Project
'Health surveys in the EU: HIS and HIS/HES evaluations and models'

HEALTH INTERVIEW SURVEYS IN THE EUROPEAN UNION: OVERVIEW OF METHODS AND CONTENTS

Christianne Hupkens & Henk Swinkels, Statistics Netherlands

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Abstract

This report describes part of the project "*Health Surveys in the EU: HIS/HES evaluations and models",* that is executed within the programme of Community Action on Health Monitoring. The final overall project aim is to develop comprehensive and comparable health measurement for health surveys in the EU and the Member States by developing models for surveys, which combine the health interview and the health examination. This report, together with the report 'Health examination surveys (HES). Review of literature and inventory of surveys in the EU/EFTA Member States' describes the first phase of the project. The reports provide up to date overviews of national health interview (HIS) and health examination surveys (HES). In order to disseminate the information on the methodological aspects of these surveys, we developed a health survey database. This computerised overview includes the methods and contents of existing and planned HIS and HES in the EU/EFTA Member States. The present report also describes the development and content of the survey database and illustrates its usefulness.

The inventory of national HIS in the EU, Norway, Iceland and Switzerland shows that HIS are being executed regularly in most countries. Periodic HIS are recorded in 16 countries of the 18 that are examined. Especially in Finland, France and the UK many health surveys are being executed. In most countries one or two national HIS are recorded, namely in Austria, Belgium, Denmark, Germany, Iceland, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland and The Netherlands. Only in Greece and Luxembourg no HIS were reported.

Information on the methods and contents of these HIS, HES and HIS/HES was read into the health survey database. The database covers information on 8 national HES, 37 national HIS, and 2 international health surveys. In addition, the recommended instruments of WHO/EURO are included. The database covers more than 5,000 HIS questions, both in the original language and in English. Users of the database can search for specific information: on particular surveys or on particular topics, like use of medicines.

In order to facilitate the search on topics, we developed a list of health topics. The list is based on the list of health areas and health topics that was developed for a former inventory of HIS in 1996/97, and on the set of European Community Health Indicators (ECHI). The list includes 93 topics, divided into 7 areas: demographic and socio-economic factors, health status, personal factors, life style factors, living and working conditions, prevention, health protection and health promotion, and use of health and social services.

Analyses of the HIS questionnaires that are included in the database shows which topics are frequently included in HIS and which topics are hardly included. Topics on the health status of respondents are most often included in the surveys. Especially questions on disease specific morbidity, perceived health, activities of daily living, and chronic conditions are included in many surveys. Questions on life style factors are also often included. Almost all surveys include questions on smoking behaviour. Questions on diet, alcohol consumption, and physical activity are included in at least 24 surveys. Nearly 20% of the questions in the database inquire after the use of health and social services, like hospitalization, contacts with the GP, and the use of medicines.

The comparability of the questions in different national HIS was studied for two frequently included topics: smoking prevalence and heavy drinking. The comparability of both topics appeared to be limited. The comparability may be improved in the future if more health surveys include questions that are recommended and/or used by the majority of the existing surveys. The health survey database can be used to facilitate this harmonisation process.

1 Introduction

1.1 Aims of the project

In 1997 the European Parliament and the Council of the European Union adopted a programme of Community Action on Health Monitoring (HM). This programme refers to three main objectives:

- to establish a system for monitoring health and health determinants throughout the Community,
- to facilitate planning, monitoring and evaluation of Community programmes and actions, and
- to provide Member States with appropriate health information to support their national health policies.

In order to achieve these objectives the programme of Community Action on Health Monitoring launched a number of projects, such as the European Community Health Indicators (ECHI) project. More information on this project is included in section 1.2.3.

The project "*Health Surveys in the EU: HIS/HES evaluations and models",* described in this report, is also executed within the programme of Community Action on Health Monitoring. The aim of this project is to facilitate comprehensive and comparable health measurements for health surveys in the EU by developing models for surveys in which Health Interview Surveys (HIS) and Health Examination Surveys (HES) are combined. The project aims to support Health Monitoring by developing a computerised overview of methods and contents of existing and planned HIS, HES and combinations of HIS/HES in the EU Member States (MS) and in some countries of the European Free Trade Association/European Economic Area (EFTA/EEA). A computerised overview (i.e. a database) provides a comprehensive insight into the coverage of areas and topics relevant for Health Monitoring by these surveys.

The project "*Health Surveys in the EU: HIS/HES evaluations and models*" comprises two phases. The aims of phase 1 are:

- to develop an electronic database,
- to review the relevant literature,
- to collect information on health surveys,
- to review European experiences on HIS, HES and HIS/HES, and
- to create a European network for development and testing of proposed HIS/HES and HES methodologies.

During the second phase of the project the database will be updated and improved, a system for dissemination will be developed, and methods for use in HIS and HIS/HES surveys will be evaluated and recommended.

The project is carried out by three institutes, in close co-operation: the Finnish National Public Health Institute (KTL), the Belgian Scientific Institute of Public Health, and Statistics Netherlands. Phase 1 is co-ordinated by Statistics Netherlands.
During this phase, KTL produced an overview of information on Health Examination Surveys (including descriptions of the HES part of combined HIS/HES). The report *Health examination surveys (HES). Review of literature and inventory of surveys in the EU/EFTA Member States* (Koponen & Aromaa, 2001) presents this overview. Statistics Netherlands developed the database and made an overview of information on HIS (including HIS questionnaires of combined HIS/HES). This is described in the present report.
The inventory of HIS and the development of the database builds on the results of an inventory of HIS that was initiated and supported by Eurostat and executed by Statistics Netherlands/Maastricht University in 1996/97 (Hupkens, 1997). According to discussions in the Eurostat Working Group 'Public Health Statistics' and the Task Force 'Health and health related survey data', the proposal to continue the inventory of HIS and to develop

a computerised database of the methods and contents of health surveys was formulated. The statistical information in the EU MS is collected in co-ordination with the Working Group.

The second phase of the project will be co-ordinated by KTL. KTL will develop models for HES and HIS/HES. The Belgian Scientific Institute of Public Health will be responsible for the health interview surveys and will update, improve and disseminate the database.

In addition to the Finnish KTL, the Belgian Scientific Institute and Statistics Netherlands, a Core Group has been established to guide the project. The Core Group consists of experts in the field of health survey research originating from 9 different institutes. An overview of the members of the Core Group is presented in annex 1.1. Two Core Group meetings have been organised: the first on 14-15 June 1999, and the second on 27-28 October 1999. On 14-15 June 2000 a plenary meeting was held to discuss the results of the project and future plans. The plenary meeting was attended by members of the Core Group and also by experts of other EU countries not represented in the Core Group.

The purpose of the first Core Group meeting on 14-15 June, 1999 was:
- exchange information on the current state of national HIS and HIS/HES studies in the Core Group countries,
- discuss the plans for executing the project,
- exchange ideas about methodological issues concerning the project, and
- confer on the identification of network participants in each country concerned.

The aims of the second Core Group meeting of 27-28 October, 1999 were:
- summarise the preliminary results of the inventory,
- demonstrate the first version of HIS/HES database,
- review the experiences on the standardisation of methods and quality control of the MONICA project, as these experiences are valuable for the HIS/HES project,
- discuss the role of HIS/HES in Health Monitoring in the European Union, and
- discuss the plans for future collaboration.

The plenary meeting of 14-15 June, 2000 was held back to back with the Eurostat Task Force 'Health and health related survey data', and attended by 20 participants. First, the developments within the HM Programme and other programmes were presented. The results of the HIS/HES project were discussed, and the database was demonstrated. In addition, the participants were given the opportunity to work with the database on a number of laptops. Finally, plans for the second phase of the project were presented and discussed.
In accordance with the agreements of the Core Group, a network of HES experts was established. For HIS existing contacts from the inventory of national HIS (Hupkens, 1997) executed in 1996/1997 were approached.
The Community level of the project was also advanced by presenting and discussing the project at meetings of the Eurostat Task Force 'Health and health related survey data' and the Eurostat Working Group 'Public Health Statistics'.

The present report describes the activities during the first phase of the project at Statistics Netherlands, namely:
- the collection of information on the methods and contents of HIS
- the development of a list of health topics to be used for classifying and searching specific topics in the database
- the development of a computerised database which can be used to:
  - identify (inter)national health surveys
  - check methods used by these surveys
  - examine the coverage of health topics by these surveys
  - determine the wording of the questions and answer categories used in these surveys

- evaluation of the international comparability of two health topics.

In chapter 2 the inventory of national health interview surveys to be included in the database is presented. The development of the topic list and the database are described in chapter 3 and chapter 4 respectively. The contents of these health interview surveys are presented in chapter 5. In chapter 6 attention is paid to the international comparability of two health topics. In chapter 7, finally, the conclusions of the project are presented.

1.2 LINKAGE WITH EXISTING HARMONISATION ACTIVITIES

1.2.1 THE 1996/97 HIS INVENTORY

Eurostat initiated and supported an inventory by Statistics Netherlands of the methods and contents of national health interview surveys in 18 European countries (the 15 EU Member States plus Norway, Iceland and Switzerland) in 1996-1997 (Hupkens, 1997). The inventory provided information on how health and health related topics were already measured in these countries by means of population surveys. The purpose was to explore the possibilities for adequate data collection from these national surveys and to improve their comparability in order to facilitate harmonisation activities.

In order to meet Community priorities, the inventory focused on health topics that were included in the 'Framework for action in the field of Public Health' (COM (93) 1559 final). Eight action programmes were launched within this framework:

1. Community action on health promotion, information, education and training (COM (94) 202 final),
2. Community action on health monitoring (COM (95) 449 final),
3. Community action plan to combat cancer (COM (94) 83 final),
4. Community action on the prevention of drug dependence (COM (94) 223 final),
5. Community action on the prevention of AIDS and certain other communicable diseases (CEC/V/F/1/LUX/14-3/94),
6. Community action on injury prevention (COM (97) 178 final),
7. Community action on pollution-related diseases (COM (97) 266 final),
8. Community action on rare diseases (COM (97) 225 final).

The inventory also covered other relevant information needs, namely:

- The list of WHO Health for All (HFA) indicators for which health interview surveys are relevant (WHO, 1996),
- The survey indicators that were proposed by the 'Working Party on Community Health Data and Indicators' and adopted by the High Level Committee (Ministry of Health, Denmark, 1994), and
- Information needs extracted from the Third Community action programme to assist disabled people (HELIOS II).

The inventory started with the development of a list of health topics reflecting the information needs of these health programmes. Next, information on the contents and methods of national HIS in each country was collected. It was checked whether the questionnaires included questions on these topics, and if so, which questions covered these topics.
The inventory presented overviews of:

- the national HIS executed in these countries between 1994 and 1997,
- the national HIS planned from 1997 onwards,
- the health topics included in these surveys, and
- the questions used to measure these topics.

For a selection of health topics (e.g. chronic conditions), the questions in different surveys were compared with each other. For some health topics, recommended instruments have been developed by WHO and Statistics Netherlands (WHO, 1996). These recommendations were used as a reference for evaluating the national questions.

The inventory showed that regular health interview surveys were conducted in 14 of the 18 countries. In 3 of the 4 countries without regular HIS, multi-purpose surveys covering health and/or surveys on one specific health theme were conducted. The contents of 52 HIS questionnaires were examined. This examination showed that most questionnaires included questions on health status (e.g. self-perceived health, chronic conditions and activity limitations), medical consumption (like hospitalisation, GP consultations and medicine use) and lifestyles (cigarette smoking, alcohol consumption and physical activities). Health topics that were scarcely included in the HIS questionnaires were amongst others: knowledge on healthy lifestyles, attitudes regarding health promotion and questions on sexual behaviour.
With regard to the health programmes, the inventory showed that the information needs of the more general and horizontal public health programmes (health monitoring, health promotion, WHO-HFA and the High Level Committee on Health) were better covered by HIS than the more specific vertical programmes (cancer, drugs, AIDS and other communicable diseases, injuries, pollution-related diseases, and disability (HELIOS)).
Finally, the comparability of the questions on chronic conditions, self perceived health, body height and body weight, dental health, smoking, hospitalisation and GP consultations was examined. The comparability of most topics was limited. Only questions on chronic conditions, self perceived health and body height and weight were partly comparable. In some cases indicators (e.g. the proportion of daily smokers) were better comparable than the questions themselves (e.g. questions on smoking).

As new surveys may have been initiated since 1997, and as the methods and contents of existing surveys may have changed, the information collected in 1996-1997 will probably be outdated. In the present project the results of the 1996-1997 inventory were updated and extended. In addition the surveys and the questions were classified and stored in an electronic database in order to make the information much better accessible.

1.2.2 EUROHIS

The collection of information on surveys for the present inventory was conducted in co-ordination with the WHO Regional Office for Europe. In the framework of the EUROHIS project, WHO Europe needed also to inquire after methodological aspects and contents of HIS at about the same time as the present inventory. Therefore, the information collected by the present inventory was made available to EUROHIS and vice versa, in order to avoid duplication of work for the respondents.

WHO Europe initiated (the forerunner of) the EUROHIS project in 1988 jointly with Statistics Netherlands. This project aims (1) to establish and catalyse a consultation process by means of a network of survey experts and periodic consultation meetings, and (2) to develop and recommend common methods and instruments for HIS.
With regard to the consultation process, four international consultations were organised for experts and users of HIS from national and international organisations. After careful consideration with networks of experts, recommended sets of questions were developed for 8 topics: perceived health, temporary disability, long-term physical disability, chronic mental conditions, smoking, body mass index, breast feeding and socio-economic classification. These instruments and other recommendations were published in 1996 (WHO, 1996).
The current phase, since 1998, of the EUROHIS project is supported by the EC/BIOMED 2 programme. This phase of the project aims to develop common HIS instruments for another 8 health topics, namely: chronic physical conditions, mental health/disability, alcohol consumption, physical activity, use of curative medical services, use of medicines,

preventive care, and quality of life. Draft recommendations for these instruments have been prepared in small groups led by principal investigators; field-testing will be done in 2001. We included the first 8 recommended instruments in the HIS/HES database in order to serve as a reference for evaluating the national questions.

1.2.3 EUROPEAN COMMUNITY HEALTH INDICATORS (ECHI)

The present project also builds on the achievements of the European Community Health Indicators (ECHI) project (Kramers, 2001). The ECHI project is supported by the HM Programme. The objective of the project is to propose a coherent set of community health indicators, meant to serve health monitoring supported by all Member States. A European health indicator set can be used to monitor trends, to evaluate EU policies and to enable international comparisons. The prerequisites and criteria for the indicators are that they should be comprehensive, coherent, taking account of earlier work (WHO, Eurostat, OECD), and covering policy priorities (MS and Community level).
The list of indicators developed by the ECHI project was used as a keynote for the topic list of the HIS/HES project. This will be elucidated in chapter 3.

2 Inventory of health interview surveys in 18 European countries

2.1 Methods

During the first meeting of the Core Group in June 1999, it was discussed which health surveys would be included in the inventory. The Core Group agreed to focus on the following types of surveys:

- health interview surveys, i.e. surveys aiming to give a complete picture of health, medical consumption, lifestyle and preventive behaviour
- surveys with a significant health or health related component, like
  - surveys on impairment, disability and handicaps
  - multi-purpose surveys
  - standard of living surveys
- health questionnaires from combined HIS/HES

The surveys should meet the following conditions:

- use national population-based samples
- recur in certain intervals (thus not once-only/one single wave)
- not restricted to a specific part of the population such as children, adolescents and patients
- not restricted to one specific health component like nutrition or AIDS

The Core Group agreed to collect national surveys in the 15 MS of the European Union, Iceland, Norway and Switzerland. In addition, the health related questions of two international surveys at the European level would be included in the database: the European Community Household Panel (ECHP) and the Eurobarometer.

In order to collect the main national HIS in each country, we started with the overview of HIS that were collected during the 1996/97 inventory and we selected the surveys that met the conditions mentioned above. Of the 52 surveys that were examined in 1996/97, 40 surveys met the inclusion criteria. Surveys in the former inventory that were performed only once, surveys that focused on a specific part of the population, such as children, and surveys that focussed on one specific health component, like nutrition, were not included in the present inventory.
In the former inventory a code was assigned to each survey. The five Spanish surveys, for example, that were included in the former inventory were coded from E01 to E05. Only 2 Spanish surveys met the inclusion criteria of the present inventory, namely E01 and E04. As we wanted to use the same survey codes in the present inventory as in the former inventory, the codes are not numbered consecutively anymore.

In September 1999 Statistics Netherlands sent a letter to the institutes that were responsible for these surveys explaining the aim and the background of the new inventory, and a questionnaire on the methodological aspects of each survey. The letter is included in annex 2.1 and the questionnaire in annex 2.2. Together with the letter we sent an overview of the questionnaires and computer files that were already available at Statistics Netherlands.
In order to avoid duplication of work, the questionnaire on methodological aspects showed the information that was already available at Statistics Netherlands, namely the information collected during the former inventory, e.g. on the sample size of the survey. If no new survey was executed since the former inventory, the institutes were asked to check the information. If a new wave or a new survey was conducted, the institutes were asked to update the methodological information. The institutes could return the questionnaire on methodological aspects either by ordinary mail or by e-mail.
In addition, the institutes were requested to provide recent questionnaires, preferably in the original language(s) and in English, if these were not yet available at Statistics

Netherlands. If no English translation was available, a German or French version was requested. In addition, in order to facilitate the development of the database, computer files of the questionnaires were requested (also in the original language(s), English, German and/or French).
Finally, we asked the institutes to check whether the overview of surveys in their country was complete. If they were aware of another health or health related survey that was not listed, we asked them to send us information on that survey, or provide us with the name and address of the responsible institute.
If the methodological questionnaire was not returned to Statistics Netherlands before 1st November 1999, the contact person who was responsible for the survey was contacted again, preferably by telephone or e-mail. If necessary, the persons were contacted several times.

2.2 Results

Generally, the response to the present inventory was quite slow. Before the 1st November 1999 only 15 methodological questionnaires were returned. The persons responsible for the other surveys were contacted by telephone and/or e-mail. Nearly all contact persons returned the methodological questionnaire after one or more reminders. For 3 surveys no response was received. Annex 2.3 shows the response.

We also asked the contact persons to provide the most recent survey questionnaire (on paper and as a computer file, both in the original language(s) and translations in English, French or German). There were almost no surveys for which all of the information requested could be provided. Often computer files of the survey questionnaire and translations were lacking. Therefore, we checked with nearly all contact persons whether computer files and translations were available or not. Most of the contact persons provided the questionnaires and files that were available.

The request to each institute to check whether the overview of national HIS was complete resulted in the addition of a completely new HIS in the present inventory: a new health interview survey has been launched in 1998 in Iceland, titled 'Health and living conditions in Iceland' (survey code: IS02). Apart from the updates of existing HIS, no completely new surveys were reported in the other countries.
Annex 2.3 shows for each survey which paper questionnaires and computer files are available at Statistics Netherlands. These questionnaires and files were collected either during the present inventory or during the former inventory of HIS in 1996/97.

Methodological details of the surveys are presented in annex 2.4. This annex shows part of the information that is included in the database. It reports for each survey the name of the contact person, the type of survey, the frequency of the survey, the years in which the survey was conducted, the survey design, the data collection mode, and the language of the questionnaire.

3 The list of health topics

3.1 Introduction

In order to facilitate the overview of contents of HIS questionnaires, we developed a list of health topics. This list serves as a reference tool to identify which health related topics are included in each survey. This list is also used as a tool in the HIS/HES database to search for a particular set of questions: each question included in the database is labelled with at least one topic code according to the topic list. Not only questions on health (e.g. visits to a GP or chronic conditions) are labelled, but also questions on health related issues (e.g. health insurance) and demographic or other background variables that are associated with health (e.g. age).
Questions on a particular subject included in the database can be selected with help of the topic list. The main reason for using this topic list is that the search for questions with help of only the verbatim text of the question can cause difficulties. If one is, for example, looking for all the questions referring to "age" by using the search string 'age', it is obvious that not all relevant questions will be found. Questions like 'How old are you?' or 'What is your date of birth?' will not be found, as the search term 'age' is not included in the question itself. Also questions that are not translated into English, but are included in the original language only, will not be found. Therefore, we coded all questions concerning age with the topic code of the topic 'age'. Thus, the list of topic codes plays an important role in filling and using the database.

3.2 Development of the topic list

In developing the topic list, the following conditions were considered.

1. Clarity
The list of topics (or keywords) should be clear and easy to understand. Users of the database should have no problem in finding the keyword they are looking for. If the list of keywords is arbitrary, the search problem would shift from the questions to the keywords. Therefore, we decided to fit in with existing and well-known classifications of health topics.

2. Complete and concise
The list of topics should cover a broad range of health aspects, including health status, health determinants, medical consumption, health prevention and background variables associated with health. However, the list should also be concise, and include only health topics that can be measured my means of health interview surveys.

3. Reliability
The topic list should have a high degree of reliability. Two persons who search for the same information should obtain the same results using the topic list.

4. Limited number of levels
To structure the topic list a hierarchical system is necessary, e.g. categories that are split up into subcategories. Again, these subcategories may be split up in sub-subcategories etc. However, if there are more than 2 or 3 levels, it will be complicated to use the list as a search tool. Therefore we decided to use only two levels: 7 areas on the broad level divided into 100 topics on a more detailed level.

5. Mutually exclusive topics
It will be easier for a user to find the proper questions if the topics do not overlap. To achieve this we aspired to develop topics that are mutually exclusive. However, for some

subjects both a general topic and some more detailed topics have been used; for example, we decided to include several topics regarding smoking, namely:
- general smoking
- heavy smoking
- former smoking
- passive smoking
- stop/reduce smoking.

Many HIS inquire after smoking habits. While some HIS include only one general question on smoking, other HIS cover a whole range of questions dealing with different aspects of smoking. In order to classify both the general and the more specific questions on smoking, we decided to include both a general topic and more detailed topics. As we did not want to introduce a third level in the topic list (see condition 4), we decided to list all topics on the same level.

6. Questions may refer to more than one topic
Questions may include more than one topic, for instance: "Did you visit a doctor or specialist in the past four weeks?" or "Did you visit the GP for a chronic condition?". Therefore, in developing the database we created the possibility that one question refers to one, two or a maximum of three topics.

In order to meet these conditions, we decided to base the topic list on existing classifications of health topics, namely (1) the list of health areas and health topics being developed for the former inventory of HIS in 1996/1997 (Hupkens, 1997) and (2) a draft set of European Community Health Indicators (ECHI) as available when the topic list was developed (Kramers, 2001).

3.3 The list of health areas and health topics of 1996/1997

In the framework of the Community action on Health Monitoring, a 'non-exhaustive list of areas in which health indicators may be established' was published in 1996 (generally known as Annex II to the HM programme (CEC, 1996)). The areas were classified according to five main categories, namely:
A Health status
B Life style and health habits
C Living and working conditions
D Health protection
E Demographic and other social factors

As mentioned in chapter 1, the list of health areas and health topics developed for the inventory of 1996/1997 also reflected the information needs of the other health programmes that were launched within the 'Framework for action in the field of public health', supplemented with the list of WHO Health for All (HFA) indicators (WHO, 1996), the survey indicators adopted by the High Level Committee (Ministry of Health, Denmark, 1994), and the information needs expressed in the HELIOS II programme.

First, areas in Annex II that could not be measured by means of health interview surveys were excluded. Next, areas that were mentioned in the other programmes, but not included in Annex II, were added to this list. The list was structured according to the 5 main categories. Within each category areas (on the more general level) and topics (on a more detailed level) were added.

We decided to improve that list and make it more concise. We excluded areas and topics that were too detailed. With help of the results of the inventory of 1996/1997 we checked which areas and topics were hardly included in HIS. These were also excluded in the present list.

3.4 The set of European Community Health Indicators (ECHI)

Conform the aims of the Health Monitoring Programme, the list was also adjusted to the set of European Community Health Indicators (ECHI) (Kramers, 2001). Draft reports of the ECHI project were published in November 1999 and May 2000.
As the present project and the ECHI project were executed simultaneously, the draft list of indicators of the ECHI project that was available in November 1999 was used to develop the topic list of the present project.
The list developed within the ECHI project was also based on the preliminary list of areas of the Health Monitoring Programme (Annex II) (CEC, 1996). This ECHI list has been modified according to conceptual considerations. In addition, existing classifications (of Eurostat, WHO, OECD) and new developments in public health monitoring were taken into account. In the draft report of November 1999 the following scheme was proposed:

1. Demographic and socio-economic factors
2. Health status
3. Personal factors
4. Life style factors
5. Living and working conditions
6. Prevention, health protection and health promotion
7. Health and social services

For the current project topics that could not be measured by means of health interview surveys were excluded.
The next step was to combine the list of health areas and health topics of the inventory of 1996/1997 and the set of ECHI. The scheme proposed by the ECHI project was followed. This scheme was supplemented with information of the list of the former inventory. In annex 3.1 the topics used in the present HIS/HES database are presented.

As mentioned before, the topic list presented in annex 3.1 is used to examine the contents of national health interview surveys. This list is also used as a search tool in the database of HIS questionnaires. In the next chapter the development of the database is described.

4. Development of the HIS/HES database

4.1 Introduction

The main objective of the first phase of the project was the development of a computerised database in which information on both the contents and methods of HIS, HES and combinations of HIS and HES could be stored in a systematic and convenient way. An important advantage of an electronic database is that the information can be easily disseminated, e.g. by CD-ROM or via the Internet. Another advantage is that data users can do a rather simple and quick search for information on the methods, including question wording, of the data. In addition, they can consult the database to generate an overview of all former and existing national HIS and HIS/HES in a particular country or countries. Researchers who want to develop a new health survey can obtain an overview of all questions used, or recommended, on a particular topic (e.g. on chronic conditions) in order to tune in their question to other health surveys. They also can quite easily obtain an overview of the most frequently applied methodological aspects of the relevant surveys.

4.2 The structure of the HIS/HES database

After consulting other projects, in which databases were developed and used, and after balancing the pros and cons of these databases, it has been decided to store the information of this project by using Microsoft Access software.

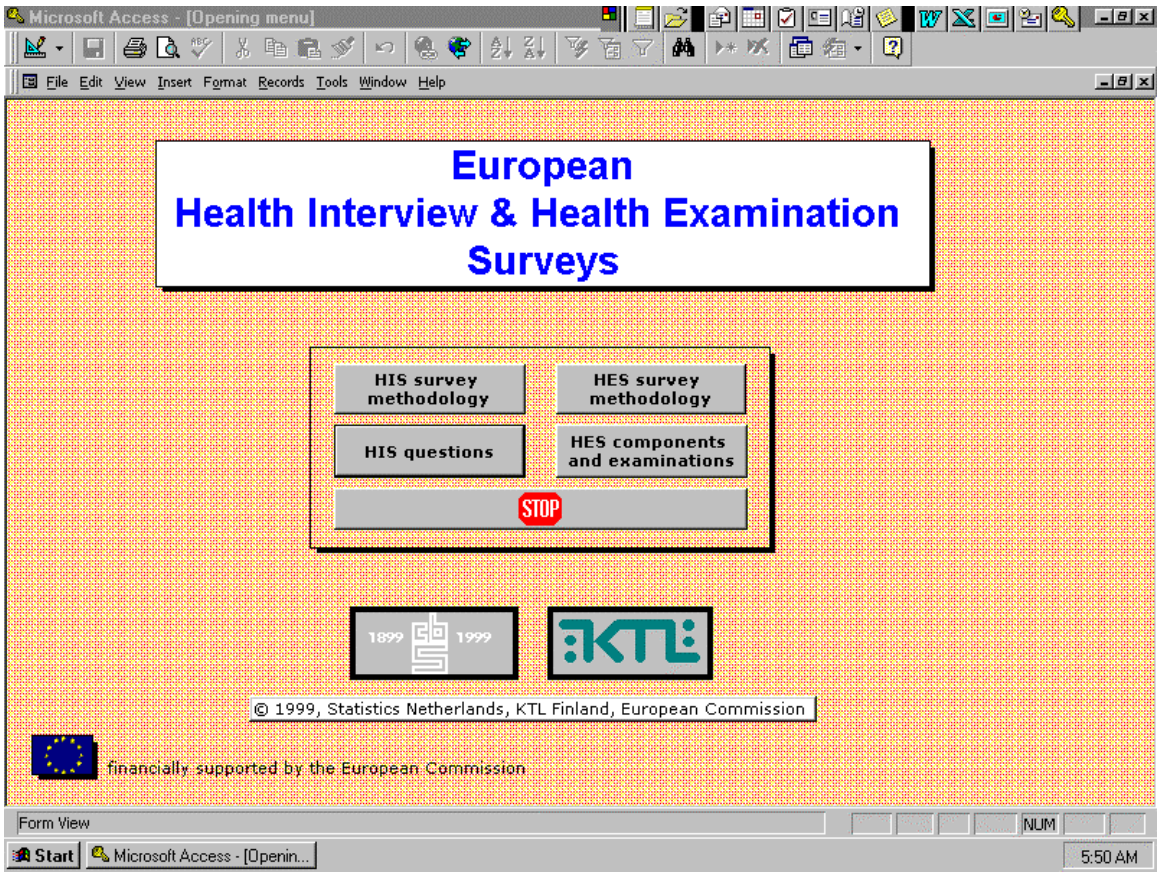
The most important reasons why Microsoft Access has been chosen are:
1. This database package is rather flexible, for example, in adding, deleting, and changing variables,
2. It is easy to import from and export information to other databases,
3. MS Access has a convenient way of presenting the contents of the files by means of forms,
4. The integrated way in which different files can be stored and linked in one database,
5. The Microsoft software is widely available.

The HIS/HES database is divided in 2 parts in which different kinds of information on national European health surveys is stored: one part refers to methodological information of the surveys and another part refers to the contents of the surveys. These two kinds of information are presented for health interview surveys and health examination surveys separately.

The structure of the database is apparent in the opening menu of the database. The four files can be consulted by selecting one of the following buttons (see figure 4.1):

- *"HIS survey methodology"*
- *"HES survey methodology"*
- *"HIS questions"*
- *"HES components and examinations"*

Figure 4.1 Opening menu



4.3 Filling the database

The methodological information of the HES and the information on the HES components and examinations was collected by KTL Finland. Institutes that were responsible for HES were approached and they were asked to provide:

- information concerning the methodological aspects of the HES, and
- a schedule for the health examinations (manuals/protocols) and/or reported methods in the original language and in English, if available.

This information was included in the database by Statistics Netherlands.

The questionnaires that were used to collect the methodological information of the HIS and the HES were designed after the database was developed. In fact, the questionnaires were designed with help of the database. The 'questionnaire concerning the methodological aspects of HIS' (presented in annex 2.2), for example, was derived from the database. We included the methodological information collected during the 1996/97 inventory in the preliminary version of the database. We included this information, such as the response figures, in the methodological questionnaire, and we asked the contact persons of each survey to check and update the information. As the layout of the questionnaires and the database were similar, it was easy to include the collected information into the database. The answer possibilities used in the questionnaire, for instance, were similar to the drop down menus in the database.

The methodological information of the HIS was collected by Statistics Netherlands. The answers to the questions in the returned 'questionnaires concerning the methodological aspects of HIS' were easily entered into the database.

Including the HIS questionnaires into the database, however, caused difficulties and took up a lot of time. In order to facilitate the inclusion of the questions in the database, we asked the contact persons to provide electronic formats of the questionnaires. However, we did not receive computer files of a number of questionnaires. Moreover, some computer files were in formats (like pdf-files) that could not be used to directly enter the electronic information into the database.
Questionnaires that were not supplied as a computer file, but only on paper had to be scanned. Fourteen questionnaires have been scanned (see annex 4.1). After scanning these questionnaires, they needed to be edited manually. Often the layout of the questionnaires (e.g. ➔) and 'strange' characters (like Scandinavian characters such as Å) caused problems.
Furthermore, questionnaires that were not available in English, but only in the original language, had to be translated. Nine questionnaires have been translated by official translators (annex 4.1). These translations have been checked and improved by a specialised translator of Statistics Netherlands.
The resulting files with 'electronic' questions had to be included in the database manually one by one. At the same time topic codes were assigned to the questions. It showed that this preparation (scanning and editing) and inclusion of the questions in the database was most time consuming.

4.4 Content of the database

With respect to the Health Examination Surveys the database contains information on 8 HES. The database covers an overview of health status components and measurements, such as whether blood samples are collected, and if so, how these samples are collected and analysed, and what kind of blood tests were applied. The methodological information on the HIS and HES refers to information on the sample, response figures, mode of data collection, etc. More information on the HES can be found in the report *Health examination surveys (HES). Review of literature and inventory of surveys in the EU/EFTA Member States* (Koponen & Aromaa, 2001).

With respect to HIS, the database includes information on the methodological aspects of 41 national HIS and 2 international surveys: European Community Household Panel (ECHP) and the Eurobarometer. The electronic database contains over 5,000 questions from 37 national surveys, the recommended instruments of the WHO (WHO, 1996), and the health questions included in the ECHP and the Eurobarometer. The next chapter presents an overview of these questions.
Four surveys have not yet been included in the database. For two surveys the institutes that executed the surveys (FIN03 and IS02) are preparing English translations. These questionnaires will be included as soon as the translations will be available. Two other surveys were executed more than 5 years ago (F01 and P02). These surveys will be included as soon as a new wave will be conducted.

More detailed information regarding the database is included in annexes. Annex 4.2 shows the information that will be presented if the button 'HIS questions' in the opening menu is selected. Annex 4.3 presents which kind of methodological information on HIS is included in the database. An overview of some convenient search methods is presented in annex 4.4.

5. Health related areas and topics covered by the HIS/HES database

At the end of phase 1 of the project the file "HIS questions" of the database included over 5000 records referring to over 5000 separate health questions. These questions were derived from 39 national and 2 international surveys originating from 18 countries in the European region. Almost all questions were included both in their national language and in an English translation (if applicable).
This chapter describes the HIS questions that are included in the database. It should be kept in mind that most HIS questionnaires were totally included in the database. Multi-purpose surveys covering many questions that were not related to health, however, were only partly included. Only the health related questions of those surveys were included in the database; the background variables were not included.

5.1 Overview of areas

The questions included in the database were divided into 7 health-related areas conform the topic list (see table 5.1). Most questions in the database (almost 30%) referred to the measurement of the health status of respondents, like perceived health, chronic conditions and physical disability. Almost 1400 questions (23%) dealt with life style factors such as smoking, the use of alcoholic beverages and physical exercise. The third most frequently occurring area referred to questions on the use of health services and other social services (19%). This area includes questions like visits to the general practitioner (GP), hospitalisation and the use of medicines. Questions on demographic and socio-economic background made up 13% of all questions in the database. Questions on living and working conditions (6%), personal factors (2,5%) and prevention, health protection and promotion (2%) were not frequently included. About 4% of the questions that were included in the HIS questionnaires could not be classified according to the topic list.

Table 5.1 Number of topics per area

Area	number of topics	percentage
1 Demographic and socio-economic factors	771	13.1
2 Health status	1744	29.5
3 Personal factors	150	2.5
4 Life style factors	1376	23.3
5 Living and working conditions	355	6.0
6 Prevention, health protection and promotion	125	2.1
7 Use of health and social services	1133	19.2
9 Other factors: not classified	249	4.2

5.2 Overview of topics

Annex 5.1 presents the number of health related topics per survey. This overview shows how many questions on each topic are included. It should be kept in mind that one survey might include several questions on one topic. For example, HIS questionnaires may include a number of different questions on nutrition. Moreover, it should be noted that more than one topic code could be assigned to a question.

The most frequently occurring topic in the database was social support. The database covered 298 questions (from 20 surveys) on social support. Nearly half of the questions were derived from one survey (UK04). The second most frequently occurring topic was disease specific morbidity. The database included 283 questions (from 28 surveys) on morbidity. Questions on the use of alcohol (238 questions; 24 surveys), limitations of activity in general terms (224 questions; 21 surveys) and mental health (208 questions; 18 surveys) were also often used in health interview surveys.
Below some of the topics are discussed further, per area.

Demographic and socio-economic factors

- As we focussed on the inclusion of the health related questions in the database, multi-purpose surveys were not included totally. As a result, not all background questions were included in the database. Thus, it should be noted that the database does not give a good overview of these demographic and socio-economic factors.
- Within this area the topic "employment" is by far the most frequently included socio-economic characteristic in the database. Of all topics about 27% (207 topics) refer to the measurement of "employment" of respondents. In 26 surveys originating from 12 countries questions on "employment" are included. Some surveys only use a few questions on this topic; other surveys, like UK02 (24 questions), UK09 (21 questions) and UK05 (15 questions) pay much more attention to the measurement of "employment".
- Other rather important socio-economic items like income and education are included in 20 and 22 surveys respectively. The Impairments, Disabilities and Health Status Survey of Spain 1999 (E04) includes 18 questions to measure the (level of) education of the respondents.
- The measurement of "health insurance" is covered by 18 surveys. Among these 18 surveys 59 questions refer to the measurement of health insurance. Especially in the Dutch HIS (NL01) health insurance is measured in a rather extended way (13 questions).
- Obviously, most surveys include basic demographic characteristics like age, sex and marital status. In general "age" is considered as one of the most important determinants of health and consequently of the use of health services. The database includes the questions from 21 surveys on age, questions from 23 surveys on sex and questions from 22 surveys on marital status.
- The topic "population subgroups" is the least covered item. Only in 7 surveys questions on religious groups, ethnic origin, etc. are included.

Health status

- As a consequence of the fact that in the Disability Survey 1996/1997 of the United Kingdom (UK04) many questions (163) on "social support" were included, this topic is the most frequently occurring health indicator in the database. Also the General Household Survey (UK01) includes relatively many items (39) on social support. In 20 surveys questions on social support are included.
- "Disease specific morbidity" is the second most included health indicator in the HIS/HES database. While "social support" is only found in 18 surveys, "disease specific morbidity" is included 28 surveys.
- In general "self assessed/perceived health" (topic number 201) is considered as one of the most relevant indicators measuring 'subjective' health. In this health indicator the various dimensions of health (the physical, mental and psycho-social health aspects) are represented in some way. This simple health indicator is included in most (34) of the European health interview surveys in the database. Due to the fact that this indicator is often represented by only one single question the number of topics is limited (58).

Personal factors

- Body height and body weight are the most frequently measured personal factors. With the aid of these two measures levels of overweight can be calculated by means

of the Body Mass Index (BMI). The database covers 83 questions that are included in 27 surveys.
- 37 Questions in the HIS database refer to blood pressure, and 17 questions to serum cholesterol. Health examination surveys (HES) often include measurements.

Life style factors
- The life style factor "drinking alcohol (and driving)" is measured by 24 surveys using 238 questions. In the Swiss Health Survey of 1997 (CH01) the use of alcohol is measured in a relatively extended way. The General Household Survey 2000 (UK01) and the Scottish Health Survey 1995 (UK10) also use a lot of questions to gather information on alcohol consumption.
- Since general information on the use of alcohol is hardly sufficient (moderate use does not influence health in a negative way), in some surveys respondents are asked for their heavy drinking habits. Only in 12 surveys questions concerning heavy drinking are posed to the respondents. Again the Scottish Health Survey 1995 (UK10) uses a lot of questions on heavy drinking.
- Many life style questions concern the smoking behaviour of respondents. In contrast with drinking, even moderate smoking already has negative health effects. As mentioned in chapter 3, for some subjects both a general topic and some more detailed topics have been used. In this particular case a topic on "general smoking" plus more specific smoking topics ("heavy smoking", "former smoking", "passive smoking", and "stop/reduce smoking") were incorporated in the topic list. Almost 400 questions refer to these smoking topics. Questions on smoking occur in almost all surveys.

Living and working conditions
- As the topic list was developed to cover health questions, the topic list does not cover all aspects of living and working conditions. The HIS/HES database contains 98 questions on living and working conditions that could not be classified according to the current topic list.
- 86 Questions on occupation are included in the database. The Belgian Health Interview Survey 1997 (B01) and the French Health Barometer 1999 (F06) pay relatively much attention to the measurement of the occupational status of respondents. In both surveys 11 questions on "occupation" are used.

Prevention, health protection and promotion
- This area is mainly confined to questions on vaccinations: over 40% of all questions in this area refer to vaccinations (51 questions). In 10 surveys one or more questions on vaccinations are included.
- No questions were found that referred to campaigns or programmes in general terms, and to campaigns or programmes on safe sex.

Use of health and social services
- The topic "use of technical/medical aids" is included 142 times in the database. These 142 questions originate from 17 surveys. Most of these questions (83) are part of 1996/1997 Disability Survey of the United Kingdom (UK04). Another survey containing a substantial number of questions (30) on the "use of technical/medical aids" is the French 'Handicaps, Disabilities and Dependency Survey' 1999 (F02).
- Most surveys include one or more questions on the "use of services: general". These "general" questions do not refer to a single specific health service such as GP visits. In total, 128 general questions are included in 27 surveys.
- Many surveys also cover the contacts with GP and specialist (27 and 25 surveys; 128 and 70 questions respectively).
- The topic "hospitalisation" is also included in most surveys (29) with 96 questions.
- The low number of topics (5) referring to "mental health care" indicates that this type of questions is not (yet) properly developed to be measured by means of health interview surveys. Only the Swiss Health Survey 1997 (CH01), the Finnish Health

Care Survey 1996 (FIN05), and the Norwegian Survey on Living Conditions 1998 (N01) have included a few questions on this topic.

6. Comparability of questions from different health interview surveys

In this chapter questions from different national HIS are compared. This is done for two topics that are frequently measured in health interview surveys, namely smoking prevalence and heavy drinking. The comparison is restricted to the most important methodological aspects of the questions, like the wording and answer categories, only. This chapter will not go into other methodological aspects or into the results of these questions. In addition, this chapter illustrates how the HIS/HES database can be used.

6.1 Questions on smoking prevalence

The topic list used with the HIS/HES database includes 5 topics on smoking behaviour. In the database 196 questions refer to "smoking: general (incl. present smoking)" (topic code 401). The other "smoking topics" are less frequently represented in the database:

- 52 "heavy smoking" questions from 23 surveys (topic code 402)
- 55 "former smoking" questions from 23 surveys (topic code 403)
- 24 "passive smoking" questions from 12 surveys (topic code 404)
- 60 "stop/reduce smoking" questions from 17 surveys (topic code 405)

Not only "heavy smoking", but also "smoking in general" (which includes also moderate smoking) is a major cause of certain serious diseases like lung cancer, ischaemic heart disease. As it is also an important cause of death, we will restrict the comparison to these 196 questions on general smoking.
This negative health effect of smoking is one of the reasons why the WHO aims at decreasing the number of smokers (WHO, 1996). The overview of the questions on "smoking in general" can contribute to achieve this WHO target: the measurement of the prevalence of smokers/non-smokers.
However, a number of the questions with topic code 401 in the HIS/HES database refer to particular groups (such as smoking during pregnancy etc.) or to other aspects of smoking behaviour (such as comparisons of smoking behaviour with the past, kind of tobacco used, age started smoking, etc). In order to facilitate the measurement of this WHO target we will not discuss these different types of questions, but we will concentrate on the questions referring to the prevalence of smoking only.

Questions on the prevalence of smoking are included in most surveys (34) and the subject is measured in almost all countries. Annex 6.1 shows the wording of these questions. Among the questions on smoking prevalence applied in these 34 health interview surveys, several aspects of smoking behaviour can be distinguished:

1. questions referring to *former and actual* smoking behaviour,
2. questions in which explicitly is asked for different *types of tobacco*,
3. questions referring to the *frequency* of smoking,
4. questions referring to the *quantity* of smoking behaviour ,
5. questions using a *reference period*,

or combinations of these aspects like frequency/quantity of smoking behaviour.
All smoking questions in these 34 surveys use specified answer categories; so, none of these questions use open-ended answer categories like for example "How many cigarettes do you smoke on average per day:….".

Ad 1. *Former/actual smoking behaviour*
In some questions which refer to former and actual smoking behaviour this difference between former and actual smoking behaviour is mentioned in the answer categories only (A01, A04, E01, E04, F03, I02, INT03, NL01). In most questions, however, it is also mentioned in the wording of the question (D02, D05, FIN01, FIN02, FIN05, UK01, UK02, UK03, UK05, UK09, UK10). The questions from the other surveys do not ask for the former smoking behaviour of the respondents.

Ad 2. *Type of Tobacco*
In most questions presented in annex 6.1 no distinction is made between the different types of tobacco. However, smoke of some types of tobacco is usually not inhaled, and is therefore not very harmful to health. Only a few questions (F03, F07, INT03, IRL01, UK01, UK05, UK09, UK10) distinguish between the several types of tobacco. In the Austrian Microcensus of 1999 (A01) smoking behaviour is explicitly limited to cigarette smoking only. In some questions the difference between several types of tobacco is limited to the difference between "cigarettes" and "other types of tobacco" (F03, F07, INT03).

Ad 3. *Frequency*
The frequency of smoking behaviour is most often measured by using answer categories like "daily", "occasionally" and "not smoking", however in some surveys the wording of these categories differ slightly. In the following surveys this kind of measurement of the smoking frequency is included: A01, A04, B01, D01, D02, D05, DK01, E01, E04, FIN01, FIN02, FIN05, INT01, INT02, IRL01, IRL02, N01, NL01, P01, and S01. Few surveys refer to regular/daily smokers only: F03, I02, and IS01. In the other surveys no information on the frequency of smoking behaviour is gathered (CH01, F06, INT03, L01, UK01, UK02, UK03, UK05, UK09, UK10).

Ad 4. *Quantity*
In some questions information on the number of cigarettes smoked is gathered. In general, information on the number of cigarettes smoked is often used to determine the number of heavy smokers in a population. The most commonly used level of heavy smoking is defined as "at least 20 cigarettes per day". It should be noted that this item is included in the database as a separate topic (code 402), so most of the questions measuring "heavy smoking behaviour" will be found in the database by using topic number 402.

Ad 5. *Reference period*
Most of the questions on the smoking prevalence do not use any reference periods explicitly; neither in the wording of the question, nor in the answer categories. These questions just ask "Do you smoke?" or "Do you smoke currently/at present/now?" The Finnish Survey on Health Behaviour 2000 (FIN01) uses a reference period of one year in the starting question "Have you ever smoked daily (= almost every day for at least one year)?", but this reference period does not occur explicitly in the subsequent question on smoking prevalence: "Do you smoke now (cigarettes, cigars, pipefuls)?". The only survey using a reference period to determine the prevalence of smokers directly is the Portuguese National Health Survey 1995 (P01). The survey uses a two-week reference period: "Have you smoked in the past two weeks?".

In some questions a number of the above mentioned methodological differences are combined. For example, in the French Continuous Survey on Household Living Conditions 2000 (F07) the answer categories of the question refer to frequency, quantity and type of tobacco, while in the Austrian Microcensus 1999 the answer categories refer to the quantity of cigarette smoking only.
In general, most questions on smoking prevalence differ from one country to another, especially with respect to the wording of the questions and the content of answer categories. At this moment, it is not clear to what extent these differences will influence the assessment of the prevalence of smoking behaviour and subsequently to what extent the results will be comparable. Unfortunately, the surveys do not only differ with respect to the questioning; other methodological differences, like different surveying methods, will also affect the comparability of the smoking prevalence between the surveys.

6.2 Questions on heavy drinking

Unlike smoking behaviour, moderate consumption of alcoholic beverages does not cause serious negative health effects. Harmful use of alcohol in general occurs at a certain level of consumption. Target 17 of the WHO "Health for All" strategy refers to the reduction of this health damaging consumption of alcohol. Health damaging effects of heavy alcohol consumption include diseases such as cirrhosis of the lever, some types of cancer and hypertension (WHO, 1996). Unfortunately, there is not yet any consensus on the level of risky alcohol consumption. In addition to this, for a valid measurement of alcohol consumption a great number of aspects of this subject need to be measured. If possible these aspects should be measured in a way that they can be converted into international standard units (e.g. the measurement of quantities in pints, glasses, bottles, etc).

In the HIS/HES database 2 topics on drinking behaviour are included. The database contains 238 questions (from 24 surveys) on "drinking alcohol (and driving)" (topic code 406) and 49 questions (from 15 surveys) on "heavy drinking" (topic code 407). In some surveys, like UK01, UK02, UK09 and UK10, these topics are measured in a rather extensive way, while other surveys, for example IS01, L01 and UK04, pay only minimal attention to these topics.
Because of the aforementioned health damaging effects of heavy drinking we will concentrate in this chapter on the comparability of questions on heavy drinking. Annex 6.2 presents these questions.

Some of the different aspects of the measurement of heavy drinking are:
1. *Frequency* of drinking behaviour
2. *Quantity* of alcoholic beverages consumed
3. *Kind* of alcoholic beverages used
4. *Reference period* used to measure alcohol consumption

Ad 1. *Frequency of drinking behaviour*
In general, the frequency of drinking behaviour relates to the number of days the respondents use alcoholic beverages in a certain period. In most questionnaires this frequency is defined in the answer categories (B01, E01, F06, FIN05, I02, N01, NL01, P01, UK01, UK02, UK05, UK09, and UK10). In the British "Health and Lifestyle Survey" of 1991/92 a diary method is used: the respondent records the number of alcoholic beverages for each day during the week preceding the interview. In the other surveys the frequency is measured by using answer categories in which the frequency depends on the reference period used.

Ad 2. *Quantity of alcoholic beverages*
Just like the frequency, the quantity of alcoholic beverages is also measured in most of the surveys. In some surveys precoded answer categories are applied (B01, I02, NL01) and in the majority of the surveys open-ended answer categories are used (E01, F06, IRL01, P01, UK01, UK02, UK03, UK05, UK09, UK10). The British "Health and Lifestyle Survey" 1991/92 differentiates between the number of drinks at daytime and the number of drinks in the evening.
In some surveys the number of drinks is measured for each group of alcoholic beverages separately, other surveys just ask for the "number of alcoholic beverages".
Underreporting of the total amount of alcohol consumed is one of the major problems when measured by means of surveys. This underreporting will decrease when questions used are more specific and levels of heavy alcohol use can therefore be derived in a more valid way. A few surveys do not measure the objective amount of alcohol intake, but use questions to determine subjective measures of heavy alcohol use. In the Finnish "Health Care Survey" of 1996 (FIN05) the respondents are asked for "How often have you lately drunk so much alcoholic beverages that you have got drunk?", and in the Norwegian

"Survey on Living Conditions" 1998 (N01) respondents are asked "How many times during the past 12 months did you drink enough to feel under the influence of alcohol?".

Ad 3. *Kind of alcoholic beverages*
Most surveys distinguish between several (groups of) alcoholic beverages. Only the Finnish "Health Care Survey" 1996 and the Norwegian "Survey on Living Conditions" 1998 do not specify the different kinds of alcoholic beverages.

Ad 4. *Reference period*
The longer the reference period, the worse the memory effects of the reported consumption of alcoholic beverages, but this effect depends on the several aspects of alcohol consumption measured, such as type of beverage or quantity used. In some surveys a reference period of 12 months is applied (B01, E01, N01, UK01, UK02, UK05, UK09, and UK10). Other questions refer to a period of 6 months, to a month, or a week. In some surveys no reference period at all is used. These questions mostly refer to a typical week, month, etc. For example, the Irish "Survey of Lifestyle, Attitudes and Nutrition" 1998 ask for the consumption "during a typical week", while the Dutch "Health Interview Survey" refers to the alcoholic beverages "you ever drink".

In the present surveys included in the HIS/HES database, the measurement of alcohol consumption shows mixtures of the methodological aspects with respect to the wording of the questions and answer categories. It shows that there is no uniform measurement of quantity and frequency of alcohol consumption, reference periods differ between surveys and also the way in which different types of beverages are included in surveys differs from survey to survey. Because of these dissimilarities, it is difficult to compare the results.

7. Conclusions and recommendations

7.1 Conclusions

The present report describes the results with regard to HIS of the first phase of the project 'Health surveys in the EU: HIS and HIS/HES evaluations and models'. The report describes:

- the methods and the results of the inventory on national HIS,
- the development of a list of health topics,
- the development and the content of the HIS/HES database,
- which health related areas and topics are included in national HIS, and
- the comparability of questions on smoking prevalence and heavy drinking.

In the present inventory of HIS we collected information on the methods of 41 national HIS in 18 countries by means of a short questionnaire. In addition, we asked the contact persons to provide paper versions and computer files of the HIS questionnaires. The response was slow. However, after one or more reminders, the response was quite high. We received methodological questionnaires of 38 HIS, paper questionnaires of 40 HIS, and computer files of 31 HIS questionnaires.
The inventory shows that HIS are being executed regularly in most countries. Periodic HIS are recorded in 16 countries of the 18 that are examined. Especially in Finland, France and the UK many health surveys are being executed. In most countries one or two national HIS are recorded, namely in Austria, Belgium, Denmark, Germany, Iceland, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland and The Netherlands. Only in Greece and Luxembourg no HIS were reported.
Comparison with the former inventory of HIS in 1996/97 (Hupkens, 1997) shows that more national HIS are reported in 1999/2000. Since 1997 national HIS have been implemented in Ireland and Iceland. In the inventory of 1996/97 the Irish Department of Health reported that it was planning a national lifestyle survey in order to provide data to monitor the targets set in the National Health Strategy. This resulted in the Survey of lifestyle, attitudes and nutrition (SLAN). The first wave of this four-yearly survey was conducted in 1998; the second wave will be conducted in 2002. In Iceland a new HIS was reported, that was not yet included in the former inventory. The survey on 'Health and living conditions in Iceland' will be executed irregularly. The first wave was executed in 1998/99; in 2003 the second wave will be executed.

In order to classify the questions that are present in these national HIS, we developed a list of health topics.
The list was based on the list of health areas and health topics of the 1996/97 inventory, and on the draft set of European Community Health Indicators (ECHI) of November 1999. The list includes 93 topics, divided into 7 areas:

- 12 topics on demographic and socio-economic factors, e.g. age, sex, health insurance,
- 18 topics on health status, e.g. quality of life measures, activities of daily living,
- topics on personal factors, e.g. blood pressure, serum cholesterol, body height and weight,
- 20 topics on life style factors, e.g. diet, physical activity, (il)licit drug use,
- 12 topics on living and working conditions, e.g. occupation, accidents, housing,
- 10 topics on prevention, health protection and health promotion, e.g. screening for breast cancer,
- 17 topics on use of health and social services, e.g. dentist, hospitalization, mental health care.

This list is also used as a search tool in the HIS/HES database that we developed within the framework of this project. With help of the list of health topics it is possible to search for survey questions on particular subjects like the consumption of medicines.

The main objective of the first phase of the project was the development of the computerised database, which includes information on the methods and contents of HIS, HES and HIS/HES. The database is developed using Microsoft Access software. Developing and filling the database appeared to be time consuming. No computerised HIS questionnaires were available for a number of surveys. Fourteen questionnaires have been scanned in order to facilitate inclusion in the database. Nine questionnaires, that were not available in English, have been translated by professional translators. 37 National HIS, 2 international health surveys and the questions, recommended by the EUROHIS project, were read into the database. In total, more than 5,000 questions were included into the database, both in the original language and in English.
One of the advantages of the database is that the information can be easily disseminated, e.g. by CD-ROM or via the Internet. Another advantage is that users can search for specific information: either on particular surveys or on particular topics. Information on new surveys and new waves of existing surveys can be easily added to the database. In conclusion, the database may function as a reference tool.

Analyses of the contents of the database shows which topics are frequently included in HIS and which topics are hardly included. Topics on the health status of respondents are most often included in the surveys. Nearly 30% of the questions that are included in the database (1744 questions) refer to the measurement of health status. Especially questions on disease specific morbidity, perceived health, activities of daily living, and chronic conditions are included in many surveys.
Questions on life style factors are also often included. Nearly one quarter of the questions in the database (1376 questions) refer to life style factors. Almost all surveys include questions on smoking behaviour. Questions on diet, alcohol consumption, and physical activity are included in at least 24 surveys.
Nearly 20% of the questions in the database (1133 questions) inquire after the use of health and social services, like hospitalization, contacts with the GP, and the use of medicines. As expected, this overview of frequently measured topics is comparable to the overview of the former inventory (Hupkens, 1997).

The comparability of the questions in different national HIS was studied for two frequently included topics: smoking prevalence and heavy drinking. The comparability of both topics is limited. Many different questions are used to assess the prevalence of smokers and the number of heavy drinkers. Although a recommended instrument on smoking was introduced by WHO/CBS in 1996, questions on smoking still vary considerably between the surveys. The main reason is that most questions on smoking were included in HIS long before the recommended instrument was available. Surveys that are developed after 1996, such as the Belgian and Portuguese HIS, include the recommended questions more often. However, not all surveys include the recommended instrument. The Irish Survey of lifestyle, attitudes and nutrition, for instance, includes another question on smoking than the one recommended by WHO/CBS.

7.2 Recommendations

As stated in the introduction, the database will be updated and improved during the second phase of the project. After developing and filling the database in the first phase of the project, more attention will be paid to the quality of the translations in the second phase. Some English translations that are included in the present version of database are provided by professional translators. Other translations are official translations provided by the institutes that are responsible for the survey. However, some translations are unofficial translations, kindly provided by the contact persons. Finally, the status (and also the quality) of some translations is unknown. In order to improve the investigation of the international comparability of the survey questionnaires, the quality of the translations will be assessed and improved.

In addition, the database will be made user-friendlier during the second phase of the project, in order to enhance the use of the database. Ideally, users who are not acquainted with databases should have no problems in searching for the information they are looking for.
Finally, the database will be disseminated, preferably via the Internet.

It is intended that the database will be used as a reference tool on HIS and HES in the future. People who are involved in developing new questions for HIS, or adjusting questions in existing HIS can consult the database and generate an overview of questions from other surveys on a specific topic. In addition, a user can search for a recommended instrument, if available.
Therefore, new recommendations should be included as soon as they become available, e.g. the recommendations that are now being prepared by the EUROHIS project. Moreover, the database should be regularly updated, and improved according to the wishes of users of the database.

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