

After filling in the Eucomp meta data for Belgium, we have the impression that it helps to solve the classification and data collection problems. Especially if a bottom-up and exhaustive approach is advocated (starting from individual entities and their activities –as it is the case in national accounting-) the guidelines should provide classifications and not only collect meta data. After gained confidence that this is the way to proceed further, questions remain about comparability of classifications. Meta data on the content will perhaps drive to comparability.

An important but only seemingly similarity is further observable between demands on health accounts and health manpower accounts. Ultimately among other WHO (see J.P. Poullier) but also researchers (see C. van Mosseveld) advocate further division of health accounts

according to gender or age structure of the consumers. For manpower issues and manpower planning, gender and age of the workforce, to be combined with professions, should be made available.

We provided results for the main health and social care sector in Flanders for the main health and care related professions. Manpower planning along those lines was feasible. A completion for Belgium is planned in the coming months; the inclusion of medical professions is started in collaboration with the Ministry of Health. This picture is relatively detailed, certainly not exhaustive (but to a large extent it is) and sometimes constructed on a combination of several sources. The restructuring along HP is not easy, among others because the NACE-classification sometimes used is not detailed enough, and even more difficult along HC functions.

We sympathise with the directions taken in the Netherlands that health and social care should be considered in combination, but with the possibility of unbundling those sectors. The above mentioned steps taken in Belgium to introduce the SHA, but at the same time structure and value (and from a bottom-up direction) the individually and provider related data collection on the manpower in the caring sector and the health manpower, should be grasped as an opportunity to make the Belgian structure compatible with the emerging European demands.

In our strategy of completing the Eucomp list and transferring it to the HLA we prefer to go into the detail of national types of providers, using the largest detail proposed in HP (and that is sometimes not available in the list of actors at national level), adding to it sometimes a larger detail that does exist for some categories in NACE at four digit, or even at five digit as it is used in the NACEBEL.

As the HLA is concentrating for the moment on HP classifications of actors, and as it is at least documenting those actor lists (if not using the information) in terms of NACE – classification we come back to the importance of a detailed NACE-list.

It remains remarkable that for instance in Belgium in the national accounts of the 120 used divisions or groups of economic activities 22 or 16% are for the non profit sector that represents 32% of total employment; of the more detailed 320 groups or classes of product categories by activity 30 or some 10% are for the non-profit sector. For health and social care only, it is perhaps even worse. For a sector that will stand soon for 15% of total employment, we can count in a recent draft of the revision of ISIC 1 page of the 80 or 1,25%. Nobody doubts however that it is a simple sector that needs little comment and explanation. In the most recent draft of this revision ISIC Rev. 4 of May 2004, 8 lines or items of the 408 items refer to the health and social care. The HP list of providers in the SHA includes 80 items. So the health and social care sector risks to remain under appreciated in those new statistical classifications.

We hope that the international statistical offices take the opportunity to learn from the body of knowledge that is now behind the SHA, Eucomp and HLA to improve the ISIC/NACE relevance for those activities. The fact that the draft of the Rev. 4 ISIC classification is applying for the moment (and the same goes for the translation in the NACE 2007) at least some of the categories of HP illustrates that it is the right momentum⁷ to exploit more in

7 Including perhaps some confusing terminology: the HP 2.3 Community care facilities for the elderly is taken over, but in fact (other) Residential care facilities for the elderly are meant what is clear from the description and also from the French OECD manual that refers to 'Etablissements d'hébergement pour personnes âgées'. Community care is most of the time in literature and practice used for home care.

detail the potential to adapt the ISIC/NACE along the lines of the HP of SHA. We hope the Belgian authorities will at least adapt their NACE-Bel 2007, who is already more in detail, in line with the use demonstrated here, to some of the additional detail needed to complete the SHA and HLA in a proper way.

Starting from the already existing SHA for Belgium, filled in by the Ministry of Social Affairs (1999), our own experience in previous projects and the now available Eucomp II and HLA expert system, and the ongoing activities in manpower planning, we will propose to the Belgian Government to organise a workshop on this material, to disseminate methodology, verify and cross-check classifications and definitions and discuss first results.

ANNEX TO THE BELGIAN REPORT

Table 26 Draft Revision 4 ISIC 2007

Q			Human health and social work
77			Human health activities
	771	7710	Hospital activities
	772	7720	Medical and dental practice activities
	779	7790	Other human health activities
78			Residential care services
	781	7810	Nursing care facilities
	782	7820	Residential mental retardation, mental health and substance abuse facilities
	783	7830	Community care facilities for the elderly
	789	7890	Social work activities with accommodation
79			Social work activities without accommodation
	790	7900	Social work activities without accommodation

Source: ISIC rev. 4 draft May 2004 (available on Eurostat website:

<http://forum.europa.eu.int/irc/dsis/nacecpacon/info/data/en/intro.htm>)

Table 27 Draft Revision NACE 2007

Draft NACE new code		NACE Rev. 1.1 code
Q	HUMAN HEALTH AND SOCIAL WORK	
77	Human health activities	
77.1	Hospital activities	
77.10	Hospital activities	85.11
77.2	Medical and dental practice activities	
77.20	Medical and dental practice activities	85.12 / 85.13
	<i>General medical practice activities*</i>	
	<i>Specialists medical practice activities*</i>	
	<i>Dental offices*</i>	
77.9	Other human health activities	
77.90	Other human health activities	85.14
78	Residential care services	
78.1	Nursing care facilities	
78.10	Nursing care facilities	85.14
78.2	Residential mental retardation, mental health and substance abuse facilities	
78.20	Residential mental retardation, mental health and substance abuse facilities	85.31
78.3	Community care facilities for the elderly	
78.30	Community care facilities for the elderly	85.31
78.9	Social work activities with accommodation	
78.90	Social work activities with accommodation	85.31
79	Social work activities without accommodation	
79.0	Social work activities without accommodation	
79.00	Social work activities without accommodation	85.32
	<i>Child day-care activities*</i>	
	<i>Other Social work activities without accommodation*</i>	
	<i>Daily care for physically and mentally handicapped persons*</i>	
	<i>Vocational rehabilitation of invalids*</i>	

* Items still open for further discussion on further subdivision or alternative grouping

Source: Consultation document Draft NACE 2007 (available on Eurostat website):

<http://forum.europa.eu.int/irc/dsis/nacecpacon/info/data/en/intro.htm>

GERMANY: COUNTRY REPORT ON HEALTH LABOUR ACCOUNTS

DRAFT

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1. INTRODUCTION

Objectives of the project and the report

The aim of this country report of Germany is to describe health labour accounts in Germany within the general goals of this project and the link to German health expenditure accounts. Furthermore, the aim is to give information on the status of the accounts and the statistics used.

History of Health Labour Accounts in Germany

In Germany, the first HLA were already made in 1978 by WidO, the Scientific Institute of the Local Sickness Funds. However, a more systematic approach to HLA in which a link to health accounts was made, was not done until the mid nineties during the development of health systems reporting. The concept laid down in the Health Report of 1998 of the Federal Statistical Office is more or less today valid.

The following description is based partly on the data used in the reports “Gesundheitspersonal 2000 and 2001” and own estimates of BASYS. Based on the EUCOMP actors list total jobs and FTEs were calculated.

2. METHODOLOGY

Analytical Units: jobs versus employment

The health labour accounts of the *Statistisches Bundesamt* (StBA) - Federal Statistical Office – include all employment relations in the health sector independent of the type of profession in order to have a complete overview on total employment in the German health sector. Analytical unit is the job not the employee. Jobs are given by the sum of the primary jobs and the multiple jobs, regardless of the number of hours worked. One employee could have several employment relations (e.g. in hospitals and physician offices at the same time). Two jobs relations are typical in Germany for “Belegkrankenhäuser” (Hospitals, in which outpatient specialists run inpatient departments).

Full-Time-Equivalents

Full-time equivalent persons are defined as the number of persons full-time employed, plus part-time employed converted to full-time equivalent basis. There are three methods used to calculate full-time equivalents:

- 1) All actors with annual statistical reports to the statutory accident insurance for health care (BGW) report on the number of labour force paid by the actor, the total working hours of this labour force, and the salaries. Based on the usual annual working hours the number of FTE are compiled.
- 2) The FTEs are directly reported by the statistic. For example, the German hospital statistics report the number of staff in FTE and head counts.
- 3) The number of the FTE is calculated from head counts using information from labour force survey.

Organisation of National Labour Accounts

German experiences with Health Labour Accounts show that the HLA has to be build bottom-up and can neither be derived from Labour Force Survey nor Labour Accounts from SNA exclusively. The problem is similar to SHA: all available statistics have to be linked in a consistent way, where SHA provides the main framework. As Manpower is the most important production factor the consistency can be proved also by linking production values to manpower, usually described as productivity.

The German Health Labour Accounts are built using the classification of actors from national expenditure accounts (see Box 6). However, additional data on intermediate producers of health products, i.e. pharmaceuticals and medical products as well as wholesalers, were included. The first part of the following table describes the cross-classification of German health labour accounts between professions and actors (institutions). The second part describes the cross-classification of health accounts between functions and actors.

Both systems are consistent for the first five actors group: Health protection, Outpatient institutions, Inpatient institutions, Rescue services, and Administration. The sixth actor (“Other Institutions”) includes households as producers of health care services for dependent elderly. This is excluded in the HLA, but reported separately under “Extended Employment Potential of the Health Sector”.

Table 28: Comparison of German health labour accounts and health accounts

Health Labour									
Classifications		Total Institutions	Health protection	Out-patient institutions	Inpatient institutions	Transportation/rescue services	Administration	Other institutions	Intermediate health industries
		1-7	1	2	3	4	5	6	7
1	Health professions								
2	Social occupations								
3	Health crafts professions								
4	Other health professions								
5	Other non health professions								
1-5	Professions total		Health sector (labour)*						

1-9	Functions total		Health sector (expenditures)*						
9	Research/education/investments								
8	Administration								
7	Transportations								
6	Medical Goods								
5	Hotel services								
4	Social services								
3	Nursing/therapeutical services								
2	Medical services								
1	Preventive protection/health protection								
		1-7	1	2	3	4	5	6	7
Classifications		Total Institutions	Health protection	Out-patient institutions	Inpatient institutions	Transportation/rescue services	Administration	Other institutions	Foreign countries

Health expenditures									
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* In this grey area health labour relates to health expenditures+A5.

Federal Statistical Office 2002

The extended health calculations are made within Excel sheets.

Link to ICHA-HP

The German Statistical Office has already reported health accounts data classified by HP-Codes to the OECD, but health labour accounts have not been reported yet. Furthermore, there are some deviations between the expenditure accounts and manpower accounts. Although the ICHA-HP provider classification is a refined and modified version of the health-relevant parts of the International Standard Industrial Classification, ISIC, Rev. 3 (United Nations, 1990), there is no co-ordination with SNA.⁸

The link between the national classification system of “Einrichtungen” and “HP-Codes” is described by EUCOMP for 87 Actors. For the calculation we have reduced this to 27. As the Federal Statistical Offices is presenting in publications only 15 actors we reduced it further to 15.

Link to ICHA-HC

The link to ICHA-HC was not analysed, but principally it is possible to use the experience of the German Statistical Office. A presentation of figures in health professions and non-health professions is possible in the national actors classification but it is not yet transferred in HP Codes.

Health professions

The Federal Statistical Office classifies health professions in five groups

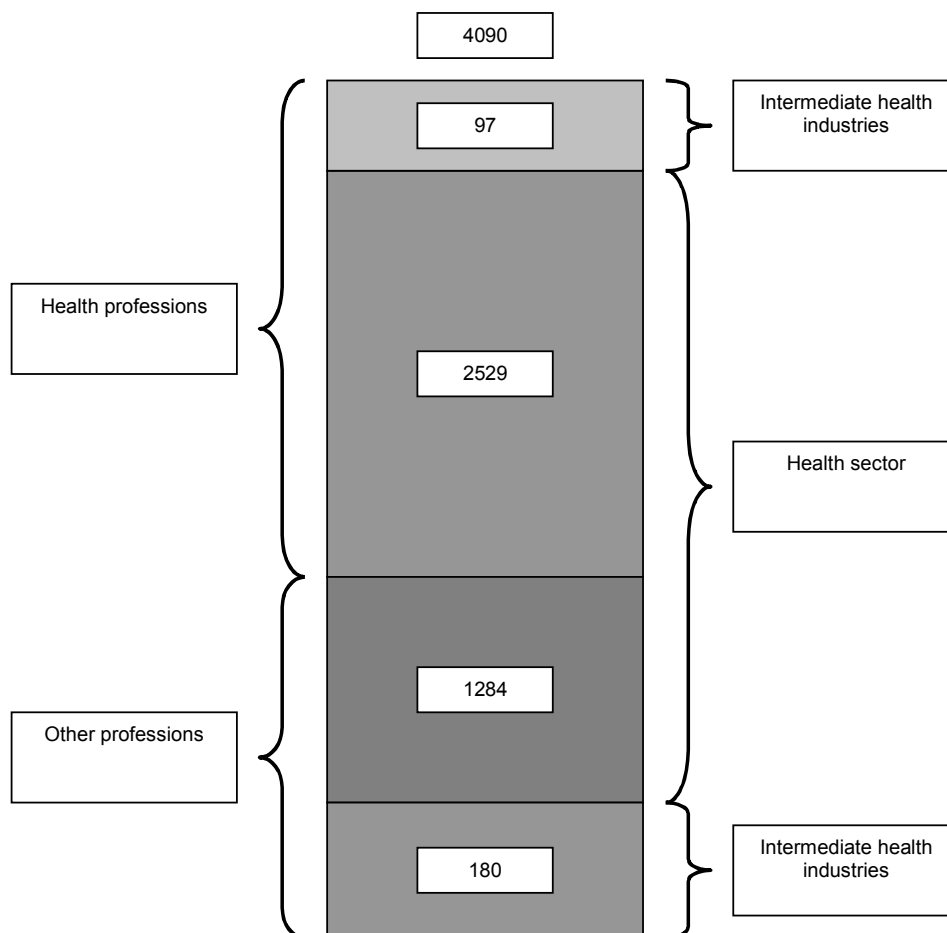
- health service professions (medical professions and pharmacists)
- other health services professions (supporting staff)
- social professions
- health craftsmen
- other specialized health professions.

Extended Health Employment Potential

As mentioned above the Federal Statistical Office compiles separately the number of individuals providing long-term care in households without labour contract. Individuals in training and education as well as unemployed health professions are additionally counted.

8 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.

German health labour 2000
in 1 000



3. STATISTICS

List of sources

Data for German Health Labour Accounts are derived from different sources. Table 29 exhibits the sources already documented in the first EUROSTAT manpower project.

The German Statistical Office (Statistisches Bundesamt, StBA) uses the results of the LFS (annually 1% survey of the German population) to estimate the breakdown of health employment by gender and profession.

Table 29: Data sources used for German HLA

SourceID	LocSource
4000	ABDA Statistik
4010	Arbeitgeberverband Versicherungen
4020	Ärztestatistik der BÄK und der KBV
4030	Berufe des Gesundheitswesens
4040	Einzelhandelsstatistik
4050	Großhandelsstatistik
4060	Statistik des Produzierenden Gewerbes
4070	BGW Hamburg
4080	Bundesstatistik für Krankenhäuser
4090	Handwerkszählung
4100	Kostenstrukturanalyse Ärzte ZI
4110	Kostenstrukturerhebung der KZBV
4120	Kostenstruktur Ärzte/Zahnärzte/Tierärzte
4130	Mikrozensus, EU Arbeitskräftestichprobe
4140	Personalstatistik an Hochschulen StBA
4150	Personalstatistik öffentlicher Dienst
4160	Pflegestatistik StBA
4180	Statistik der GKV
4190	Statistik der GRV
4200	Statistik der GUV
4210	Schulen für Berufe des Gesundheitswesens
4220	WIdO Pflegeeinrichtungsstatistik

Sometimes there are several statistics and it has to be estimated by expert opinion which statistic should be used. With respect to employment in nursing homes, for example, there are three statistics. We used the official “Pflegestatistik” in co-ordination with StBA.

Employment Sources by Actors:

According to the first EUROSTAT questionnaire for only half of all EUCOMP actors data sources on total employment have been included. The review has shown that it is possible to give at least estimates. One possibility is to estimate the employees of actors using information on cost and activities.

The following Table 30 exhibits the list of actor groups for which figures on health labour were compiled.

Table 30: Definition of Actor groups, Germany

Actor group	NACE/Actor	HP-Code	Name
4000	8511	10	Krankenhäuser
	4002	110	Akademische Lehrkrankenhäuser
	4035	110	Lokale allgemeine Krankenhäuser
	4065	110	Regionale allgemeine Krankenhäuser
	4082	110	Universitätskrankenhäuser
	4015	120	Drogenentzugseinrichtungen
	4064	120	Psychiatrische Krankenhäuser
	4007	130	Belegkrankenhäuser
	4077	130	Tages- und Nachtkliniken
4006	8511	13	Rehabilitationseinrichtungen
	4066	130	Rehabilitationseinrichtungen
	4085	130	Vorsorgeeinrichtungen, Kurkliniken
4008		20	Pflegeheime
	4041	210	Pflegeheime
	4011	290	Betreutes wohnen
	4034	290	Kurzzeitpflegeeinrichtungen
4009		31	Arztpraxen
	4030	310	Hausarztpraxen
	4045	310	Praxen von Augenärzten
	4046	310	Praxen von Chirurgen
	4048	310	Praxen von Frauenärzten
	4051	310	Praxen von HNO-Ärzten
	4052	310	Praxen von Internisten
	4053	310	Praxen von Kinderärzten
	4054	310	Praxen von Neurologen
	4055	310	Praxen von Orthopäden
4010	4058	310	Praxen von sonstigen Fachärzten
	8513	32	Zahnarztpraxen
	4086	320	Zahnarztpraxen
4012		33	Praxen sonstige medizinische Berufe
	4044	330	Praxen sonst. nichtärztlicher Heilberufe
	4047	330	Praxen von Ergotherapeuten
	4049	330	Praxen von Hebammen
	4050	330	Praxen von Heilpraktikern
	4056	330	Praxen von Physiotherapeuten
	4057	330	Praxen von Psychotherapeuten
	4059	330	Praxen von Sprachtherapeuten

4013		36 Ambulante Pflege
	4013	360 Dorfhelferinnenstationen
	4021	360 Gemeindekrankenpflegestationen
	4029	360 Haus- und Familienpflegestationen
4011		39 Rettungsdienste
	4020	391 Feuerwehren
	4033	391 Krankentransportdienste
	4067	391 Rettungsdienste
	4068	391 Rettungsleitstellen
4016		39 Sonstige ambulante Einrichtungen
	4019	341 Familienberatung
	4001	342 Aids-Beratung
	4014	342 Drogenberatung
	4017	345 Ernährungsberatung
	4008	349 Berufliche und soziale Rehabilitation
	4038	349 Mobile soziale Dienste
	4075	349 Sozialstationen
4014		41 Apotheken
	4003	410 Apotheken
4015		44 Gesundheitshandwerk/-einzelhandel
	4006	420 Augenoptiker
	4031	430 Hörgeräteakustiker
	4039	440 Orthopädieschuhtechniker
	4040	440 Orthopädietechniker
	4070	440 Sanitätshäuser
	4087	490 Zahntechniker
4018		50 Öffentlicher Gesundheitsdienst
	4027	500 Gesundheitsämter
4019		50 Sonstige Gesundheitsschutzeinrichtungen
	4079	500 Trinkwasser- und Lebensmittelkontrolle
	4004	710 Arbeitsschutzeinrichtungen
	4009	710 Berufsgenossenschaften
	4072	720 Selbsthilfegruppen
4007		60 Verwaltung
	4026	610 Gesundheitsministerien
	4022	620 Gesetzliche Krankenversicherungen (GKV)
	4023	620 Gesetzliche Pflegeversicherungen (GPV)
	4024	620 Gesetzliche Rentenversicherungen (GRV)
	4025	620 Gesetzliche Unfallversicherungen (GUV)
	4061	640 Private Krankenversicherungen (PKV)
	4063	640 Private Pflegeversicherungen (PPV)
	4074	640 Sonstige Privatversicherungen
	4005	690 Arzneimittelüberwachung
4017		70 Sonstige Einrichtungen und private Haushalte
	4016	490 Drogerien
	4076	490 Supermärkte
	4060	720 Private Haushalte
	4062	720 Private Organisationen o.E.
	4078	790 Taxis

4. RESULTS

Table A: ICHA-HP (Head Counts, FTE)

Table 31: Employment and Expenditures by Actor group – Germany, 2001

Actor group	HP-Code Name	Employment (in Thsd.)	FTE (in Thsd.)	Expenditure (in Mio. €)
4000	10 Krankenhäuser	1109	833	61961
4006	13 Rehabilitationseinrichtungen	120	99	7535
4008	20 Pflegeheime	475	369	15873
4009	31 Arztpraxen	646	518	30695
4010	32 Zahnarztpraxen	315	255	14786
4012	33 Praxen sonstige medizinische Berufe	185	149	5391
4013	36 Ambulante Pflege	190	129	6054
4011	39 Rettungsdienste	46	40	2184
4016	39 Sonstige ambulante Einrichtungen	36	29	1077
4014	41 Apotheken	162	124	30931
4015	44 Gesundheitshandwerk/-einzelhandel	155	143	16152
4018	50 Öffentlicher Gesundheitsdienst	23	19	1873
4019	50 Sonstige Gesundheitsschutzeinrichtungen	27	23	2082
4007	60 Verwaltung	214	183	12885
	Sonstige Einrichtungen und private			
4017	70 Haushalte	96	80	8416
Sum*		3799	2993	217895

* employment in the pharmaceutical and medical device industry as well as wholesalers for these products are not considered here.

The table above exhibits the compilation of health labour counts based on a reduced actors list of EUCOMP (where useful actors were aggregated).

FTEs were estimated partly from LFS, e.g. HP 6 for staff in civil service (Personal im öffentlichen Dienst). In the case of hospitals, the hospital statistic provides information on FTE, for most other actors the statistic of the statutory accident insurance.

Table B: Health professions, Non health professions

This table was not analysed within the EUCOMP framework, but principally it is possible to use the experience of the German Statistical Office (see Table C). A presentation of figures in health professions and non-health professions is possible in the national actors classification but it is not yet transferred in HP Codes.

Table 32: Employment in heads by professions in hospitals (HP.1), 2001 (in 1,000)

Lfd. Nr.	Gegenstand der Nachweisung	Einrichtungen		
		stationäre Einrichtungen	Kranken- häuser	Vorsorge-/ Rehabili- tationsein- richtungen
		insgesamt		
<i>Berufe</i>		in 1,000		
<i>Gesundheitsberufe</i>				
2	Gesundheitsdienstberufe	871	810	61
3	Ärzte, Zahnärzte Apotheker	136	127	9
16	übrige Gesundheitsdienstberufe	735	683	52
26	soziale Berufe	24	21	3
30	Gesundheitshandwerker	0	0	
35	sonstige Gesundheitsfachberufe	3	3	0
<i>Andere Berufe</i>				
41	andere Berufe im Gesundheitswesen	330	275	55
Total		1,228	1,109	119

Source: Statistisches Bundesamt (2003).

Table C: Health professions by type, 2001

Lfd. Nr.	Berufe	Beschäftigte			Vollzeitäquivalente		
		insgesamt	Männer	Frauen	insgesamt	Männer	Frauen
1	Insgesamt*	4090	1190	2900	3271	1098	2172
2	Gesundheitsdienstberufe	2143	466	1677	1692	428	1265
3	Ärzte, Zahnärzte, Apotheker	411	245	166	374	233	141
4	Ärzte	295	185	109	268	174	94
5	für allgemeine/innere Med., Kinderheilk.	84	57	27	77	54	23
6	für Augenheilkunde	6	4	3	6	4	2
7	für Chirurgie, Orthopädie	27	23	3	25	22	3
8	für Frauenheilkunde/Geburtshilfe	15	9	6	13	8	5
9	für Hals-, Nasen-, Ohrenheilkunde	5	4	1	5	4	1
10	für Neurologie, Psychiatrie	17	10	7	15	9	6
11	für Radiologie	7	5	2	7	5	2
12	Ärzte o.n.F., praktische Ärzte	99	51	48	90	48	42
13	andere Fachärzte	34	22	12	30	21	10
14	Apotheker	53	20	34	45	19	26
15	Zahnärzte	63	40	23	61	40	21
16	übrige Gesundheitsdienstberufe	1732	221	1511	1318	194	1124
17	Arzt-/Zahnarzthelfer	486	7	479	369	6	363
18	Diätassistenten	11	1	10	9	1	8
19	Heilpraktiker	17	6	11	13	5	8
20	Helfer in der Krankenpflege	216	54	162	161	48	113
21	Krankenschwestern, Hebammen	690	101	590	523	89	435
22	Physiotherapeuten, Masseur, med. Badem.	119	34	85	96	31	66
23	medizinisch-technische Assistenten	94	8	86	72	7	65
24	pharmazeutisch-technische Assistenten	47	1	46	35	1	34
25	therapeutische Berufe a.n.g.	52	10	43	41	9	32
26	Soziale Berufe	259	36	223	198	32	166
27	Altenpfleger	243	32	211	185	28	157
28	Heilerziehungspfleger	6	2	4	5	2	3
29	Heilpädagogen	10	2	8	8	2	6
30	Gesundheitshandwerker	135	71	63	126	69	56
31	Augenoptiker	40	17	23	37	16	21
32	Orthopädiemechaniker	11	8	3	10	8	2
33	Zahntechniker	68	33	35	63	32	30
34	sonstige Gesundheitshandwerker	16	13	3	15	12	3
35	Sonstige Gesundheitsfachberufe	90	26	64	70	23	47
36	Gesundheitsingenieure	14	3	12	13	3	10
37	Gesundheitssichernde Berufe	16	12	4	14	11	3
38	Gesundheitstechniker	10	8	2	10	8	2
39	Pharmakanten	5	2	3	5	2	3
40	pharmazeutisch-kaufmännische Angestellte	44	1	43	30	0	29
41	andere Berufe im Gesundheitswesen	1464	591	873	1184	546	638

* The totals include employment in the pharmaceutical and medical device industry as well as wholesalers for these products.

Source: Statistisches Bundesamt 2002, p. 50.

Table D: ICHA-HC (FTE)

This table can only be derived combining the health expenditure table HC-HP with the above-presented table for HC. But such a compilation was not done yet.

Indicators

The comparison of productivity ratios among different actors as well as among countries can substantially support the review of the outcome of the labour accounts. The other quality standards to be checked are described above in the section on methodology.

5. DISCUSSION

SHA demands several improvements to German Health Labour Accounts from the EU perspective.

- *Households*: Recipients of dependency care allowances are not included. It is necessary to have an agreement, whether and how to compile persons in household production.
- Employees of *physician chambers* are part of intermediate industries.
- *Intermediate health industries* are not in the SHA concept and has to be excluded although employment in these industries is of political interest.
- *Administration* for public financed services has to be added.
- In comparison to the NL the FTEs seem to be too high for some actors.

Box 6: German Classification of Actors for German Health Labour Accounts

No.	Einrichtungen
110	Gesundheitsämter
120	Gesundheitsbehörden/-ministerien
130	Sonstige Einrichtungen des Gesundheitsschutzes
140	Medizinischer Dienst der Krankenkassen (MDK)/ Medizinischer Dienst der Spitzenverbände der Krankenk. (MDS)
210	Arztpraxen
220	Zahnarztpraxen
231	Praxen von Hebammen
232	Praxen von Heilpraktikern
233	Praxen von Physiotherapeuten
234	Praxen von Sprachtherapeuten
235	Praxen von Ergotherapeuten
235	Praxen von Psychotherapeuten/Psychologen
236	Praxen von Podologen
240	Apotheken
241	Sanitätshäuser
242	Drogerien
251	Augenoptiker
252	Hörgeräteakustiker
253	Orthopädiemechaniker, Bandagisten
254	Orthopädieschuhmacher
254	Zahntechniker
260	Pflegedienste (Häusliche Alten- und Krankenpflege)
270	Sonstige ambulante Einrichtungen (Beratungsstellen, sozialpsychiatrische und psychosoziale Dienste ..)
310	Krankenhäuser
320	Vorsorge- und Rehabilitationseinrichtungen
330	Pflegeheime (Altenheime/Altenkrankenheime sowie Einrichtungen der Tages-, Nacht- und Kurzzeitpflege)
340	Einrichtungen der sozialen und beruflichen Rehabilitation
400	Krankentransport/Rettungsdienste
511	Gesetzliche Krankenversicherungen (GKV)
512	Gesetzliche Rentenversicherungen (GRV)
513	Gesetzliche Unfallversicherungen (GUV)
516	Private Krankenversicherungen (PKV)
517	Bundesversicherungsamt/Bundesausführungsbehörden
520	Organisationen der Leistungserbringer
521	Ärzte-/Zahnärzte-/Apotekerkammern
522	KVen/KZVen
523	Berufsverbände/Fachgesellschaften
610	Einrichtungen des Arbeitsschutzes
611	Gewerbeaufsicht
621	Schulen für Berufe des Gesundheitswesens (Berufsfachschulen)
622	Hochschulen
623	Forschungsinstitute im Gesundheitswesen
711	Pharmaindustrie
712	Biomedizinische Industrie
721	Herstellung von elektromedizinischen Geräten und Instrumenten
722	Herstellung von medizinischen Geräten
730	Augenoptische Industrie
740	Medizinische Labors
751	Großhandel mit pharmazeutischen Erzeugnissen
752	Großhandel mit medizinischen und orthopädischen Artikeln und Laborbedarf
753	Großhandel mit Dentalbedarf

THE NETHERLANDS: COUNTRY REPORT ON HEALTH LABOUR ACCOUNTS

DRAFT

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1. INTRODUCTION

Objectives of the project and the report

To give an evaluation of existing statistical data and meta information on the health labour force in the Netherlands.

Health labour accounts in the past

Until this moment, official health labour accounts in the Netherlands were done only on a high level of aggregation. The National Accounts gave a total number of persons and FTE involved in Health and Social Care in a strict sense (NACE 85). Health care related activities outside NACE 85 (like “*Government administration and health*” or “*Social security funds*”), were not covered. Work is being done by Statistics Netherlands to overcome these problems of “completeness”. Furthermore, work is being done to give more detailed information. By the end of the year 2003, data on the total number of people employed and the FTE can be delivered for different levels of aggregation, like “*Hospitals*” (NACE 8511) or “*Offices of physicians*” (NACE 8512). However, a breakdown of the manpower by the type of professions cannot be delivered.

An unofficial source for health labour accounts in the Netherlands, is the RAZW. This is a yearly report with almost all available statistics for the labour market in the Health Care sector. The data in the RAZW are coming from several sources and mostly refer to the lowest level of aggregation, like “*University Hospitals*”. In general, the data not only contain information on the total manpower as such (both as head counts and FTE), but also on manpower per type of professions involved.

2. METHODOLOGY

Analytical Units

Most data used for the Health Labour Accounts by Statistics Netherlands, is originally coming from individual institutions. But these institutions provide data to social security institutions on individual persons working as an employee for these institutions. By means of a personal code-number used for all employees, these data are therefore actually on the level of individuals.

Some data for the RAZW are initially coming from surveys of individual institutions. These institutions give data on the total amount of persons working as an employee for these institutions. In general they are also asked to give a break down of the total number of employees by type of professional. For the RAZW, only data for the total of all institutions are asked from the original collector of these data.

Other data for the RAZW are initially coming from professional organisations. They are asked to give the total number of active members. Most of the times, they are also asked to break down this number of active members by type of institution where they are active.

National Definitions

One of the original data-sources for the National Health Labour Accounts has information on the number of jobs instead of the number of persons. Persons with two or more jobs, are counted twice or more.

FTE

For the National Health Labour Accounts, information on both the number of jobs and the number of FTE is available. One of the original data-sources (the Fiscal database) has information on the number of hours worked per person. Using collective agreements per sector, the hours worked are translated to FTE.

Link to ICHA-HP

The standard classification of health care providers used in the Netherlands in the last years (the SBI from 1993) is fully compatible with NACE. Hence, presentation of data on manpower according to the ICHA-HP classification is not a big problem. However, some categories of the SBI-1993 pertain to several different HP-categories. This is the case for dental care (SBI code 8513), with both the dental care specialists (i.e. jaw surgeons and orthodontists, which are a part of HP 3.1) and “regular” dentists (which are a part of HP 3.2). It is also the case for the residential care for mentally and physically handicapped children, which is only one code within the SBI (85314), but which should be divided between HP 2.2 (for the mentally handicapped) and HP 2.9 (for the physically handicapped).

For HP 1 (hospitals), HP 2 (residential care) and HP 3 (ambulatory care), a fairly complete coverage can be reached. For HP 4 to HP 9 (retail sale, etc.) some problems remain.

Link to ICHA-HC

The classification of data on manpower according to health care function (ICHA-HC), can not be derived using the original sources for manpower data. Keys have to be created. One possible key is to use the Health Care Accounts data on money spend per type of provider and per type of function as a dividing tool for manpower per type of function. For instance: if 33% of the budget for university hospitals is spent on cure, we suppose that also 33% of the manpower is spent on cure. Although this is probably not true (since, in most cases, “cure” is more expensive per FTE than “care”) no other satisfying approach is yet found.

Health professions

Although the standard classification of health care professions used in the Netherlands is compatible with ISCO, several assumptions must be made to give data on the manpower per type of professional. Most sources do not contain enough information on the exact type of professions involved. This is especially true for data used for the official health labour accounts.

The tables in the RAZW do in general give information on the type of professions involved in each provider category. Usually, at least a distinction can be made between health professions and non-health professions. In most instances, also the group of nurses can be distinguished within the group of health professions. It is also very common that the single most important group of medical or paramedical professions can be distinguished within each provider category, for instance: “General practitioners” within the “Offices of general practitioners” or “Midwives” within the “Offices of midwives”.

Problems arise where only one category is used for both medical and social scientific professions or for both paramedical and other health care professions. For these instances, an estimate had to be made for the share of medical or paramedical professions within the original category of professions.

In the end, we were able to make the following distinctions:

1. Medical professions
2. Paramedical professions
3. Nurses
4. Other health professions
5. Non-health professions

For the medical, paramedical and non-health professions, we were also able to make a distinction between self-employed professions and employed professions.

For the medical professions, a distinction between physicians, dentists and midwives can be made. The physicians can also be subdivided in general physicians, medical specialists, nursing home physicians, (registered) public health physicians and non-specialised physicians.

Evaluation of the completeness

The data used by Statistics Netherlands to make the Health Labour Accounts, have an almost complete coverage of employees of all categories involved. The biggest problem is the coverage of self-employed professions. Therefore, we used the data from the RAZW (with some additional estimates) to add the number of self-employed professions in each provider category.

One other problem with the original data used by Statistics Netherlands, is that they tend to pertain to jobs instead of persons. Statistics Netherlands did try to translate jobs into persons. But, at least across categories, there remains a possible “double counting” of persons. Hence, the number of persons involved in health care is slightly overestimated.

The RAZW does cover almost all categories within the classic, narrow definition of health care (HP 1-3). One of the main omissions is the number of psychiatrists and psychotherapists who work as self-employed professions. For these professions, we had to make some additional estimates. So in the end, HP 1-3 are completely covered.

The RAZW does not contain much information on categories outside the classic definition of health care. So, HP 4 to HP 9 are not covered, except part of HP 5 (public health). To overcome this problem, we used data from Statistics Netherlands to fill in the gaps.

Comparable to the situation with the data from Statistics Netherlands, the data from the RAZW tend to overestimate the number of persons when these numbers are aggregated over categories. A solution to this problem could be to try to establish an unbiased estimate for the total number of persons and then make estimates for the amount of persons who are working in several parts of the health care branch. This procedure has not been used at this moment.

The RAZW does not cover all the topics that are of interest in Health Labour Accounts. In particular, age is mostly not and compensation is never included in the available data. Gender is included in part of the tables. The original sources do in general have data on these topics, but they are not (yet) included in the RAZW.

For some of the categories with self-employed professions, data are coming from membership records of professional organisations. Therefore, it is not guaranteed that there is full coverage of all professionally active persons. Membership is often not obligatory, so active professional who are no member will not be included. Next to this, there is the problem that the membership records are not always kept up to date. Some of the current “active members” will in fact already be retired (which leads to an overestimation of the number of professionally active persons) and some of the newly trained professions will not yet be administered as “active member” (which leads to an underestimation). But one could say that the amount of active members is not “wrong” in it self, but in fact reflects the real number for an earlier date or period.

Technical approach

To get an overview of the manpower using the data from the RAZW, we made an Excel spreadsheet. It contains rows for each provider category on the lowest possible level of aggregation for the SBI-code. Provider categories who pertain to certain HP-categories on the two digit level were then summed up in additional rows. These were on their turn summed up for HP-categories on the one digit level. For instance:

HP 1 Hospitals

(sum of HP 1.1, 1.2 and 1.3)

HP 1.1 General hospitals

(sum of SBI 85111 and 85112)

SBI 85111 University hospitals

(data from RAZW)

SBI 85112 General hospitals, non-university

(data from RAZW)

HP 1.2 Mental health and substance abuse hospitals
etc.

(sum of SBI ...)

The tables of the RAZW were entered almost exactly as they are published. The data from the RAZW were inserted as columns, with a new set of columns for each new breakdown of the type of professions. For instance, for university hospitals, general hospitals and specialty hospitals, the same breakdown of manpower by type of professional is published in the RAZW:

- 1) Nurses;
- 2) Medical and social scientific professionals;
- 3) Other health professions;
- 4) Nurses in training;
- 5) Non-medical professions;
- 6) Apprentices;
- 7) Other non-health professions, not regularly employed.

In this case, we added two extra columns:

- 8) the estimated amount of medical professionals within cat. 2 (Med. & soc. pr.);
- 9) the estimated amount of paramedical professions within cat. 3 (Other health pr.).

Furthermore, we had to add a column for the number of self-employed physicians within these hospitals.

Some data from the RAZW do not pertain to a yearly average, but to one point in time (i.e. a certain date, like 31-12-2000). For these instances, a yearly average was computed using both the data for 31-12-1999 and 31-12-2000 to get the number for the year 2000.

3. STATISTICS

List of sources

SourceID	LocSource	EngSource
Sources already included in “ <i>Human resources of European Health Systems</i> ”		
15000	Huisartsenregister (NIVEL)	Register of general practitioners
15010	Loonstructuuronderzoek	Wage structure database
15020	Enquete Beroepsbevolking	Labour Force Survey (LFS)
15030	Enquete werkgelegenheid en lonen	Survey on employment and earnings
15040	Arbeidsrekeningen	Labour accounts
15050	Intramurale gezondheidszorg	Intramural health care
15060	Extramurale gezondheidszorg	Extramural health care
15070	Geestelijke Gezondheidszorg	Mental health care
15080	Algemeen Bedrijfs Register	General register of enterprises
15090	Praktijken in de gezondheidszorg	Medical practices
15100	Register fysiotherapeuten (NIVEL)	Register of physiotherapists
15110	Semimurale voorzieningen voor gehandicapten	Semi-mural facilities for the handicapped
15120	Verzorgingshuizen	Homes for the aged
15130	Verloskundigenregister (NIVEL)	Register of midwives
15140	GGZ Personeels Informatiesysteem	Mental Health Care Staff Information System
15150	Vereniging van revalidatie instellingen	Association of Rehabilitation clinics
15160	Rijksbegroting VWS	Central government budget; ministry of health
Sources not included in “ <i>Human resources of European Health Systems</i> ”		
15170	Ergotherapeuten register (NIVEL)	Register of ergo therapists

In “*Human resources of European Health Systems*”, source 15010 (the wage structure database) was mentioned as the single most important source for manpower data. This role is now taken over by source 15040 (the labour accounts).

Employment Sources by Actors

ActorID	LocActor	EngActor	Source-ID #1	Source-ID #2	Source-ID #3	Source-ID #4
15001	Abortuskliniek	Abortion clinic	15040			
15002	Academisch ziekenhuis	University hospital	15040	15020	15050	15100
15003	Adviesorganen	Advisory bodies				
15004	Algemeen psychiatrisch ziekenhuis	General psychiatric hospital	15040	15050	15140	
15005	Algemeen ziekenhuis	General hospital	15040	15050		
15006	Ambulancedienst	Ambulance service	15040			
15007	Apotheekhoudend huisarts	Dispensing general practitioner	15000			
15008	Apothekers	Dispensing chemists	15080	15090		
15009	ARBO- en bedrijfsgezondheidsdienst	Occupational health service	15040	15060		
15010	Astmakliniek	Asthma clinic				
15011	Beroepsopleidingen voor verpleegkundigen	Training and education of nurses				
15012	CAD (consultatiebureau voor alcohol en drugs)	CAD (Centre for Alcohol and Drug Abuse)	15040	15060	15140	
15013	Categoriaal ziekenhuis	Specialised hospital	15040	15050		
15014	Consultatiebureau voor	Consultation Bureau				

ActorID	LocActor	EngActor	Source-ID #1	Source-ID #2	Source-ID #3	Source-ID #4
	zuigelingen en kleuters	for babies and toddlers				
15015	Dagverblijf voor bejaarden	Day centre for the elderly				
15016	Dagverblijf voor gehandicapten	Day centre for the physically disabled	15040	15110		
15017	Dagverblijf voor verstandelijk gehandicapten	Day centre for the mentally weak	15040	15110		
15018	Diëtist	Dietician				
15019	Drogist	Druggist				
15020	Epilepsiekliniek	Epilepsy clinic	15040	15050		
15021	Ergotherapeut	Ergotherapist				
15022	Fondsen wervers	Fund raising organisations				
15023	Fysiotherapeut	Physiotherapist	15100			
15024	Gemeente	Municipality				
15025	Gemeentelijke gezondheidsdienst	Municipal health service	15040	15060		
15026	Gezinsvervangend tehuis	Family replacement home	15040			
15027	Gezondheidscentrum	Health centre	15000			
15028	Herstellingsoord	Short term recovery home				
15029	Huisarts	General practitioner	15000	15030		
15030	Industriële ondernemingen	Business enterprises				
15031	Inrichting voor psychisch gestoorde delinquenten	Forensic psychiatric clinic	15040	15070		
15032	Inrichting voor zintuiglijk gehandicapten	Institute for the sensorially handicapped	15040	15050		
15033	Inspectie gezondheidsbescherming, waren	Inspectorate for health protection				
15034	Instelling voor verstandelijk gehandicapten	Institute for the mentally weak	15040	15050		
15035	Kankerkliniek	Oncological clinic	15050			
15036	Kinderen- en jeugdpsychiatrisch ziekenhuis	Juvenile psychiatric clinic	15040	15070		
15037	Kinderziekenhuis	Paediatric hospital				
15038	Kliniek voor verslavingsziekten	Addiction clinic	15040	15050		
15039	Kraamcentrum	Maternity centre				
15040	Kraaminrichting	Maternity home				
15041	Kraamkliniek	Maternity clinic				
15042	Leverancier hoorapparaten	Hearing aid shop				
15043	Logopedist	Speech therapist	15080			
15044	Longkliniek/Sanatorium	Lung clinic/sanatorium				
15045	Medisch kindertehuis	Medical children's home	15040	15050		
15046	Medisch kleuterdagverblijf	Nursery for toddlers under medical super	15040	15050	15140	
15047	Medisch laboratorium	Medical laboratory	15040	15080		

ActorID	LocActor	EngActor	Source-ID #1	Source-ID #2	Source-ID #3	Source-ID #4
15048	Mondhygiëniste	Dental hygienist	15040	15080		
15049	Oefentherapeut Cesar of Mensendieck	Movement therapist Cesar or Mensendieck	15040	15080		
15050	Oncologisch radiotherapeutisch centrum	Oncological therapeutic centre	15040	15080		
15051	Oogziekenhuis	Ophthalmic hospital	15050			
15052	Opleiding paramedische beroepen	School for paramedical professions				
15053	Opleiding tot ziekenverzorgende	School for nursing aids				
15054	Opticien	Optician	15040			
15055	Orthopedisch schoenmaker	Orthopaedic shoemaker	15040	15080		
15056	Orthopedische kliniek	Orthopaedic clinic	15050			
15057	Orthoptist	Orthoptist	15080			
15058	Particuliere ziektekostenverzekeraar	Private health care insurer	15040			
15059	Podotherapeut	Podotherapist	15040	15080		
15060	Polikliniek	Out-patient department				
15061	Prothesemaker	Prosthetics shop	15080			
15062	Provincie	Province				
15063	Psychotherapeut	Psychotherapist	15040			
15064	Regionale instelling voor beschermd wonen	Regional institution for sheltered dwell	15040	15140		
15065	Reumakliniek	Rheuma Clinic	15040	15050		
15066	Revalidatiedagbehandelingscentrum	Rehabilitation day centre				
15067	Revalidatiekliniek	Rehabilitation clinic	15040	15050	15150	
15068	RIAGG (regionale instelling voor ambulance)	RIAGG (Regional Institute for ambulatory	15040	15060	15140	
15069	Rijk	State				
15070	Rijksinstituut voor de volksgezondheid en	State Institute for Public Health and En				
15071	Speciale onderzoeksinstituten	Special research institutes	15030			
15072	Specialist	Medical specialist				
15073	Sport medisch adviescentrum	Medical sport examination and advice bur				
15074	Stichting Sanquine	Sanquine Foundation				
15075	Supermarkt	Supermarket	15040			
15076	Tandarts	Dentist	15060			
15077	Tandprotheticus	Dental prosthetics	15040	15080		
15078	Tandtechnicus	Dental technician	15040	15080		
15079	Thuiszorg organisatie	Organisation for district nursing and ho	15040	15060		
15080	Trombosedienst	Thrombosis service	15040	15060		
15081	Universiteit (medische faculteit)	University (medical faculty)	15040			
15082	Verloskundige	Midwife	15040	15130		
15083	Verpleeghuizen	Nursing home	15040	15050		
15084	Verzorgingshuis	Home for the elderly	15040	15120		
15085	Ziekenfondsen	Sickness Funds	15040			

Table 33: Definition of Actor groups, Netherlands

Actor-group	NACE/Actor	HP-Code	Name
15000	8511	11	Algemene en academische ziekenhuizen
	15002	110	Academisch ziekenhuis
	15005	110	Algemeen ziekenhuis
15001	8511	12	Psychiatrische ziekenhuizen en verslavingsklinieken
	15004	120	Algemeen psychiatrisch ziekenhuis
	15036	120	Kinderen- en jeugdpsychiatrisch ziekenhuis
	15038	120	Kliniek voor verslavingsziekten
15002	8511	13	Categorale ziekenhuizen
	15001	130	Abortuskliniek
	15010	130	Astmakliniek
	15013	130	Categoriaal ziekenhuis
	15020	130	Epilepsiekliniek
	15028	130	Herstellingsoord
	15031	130	Inrichting voor psychisch gestoorde delinquenten
	15035	130	Kankerkliniek
	15037	130	Kinderziekenhuis
	15040	130	Kraaminrichting
	15041	130	Kraamkliniek
	15044	130	Longkliniek/Sanatorium
	15045	130	Medisch kindertehuis
	15050	130	Oncologisch radiotherapeutisch centrum
	15051	130	Oogziekenhuis
	15056	130	Orthopedische kliniek
	15065	130	Reumakliniek
	15066	130	Revalidatiedagbehandelingscentrum
	15067	130	Revalidatiekliniek
15003	8531	21	Verpleeghuizen
	15083	210	Verpleeghuizen
15004	8531	Instellingen voor verstandelijk gehandicapten (residentieel en dagcentra)	
	15016	220	Dagverblijf voor gehandicapten
	15017	220	Dagverblijf voor verstandelijk gehandicapten
	15034	220	Instelling voor verstandelijk gehandicapte
15005	8531	23	Verzorgingshuizen
	15015	230	Dagverblijf voor bejaarden
	15084	230	Verzorgingshuis
15006	8531	29	Overige residentiële verzorgingsinstellingen
	15026	290	Gezinsvervangend tehuis
	15032	290	Inrichting voor zintuiglijk gehandicapte
	15046	290	Medisch kleuterdagverblijf
15007	8512	31	Artsenpraktijken
	15007	310	Apotheekhoudend huisarts
	15029	310	Huisarts
	15072	310	Specialist
15008	8513	32	Tandartsenpraktijken
	15076	320	Tandarts

15009	8514	33 Overige gezondheidszorgberoepen
	15018	330 Diëtist
	15021	330 Ergotherapeut
	15023	330 Fysiotherapeut
	15043	330 Logopedist
	15048	330 Mondhygiëniste
	15049	330 Oefentherapeut Cesar of Mensendieck
	15059	330 Podotherapeut
	15063	330 Psychotherapeut
	15080	330 Trombosedienst
	15082	330 Verloskundige
15010	8511/8512/8514/8532	34 Centra voor ambulante zorg
	15012	342 CAD (consultatiebureau voor alcohol en drugs)
	15006	345 Ambulancedienst
	15014	345 Consultatiebureau voor zuigelingen en kleuters
	15027	345 Gezondheidscentrum
	15060	345 Polikliniek
	15068	345 RIAGG (regionale instelling voor ambulance)
	15073	345 Sport medisch adviescentrum
	15039	349 Kraamcentrum
	15064	349 Regionale instelling voor beschermd wonen
15024	8515	35 Medische en diagnostische laboratoria
	15047	350 Medisch laboratorium
15025	8532	36 Thuiszorginstellingen
	15079	360 Thuiszorg organisatie
15026		39 Overige aanbieders van ambulante gezondheidszorg
	15086	390 Overige aanbieders van ambulante gezondheidszorg
15015	5231	41 Apothekers
	15008	410 Apotheker (officine)
15016	5248	42 Opticiens
	15054	420 Opticien
15017	5232	43 Leveranciers hoorapparaten
	15042	430 Leverancier hoorapparaten
15014	3310/5248	44 Overige medische apparaten detailhandel
	15019	440 Drogist
	15055	440 Orthopedisch schoenmaker
	15061	440 Prothesemaker
15018	3310/5211/5212/8514	49 Overige medische goederen detailhandel
	15057	490 Orthoptist
	15075	490 Supermarkt
	15077	490 Tandprotheticus
	15078	490 Tandtechnicus
15019	8514	50 Gemeentelijke gezondheidsdiensten
	15025	500 Gemeentelijke gezondheidsdienst
15020		61 Overheid
	15024	610 Gemeente
	15062	610 Provincie
	15069	610 Rijk
15021	7530	62 Ziekenfondsen
	15085	620 Ziekenfondsen
15023	6603	64 Particuliere ziektekostenverzekeraars

	15058	640 Particuliere ziektekostenverzekeraar
15022	7530/8515	69 Overig publieke gezondheidszorgorganisaties
	15003	690 Adviesorganen
	15033	690 Inspectie gezondheidsbescherming, waren
	15070	690 Rijksinstituut voor de volksgezondheid e
15012	8512	71 ARBO- en bedrijfsdiensten
	15009	710 ARBO- en bedrijfsgezondheidsdienst
15027		72 Gezinnen als aanbieders van gezondheidszorg
	15087	720 Gezinnen als aanbieders van gezondheidszorg
15013	8020/8030	79 Overige gezondheidszorgorganisaties
	15011	790 Beroepsopleidingen voor verpleegkundigen
	15022	790 Fondsen wervers
	15030	790 Industriële ondernemingen
	15052	790 Opleiding paramedische beroepen
	15053	790 Opleiding tot ziekenverzorgende
	15071	790 Speciale onderzoeksinstituten
	15074	790 Stichting Sanquine
	15081	790 Universiteit (medische faculteit)
15011		90 Rest van de wereld

4. RESULTS

Table A: ICHA-HP

According to Statistics Netherlands, a minimum total of approximately 1 million persons were involved in the health and social care sector. It's a minimum because not all categories were covered. These 1 million persons represent 665 thousands FTE in total, which is equivalent to 0.67 FTE per person.

Note: Statistics Netherlands could at this moment only deliver manpower data for jobs of employees per HP-code for a limited number of HP-codes. The limitation of HP-codes could not be overcome. To include self employed persons in the table below, an estimate was made by NIVEL using the RAZW. The RAZW was also used to get an estimate of the total number of FTE per HP-code.

Table 34: Employment and Expenditures by Actor group – Netherlands, 2000

Actor-group	HP-Code	Name	Employment (in Thsd.)	FTE (in Thsd.)	Expenditure (in Mio. €)
15000	HP1.1	General hospitals	207.4	148.5	9,411
15001	HP1.2	Mental health and substance abuse hospitals	43.3	32.1	2,302
15002	HP1.3	Speciality (other than mental health and subst. abuse) hospitals	11.9	7.7	496
15003	HP2.1	Nursing care facilities	111.6	74.8	3,242
15004	HP2.2	Res. mental retardation, mental health and substance abuse facilities	94.4	51.3	2,892
15005	HP2.3	Community care facilities for the elderly	100.8	60.3	2,982
15006	HP2.9	All other residential care facilities	x	x	81
15007	HP3.1	Offices of physicians	33.4	26.4	2,875
15008	HP3.2	Offices of dentists	18.3	13.5	1,337
15009	HP3.3	Offices of other health care services	29.9	22.6	1,616
15010	HP3.4	Out-Patient care centres	30.6	22.5	1,049
15024	HP3.5	Medical and diagnostic laboratories	8.4	6.3	176
15025	HP3.6	Providers of home health care services	111.4	58.5	2,425
15026	HP3.9	Other providers of ambulatory health care	2.3	1.7	316
15015	HP4.1	Dispensing chemists	19.5	15.0	3,513
15016	HP4.2	Retail sale and other suppliers of optical glasses and other vision pr.	7.0	5.6	728
15017	HP4.3	Retail sale and other suppliers of hearing aids	x	x	x
15014	HP4.4	Retail sale and other s. of med. appliances (o.t. opt. gl. and h. aids)	x	x	523
15018	HP4.9	All other misc. sale and other suppliers of pharm. and med. goods	24.3	19.4	996
15019	HP5	Provision and administration of public health programmes	11.5	9.2	505
15020	HP6.1	Government administration of health	x	x	172
15021	HP6.2	Social security funds	13.7	11.0	650
15023	HP6.3	Other social insurance	x	x	705
15022	HP6.9	All other providers of health administration	x	x	-
15012	HP7.1	Establishments as providers of occupational health care services	10.4	8.3	789
15027	HP7.2	Private households as providers of home care	x	x	124
15013	HP7.9	All other industries as secondary producers of health care	x	x	177
15011	HP9	Rest of the world	x	x	209
Sum			890.2	594.6	40,291

x = unknown

Source: CBS, Survey on employment and earnings (for employees); RAZW, adapted by NIVEL (for self-employed persons).

Table B: Health Professions

From the RAZW (Table 35), it can be estimated that 66.1% of all the jobs in the hospital sector (HP 1) are performed by people with a health profession and 33.9% of all the jobs are performed by non-health professions. Within the “nursing and residential care facilities” (HP 2), 79.7% of all the jobs are performed by health professions and 20.3% by non-health professions. For HP 3, the ambulatory sector, the percentage of health professions is 83.8% and 16.3% of the jobs in this sector are performed by non-health professions.

Table 35: Percentage Health professions and Non-health professions per ICHA-HP category

Manpower in the Netherlands per ICHA-HP category in the year 2000: JOB COUNTS		Health profes- sionals	Non-health profes- sionals
TOTAL		76.2%	23.8%
HP1	Hospitals	66.1%	33.9%
HP1.1	General hospitals	64.2%	35.8%
HP1.2	Mental health and substance abuse hospitals	73.7%	26.3%
HP1.3	Speciality (other than mental health and subst. abuse) hospitals	66.3%	33.7%
HP2	Nursing and residential care facilities	79.7%	20.3%
HP2.1	Nursing care facilities	67.9%	32.1%
HP2.2	Res. mental retardation, mental health and substance abuse facilities	83.5%	16.5%
HP2.3	Community care facilities for the elderly	90.0%	10.0%
HP2.9	All other residential care facilities	83.3%	16.7%
HP3	Providers of ambulatory health care	83.8%	16.2%
HP3.1	Offices of physicians	96.9%	3.1%
HP3.2	Offices of dentists	44.4%	55.6%
HP3.3	Offices of other health care services	100.0%	0.0%
HP3.4	Out-Patient care centres	x	x
HP3.5	Medical and diagnostic laboratories	74.8%	25.2%
HP3.6	Providers of home health care services	84.2%	15.8%
HP3.9	Other providers of ambulatory health care	79.3%	20.7%
HP4	Retail sale and other providers of medical goods	91.9%	8.1%
HP4.1	Dispensing chemists	91.9%	8.1%
HP4.2	Retail sale and other suppliers of optical glasses and other vision pr.	x	x
HP4.3	Retail sale and other suppliers of hearing aids	x	x
HP4.4	Retail sale and other s. of med. appliances (o.t. opt. gl. and h. aids)	x	x
HP4.9	All other misc. sale and other suppliers of pharm. and medical goods	x	x
HP5	Provision and administration of public health programmes	x	x
HP6	Health administration and insurance	x	x
HP7	Other industries (rest of the economy)	x	x
HP9	Rest of the world	x	x

x = unknown

Source: RAZW; 2000, adapted by NIVEL.

When the group of health professions is further divided by type of health professional (see Table 32), it can be seen that 6.5% of all jobs in the health care sector are filled by medical professions, 6.0% are performed by paramedical professions, 43.0% are nurses and 20.9% are other health professions.

Table 36: Percentage Medical professions, Paramedical professions, Nurses and Other health professions per ICHA-HP category

Manpower in the Netherlands per ICHA-HP category in the year 2000: JOB COUNTS		Medical profes- sionals	Para- medical profes- sionals	Nurses	Other health profes- sionals
TOTAL		6.5%	6.0%	43.0%	20.9%
HP1	Hospitals	6.7%	8.1%	38.1%	13.3%
HP1.1	General hospitals	5.8%	10.0%	37.8%	10.6%
HP1.2	Mental health and substance abuse hospitals	10.3%	0.5%	41.2%	21.7%
HP1.3	Speciality (other than mental health and subst. abuse) hospitals	6.3%	6.8%	31.0%	22.2%
HP2	Nursing and residential care facilities	0.6%	0.3%	48.7%	30.1%
HP2.1	Nursing care facilities	1.7%	0.9%	56.9%	8.4%
HP2.2	Res. mental retardation, mental health and substance abuse facilities	0.0%	0.0%	31.4%	52.1%
HP2.3	Community care facilities for the elderly	0.0%	0.0%	56.5%	33.5%
HP2.9	All other residential care facilities	0.0%	0.1%	73.2%	10.0%
HP3	Providers of ambulatory health care	14.4%	12.4%	44.2%	12.8%
HP3.1	Offices of physicians	59.9%	0.0%	1.3%	35.7%
HP3.2	Offices of dentists	38.3%	6.2%	0.0%	0.0%
HP3.3	Offices of other health care services	5.1%	81.7%	13.3%	0.0%
HP3.4	Out-Patient care centres	x	x	x	x
HP3.5	Medical and diagnostic laboratories	6.9%	0.0%	11.6%	56.3%
HP3.6	Providers of home health care services	0.9%	0.4%	73.8%	9.1%
HP3.9	Other providers of ambulatory health care	13.4%	0.1%	32.3%	33.5%
HP4	Retail sale and other providers of medical goods	18.8%	0.0%	0.0%	73.0%
HP4.1	Dispensing chemists	18.8%	0.0%	0.0%	73.0%
HP4.2	Retail sale and other suppliers of optical glasses and other vision pr.	x	x	x	x
HP4.3	Retail sale and other suppliers of hearing aids	x	x	x	x
HP4.4	Retail sale and other s. of med. appliances (o.t. opt. gl. and h. aids)	x	x	x	x
HP4.9	All other misc. sale and other suppliers of pharm. and medical goods	x	x	x	x
HP5	Provision and administration of public health programmes	x	x	x	x
HP6	Health administration and insurance	x	x	x	x
HP7	Other industries (rest of the economy)	x	x	x	x
HP9	Rest of the world	x	x	x	x

x = unknown

Source: RAZW; 2000, adapted by NIVEL.

ANNEX: LINK BETWEEN ICHA-HP AND NATIONAL ACTORS

ActorID	HP-Code	LocActor	EngActor	NACE	Comment
15002	110	Academisch ziekenhuis	University hospital	85.11	
15005	110	Algemeen ziekenhuis	General hospital	85.11	Data on general hospitals cover the greater part of, but not the entire group 85.11.
15004	120	Algemeen psychiatrisch ziekenhuis	General psychiatric hospital	85.11	
15036	120	Kinderen- en jeugdpsychiatrisch ziekenhuis	Juvenile psychiatric clinic	85.11	
15038	120	Kliniek voor verslavingsziekten	Addiction clinic	85.11	Out of 20 addiction clinics in 2000 17 were part of an integrated institution. Figures on employment in addiction clinics will cover also the extramural centres for alcohol and drug abuse.
15001	130	Abortuskliniek	Abortion clinic	85.12	The abortion clinics are only a very small part of NACE 85.12 Medical Practices.
15010	130	Astmakliniek	Asthma clinic	85.11	Of the 5 asthma clinics 3 offer also a variety of other medical specialist services. Employment data only available of all specialised hospitals.
15013	130	Categoriaal ziekenhuis	Specialised hospital	85.11	Specialised hospitals cover a modest part of the NACE group 85.11
15020	130	Epilepsiekliniek	Epilepsy clinic	85.11	
15028	130	Herstellingsoord	Short term recovery home	85.11	All short term recovery homes [herstellingssoorten] are since 1996 part of a psychiatric hospital, except one. That one is part of an integrated mental health care institution.
15031	130	Inrichting voor psychisch gestoorde delinquenten	Forensic psychiatric clinic	85.11	
15035	130	Kankerkliniek	Oncological clinic	85.11	
15037	130	Kinderziekenhuis	Paediatric hospital		
15040	130	Kraaminrichting	Maternity home	85.11.3	By 1998 there were no more specialised paediatric hospitals in the Netherlands.
					'Kraaminrichtingen' (maternity homes) are not mentioned in the Dutch national Standard Industrial Classification. No source for employment data is known to me. These are not maternity clinics, which are specialised hospitals.
15041	130	Kraamkliniek	Maternity clinic	85.11	By 1999 there were no more independent maternity hospitals (specialised hospitals).
15044	130	Longkliniek/Sanatorium	Lung clinic/sanatorium	85.11	Sanatoria (for tuberculosis patients) / lung clinics are almost

ActorID	HP-Code	LocActor	EngActor	NACE	Comment	
15045	130	Medisch kindertehuis	Medical children's home	8511.4	all part of a specialised hospital with other specialisations as well. It is not possible to compute figures for the functions 'lung clinic-sanatorium'.	
15050	130	Oncologisch radiotherapeutisch centrum	Oncological therapeutic centre	8515		
15051	130	Oogziekenhuis	Ophthalmic hospital	8511		
15056	130	Orthopedische kliniek	Orthopaedic clinic	8511		
15065	130	Reumakliniek	Rheuma Clinic	8511		
15066	130	Revalidatiedagbehandelingscentrum	Rehabilitation day centre	8511		
15067	130	Revalidatiekliniek	Rehabilitation clinic	8511	Most rehabilitation day centres are part of general or university hospitals or of rehabilitation clinics. Apart from these there are some 5 or 6 independent rehabilitation day centres. The VRIN may have some data on employment in these day centres	
15083	210	Verpleeghuizen	Nursing home	85.31		
15016	220	Dagverblijf voor gehandicapten	Day centre for the physically disabled	8532		latest regular statistics cover 1996.
15017	220	Dagverblijf voor verstandelijk gehandicapten	Day centre for the mentally weak	8532		latest regular statistics refer to 1996
15034	220	Instelling voor verstandelijk gehandicapten	Institute for the mentally weak	8531		
15015	230	Dagverblijf voor bejaarden	Day centre for the elderly	85.31		
15084	230	Verzorgingshuis	Home for the elderly			
15026	290	Gezinsvervangend tehuis	Family replacement home	8531		
15032	290	Inrichting voor zintuiglijk gehandicapten	Institute for the sensorially handicapped			
15046	290	Medisch kleuterdagverblijf	Nursery for toddlers under medical super	8512		
15007	310	Apotheekhoudend huisarts	Dispensing general practitioner	85.12	Definition is defective: no mention of the pharmacy of the general practitioners.	
15029	310	Huisarts	General practitioner	85.12		
15072	310	Specialist	Medical specialist	8512		
15076	320	Tandarts	Dentist	85.13		

ActorID	HP-Code	LocActor	EngActor	NACE	Comment
15018	330 Dieëtist		Dietician	85.14	Most dieticians work as employees in various types of institutions, and there are probably few independent dietician practices. Try via the ABR (Algemeen Bedrijfs Register; General Register of Enterprises) and LoonStructuurOnderzoek.
15021	330 Ergotherapeut		Ergotherapist	85.14	Most ergotherapists work as employees in various types of institutions. Probably there are very few independent ergotherapy practices. Try via the ABR.
15023	330 Fysiotherapeut		Physiotherapist		
15043	330 Logopedist		Speech therapist	8514	
15048	330 Mondhygiëniste		Dental hygienist	8514	
15049	330 Oefentherapeut Cesar of Mensendieck		Movement therapist Cesar or Mensendieck	8514	
15059	330 Podotherapeut		Podotherapist	8514	
15063	330 Psychotherapeut		Psychotherapist	85.12	
15080	330 Trombosedienst		Thrombosis service	8514	
15082	330 Verloskundige		Midwife	85.14	
15012	342 CAD (consultatiebureau voor alcohol en drugs)		CAD (Centre for Alcohol and Drug Abuse)	85.14	The health centres for alcohol and drugs abuse are part of the ambulatory mental health care institutions and a small part of all "Other institutions of health care" NACE 85.14
15006	345 Ambulancedienst		Ambulance service	8514	Ambulance services are only a small part of this group.
15014	345 Consultatiebureau voor zuigelingen en kleuters		Consultation Bureau for babies and toddlers	85.32	Health centres for infants and toddlers are not independent organizations but part of the institutions for domiciliary health and social services.
15027	345 Gezondheidscentrum		Health centre	8514	Health centres are multidisciplinary. See the definition.
15060	345 Polikliniek		Out-patient department	8511	Out-patient departments are almost always part of a hospital or other in-patient institution, and employment data of institutions cannot be differentiated. Another question is whether the so-called "privé-klinieken" in the Netherlands should be brought under this head. At present there are no data on these private specialist practices outside the established hospitals.
15068	345 RIAGG (regionale instelling voor ambulance)		RIAGG (Regional Institute for ambulatory	85.12	
15073	345 Sport medisch adviescentrum		Medical sport examination and		

ActorID	HP-Code	LocActor	EngActor	NACE	Comment
15039	349	Kraamcentrum	advice bureau Maternity centre	8532	The maternity centres are part of the Institutions for domiciliary health and social services (thuiszorg). Though there are some specialised professions in this field, notably the Maternity welfare workers and maternity welfare workers in training [(eerling]kraamverzorgsters], it is probably not possible to compile data that take account of general and managerial functions in this field.
15064	349	Regionale instelling voor beschermd wonen	Regional institution for sheltered dwell	8511	
15047	350	Medisch laboratorium	Medical laboratory	8515	Many medical laboratories are part of larger organizations: hospitals, universities, RIVM [National Institute of Public Health and the Environment], etc. For independent institutions, search via ABR [General Register of Enterprises].
15079	360	Thuiszorg organisatie	Organisation for district nursing and home health care	85.32	
15008	410	Apothekers	Dispensing chemists	52.31	
15054	420	Opticien	Optician	5248	
15042	430	Leverancier hoorapparaten	Hearing aid shop	5232	Via ABR deze winkels / praktijken identificeren, ook via SBI 8515.4 Audiologische centra e.d.
15019	440	Drogist	Druggist		
15055	440	Orthopedisch schoenmaker	Orthopaedic shoemaker	3310	The orthopaedic shoemakers cover only a small part of the subclass 3310 of ISIC
15061	440	Prothesemaker	Prosthetics shop	3310	The prothetist shops are only a small part of this ISIC group.
15057	490	Orthoptist	Orthoptist	8514	
15075	490	Supermarkt	Supermarket	5211,5 212	
15077	490	Tandprotheticus	Dental prosthetics	85.14	Dental prothetists should be classified in NACE under 85.14. They do not only make the dental prostheses (group 33.10) but place these in the patients' mouths. They have direct contact with the patients, therefore a paramedical profession.
15078	490	Tandtechnicus	Dental technician	33.10	
15025	500	Gemeentelijke gezondheidsdienst	Municipal health service	85.14	

ActorID	HP-Code	LocActor	EngActor	NACE	Comment
15024	610	Gemeente	Municipality		The role of the municipality regarding health care is the role of the municipal health service. No separate role, except as financier.
15062	610	Provincie	Province		
15069	610	Rijk	State		
15085	620	Ziektefondsen	Sickness Funds	75.30	
15058	640	Particuliere ziektekostenverzekeraar	Private health care insurer	66.03	
15003	690	Adviesorganen	Advisory bodies	7530, 8515	Both compulsory and not-compulsory advisory bodies
15033	690	Inspectie gezondheidsbescherming, waren	Inspectorate for health protection		
15070	690	Rijksinstituut voor de volksgezondheid	State Institute for Public Health and En		
15009	710	ARBO- en bedrijfsgezondheidsdienst	Occupational health service	85.14 ?	under NACE 85.14 or 85.12 ?
15011	790	Beroepsopleidingen voor verpleegkundigen	Training and education of nurses	80.22, 80.	Training and education of nurses takes place in senior vocational training schools and vocational colleges that provide training and education for other professions as well.
15022	790	Fondsen wervers	Fund raising organisations		
15030	790	Industriële ondernemingen	Business enterprises		
15052	790	Opleiding paramedische beroepen	School for paramedical professions	8030	Training and education for paramedical professions takes place in vocational colleges that provide training and education for other professions as well.
15053	790	Opleiding tot ziekenverzorgende	School for nursing aids	8022	Training and education of assistant nurses takes place in (senior) vocational training schools that provide training and education for other professions as well.
15071	790	Speciale onderzoeksinstituten	Special research institutes		
15074	790	Stichting Sanquine	Sanquine Foundation		
15081	790	Universiteit (medische faculteit)	University (medical faculty)	80.30	Sources originating from the universities and faculties should also be consulted.

ANNEX A: MINUTES

RESULTS OF THE KICK-OFF-MEETING: LEUVEN: MARCH 19, 2003

Place: Novotel Leuven – Room Verrusalem
Time: 10.15-16.00

Participants

Jozef Pacolet (HIVA), Griet Cattaert (HIVA), Lud van der Velden (NIVEL), Wiemke Boerma (NIVEL), Cor van Mosseveld (Core Group Care), Markus Schneider (BASYS), Séverine Jumel (BASYS). Were excused: Lammert Hingstman (NIVEL) and Peter van Son (External Expert).

Introduction

Background information

All project meetings have to be co-ordinated with the Core Group Care of EUROSTAT. The Core Group Care is composed of country representatives nominated from five Member States and one applicant country. Their role is to look at the methodology of the project and give guidelines.

Links to other projects

- *CCP project*: Cor van Mosseveld remembered of the project on the Comparability of Health Care Expenditure in the EU conducted by CBS, which included NL, F, B, D, CH and DK. At that time there was no data comparable across the EU. This was made possible by taking the providers of health care, deriving their activity and then link them to the various actors. The employment matter was included in that study but the priority went to the question of expenditure.
- *System of Health Accounts*: An explicit structure of functions of health activities is contained in the SHA Manual published in 2000 by the OECD, which links health expenditures on Functions (HC) to Providers (HP). The functions are the comparable linking factor. At the stage of providers, a comparison will never be possible. The activities have to be aggregated to functions. Several EU Member States are already using SHA and some plan to do it in the very next future. The goal to be reached is the use of SHA in all MS by 2003 but 2005 is more realistic.
- *EUCOMP*: The third project is the EUROSTAT project giving a very promising background information on all Health Care Systems of the 15 EU MS (except Belgium) + Norway and Iceland. The BLAISE software programme has been implemented by CBS to collect the required statistical data. EUCOMP II has been running since October 2002. There is an internet application complying with the European rules giving the activities performed by the health care

providers. The information given is qualitative and not quantitative. Unlike the actors names, which are translated into all EU languages, the actors descriptions are only available in English and the national language.

Expectations from EUROSTAT

The present project continues work of the project *Human Resources of European Health Systems* (Report from December 2001), which provided for 10 countries meta data on the sources available for manpower in the health sector.

The project aims at completing the first study while checking and completing the sources as well as developing health labour accounts on a pilot basis. As EUROSTAT is required by law to deliver health data and those are most incomplete, the project should give some recommendations for those routine data. Two matrices will be required as follows:

Table 37: Classification of manpower by providers and professions

Providers	Health Professions	Non Health Professions	Total
HP.1			
HP.2			
HP.3			
HP.4			
HP.5			
HP.6			
HP.7			

Table 38: Classification of manpower by functions and professions

Functions	Health Professions	Non Health Professions	Total
HC.1			
HC.2			
HC.3			
HC.4			
HC.5			
HC.6			
HC.7			
HC.R.1			

For these tables, a definition of what is considered health and non-health professions by the various MS will have to be defined. Also the job contents will have to be compared across the MS. The project will start at different levels:

- Health Labour Accounts: Development of a draft bases on the experience in Germany, Netherlands and Belgium
- Completeness of Meta-Data on Health manpower Statistics: Prove completeness in a first step by linking results of the first project to
- Activities of health professions: Doctors and nurses. Meta-information on what is performed by the professions will have to be collected. The starting point for

the description of professional activities could be the data collected by HIVA on nurses and by NIVEL on primary care doctors.

EUROSTAT also expects that indicators on health manpower to be calculated.

The general framework is defined by SHA. However, one can partly stick to National Accounts for the providers but not for the functions. On a general point of view, there are some doubts on the validity of the National Accounts Data.

Conclusions

A work plan made on the basis of the Terms of References has to be modified as it has been decided to begin with a comparison of three countries (D, NL and B) and then to make a proposal and collect information for the other MS. This proposal needs to be feasible within the next three years, according to the Core Group's request. Real data will have to be collected and the Labour Accounts will have to be reorganised to be able to report data to EUROSTAT.

Furthermore, some guidelines will have to be supplied to explain the two above tables, containing data collection, footnotes, sources and restrictions.

Steps to go:

- Look at the data in HCP project (Step 1.1: Evaluation of the existing statistical data and meta information in MS with respect to completeness, consistency and SHA compliance based on "Human Resources of European Health Systems")
- Exchange information (Step 1.2: Concept for the selection of the samples by evaluating the data quality and comparability)
- Make a clear documentation

Involvement of Member States:

On the workshop with MS should be decided after the discussion of the conceptual paper in the Core Group meeting.

Next Activities of the participants:

- BASYS will send by the end of the first week of April a structure of a country report (headlines) as well as information from *HCP* and *EUCOMP* to the participants. The country reports should include the matrices by end of May 2003.
- BASYS will send what has been already filled in for Germany and the Netherlands in the frame of the EUROSTAT project *Statistical Analysis and reporting of data on Health Accounts* to the participants.
- BASYS will send information on SHA to NIVEL.
- Cor van Mosseveld agreed to make a list of actors from EUCOMP.
- NIVEL and Cor van Mosseveld will get in touch for professions.
- Find a way for NIVEL to get a SHA Manual and access to New Chronos.

The participants agreed to postpone the workshop.

Problem with the ISCO-Classification to get a transfer to usable categories.
Look for associations to get data.

Contracts

A floppy disk has been distributed to the participants. Furthermore, a copy of the detailed financial proposal will be sent to the participants.

Meeting

It has been agreed to meet again on Saturday, 28 June 2003 in Augsburg to discuss first results and further steps. But maybe a telephone conference would be enough.

RESULTS OF THE 2ND MEETING: AUGSBURG: JUNE 28, 2003

Place: BASYS, Reisingerstr. 25, 2003

Time: 9.00-17.00

Participants: Jozef Pacolet (HIVA), Lud van der Velden (NIVEL), Cor van Mosseveld (Core Group Care), Markus Schneider (BASYS), Aynur Köse (BASYS), Uwe Hofmann (BASYS), Peter Biene (BASYS).

Introduction

Markus Schneider informed that Alexandra Burgio, Member of the Core Group, could not participate in the project meeting. The Core Group Care decided that she will monitor the project together with Cor van Mosseveld.

1. First Results of Health Labour Accounts in the three MS: Belgium, Germany, The Netherlands

The three institutes informed about the first results of HLA for three MS. It was agreed the HLA is feasible, if HLA will concentrate on the main aggregates for the different actors: Jobs, FTEs, Health professions, Non Health professions. The further dimensions as gender, age, type of professions and activities of professions would be certainly very useful, but these categories are not “essential” in a first step to build up the system and should therefore be added in an further step.

2. Setting up a database for all MS: Present status and further involvement of MS

Peter Biene presented a HLA database which links the results of the predecessors project to the results of EUCOMP I. The participants proposed

- to extend this database with respect to professions and
- to collect data on the level of actor groups which is between the actors of EUCOMP and the 1-digit classification of SHA,
- to collect data in co-ordination with expenditures in order to have consistent figures of between SHA and HLA. This criteria means that the aggregation level has to be determined in co-ordination with the compilation of SHA,
- to concentrate on the number of jobs, FTEs, health-professions and non-health professions.

3. Indicators

The discussion of indicators was postponed until the interim report of the project *“Development of a Methodology for Collection and Analysis of Data on Efficiency and Effectiveness in Health Care Provision”* is available.

4. Interim Report

It was agreed to present an interim report latest September 15, 2003 to Members of the Core Group CARE.

5. Next steps

Before sending out any questionnaire to the Member States the co-ordination of the update of the actors list of EUCOMP and the interfaces has to be clarified.

RESULTS OF THE CARBERRY MEETING: EDINBURGH, AUGUST 25-27, 2004

Designing and implementing a Minimum Data Set for SHA/HLA
Carberry Tower, Musselburgh, Edinburgh, August 25-27, 2004

Report of the meeting

The agenda, the presentation slides for each speaker, and papers tabled for discussion are included in the zip file *Carberry.zip*.

Wednesday evening session

Markus Schneider opened the meeting and introduced the agenda (*Carberry agenda.doc*).

Gunter Bruckner (See *Bruckner Carberry.ppt*)

Gunter described the general context for this work. He described the development of health policy at the European level and the effect this is having on demand for internationally comparable health statistics.

Alessandra Burgio (See *Burgio Carberry.ppt*)

Alessandra described Eurostat's Partnership on health: how this was organised between 1997 and 2002, and the form it has taken from 2003 onwards.

Raymond Wagener, Laurence Weber (See *Wagener Carberry.ppt*)

Raymond and Laurence described the Luxembourg approach to compiling SHA, and how SHA relates to other data and information on social protection in Luxembourg.

Markus Schneider (See *Schneider I Carberry.ppt*)

Markus described the objectives for the meeting. These were to familiarise ourselves with the SHA Minimum Data Set and Health Labour Account projects; to discuss the purpose of and hence definition of an MDS for SHA and HLA data; the main elements of this data set; how it should be implemented; and the feasibility of using actors as the statistical focal point.

Thursday morning session

Valérie Paris, Marian Craig (See *Craig Paris Carberry.ppt*)

Valérie and Marian described the work done to date in the Eurostat grant-financed project “Defining a Minimum Data Set and Related Indicators for Use with System of Health Accounts in the European Union.” They presented definitions of four dimensions for assessing health system performance (sustainability, efficiency, effectiveness and equity); and the selection of indicators related to these dimensions, for immediate compilation, and for compilation in the medium term, following further work to specify them or establish data availability.

Markus Schneider (See *Schneider Carberry II.ppt*)

Markus presented a test data set for nine indicators from the proposed MDS for SHA. The data were for six MS i.e. those MS at a relatively advanced stage in implementing SHA: Denmark, Finland, Germany, Netherlands, Spain and the UK. He discussed how examining the values of these indicators can help to improve the comparability of SHA and related data, by increasing our understanding of the reasons for any variation.

Manfred Huber (See *Huber Carberry.ppt*)

Manfred described the health information planning and decision making process in OECD; proposals for future work on health data and indicators; member countries’ priorities for future health data work; ministerial endorsement and ways to strengthen international co-operation in this area.

Thursday afternoon session

Ole Henriksen (See *Henriksen Carberry.ppt*)

Ole discussed the types of indicators which would require data on public and private revenues of health care providers, and the availability of this data in Denmark. For some equity and some sustainability indicators information on the public/private revenue mix is needed.

Ciara O’Shea (See *EJPHarticle.pdf, coverage.doc*)

Ciara described the first Hospital Data Project which was financed by DG SANCO and ended earlier this year: the variables for which data were collected and the software used to organise and analyse the data and the kinds of analyses which may be performed using it. She described the second Hospital Data Project which will be funded from DG SANCO’s 2004 work programme.

Michael Cordes (See *Cordes Carberry.ppt*)

Michael discussed the German approach to linking SHA, HLA and Cost-of-Illness accounts. He showed that the HLA in Germany is organised around a five dimensional system for recording of health care personnel (headcounts and FTE) by age, gender, professions, providers and type of occupation. SHA, HLA and Cost of Illness are linked via health care providers.

Lunch

Cor van Mosseveld (See *van Mosseveld Carberry.ppt*)

Cor outlined an approach to linking SHA and HLA using actors. He emphasised that linking actor information in SHA and actor information in HLA will improve the consistency of data between these two types of health accounts, and in relation to SNA.

Jozef Pacolet and Annick Peetermans (See *Peetermans Pacolet Carberry.ppt*)

Jef and Annick spoke on the history of SHA and HLA in Belgium and on the functionality of EUCOMP for Belgium, and presented a preliminary and partial set of Health Labour Accounts for Belgium. They concluded with suggestions for how to improve the acceptability of Health Labour Accounts based on EUCOMP actors within Belgium, and on how to improve comparability with other countries.

Dirk Moens followed with comments from the perspective of the Belgian Federal Ministry of Social Affairs. He said that it was clear that new information instruments were needed to develop efficient and effective health policy. However at present in the Ministry of Social Affairs there is no systematic use of or interest in SHA data. This may change given the interest in health indicators being taken by the Social Protection Committee of the EU, and the deliberations of the EC's High-level Group on Health Services.

Lud van der Velden (See *Velden Carberry.ppt*)

Lud's presentation addressed the Netherlands approach to compiling Health Labour Accounts, as described in the BASYS, HIVA, NIVEL report on implementing the concept of health manpower in Member States (see papers tabled at the meeting).

John Dieteren and Erwin Lambrix (See *Lambrix Dieteren Carberry.ppt*)

John and Erwin described their work to develop software for operationalising EUCOMP, based on an approach called Capability Maturity Model Integration.

Gavin Wallis (See *Wallis Carberry.ppt*)

Gavin discussed the issue of how to make international comparisons of health sector productivity and how international comparisons of whole economy productivity might be instructive here.

Olli Nylander (See *Nylander Carberry.ppt*)

Olli spoke on the Finnish experience of working with health system performance indicators from the user point of view, and presented the Finnish system of key indicators for needs assessment at the local level.

Final session Thursday

Markus described the objectives for the work in groups the following morning.

Friday

Working Group A – SHA

Chairperson: Eva Orosz, Rapporteur: Isabel Quintela

Issues for discussion

1. Which items should be included in the MDS for SHA?
2. Which items should be included in the provider and actor-based section of an MDS?
For example:
 - actors related to HP codesHealth turnover/non-health turnover/HC expenditure
Revenue (public/private)
Manpower, FTEs, health professions
Data sources
Compilations, transitional matrices.
3. Which items should be included in the financing agent and actor-based section of an MDS? For example:

Actors related to HF codes (already in EUCOMP)
HC expenditure, HP expenditure
Revenue of financing agencies
Data sources
Compilations, transitional matrices.

4. Which sources may be exploited to develop statistics on private health expenditure?

For example:

Special household survey
Health business survey
Others.

Report from rapporteur

The main conclusions reached by Group A in terms of recommendations/proposals for the content of a Minimum Data Set are as follows:

Minimum tables to be provided from SHA:

Function X Provider

Provider X Financer

Function X Financer

Recommendations on the provision of data at the level of classifications:

Classification of financers at the first digit level, but the payments “out-of-pocket” (by households) must be shown separately.

Functional classification should be supplied at a two-digit level.

Data for providers should be supplied at the first digit of the classification for providers.

However it is strongly recommended to use the 2-digit level whenever possible.

The introduction of a dimension public/private mix is highly recommended.

Concerning the sources, the group considered the sources insufficient in some basic respects for both private and non-profit entities. More sources are needed and it is important to make politicians more aware of the importance of providing resources in this area.

In terms of data concerning actors, the group considered that all actors are needed.

Concerning health turnover/non-health turnover/HC expenditure it is proposed to include:

- Sales + transfers + taxes + subsidies;
- Fiscal expenditure;
- For revenues, similar to turnover.

Concerning manpower no proposal was made given that another working group was focusing on this issue.

With regard to data sources, the group did not propose any specific data sources given that each country has its own sources. The group understood that it should propose a set

of minimum data sources. However it was explained later that the group should consider whether information on data sources used should be reported. Although the group did not discuss the issue from this perspective, the rapporteur considers that countries should explain the sources they use in a report. This is already done in other areas. It should be noted that this is the personal opinion of the rapporteur.

Compilation should refer to the following:

- SHA Handbook;
- Guidelines;
- The Producer Guide;
- Eucomp;
- "Common sense".

It is proposed to provide transitional matrices for:

- Public and private financers;
- Public and private providers;
- For each public and private provider: breakdown for market and non-market.

It should be stressed that not all countries may agree to provide transitional matrices.

Working Group B - HLA

Chairperson: Lud van der Velden: Rapporteur: Marianne Scholl

Issues for discussion

Which items should be included in the MDS for HLA? For example:

- Actors related to HP codes (already in EUCOMP)
- Health turnover/non-health turnover/HC expenditure
- Revenue (public/private)
- Job count, FTEs, health professions
- Data sources
- Compilations, transitional matrices.

What sources should be investigated to further develop statistics on health professions?
For example:

- Health professional statistics
- ISCO - social insurance statistics
- Special health Labour Force Survey
- Unemployment statistics
- Health business survey
- Data on professional mobility.

Report from rapporteur

The countries represented in this group were the Netherlands, Spain, Sweden, Luxembourg, Italy, Poland and Belgium. It was clear from a brief description by the representatives of the stage of implementation of both SHA and HLA that this varies substantially between countries, but that the political problem of obtaining resources for this work is common to all. We were clear that the MDS is essentially a tool for producing statistics from which indicators at the central level may be generated; and that the MDS should not be overburdened with data readily available in other places, for example GDP data. Another important function of the MDS is to enable countries to assess where they have important gaps in the information needed for health system performance assessment.

The MDS should be a data set, not an indicator set. It should therefore contain the data needed to compile the indicators, but not additional non-SHA data.

The MDS should contain raw data and the rules to compile these data. So, the group did not prefer having only the compiled data of the SHA table 10 in the MDS, but to have the background information too in order to be able to understand the assumptions and the data used.

This group did not consider improving data on the public/private expenditure breakdown to be a priority.

Working Group C – MDS

Chairperson: Raymond Wagener. Rapporteur: Valérie Paris

Issues for discussion

Are actors the best statistical focal point?

Which items should be included in the MDS for SHA? See questions for Working Group B.

What statistical tools must be developed to improve the comparability of items in the MDS?

What tools should be developed to facilitate the collection of data for an MDS?

Report from rapporteur

The discussion aimed to clarify several points: What is an actor? What does “the statistical focal point” mean? And what is “the Minimum Data Set”?

We reached two sets of conclusions.

How should we collect data used for SHA and HLA in each member state?

Raymond specified that this question came from the Member States, and not from Eurostat attempting to impose methods on MS.

There was some confusion about the notion of “actor”. The table presented on page 84 in the HLA draft report shows the correspondences between the NACE classification, the “actor” classification and “group of actors” classification. There needs to be clearer and more widespread understanding of the concept “actor” before further productive discussion.

So, the issue seems to be more “what is the appropriate level to collect data?” than the creation of a new classification. EUCOMP can be used for that purpose.

Finally, we clarified the nature of the following question but we did not come up with an answer.

What is the Minimum Data Set?

We first reminded all participants of the original existence of two separate projects funded by Eurostat: (1) “To evaluate the demand for a Minimum Data Set extracted from SHA” and (2) “To establish a set of indicators to evaluate the performance of health systems”. It is clear that the second set of indicators needs data that are not part of SHA. These two projects were merged into one single project, which proposes a set of indicators.

There are many actual and potential data sets which enable the compilation of indicators and we have to state clearly the specificity of this one, and to find a significant name. Someone suggested that this set could be the data set which, when used to compile indicators, brings SHA to life.

We then discussed the need for complementary information, accompanying the set of indicators, to make them understandable to policy-makers. The presentation of raw data and very precise meta data about each source in each country does not seem to be the best solution.

It could be more appropriate to present: (1) A precise definition of each indicator, and (2) experts’ comments about the essential information required to analyse and interpret data. But this solution may not be so appropriate for data produced on a very regular basis.

Concluding discussion

It is vital to market work on SHA, in order to demonstrate its policy relevance. This is particularly important given that those working on SHA are not close to the health policy makers. Politicians are unaware of the effort required to produce SHA. There are two main steps in communicating information from SHA: informing and then interpreting. The latter is more difficult. Politicians' timescales are much shorter than those required to produce SHA data. The biggest demand for health expenditure data in the UK is for the Treasury forecast of the GDP ratio. The National Accounting approach leads to a search for a magic number. This exists for health – presumably proportion of GDP spent on health – but despite the interest in this number, the level of resources required to produce accurate estimates of this is not well understood.

Eurostat is working to turn SHA data into policy-relevant information at the EU level. The 25 MS are also doing this. We need to decide what kind of support Eurostat should provide to ease the migration of data and information from MS to the centre. Hence the idea of a Minimum Data Set - to facilitate this process. Eurostat would like a clear indication from MS as to whether they would like such support, for example in the form of an IT solution. It is clear from the discussion at this meeting that knowledge of EUCOMP is less widespread than some of us assumed.

A major area for future work is that of relating health account data to health risks, and making SHA data more accessible to users e.g. policy makers.

In taking forward the idea of a Minimum Data Set for reconciling, interpreting and communicating data from the System of Health Accounts we need to define the following terms clearly:

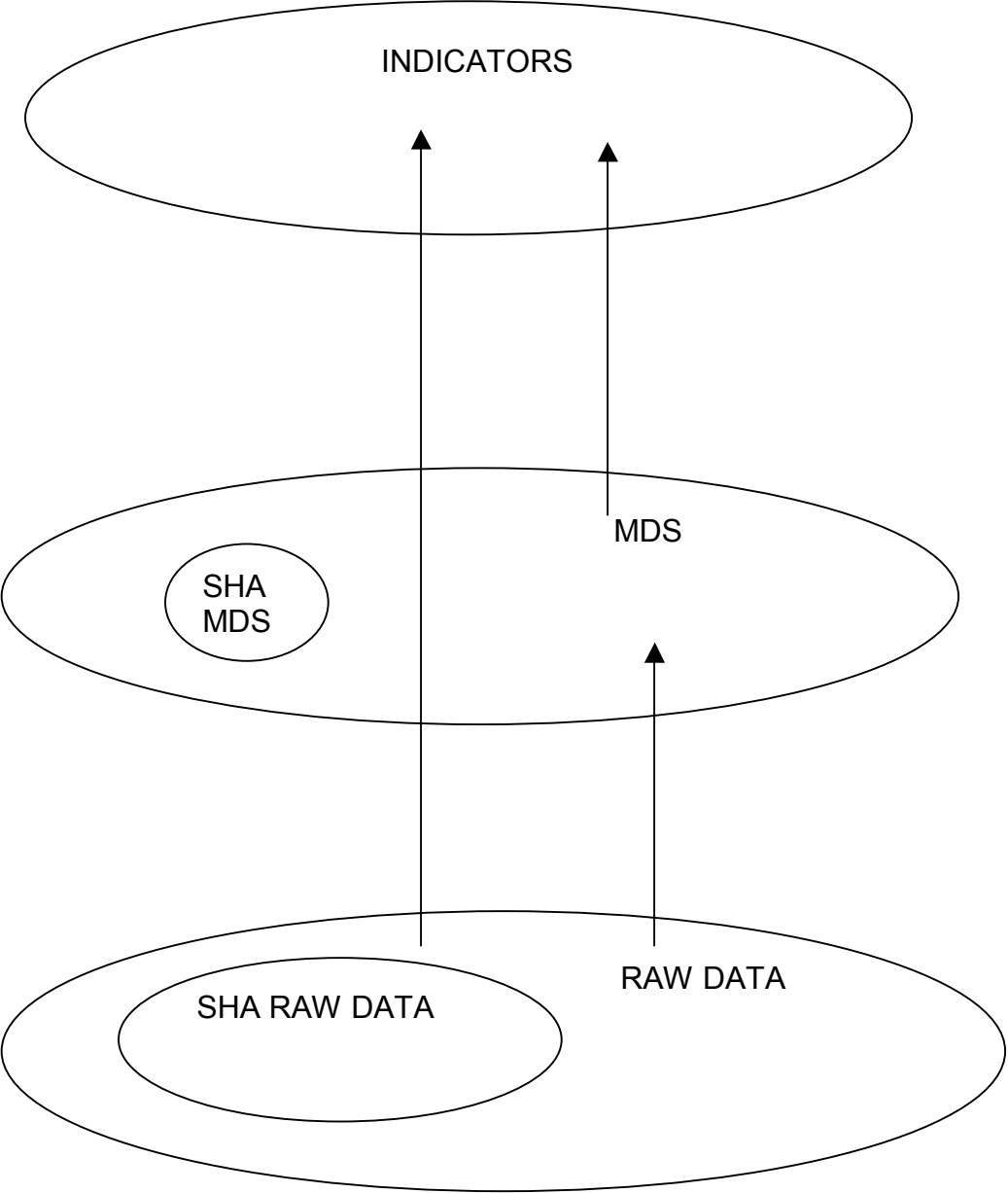
- Meta data
- Data set related to SHA
- Data set not related to SHA
- Minimum Data Set of SHA
- Meta data on data sources.

The figure below may help to clarify the relationship between meta data and data.

Figure 1: Relationship between raw data, a minimum data set and indicators

National

International
(Better comparability)



Papers circulated or tabled at the meeting

BASYS, CEPS-INSTEAD, IGSS, IRDES *Development of a methodology for collection and analysis of data on effectiveness and efficiency in health care provision*. July 2004

BASYS, CEPS-INSTEAD, IGSS, IRDES *Minimum Data Set for assessing sustainability, effectiveness, efficiency and equity in health systems in the European Union using data from the System of Health Accounts*. August 2004

BASYS SHA: *Results of Health Account Data in Europe*. 2004

BASYS, HIVA, NIVEL HLA: *Implementing the concept of health care manpower in Member States on a Prototype Basis*. 2004

Magee H The Hospital Data Project: Comparing Hospital Data Within Europe
European J Public Health 2003 13.3:1x-1x

O'Shea C HPD *Common Data Set Coverage: Which types of Patient Activity have been Included and Excluded?* 2004

Orosz E, Morgan D *SHA-based health accounts in 13 OECD countries: A comparative analysis* OECD Health Working Papers. Paris: OECD. August 2004

ANNEX B: LOGICAL DATA MODEL OF THE HLA APPLICATION

CREATE TABLE ActorCategories

```
(
  CategoryID          Smallint,
  Key                  Smallint,
  Code                 Varchar (255) ASCII,
  Description          Varchar (255) ASCII,
  ActorCategory        Boolean,
  ActorGroupCategory   Boolean
)
```

CREATE TABLE ActorEmployment

```
(
  ActorID              Integer,
  Country              Varchar (2) ASCII,
  Employment           Boolean,
  TotalEmployment      Boolean,
  Mapping              Boolean,
  NACE                 Varchar (10) ASCII,
  Comment              Long ASCII
)
```

CREATE TABLE ActorEmploymentSource

```
(
  ActorID              Smallint,
  Country              Varchar (2) ASCII,
  SourceID             Smallint,
  COMMENT              Long ASCII
)
```

CREATE TABLE ActorGroupData

```
(
  ActorGroupID         Smallint,
  Country              Varchar (2) ASCII,
  Year                 Smallint,
  Typ                  Varchar (1) ASCII,
  Wert                 Float (16),
  Source               Smallint,
  Comment              Long ASCII
)
```

CREATE TABLE ActorGroupDataSource

```
(
  ActorGroupID          Smallint,
  Country                Varchar (2) ASCII,
  Year                  Smallint,
  Typ                    Varchar (1) ASCII,
  SourceID              Smallint
)
```

CREATE TABLE ActorGroups

```
(
  ActorGroupID          Integer,
  Country                Varchar (2) ASCII,
  HPCode                 Smallint,
  NACE                   Varchar (20) ASCII,
  LocActorGroup          Varchar (255) ASCII,
  EngActorGroup          Varchar (255) ASCII
)
```

CREATE TABLE Actors

```
(
  ActorID                Integer,
  Country                 Varchar (2) ASCII,
  HPCode                  Smallint,
  LocActor                Varchar (255) ASCII,
  LocDescr                Long ASCII,
  EngActor                Varchar (255) ASCII,
  EngDescr                Long ASCII
)
```

CREATE TABLE ActorsLinked

```
(
  ActorID                Integer,
  Country                 Varchar (5) ASCII,
  ActorGroupID           Integer
)
```

CREATE TABLE Countries

```
(
  Country                 Varchar (2) ASCII,
  CountryNameLocal        Varchar (20) ASCII,
  CountryNameEnglish      Varchar (20) ASCII,
  LanguageID              Smallint,
  CountryKey               Smallint
)
```



```

CREATE TABLE Languages
(
  LanguageID           Smallint,
  LanguageNameLocal    Varchar (20) ASCII,
  LanguageNameEnglish  Varchar (20) ASCII
)

```

```

CREATE TABLE Sources
(
  SourceID             Smallint,
  Country              Varchar (2) ASCII,
  LocSource            Varchar (40) ASCII,
  EngSource            Varchar (40) ASCII,
  Periodically         Boolean,
  BeginYear            Boolean,
  EndYear              Boolean,
  Other                Boolean,
  Period              Varchar (20) ASCII,
  Average              Boolean,
  LastYear             Smallint,
  CommentPeriod        Long ASCII,
  HeadCount            Boolean,
  Age                  Boolean,
  AgeBracket           Boolean,
  Gender               Boolean,
  Education            Boolean,
  CommentEducation     Long ASCII,
  Worktime             Boolean,
  MethodWorktime       Long ASCII,
  Compensation         Boolean,
  DefinitionCompensation Long ASCII,
  Profession           Boolean,
  ISCO88_3digit        Boolean,
  ISCO88_4digit        Boolean,
  OwnClassification    Boolean,
  Doctors              Boolean,
  Dentists             Boolean,
  Nurses               Boolean,
  Midwives             Boolean,
  CommentProfession    Long ASCII
)

```

ANNEX C: ECHI-2 DRAFT HEALTH SYSTEM INDICATORS (16-06-2003)

Indicator and group	Operational definition	Source type, availability	HMP projects, other sources; remarks
Class 4. Health systems			
This class should include indicators covering activities in prevention and health promotion (4.1) as well as aspects of the health care system (4.2-4.5). It should also cover indicators of the quality of the health system and of 'health system performance'. In the sections on health care services, the categories currently listed by OECD and the System of Health Accounts are largely followed.			
4.2 Health care resources: <i>in this section, OECD and HFA listings have been largely followed;</i>			
4.2.2 Manpower; indicators in this group recommended by the manpower project, with aid of the Eucomp project. Main goal of manpower indicators in ECHI frame: cost element and quality of care. Other aims: role in production/income/economic growth. Bottom group of indicators indicated by Manpower project as of lower priority. ECHI suggestion: some measure of personnel shortage may be more appropriate than unemployment from the point of view of quality of care or health system performance.			
• Health services employment	• No. of persons; per 1,000 population; % of total employment	• National register, hospital statistics	• Manpower project: by head counts, fte, gender
• Hospitals employment	• Total employment in general hospitals, mental health and substance abuse hospitals, other specialty hospitals	• Same	• same; question ECHI: not indicated per 1,000 population, on purpose??
• Nursing and residential care facilities employment	• Total employment in facilities for nursing care, residential mental retardation, mental health & substance abuse, elderly community care, other residential care	• Same	• Same

Indicator and group	Operational definition	Source type, availability	HMP projects, other sources; remarks
Ambulatory health care	Total employment in offices of: physicians, dentists, paramedical practitioners, out-patient care centres, medical/diagnostic laboratories, home health care, other ambulatory care	Same	Same
Retail sale and other providers of medical goods	Total employment in dispensing chemists, retail sale and other suppliers of optical glasses, hearing aids, other medical appliances, other sale of pharmaceuticals and medical goods	Same	Same
Provision and administration of public health programmes	Provision and administration of public health programmes	Same	Same
General health administration	Government administration of health, social security funds, other (social/private) insurance, other providers of health administration	Same	Not indicated; only head count or fte?
Hospital staff ratio: acute care	Hospital staff/number of beds	Same	Manpower project: staff from hospitals as indicated above only
Nurses staff ratio: acute care	Hospital nurses staff/number of beds	Same	Manpower project: staff from hospitals as indicated above only
Physicians employed	Number, per 100,000 population	Same	Manpower project: no priority
Nurses employed	Number, per 100,000 population	Same	Manpower project: no priority
Midwives employed	Number, per 100,000 population	Same	Manpower project: no priority
Dentists employed	Number, per 100,000 population	Same	Manpower project: no priority
Pharmacists	Number, per 100,000 population	Same	Manpower project: no priority
Paramedical professions	Number, per 100,000 population	Same	Manpower project: no priority
Psychiatrists, child psychiatrists, clinical neuropsychologists	Number, per 100,000 population	Same	Manpower project: no priority
	Number, per 100,000 population	Same	Mental health project

Indicator and group	Operational definition	Source type, availability	HMP projects, other sources; remarks
psychologists			
• Income of doctors etc.	• Yearly gross income	• Same	• Manpower project: no priority
• Unemployment rate of doctors etc.	• Unemployment/employment	• Labour market statistics	• Manpower project: no priority
• Shortage of medical personnel ??	•	•	• ECHI suggestion; bottlenecks in available medical personnel are an indicator of health care quality (4.5)
4.2.3 Education			
• No. physicians graduated	• Number, per 100,000 population		• By gender, age;
• Number of nurses and midwives graduated	• Same		• Same
• No. pharmacists graduated	• Same		• Same
• No. dentists graduated	• Same		• Same

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