

**Comparability of health surveys in Europe:
France, United Kingdom, Russia, Poland, Czech Republic,
Germany, Greece, Italy, Spain and Sweden.**

Thomas Barnay, Florence Jusot, Thierry Rochereau, Catherine Sermet

“Indicators of active life expectancy” Project

International Longevity Centre

February 28, 2005

Acknowledgements

This study was proposed and financed by the International Longevity Centre of France in the framework of “Alliance for health and the future”.

We would like to thank Françoise Forette, Marie-Anne Brieu, Michael K. Gusmano and Charlotte Muller for their comments.

Several colleagues contributed to the realisation of this study: Marie-Odile Safon (IRDES) for the documentary service and Nelly Noël (IRDES) for the page-setting of the study.

We would like to address thanks to Anna Marek (IRDES) for their help to translate Swedish questionnaire.

I. Context

The purpose of this section is to review and assess the existing surveys and data on health and productive engagement in ten European countries. The research to identify the major sources of data on health and productive engagement in ten European countries was initially carried out by consulting:

- The European Health Interview and Health Examination Surveys Database
- The “*International Health Data Reference Guide, 2001*”, published by the U.S. Centers for Disease Control and Prevention
- The “*Review of Longitudinal Studies on Aging*”, published by the Division of Aging and Seniors, Health Canada
- And on research based on the Web search engine Google with the keywords: “health interview survey and health examination survey”.

In this way, 67 data sources on population health were identified in the following European countries: Czech Republic, Poland, Russia, France, Germany, Greece, Italy, Spain, Sweden, and United Kingdom. In order to select the most relevant surveys for international comparison, we applied four criteria, which led us to keep only:

- National surveys (representative of large part of the country)
- General population surveys (household, community-dwelling populations...) all ages or over 50 years old, excluding surveys of specific populations (poor, children, women, disabled...)
- Surveys conducted by national statistical offices, or widely recognized research centers
- Surveys which focus specifically on health status.

When several waves of the same survey exist, we used the last survey for which questionnaires and methodology are available. These criteria led us to exclude both epidemiological and health examination surveys and economic surveys with limited information on health status. As a result of this process, we retained only 25 health surveys for the final analysis (listed in Appendix D).

II. Method of analysis

In order to assess the comparability and the quality of these surveys, we examined the methodology and questionnaires of each of them. First, a standard document (responses to a list of questions) was completed for each survey to describe precisely the scope of the survey, the sample design, the data collection, and the wording of the questions on health and productive engagement (documents available upon request).

In examining health indicators, we focused on perceived health, disability prevalence chronic diseases, health-related quality of life scales, health-related behavior, anthropometrical measures and the use of health care. In examining the productive engagement indicators, we looked at both paid work (employment/ unemployment/ retirement, part time/full-time, profession or social status, income, education level, etc...) and unpaid work (caregiving and volunteering).

Using the question list, a number of synthesis tables were developed to describe:

- The existence and the comparability of questions on diseases and symptoms (table 1)
- The existence and the comparability of questions on disabilities (table 2)
- The existence and the comparability of questions on perceived health and health related quality of life (table 3)
- The existence and the comparability of questions on alcohol consumption (table 4)
- The existence and the comparability of questions on tobacco consumption (table 5)
- The existence and the comparability of questions on productive engagement (table 6)
- The availability and comparability of the main health and productive engagement indicators and quality of the methodologies (table 7)

In addition the following tables can be obtained on request:

- The health indicators used and related published results. For each main group of measures, the characteristics of the indicators are defined.
- The productive engagement indicators used and related published results. For each main group the characteristics of the indicators are described.
- The exact wording of the questions in the surveys for each type of health indicator and the detailed published results: perceived health, disability, chronic diseases, tobacco consumption, alcohol consumption and use of health care.
- The exact wording of the questions for each type of productive engagement indicator and the detailed published results: activity, income, social status, and educational level.
- The main methodological characteristics of the surveys.

Analysis of comparability of published results is presented in the appendix *Comparability of published results*.

III. Survey analysis

The survey analysis is divided into the following parts: The first section assesses the statistical quality of the reviewed surveys and evaluates their methodological comparability. In the second section, we examine the comparability of the health and productive engagement indicators used in each survey. The third section reviews the published results based on these surveys. In the last section, we make a number of recommendations for use in the major national data sources on health and productive engagement in Europe.

A. Data quality: a review of scope and methods

The purpose of this subsection is to assess the statistical quality of the 25 surveys singled out in ten different countries and to highlight those whose methodologies seem to ensure the validity of indicators on a national level and allow comparisons with the other countries data.

To assess the quality and statistical comparability of the surveys, it is important to look at the following elements:

1. The type of survey (households or individuals, panel or cross-sectional, frequency).
2. The quality of the sampling frame (biases, if any).
3. The quality of the sampling plan, the calculation of sample weights.
4. The quality of the survey procedure (the rate of non-response, the number of people surveyed, the way in which the questionnaire was administered, and the interviewers' qualifications and experience).

Most of the information was collected from the website "European Health Interview and Health Examination Surveys Database". Whenever possible, we collected additional information from national sites or the sites of the organisations who commissioned the surveys. Generally, the collected information is not precise enough to enable us to assess the quality of the surveys. In particular, information is often missing on the precise structure of the sampling plan, the calculation of sample weights, and the treatment of non-responses as well as the qualifications of the interviewers. Ideally, we should have obtained methodology reports for each of the surveys, something that hasn't been possible. Nevertheless, the information collected enables us to favour certain surveys.

1. The different types of surveys

Most of the surveys are household surveys, which combine information on households and individuals. There are two different types of approaches:

- The first is to randomly draw households, out of which one or more members are surveyed. In that case, if the sampling is done in a simple random way without replacement, all households have the same probability of belonging to the sample. Concerning individuals, there is a clustering effect when you survey several individuals per household. This should to be taken into account in the calculation of confidence intervals. With respect to individuals,

the probability of inclusion in the sample depends on the size of the household. In the end, children of large households are over-represented and thus the adults of large households are under-represented.

- The second approach is to randomly draw individuals and then survey one or more members of that individual's household. This approach is similar to the previous one but it includes replacement, which is not very different since, within a country's population, the probability of a household being drawn twice is very low.

As long as sample weights take account of the different inclusion probabilities, there is no particular advantage in using one method over the other. Selection depends instead on the sampling frame. However, in deciding which of the two approaches is best, we feel it worthwhile to favour the surveys that question all members of the household on their characteristics, something, which will be essential when we want to look at health problems such as smoking and alcoholism.

Moreover, depending on attrition rates¹, we feel it worthwhile to favour panels since they allow interesting longitudinal studies. We also favour the surveys, which are repeated the most frequently as well as those, which are carried out throughout the year, in order to avoid seasonal phenomena. Another issue is the quality of the statistical assessment. The quality of the survey depends on the quality of the sampling frame and the quality of the weighting (sample weights + correction for non-response) more than on the type of survey. Unfortunately, this information is often missing or too incomplete to be evaluated.

2. Quality of sampling frames

Most sampling frames, it seems, are national and practically exhaustive and therefore acceptable, as long as the registers used are of a good quality. The only survey we advise against is that of the Health Barometer (France) whose sampling frame is the France Telecom directory, with all the biases that it generates (unlisted numbers, mobiles, unknown draw probabilities, etc.). The sampling frame biases are often the same for all surveys, i.e. they do not take account of people in institutions and homeless people.

Eleven surveys exclude children (one excludes those under age 18, four exclude those under age 16, four exclude those under 15 and two exclude those under 12). Two surveys exclude people over 75. Five cover the entire population. Two surveys target the elderly people (one focuses on age 45 and over and the other focuses on age 50 and over).

3. Quality of sampling plans

The information collected on the HIS-HES website does not afford a precise distinction between stratified surveys and multistage surveys. When the stratification variables are age, sex, or marital status, it is clear that we are dealing with a stratified survey. When the stratification

¹ This information is unavailable for the surveys we examined.

variable is a geographic area, there is a doubt. The survey could be either stratified or multistage. Concerning the “Scottish Health Survey”, we were able to assert that this was a multistage survey by consulting the methodology report. The sample for this survey does not cover the entire territory, which reduces fieldwork costs but may induce difficult-to-assess biases. Random surveys over the entire territory are thus preferable. Stratification is an advantage insofar as it makes it possible to control representativeness through stratification variables and, in theory, reduce the estimated variance. However, in numerous surveys, it is not certain that variance can be calculated.

In most countries, the surveys seem to be able to claim national representativeness. Note that, for the UK, the surveys, which cover the whole of Great Britain, are the most pertinent. Nevertheless, we included Scotland, Wales and England because of the interest of the questionnaire.

Concerning the weighting to take into account the probabilities of inclusion in the sample and to adjust for non-responses, information is absent in most cases. When it is available, we noted that it consists in applying poststratification or calibration on known variables in the sampling frame (age, sex, regions, etc.).

4. Quality of the survey environment

The number of surveyed people usually appears sufficient to ensure low variability of the data obtained, even when analyzed by gender or other variables of classification. Nevertheless, five surveys are concerned by insufficient number of people: the “Sample Survey of the Health Status of the Czech Population” (Czech Health Survey), with approximately 2,500 people, the « German National Health Examination and Interview Survey » (7 124 people) and the « Survey on living conditions, health and environment » (4 843 people) in Germany, the « Sample Survey of the Health Status of Czech Population » (over 2 500 people) in Czech Republic, « the National Greek Survey » (3 759 people) in Greece and the « Living Conditions Survey » in Sweden (5 800 people).

Concerning the way in which the questionnaire is administered, we feel it is important to favour face-to-face surveys, insofar as they make it possible to collect better quality information on both productivity and health indicators.

Moreover, we know from the ESPS survey, which combines a telephone survey and a face-to-face survey, that the profile of these two populations is very different (higher percent of manual workers and unemployed among the people surveyed face-to-face). There are thus biases in telephone surveys, which are always impossible to fully correct afterwards. Consequently, it is preferable to avoid surveys conducted solely by phone. The issue of cost, however, is not addressed in our analysis.

5. Summary of findings with regard to data quality

In conclusion, there are essential elements missing impeding assessment the quality of the surveys, particularly concerning the sample weights and processing of non-responses. In the future, it would be of great benefit for the sponsors of the various surveys to offer more transparency on these elements, which are essential to assess the quality and comparability of the surveys and to determine their limits. Nevertheless, here is the selection we recommend on the basis of the information we have been able to obtain. This does not imply that the non-selected surveys have questionable methodologies. In most of the cases, it just indicates a lack of information on methodology.

France: In France, the ESPS survey seems particularly noteworthy: It is representative of 95 percent of households (excluding those covered by special schemes), it is biennial, and it involves a significant sample consisting of a pseudo panel. Its main shortcomings are probably that it does not cover the entire population (exclusion of people covered by special schemes) and that it is not carried out over a full year and is thus prone to seasonal biases.

The French National Health Survey is also noteworthy. One shortcoming could be that it is carried out less frequently (every ten years, and in the future every five years). The selection of one or the other of these two surveys can be done on the basis of the data sought. We advise against the Health Barometer survey, as it is administered solely by telephone and, to our knowledge, fails to account for non-responses (for the last survey in 2004, a listing of mobile phones is used). As for the survey on the living conditions of households, we do not have enough information to comment on it.

United Kingdom: In the UK, the “General Household Survey” seems particularly noteworthy. It is one of the two general population surveys that cover all of Great Britain. It has been carried out annually for the past 30 years, involves nearly 20,000 people and uses a solid methodology including the calculation of sample weights and correction of non-responses. For all of those reasons, it seems fitting to single it out for the United Kingdom.

The British Household Panel Survey covers also all of Great Britain, but the lack of information on non-responses correction and sampling weights forbids us to recommend this survey in terms of methodology.

There is also a lack of information on the other surveys. Most significantly, they do not cover the entire territory, but together the HSE, SHS, and WHS cover all Great Britain. The “English Longitudinal Study of Ageing” can be of interest if the focus is on older people. The problem is that it has no equivalent in the other countries in this study. The British surveys' common flaw is that they all seem to use multistage geographic sampling (i.e. they do not cover the entire territory). This can generate biases if health status or productive engagement is different between the selected and the omitted geographical areas

Russia: Two reasons lead us to favour the Russian Longitudinal Monitoring Survey: First, whereas it is a household survey, the “Arkhangelsk Study” concerns individuals (and not the whole household); second, we have collected much more information concerning the

“Russian Longitudinal Monitoring Survey”. However, we lack substantial information on both these surveys.

Poland: There is only one survey in Poland, which seems to conform to the selection criteria. It is representative of the Polish population, it surveys 20,100 people and its rate of non-response is only 12 percent. All members of the household are questioned and the interviews are carried out face-to-face. The survey's main shortcomings are the lack of knowledge concerning weighting, the fact that the questionnaire is not computerised and the survey's low frequency.

Czech Republic: The “Sample Survey of the Health Status of the Czech Population” would seem suitable, but it lacks statistical strength. Approximately 2,500 people were surveyed, which is insufficient if we wish to look at the prevalence of certain illnesses. Given the information available, it thus seems more sensible to select the “Labour Force Sample Survey.” But we would initially need to ensure that the sampling frame is actually representative of Czech households, as we have not found any information on that subject yet.

Germany: In Germany, from a statistical point of view, "Questions on Health – Microcensus supplementary survey" seems particularly interesting (820,000 people) with a weak non-response rate (1 %), the periodicity (every 4 years) and the history (since 1986). The two others are less relevant because of samples much weaker, a strong non-response rate (38,6 %) for "German National Health Examination and Interview Survey", and a population restricted at the 45 years and more for the «Survey on living conditions, health and environment". For the three German surveys, we do not have information on the treatment of the non-responses. "German National Health Examination and Interview Survey" will be preferred with the "Survey on living conditions, health and environment" for a comparison in general population. The "Survey on living conditions, health and environment" could be selected for a comparison on the 45 years old people and more.

Greece: There is only one survey selected in Greece. We miss information about it. It is realized with a stratification survey. We know nothing about the treatment of non-responses. The sample is limited (3,759 people), but seems sufficient to consider some general indicators of health per age, sex and social category.

Italy: The methodology seems to be similar for both Italian surveys. However, there are two reasons to choose the “Survey of Health Conditions of the Population and the Use of Health Services”. The first one is the sample size which is three larger than the “Aspect of daily living survey” one's. The second one is that the survey takes place during fourth months regularly distributed in the year (March, June, September and December), whereas the “Aspect of daily living survey” takes place entirely in December.

Spain: The sample of Labour Force Survey ad hoc module on disability is reduced to people aged 16-64 years old. Then the choice concerns to the “National Health Survey” and the “Impairments, Disabilities and Health Status Survey” which contain similar characteristics. Although some important information is missing, for example the non-responses rate, the available information allows to conclude that the surveys seem to conform to the selection

criteria: there is a stratified sampling which assures national representativeness and the non-responses is treated by a post-stratification weighting.

Sweden: There is only one selected survey in Sweden, which easily seems to conform to the selection criteria. It's an annual survey, representative of the entire Sweden population, there are non-responses corrections by post-stratification and the interviewers are trained. The problem is the small size of the sample, only 5 800 persons, which furthermore is decreasing every year. There were 15 000 persons surveyed in 1975.

B. Comparability of the indicators

1. Health indicators

Various instruments for measuring health status are available in the reviewed surveys. As suggested by Mildred Blaxter (1989), these instruments can be classified in three categories. First, diseases and symptoms, which assess health status according to a medical or biological modelling constitutes a first set of indicators. In this case, poor health status is defined as a divergence from a physiological or psychic norm. Indicators of disability corresponding to a social and functional model in which poor health status is defined as an inability to fulfill normal tasks or roles make up the second group. Measures of subjective health status constitute a third set of health indicators. We can add to these list risk factor indicators, such as alcohol and tobacco consumption, and anthropometric measures, which bring information on future health status.

Table 1

Diseases or symptoms: Three types of questions are regularly used to assess the prevalence and incidence of chronic diseases and symptoms: general questions on diseases, lists of diseases or symptoms and instruments designed for specific diseases

General question on disease: Usually there is one general yes/no question that identifies the existence of chronic diseases. The European Office of WHO has suggested a standardized question, which has been already introduced in one of the French surveys (ESPS 2002): "Do you suffer from any long standing illness or condition" (Yes/No). Although this question is included in the French National Health Survey, the wording of the question has been modified: "Do you suffer from one or more chronic disease?" (Yes/No). This modification might limit the comparability of the results. The RLMS in Russia proposes a quite similar question: "Do you have any kind of chronic illness?» In the same way, the Czech Health Survey includes a similar question: "Do you have any long-standing illness or health problem?"

These questions are widely inspired by the general questions asked in the English surveys (GHS, HSE, and SHS) and the wording is practically identical: "Do you have any long-standing illness, disability or infirmity?" The Microcensus 2002 in Germany contains a general question

(health problem included): “Do you have any longstanding health problem/longstanding disability?” Many general questions include diseases with other health problems but wordings are very different. In the National Greek Survey the wordings of the question is: “Do you suffer from a physical disease or handicap?” in the National Health Survey in Spain: “Have you suffered from any pain, illness or handicap affecting you for more than 10 days?” and in Labour Force Survey ad hoc module on disability in Spain: “Do you suffer from a health problem or disabilities during the six last months?” We notice the presence of short-term diseases or health problems: “During the past 4 weeks have you had any illness or health disorder” in the Survey of Health Conditions of the Population and the Use of Health Services in Italy.

Sometimes, the definition of long-term illnesses is limited to diseases, which require regular monitoring (Health Barometer in France), monitored diseases (CSHLC in France), and diseases or handicaps, which limit daily activities or work (Welsh Health Survey, German National Health Examination and Interview Survey, National Health Survey in Spain) or require assistance: in Aspects of Daily Living in Italy the question is: “Are you suffering from a chronic disease or a permanent disablement, which reduces your personal freedom to the extent of requiring the assistance of other people for everyday needs at home or away from home?”

Relations between diseases and productive engagement are especially analysed, for example in the Questions on Health Microcensus Supplementary Survey 2003: “Was this illness caused or made worse by your employment (including previous employment)”, in the National Health Survey in Spain: “Which pain or other symptom forced you to reduce your main activity”? or in the Labour Force Survey ad hoc module on disability in Spain: “Do your health problems restrict: the type of work that can or could make, the numbers of worked hours?”

Specific question exists in the Questions on Health Microcensus Supplementary Survey 2003: “Have you been sick (including chronic sickness) or injured in an accident during the last four weeks (including today)?”

Some surveys do not contain this kind of question and ask directly about the existence of a limited list of diseases (British Household Survey, Poland). In Aspects of Daily Living in Italy a short list of diseases is available: “Do you suffer from one of the following chronic diseases?” In the German National Health Examination and Interview Survey, the list is relative to the past: “Have you ever had any of the following illnesses / diseases”. A question including current and past diseases is present in the Survey on living conditions, health and environment in Germany: “Have you or have you ever had...” and in the Survey of Health Conditions of the Population and the Use of health Services in Italy “Do you have or did you have in the past one or more of the following illnesses or chronic conditions”?

Finally in the Arkhangelsk study in Russia, there is no general question on chronic disease but a general health question: “Do you have any complaints about your health?” We can also note that the RLMS (Russia) has a question about health problems during a limited period of time: “Have you in the last 30 days had any health problems?” in addition to the question on chronic disease.

Lists of diseases and symptoms: Questions about lists of diseases or symptoms are the second type of indicators in most surveys. Three dimensions can be used to analyse questions on disease: the several components of the morbidity, the type of diseases and the form of the questions.

- Components of the morbidity: self reported diseases (ESPS 2002, French National Health Survey, Polish Health Survey, Czech Health Survey, BHPS, SHS, HSE, GHS, German National Health Examination and Interview Survey, Survey on living conditions, health and environment in Germany, National Greek Survey, Survey of Health Conditions of the Population and the Use of Health Services in Italy, Aspects of Daily Living in Italy, Labour Force Survey ad hoc module on disability and Disabilities and Health Status Survey in Spain and Living Conditions Survey in Sweden.), diagnosed diseases (ESPS 2004, ELSA, Polish health Survey, Czech Health Survey, Survey of Health Conditions of the Population and the Use of Health Services in Italy, National Health Survey and Disabilities and Health Status Survey in Spain, Living Conditions Survey in Sweden), diseases with a medical follow up (CSHLC, 2001), treated diseases (ESPS, Polish Health Survey, Czech Health Survey, WHS, Survey of Health Conditions of the Population and the Use of Health Services in Italy, Living Conditions Survey in Sweden)
- Type of diseases: Current chronic diseases (all surveys) and/or history of chronic diseases (Arkhangelsk Study) and/or current acute diseases (Arkhangelsk Study, ESPS, French National Health Survey)
- Form of the questions: open-ended questions (GHS, HSE, SHS), open-ended questions with an additional question in Living Conditions Survey in Sweden (“Do you, in addition, suffer from any other long-term illness, after-effects from an accident, disability or other ailment?”), closed-ended questions (WHS, ELSA, RLMS, Arkhangelsk Study, Polish Health Survey, Aspects of daily living in Italy, closed-ended questions with an open-ended (*semi-closed ended* in the table 1) item for “other diseases” (ESPS 2004, BHPS, Polish Health Survey, Czech Health Survey, National Greek Survey, German National Health Examination and Interview Survey, Survey of Health Conditions of the Population and the Use of Health Services in Italy, Disabilities, Impairments and State of Health and Labour Force Survey ad hoc module on disability in Spain and National Health Examination and Interview Survey and in Survey on living conditions, health and environment in Germany) and/or a question relative to diseases occurred for the first time in the last 12 months in the Survey on living conditions, health and environment in Germany) or indicative lists of diseases (ESPS, 2002, French National Health Survey), and/or lists of specific diseases (such as diabetes, arthritis, infectious diseases,...)-(all surveys except for RLMS) or main groups of diseases (heart diseases, lung disease) without more precision (RLMS in Russia).

The lists of symptoms: Three surveys (Poland, Czech Health Survey, and Survey on living conditions, health and environment in Germany) propose an extensive list of symptoms. The Polish list contains only symptoms related to different systems (respiratory system, digestive system, mental troubles, pain). The Czech list combine symptoms, diseases and health troubles and the Survey on living conditions, health and environment propose a closed-list of self-reported symptoms with scale of gravity of affections (Very, moderately, hardly, not at all).

Some other surveys include a few questions on symptoms: back pain (French National Health Survey), pain (Health barometer, ESPS 2000 in France, ELSA in UK, German National

Health Examination and Interview Survey and National Health Survey in Spain), sleep disorders (Arkhangelsk Study in Russia, SHS, HSE, Health Barometer, National Health Survey in Spain, Impairments, Disabilities and Health Status Survey in Spain and [Living Conditions Survey](#) in Sweden), symptoms of the chest (SHS and BHPS in UK, Labour Force Sample Survey in Czech Republic, National Greek Survey and German National Health Examination and Interview Survey), heart murmur (SHS in UK), depressive symptoms (Arkhangelsk Study in Russia and Labour Force Sample Survey in Czech Republic), back pain (French National Health Survey and Labour Force Sample Survey in Czech Republic), headache (French National Health Survey, BHPS in UK, Czech Health Survey, German National Health Examination and Interview Survey, National Greek Survey, Survey of Health Conditions of the Population and the Use of health Services and Aspects of daily living in Italy, National Health survey and Disabilities, Impairments and State of Health in Spain and [Living Conditions Survey](#) in Sweden). We can notice that some symptoms are also included in certain quality of life scales or mental health scales: for example physical pain in the SF-36 and in the Duke Health Profile, sleep disorders in the CES-D, and in the Duke Health Profile.

Instrument designed for specific diseases: Four scales for assessing mental health and depression are used in the European surveys:

- The Center for Epidemiologic Study Depression scale (CES-D), which is a short self-reporting scale intended to measure depressive symptoms in the general population. This scale is used in the French National Health Survey, in the ELSA (UK) and in the National Greek Survey.
- The CASP-19, consists of 19 Likert-scaled items, which cover four theoretical domains: control, autonomy, self-realisation and pleasure. This scale is used in the BHPS and in ELSA (UK)
- The Mini International Neuropsychiatric Interview in the 1996–97 ESPS in France.
- The Symptom Checklist-90-R (SCL-90-R) instrument, an assessment from Pearson Assessments, is a brief, multidimensional self-report inventory designed to screen for a broad range of psychological problems and symptoms of psychopathology. The SCL-90-R instrument is also useful as a progress or outcomes measurement instrument. This scale is present in the National Greek Survey.

Other specific modules are included in some of the surveys:

- Diabetes (ESPS 2002 in France, SHS in UK)
- Asthma (ESPS 1998, French National Health Survey, SHS in UK), chronic bronchitis (French National Health Survey)
- Cardiovascular and high blood pressure module (SHS in UK), peripheral arterial disease (ESPS 2004 in France)
- Dental health (SHS in UK, National Health Survey in Spain)
- Fractures (broken bones) in the HSE in UK
- Pregnancy in the Survey of Health Conditions of the Population and the Use of health Services in Italy
- Scale of pain' severity in the German National Health Examination and Interview Survey

Health Examinations: In order to complete self-reported diseases and symptoms, a health examination is performed in two surveys: Arkhangelsk Study in Russia and French National Health Survey for a sub sample in five areas.

Table 1: Diseases or symptoms

	General Question on chronic diseases	Presence of disability Included in the question on chronic diseases	List of diseases (open/close/semi close-reported/diagnosed/treated)	List of symptoms	Specific disease instruments
FRANCE					
ESPS 2002	Yes	No (European office of WHO mini module)	Yes (self reported, semi closed-ended, chronic and acute) 2004 (diagnosed)	No	-96/97 depression (MINI) -98 asthma -2002 diabetes -2004 peripheral arterial disease
French National Health survey 2002	Yes	No (European office of WHO mini module)	Yes (self reported semi closed-ended, chronic and acute)	Back pain, headache, pain, sleep disorders	-depression (Ces-D) -asthma -chronic bronchitis -health examination for sub sample
Health Barometer 2000	Yes (requiring regular monitoring)	No	Yes (self reported, semi closed-ended)	Pain sleep disorders	Sexually transmitted disease
Continuous survey on household living conditions 2001	Yes (effective regular monitoring)	No	Yes (2001, self reported semi closed-ended, chronic and acute)	No	
UNITED KINGDOM					
GHS 2002	Yes	Yes	Yes (self reported, open-ended, chronic)	No	No
HSE 2002	Yes	Yes	Yes (self reported, open-ended, chronic)	Pain (1996)	Fractures
SHS 1998	Yes	Yes	Yes (self reported, open-ended 6 max, chronic)	Heart murmur Symptoms of the chest	-cardiovascular (high blood pressure) -asthma; diabetes - dental health
WHS 1998	Yes (limiting activities)	Yes	Yes (treated, closed-ended, chronic)	pain	No
BHPS 2001	Yes (health problem)	Yes	Yes (self reported, semi closed-ended)	pain	- occupational Disease - depression (CASP 19)
ELSA 2002	Yes	Yes	Yes (diagnosed, semi closed-ended, chronic)	sleep disorders	-depression (CES-D) -depression (CASP 19)
RUSSIA					
RLMS 2002	Yes + health problems	No	Yes (closed-ended, main	No	No

	last 30 days		systems)		
Arkhangelsk Study 2000	Yes (complaints)	No	Yes (closed-ended, chronic, acute)	Sleep disorder	Health examination
POLAND					
Polish Health Survey 1996	No	No	Yes (semi closed-ended, self reported, diagnosed, treated)	Yes	No
CZECH REPUBLIC					
Czech Health Survey 2002	Yes	No	Yes (semi closed-ended, self reported, diagnosed, treated, limiting)	Yes	No
Labour Force Sample Survey 2003	No	No	No	No	No
GERMANY					
German National Health Examination and Interview Survey 1998	Yes	No	Yes (semi-closed-ended list of self-reported diseases and closed-ended list of infectious diseases)	Symptoms of the chest; headache Specific self-reported pains Closed-ended list of self-reported complaints	Scale of pain' severity Women only: Illnesses affecting the uterus, ovaries or Fallopian tubes (not including cancer), Pain in the breasts
Questions on Health Microcensus Supplementary Survey 2003	Yes (in the last four weeks) In microcensus 2002: Yes (health problem)	Yes	No	No	No
Survey on living conditions, health and environment 1998		No	Yes (semi closed-ended list of self-reported current or past diseases)	Closed-ended list (with many items) of self-reported symptoms Pains	No
GREECE					
National Greek Survey 1998	Yes	Yes (handicap)	Yes (semi closed-ended list of self-reported general diseases and closed-ended list of self-reported specific diseases)	Headaches, trouble remembering things, Trembling, pains in lower back, sleeping disorders; trouble getting your breath; hot or cold spells; numbness or tingling in part of the body; lump in your throat; feeling weak in parts of your body; heavy feeling in your arms or legs	Depression (Ces-D) SCL-90
ITALY					
Survey of Health	Yes	No	Yes (list of current or past diseases - semi closed-ended list	No	No

Conditions of the Population and the Use of health Services 1999-2000			Self-reported, diagnosed and treated diseases)		
Aspects of daily living 2002	Yes	Yes (which reduces your personal freedom)	Yes (closed-ended list of self reported diseases)	Pains and symptoms (in the last two weeks)	No
SPAIN					
National Health Survey 2003	Yes	Yes	Yes (closed-ended list of diagnosed diseases)	Sleep disorders, pain, closed-ended list of self reported symptoms)	No
Impairments, Disabilities and Health Status Survey 1999	Yes	No	Yes (semi closed-ended list of self-reported and diagnosed diseases)	Sleep disorders	No
Labour Force Survey ad hoc module on disability 2002	Yes	Yes	Yes (semi-closed-ended list of self-reported health problems or disabilities)	No	No
SWEDEN					
Living Conditions Survey 2002 (ULF)	Yes	Yes	Yes (Open-ended list of diagnosed, self-reported and treated diseases)	Sleep disorders; pains in the shoulders or neck back pains	No

Disability/functional limitations

“Disability corresponds to any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being” (WHO 1980). For WHO, this limitation of activity is the “objective” form of the disease, accident, or malformation. Two main instruments can be used to assess disability: general questions on disability and measures of limitations in several types of normal day-to-day activities.

General question on disability: Functional health can be evaluated through general questions relating to limitations in usual activities due to health problems. These questions are to be found in various forms in all surveys except for CSHLC in France and the Arkhangelsk Study in Russia.

In France, two surveys (ESPS, Health) have introduced the standardized question promoted by the European Office of WHO: “For at least the last six months, have you been limited because of a health problem in activities people usually carry out?” The wording is quite similar in the Czech Health Survey: “For the past six months or more, have you been limited in activities people usually do because of a health problem?” In UK (GHS, HSE, SHS, ELSA), a general question on disability is included in a more general question asking also about long-standing illness (further information in the part concerning to diseases). “Do you have any long-standing illness, disability, or infirmity? By long-standing, I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time?” Others surveys include health problem in the Questions on Health Microcensus Supplementary Survey 2002 in Germany, Labour Force Survey ad hoc module on disability in Spain and Living Conditions Survey in Sweden). In the Labour Force Survey in Spain, the question is closed to the standardized question of WHO: “Did you suffer from a health problem or disabilities during the six last months”.

In most of surveys, there is a general question with a reference on the limitations of activities, but the wordings of the general question are not comparable:

- France (Health Barometer): “Do you have a physical impediment which affects your body and limits its functioning to any extent whatsoever?”
- UK: GHS, HSE, SHS and ELSA: “Does this illness or disability limit your activity in any way?”
- UK: BHPS: “Does your health in any way limit your daily activities compared to most people of your age? Does your health limit the type of work or the amount of work you can do?”
- UK: WHS: “Do you have any long standing illness, health problems or disability which limits your daily activities or the work you can do?”
- Poland: “Are you limited, completely or seriously in major activities of daily life, given your age, because of chronic disease or disability?”
- Russia: RLMS: “Let’s talk about what health difficulties people can have while performing various activities. Do you have such difficulties now?”

- In Czech Republic: In the Labour Survey Sample: “Did you suffer from a longstanding health problem or disability?”
- Germany: German National Health Examination and Interview Survey: “The following items are about activities you might do during a typical day. Does your health now limit you in these activities?” (in SF-36)
- Germany: Survey on living conditions, health and environment 1998: “Does your state of health prevent you from carrying out your day-to-day activities, for example, in the home, at work or in your training?”
- Italy: Aspects of Daily Living: “Are you suffering from a chronic disease or a permanent disablement, which reduces your personal freedom to the extent of requiring the assistance of other people for everyday needs at home or away from home?”
- Italy: Survey of Health Conditions of the Population and the Use of health Services: “Are you affected by a longstanding illness or a permanent infirmity that reduces your personal freedom till requiring help from other people for daily needs inside and outside the home?”
- Spain: Disabilities, Impairments and State of Health: “Have you ever had to modify your situation of employment or your occupation as a result of suffering from a disability?”
- Spain: Labour Force Survey ad hoc module on disability: “Does your health problems restrict: - the type of work that can or could make? - The numbers of work hours?”

Finally, the Questions on Health Microcensus Supplementary Survey 2003 contain a specific question: “What is the officially established degree of handicap or what is the percentage of the officially established diminution of earning capacity?” But in Microcensus 2002, a general question (health problems are included) is present (*see part on diseases*).

Three surveys do not include any general question on disability: the Health Barometer 2000 in France, the CSHLC in France and the Arkhangelsk Study in Russia.

Measures of activity limitations: In addition to the general question, several measures of disability are available.

- Activities of Daily Living (ADL), which measure the ability to carry out elementary activities, defined on the basis of observation of children’s development (feeding themselves, dressing and undressing, showering or bathing, going from bed to armchair, using the toilet, continence).
- Instrumental Activities of Daily Living (IADL), which measure the ability of individuals to live alone (doing housework, preparing meals, keeping the accounts).
- Functional limitations or activity restrictions (in seeing the printed characters of a newspaper, walking 500 meters, to go up and down stairs, etc.)

Only nine surveys provide an extensive list of disability measures (ADL, IADL and functional limitations) even though the total number of activity restriction differs among surveys: the French National Health Survey in France, the BHPS in UK, the RLMS in Russia, the Czech Health Survey, the German National Health Examination and Interview Survey and the Survey on living conditions, health and environment in Germany, the Survey of Health Conditions of the

Population and the Use of health Services in Italy , the National Health Survey in Spain and the Living Conditions Survey in Sweden.

In the other surveys the three dimensions of the disability are not fully covered. The WHS has numerous questions on both ADLs and functional limitations. The others surveys only document one dimension of disability:

- Functional limitations can be found in the GHS (UK), in ELSA (UK), in CSHLC (France), in Poland, in German National Health Examination and Interview Survey and the Survey on living conditions Survey and in Survey on living conditions, health and environment (Germany), Survey of Health Conditions of the Population and the Use of health Services (Italy), National Health Survey and Impairments, Disabilities and Health Status Survey (Spain) and the Living Conditions Survey (Sweden)
- ADLs can be found in the WHS in UK, in the ESPS survey, in German National Health Examination and Interview Survey and the Survey on living conditions Survey and in Survey on living conditions, health and environment (Germany), Survey of Health Conditions of the Population and the Use of health Services (Italy) and Living Conditions Survey (Sweden).

Finally, there is no question on specific disabilities in the HSE in UK, SHS in UK and in the Arkhangelsk Study in Russia.

Study 2000										
POLAND										
Polish Health Survey 1996	Yes (restriction of activity)	No	No	No	No	No	Yes	No	No	No
CZECH REPUBLIC										
Czech Health Survey 2002	Yes (WHO question restriction of activity)	No	No	No	Yes	Yes	Yes (incl. Confined to bed or home)	Speaking Mental	Yes (2 weeks)	
Labour Force Sample Survey 2003	Yes (with longstanding health problems)	No	No	No	No	No	No	Seeing Hearing Mental General handicap	No	
GERMANY										
German National Health Examination and Interview Survey 1998	Yes (SF-36)	No	No	No	Dressing get out the bed	Yes	Yes	Seeing/ hearing	Yes (4 weeks)	
Questions on Health Microcensus Supplementary Survey 2003	Yes in microcensus 2002 (health problems included)	No	No	No	No	No	No	No	No	No
Survey on living conditions, health and environment 1998	Yes (+limiting)	No	No	No	Getting out of bed and going to bed Getting dressed/undressed by oneself	Yes	Walk for 100 metres Run for 400 metres without a break Climb steps for more than one floor	Seeing/ hearing	No	
GREECE										
National Greek Survey 1998	Yes (+physical disease or handicap)	No (just physical disease)	No	No	No	No	No	Remembering, concentrating	No	
ITALY										
Survey of Health Conditions of the Population	Yes (permanent infirmity + limiting)	Yes	No	No	- Remain in bed even if someone is available to help him/her get up	Yes	- Stay at home without being able to go out for physical or psychological	Blindness Deaf-dumbness Deafness Invalidity due to mental handicap	Yes (4 weeks)	

and the Use of health Services 1999-2000					- Sit in a chair or armchair (not in a wheelchair) Dressing, get out the bed, Bathing, cutting the foods		reasons Walking (the longest distance)	Motor infirmity (lack of or paralysis of one of more limbs, ankylosis of one or more joints)	
Aspects of daily living 2002	Yes (+activity restriction)	Yes	No	No	No	No	No	No	No
SPAIN									
National Health Survey 2003	Yes (+pain+illness)	Yes	No	No	Getting out of bed and going to bed getting dressed/undressed by oneself washing clothes	Yes (all IADL)	Go up ten stairs, walking,	Seeing/ hearing	Yes (two weeks)
Impairments, Disabilities and Health Status Survey 1999	Yes	No	No	No	No	No	Difficulty driving, accessibility problems	No	No
Labour Force Survey ad hoc module on disability 2002	Yes (+health problem)	No	No	No	No	No	No	Seeing/hearing	No
SWEDEN									
Living Conditions Survey 2002 (ULF)	Yes (+health problem)	No	No	No	Cleaning Take a bath or shower To get up or go to bed	Yes	Run a short distance, say 100 meters, if you are in a hurry climb stairs without difficulty get on to a bus easily Take a short walk, say five minutes, at a fairly brisk pace	Seeing/hearing	No

Perceived health and Health related quality of life

Perceived health is a subjective measure that conveys the way in which individuals perceive their health status. It reflects the feelings, ideas and beliefs held by the individuals concerning their health. Perceived health can be measured by various types of instruments and the data collected informs about its various dimensions: perceived general health, quality of life, well being, etc.

Perceived general health: One of the most frequently used instruments for the subjective state of health is the question commonly entitled “*perceived general health*”. It provides an indication of the general feelings of persons about their own state of health in relation to their expectations. The terms used in the question, as well as the number and type of response items proposed, influence the replies and hinder the comparisons between surveys.

There is at least one question on perceived health in each of the reviewed surveys except for the Labour Force Survey in the Czech Republic and for Questions on Health Microcensus supplementary Survey in Germany.

In order to encourage cross-country comparisons, the European Office of WHO has suggested a standardised question (WHO and Statistics Netherlands 1996): “*How is your health in general?*” with five levels of response, “*very good, good, fair, bad, very bad*”. This question is present with this exact wording in France (ESPS 2002 and French National Survey 2002), in the UK (Health Survey for England, Scottish Health Surveys, ELSA) in Poland (Polish Health Survey 1996), in the Czech Republic (Sample Survey of the Health Status of the Czech population), in both Italian surveys and in Disabilities, Impairments and State of Health in Spain. In the RLMS in Russia, the response items are identical, but the wording of the question differs slightly. In the RLMS the question is: “How would you evaluate your health?” and in Poland (Polish Health Survey 1996): “How do you judge your health?” In others surveys, the five items differ for similar questions; “*very good, good, satisfactory, not very good, poor*” in the Survey on living conditions, health and environment in Germany; “*very good, good, regular, bad, very bad*” in the National Health Survey in Spain.

In the SF 36 health related quality of life scale, a different question of perceived health is answered: “*In general, would you say your health is...? Excellent, very good, good, fair, poor*”. This question of subjective health corresponds to the recommendations of the international WHO. These measures of perceived health are available in the German National Health Examination, in the Interview Survey and in Living Conditions Survey in Sweden. A brief version (12 questions) is available in the Survey of Health Conditions of the Population and the Use of health Services.

We find that the question asked is quite similar from one country to another despite the slight variation due to translation except for Greece. As a consequence we consider that this question is available in nine analyzed countries.

In the other surveys, there are some more specific questions. The measurement of perceived health involves questions with reference to age (BHPS), weight (the question of the French Health Barometer, based on the Duke Health Profile, proposes to assess general health

with respect to health but not weight) or with reference to a specific period of time (last twelve month in GHS and in the National Greek Survey). In the ESPS survey in France, there is another question on perceived health asking people to measure their health status on a scale from 0 to 10. In the German National Health Examination and Interview Survey, the question "How satisfied are you with your health?" allows to calculate an index from 0 to 7 ranging from "very dissatisfied" to "very satisfied". In the WHS in UK and in the Arkhangelsk Study in Russia the wording of the question is similar to the wording used by the European Office of WHO but the response items are different.

Quality-of-life scale: These instruments also fulfill a frequently expressed need for synthetic indicators to incorporate diseases, functional state, mental state and diverse measures of health status. Various devices for measuring the quality of life have been developed. For the most part, these instruments combine four main dimensions:

- 1) The physical state of the subjects
- 2) Their somatic feelings
- 3) Their psychological state, and
- 4) Their social relations and relationship with their environment.

These questions give considerable weight to functional abilities, based on the assumption that a person having difficulties walking, for example, has a lesser quality of life than one who has no difficulties.

All British surveys except for WHS contain at least the GHQ12. The Polish survey includes 11 questions of the GHQ12, but according to our correspondent, the wording was modified, limiting any comparison. The SF36 exists in the British Household Panel Survey, the Welsh Health Survey, in the 1996 HSE and in the German National Health Examination and Interview Survey. In France, the SF36 is used in the Health Survey and the Duke Health Profile in the Health Barometer. The Czech Health Survey uses eight questions of the WHOQOL (the EUROHIS quality of life measure). Finally, the Arkhangelsk study uses a visual analogic scale to measure the quality of life. The 1996-97 Swedish survey proposes the EQ-5D self-classifier to measure the health-related quality of life. Five dimensions are used to defined health status: mobility, self-care, usual activities, pain and anxiety

Table 3: Perceived health / Health related quality of life

	European Office WHO question	Specific question	SF-36	GHQ12	Others scales
FRANCE					
ESPS 2002	Yes (very good, good, fair bad very bad)	Yes (Note from 1 to 10)			
French National Health survey 2002	Yes (very good, good, fair bad very bad)	No	Yes		
Health Barometer 2000	No	Yes (referring to weight)			Duke
CSHLC 2001	No	Yes (6 items: very good, good, average, moderate, poor, very poor)			
UNITED KINGDOM					
GHS 2002		Yes (last 12 months)			
HSE 2002	Yes (very good, good, fair bad very bad)	No	Yes 1996	Yes	
SHS 1998	Yes (very good, good, fair bad very bad)	No		Yes	
WHS 1998	No	Yes (excellent, very good, good, fair, poor)	Yes		
BHPS 2001	No	Yes (very good, fairly good, fair, bad, very bad) Referring to age	Yes	Yes	
ELSA 2002	Yes (very good, good, fair bad very bad)	Yes (excellent, very good, good, fair, poor)		Yes	
RUSSIA					
RLMS 2002	Yes (very good, good, fair bad very bad)	No			
Arkhangelsk Study 2000	No	Yes (4 items: poor, fair good, excellent)			Analogic visual scale
POLAND					
Polish Health Survey 1996	Yes (very good, good, fair bad very bad)	No		Yes (11 questions)	
CZECH REPUBLIC					
Czech Health Survey 2002	Yes (very good, good, fair bad very bad)	No		Yes	WHO QoI
Labour Force Sample 2003	No	No			
GERMANY					
German National Health Examination and Interview Survey 1998	No	Yes (excellent, very good, good, fair, poor) How satisfied are you with your? Per items a 7-point scale ranging from "very dissatisfied" to "very satisfied" (...) health?	Yes SF-36/20/12/8		
Microcensus Survey 2003	No	No			
Survey on living conditions, health and environment 1998	No	How would you describe your present state of health? Very good; Good; Satisfactory; Not very good; Poor			
GREECE					
National Greek Survey 1998	No	Would you say that your health, during the last 12 months			

		was: Very good, Good, Not so good, Bad, Do not know			
ITALY					
Survey of Health Conditions of the Population and the Use of health Services 1999-2000	Yes (very good, good, fair bad very bad)	No	12 questions of SF-36		
Aspects of daily living 2002	Yes (very good, good, fair bad very bad)	No			
SPAIN					
National Health Survey 2003	No	Would you consider your health as being very good, good, regular, bad or very bad?			
Impairments, Disabilities and Health Status Survey 1999	Yes (very good, good, fair bad very bad)	No			
Labour Force Survey ad hoc module on disability 2002	No	No			
SWEDEN					
Living Conditions Survey 2002 (ULF)	Yes (very good, good, fair bad very bad)	No			EQ-5D

Risk factors

Alcohol consumption: There is at least one question on alcohol consumption in each country but not in all surveys: CSHLC (FR), BHPS (UK), Questions on Health Microcensus Supplementary Survey (GER), Living Conditions Survey (in Sweden), Labour Force Survey ad hoc module on disability in Spain, Survey of Health Conditions of the Population and the Use of health Services in Italy. The Labour Force Survey (Czech Republic) does not include questions on drinking behavior. One of the questions always allows the respondent to screen out “nondrinker”. Among people who ever drink, three types of indicators on drinking behavior are used: frequency, volumetry, and type of alcohol. Some surveys don’t use any reference period and just ask the usual frequency of consumption (French Health, SHS, WHS, Arkhangelsk, German National Health Examination and Interview Survey, Aspects of daily living) and on the number of units drunk usually on one occasion (French Health, WHS, Arkhangelsk Study in Russia, Czech Health Survey, National Health Survey in Spain). Other surveys use different reference periods to measure frequency and consumption volume:

- “In your lifetime”: Frequency (National Greek Survey),
- Last 12 months: Frequency (French Barometer, Elsa, Polish Health Survey, National Greek Survey), Frequency and Volume (GHS, HSE).
- Last month: Frequency (Czech Health Survey, RLMS); Frequency and Volume (National Greek Survey)
- Last seven days: Volume (Arkhangelsk Study in Russia, National Greek Survey)
- “In recent weeks”: National Health Survey in Spain
- Frequency in the last seven days and volume on the last day of the week (GHS, HSE, SHS)
- Frequency in the last seven days (Health Barometer in France)
- Last weekend: Frequency (Disabilities and Health Status Survey in Spain) and Volume and Frequency (WHS)
- Last Saturday: Volume (Health Barometer in France)
- Yesterday: Drink or not (Health Barometer in France)
- Per day: Volume (Survey on living conditions, health and environment in Germany)
- On the last working day: Volume (Disabilities and Health Status Survey in Spain)

In addition, three surveys have a question on the frequency of drunkenness (Health Barometer in France, Polish Health Survey and National Greek Survey). Moreover, some surveys include a screening test for alcohol:

- The CAGE (Cut, Annoyed, Guilty, Eye Opener)² is an internationally used assessment instrument for identifying problems with alcohol and particularly alcohol dependence. The CAGE screening test exists in two French Surveys (French National Health Survey, Health

² The CAGE assessment instrument includes four questions: 1. Have you ever felt you should Cut down on your drinking? 2. Have people annoyed you by criticizing your drinking? 3. Have you ever felt bad or Guilty about your drinking? 4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (Eye Opener)? (Wording proposed by the American Psychological Association).

Barometer), in the SHS and in the 1994 HSE in UK, in the Polish Health Survey, and also in the Arkhangelsk Study in Russia.

- The AUDIT (Alcohol Use Disorders Identification Test) was developed to identify persons whose alcohol consumption has become hazardous or harmful to their health. This test (only the three first questions) is included in the French National Health Survey and in ESPS in France, and in the Arkhangelsk Study in Russia.

Table 4: Risk factors: alcohol consumption

	CAGE	AUDIT	Drinker/non drinker	General frequency	Specific frequency	General volumetry	Specific volumetry	Type of alcohol	Drunkness	Consumption evolution
FRANCE										
ESPS 2002	No	Yes (3 question)	Yes	Yes	No	Yes	No	No		No
French National Health Survey 2002	Yes (12 months)	Yes (3 question)	Yes	Yes	No	Yes	No	Yes		No
Health Barometer 2000	Yes	No	Yes	No	7 last days 12 months Last week end	No	Yesterday Last Saturday	Yes	Yes	No
Continuous Survey on Household Living conditions 2001	No	No	No	No	No	No	No	No	No	No
UNITED KINGDOM										
GHS 2002	No	No	Yes	No	12 months 7 days	No	12 month The last day of the last week	Yes	No	Yes
HSE 2002	Yes 1994	No	Yes	No	12 months 7 days	No	12 month The last day of the last week	Yes	No	Yes
SHS 1998	Yes	No	Yes	Yes	Day of the last drink		7 days	Yes	No	No
WHS 1998	No	No	Yes	Yes	No	Yes	Week end	No	No	No
BHPS 2001	No	No	No	No	No	No	No	No	No	No
ELSA 2002	No	No	No	No	12 months	No	No	NO	No	Yes (since last HSE)
RUSSIA										
RLMS 2002	No	No	No	No	30 days	No	No	Yes	No	No
Arkhangelsk Study 2000	Yes	Yes	Yes	Yes	No	Yes	7 days	Yes	No	No
POLAND										
Polish Health Survey 1996	Yes	No	No	No	12 months	No	No	Yes	Yes	No
CZECH REPUBLIC										
Czech Health	No	No	Yes	NO	Day of the last	Yes	No	No	Yes	No

Tobacco consumption: Information on smoking or on tobacco consumption is present in almost each of the surveys: only two surveys don't have this question, the Labour Force Sample Survey (Czech Republic) and the Labour Force Survey ad hoc module on disability in Spain.

The questions are quite different from one survey to the other, but it's generally possible to identify current smokers and non-smokers. In some of the survey, it is possible in addition to distinguish among non smokers, (former smokers versus never smokers: in France (ESPS, French National Survey 2002, Health Barometer), in the UK (GHS, HSE, SHS, WHS, ELSA), in Russia (RLMS, Arkhangelsk Study-only if the former smoker previously smoked every day), in the Czech Republic (SSHSCP), in Germany (German National Health Examination and Interview Survey, Questions on Health Microcensus Supplementary Survey and Survey on living conditions, health and environment), in Greece (the National Greek Survey), in Italy (Survey of Health Conditions of the Population and the Use of health Services and Aspects of daily living), in Spain (National Health Survey, Impairments, Disabilities and Health Status Survey) and in Sweden (Living Conditions Survey).

The amount of tobacco currently smoked is known in all surveys (except in the Russian RLMS, in the Welsh Health Survey and in the Living Conditions Survey in Sweden), with the specification of the type of tobacco (cigarettes, cigars, pipes, etc.), and/or distinguishing between weekend-consumption and weekday-consumption. Only four surveys have information on exposure to other people's tobacco smoke (WHS, Arkhangelsk Study, German National Health Examination and Interview Survey and Survey on living conditions, health and environment in Germany).

Table 5: Risk factors: tobacco consumption

	Smoker/non smokers	Former smoker / Never smoker	Volumetry per day	Type of tobacco	Exposure to others' tobacco
FRANCE					
ESPS 2002	Yes	Yes	Yes	Yes	No
French National Health Survey 2002	Yes	Yes	Yes	Yes	No
Health Barometer 2000	Yes	Yes	Yes	Yes	No
Continuous Survey on Household Living conditions	Yes	No	Yes	Yes	No
UNITED KINGDOM					
GHS 2002	Yes	Yes	Yes	Yes	No
HSE 2002	Yes	Yes	Yes	Yes	No
SHS 1998	Yes	Yes	Yes	No	No
WHS 1998	Yes	Yes	No	No	Yes
BHPS 2001	Yes	No	Yes	No	No
ELSA 2002	Yes	Yes	Yes	Yes	No
RUSSIA					
RLMS 2002	Yes	Yes	No	Yes	No
Arkhangelsk Study 2000	Yes	Yes (every day)	Yes	Yes	Yes (discomfort in smoky place)
POLAND					
Polish Health Survey 1996	Yes	Yes	Yes	No	No
CZECH REPUBLIC					
Czech Health Survey 2002	Yes	Yes	Yes	No	No
Labour Force Sample Survey 2003	No	No	No	No	No
GERMANY					
German National Health Examination and Interview	Yes	Yes	Yes	Yes	Yes
Questions on Health 2003 Microcensus Supplementary	Yes	Yes	Yes	Yes	No
Survey on living conditions, health and environment 1998	Yes	Yes	Yes	Yes	Yes
GREECE					
National Greek Survey 1998	Yes	Yes	Yes	No	No
ITALY					
Survey of Health Conditions of the Population and the Use of	Yes	Yes	Yes	Yes	No
Aspects of daily living 2002	Yes	Yes	Yes	Yes	No
SPAIN					

National Health Survey 2003	Yes	Yes	Yes	Yes	No
Impairments, Disabilities and Health Status Survey 1999	Yes	Yes	Yes	Yes	No
Labour Force Survey ad hoc module on disability 2002	No	No	No	No	No
SWEDEN					
Living Conditions Survey 2002 (ULF)	Yes	Yes	No	No	No

Anthropometric measures: There are questions on height and weight in most of the reviewed surveys except for CSHLC in France, BHPS in UK, ELSA in UK, the Labour Force Sample Survey in Czech Republic, the National Greek Survey and the Labour Force Survey ad hoc module on disability in Spain. As a consequence, the Body Mass Index (BMI) can be calculated, allowing assessment of cardiovascular risk factors.

2. Productive engagement indicators

Employment status: Several indicators related to employment status can be found in the reviewed surveys. The job market status is described in all surveys. It allows to classify persons as employed, unemployed, retired or inactive. The distinction between employee and self-employed can be also made in all surveys (except for Arkhangelsk Study, National Greek Survey and Living Conditions Survey in Sweden). In contrast, the civil servant status, which is mentioned in all French surveys, is only clearly mentioned in the BHPS, in UK in the RLMS, in Russia, in Poland (Polish Health Survey), in the German National Health Examination and Interview Survey, the Survey on living conditions, health and environment and Questions on Health Microcensus Supplementary Survey in Germany, in Aspects of daily living in Italy, in the three spanish surveys, in Living Conditions Survey in Sweden and. However, some information on civil servant status could be provided by the job description.

Work time is also mentioned in most of surveys, with the exception of the Welsh survey in UK, the Health survey, the Arkhangelsk Study in Russia, Survey on living conditions, health and environment in Germany, the National Greek Survey, the Survey of Health Conditions of the Population and the Use of health Services in Italy, National Health Survey and Impairments, Disabilities and Health Status Survey in Spain and the Living Conditions Survey in Sweden. The exact number of work hours is asked in the ESPS in the French Health survey, and in the CSHLC in France, the GHS, the BHPS and ELSA in UK, in the RLMS in Russia, and in the Polish Health Survey in Poland in the Labour Force Sample Survey in Czech Republic and in Questions on Health Microcensus Supplementary Survey. Other surveys provide only information on part-time and full-time (Health Barometer in France, HSE and SHS in UK, National Greek Survey, and National Health Survey in Spain).

Unpaid work: Two dimensions of unpaid work can be found in the reviewed surveys: Unpaid labour in a family enterprise and caregiving to disabled adults. Most of the surveys provide information on help to family members in economic enterprises, even if not paid (for example help to self-employed or farmer): French Health Survey and CSHLC in France, GHS, HSE, WHS, BHSP, ELSA in UK, RLMS in Russia, Polish Health Survey in Poland, Labour Force in Czech Republic, in the German National Health Examination and Interview Survey and Survey on living conditions, health and environment and in Questions on Health Microcensus Supplementary Survey in Germany, Survey of Health Conditions of the Population and the Use of health Services, in Aspects of daily living in Italy, in the three spanish surveys and in Living Conditions Survey in Sweden. Additionally, some surveys provide information on informal care giving and volunteer work.

In France, the Duke Health Profile contains a question on leisure and participation to organizations, clubs or societies in the Health Barometer. One question the 1997-CSHLC asks is if the person is a member of any organization, club, or society (and the type of association). The next ESPS (2004) also has also a question on collective participation

In UK, the GHS and the WHS have questions about the time spent looking after people who have long-term physical or mental ill health or disability or problems related to old age, the

BHPS questions both on caring for disabled people and on membership in a trade union or association. In ELSA, a general question on activities during the last month mentions volunteer work, caring for a sick or disabled adult, looking after home or family, as well as other types of activities (paid work, self-employment). Another question asks if the person is a member of any organization, club, or society.

One question in the RLMS in Russia asks if the person is a member of a political party, a political organization, or a non profit federal organization, and another question is related to collective participation during the last three years.

Occupational status: There is information on type of job skills in all surveys (for the Living Conditions Survey in Sweden only the job is mentioned), which is derived from the exact job title or from job classifications. However, classifications are not directly comparable. Then an appropriate coding (for example in two groups—manuals/non manuals or skilled/unskilled) will be necessary for international comparisons.

Education: All surveys have information on education level. However, because of the differences in educational systems between the countries the questions and the items of response are not directly comparable. We think that the only way to obtain a comparable measure of education level is to convert each degree to years of education.

Income: There is information on income in all countries and almost all surveys (except for the Welsh Health Survey in UK, the Labour Forces Sample Survey in Czech Republic, the Arkhangelsk Study in Russia and in the Living Conditions Survey in Sweden). In all these countries, an indicator of the total amount of household income can be created.

Individual income is present only in France (1997 Continuous Survey on Household Living Conditions), in the UK (GHS, BHPS, ELSA), in Russia (RLMS) and in Questions on Health Microcensus Supplementary Survey. Sources of income (pension, governmental support, familial allowance, etc.) are mentioned in France (ESPS, French National Health Survey, Continuous Survey on Household Living Conditions), in UK (GHS, HSE, SHS, BHPS), in Russia (RLMS), in Poland, in Germany (Survey on living conditions, health and environment and Questions on Health Microcensus Supplementary Survey.), in Italy (Survey of Health Conditions of the Population and the Use of health Services) and in Spain (Impairments, Disabilities and Health Status Survey and Labour Force Survey ad hoc module on disability).

In all of these countries, an indicator of the total amount of household income can be built (except for the SHS, where only sources of income are mentioned, and not the amount of each kind of income).

We think that the best way to compare income as a productive engagement for cross-countries comparison is to consider household income (which is available in all surveys, with the exception of the Welsh Health Survey and the Scottish Health Survey in UK, the Arkhangelsk Study in Russia, the Labour Forces Sample Survey in Czech Republic and in the Living Conditions Survey in Sweden) and to use the income distribution of each country to assign individuals to comparable groups by relative income (the 10 percent poorest, etc.).

Table 6: Productive engagement

	Employed unemployed/retired/ inactive	Self- employed	Civil servant	Work time	Part time/ Full time	Unpaid work	Caring for disabled people	Collective participation	Occupational status	Income	Educational level
FRANCE											
ESPS 2002	Yes	Yes	Yes	Yes	No	No	No	Yes (2004)	Yes	Yes (household) sources	Yes
French National Health survey	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes (household)	Yes
Health Barometer	Yes	Yes	Yes	No	Yes	No	No	Yes Duke	Yes	Yes (household)	Yes
Continuous survey on household living conditions 2001	Yes	Yes	Yes	Yes 1997	No	Yes	No	Yes 1997	Yes	Yes (household)	Yes
UNITED KINGDOM											
GHS	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes (individual) sources	Yes
HSE	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes (household) sources	Yes
SHS	Yes	Yes	No	No	Yes	No	No	No	Yes	Sources only	Yes
WHS	Yes	No	No	No	No	Yes	Yes	No	Yes	No	Yes
BHPS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (individual) Sources	Yes
ELSA	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes (household) sources	Yes
RUSSIA											
RLMS	Yes (official and non official)	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes (household) last 30 days sources	Yes
Arkhangelsk Study	Yes	No	No	No	No	No	No	No	Yes	No	Yes
POLAND											
Polish Health Survey	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes (household)	Yes
CZECH REPUBLIC											
Czech Health Survey	Yes	Yes	No	No	No	No	No	No	Yes	Yes (household)	Yes
Labour Force	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No (just a	Yes

Sample Survey										subjective appreciation of income level)	
GERMANY											
German National Health Examination and Interview Survey 1998	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes (household)	Yes
Questions on Health Microcensus Supplementary Survey 2003	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes (individual and household) Sources	Yes
Survey on living conditions, health and environment 1998	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes (household) sources	Yes
GREECE											
National Greek Survey 1998	Yes	No	No	No	Yes	No	No	No	Yes	Yes (household)	Yes
ITALY											
Survey of Health Conditions of the Population and the Use of health Services 1999-2000	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes (household) sources	Yes
Aspects of daily living 2002	Yes	Yes	Yes	Yes (on average every week)	No	Yes	No	Yes	Yes	Yes (household)	Yes
SPAIN											
National Health Survey	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes (household)	Yes
Impairments, Disabilities and Health Status Survey 1999	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes (household) sources	Yes
Labour Force Survey ad hoc module on	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes (household) sources	Yes

disability 2002											
SWEDEN											
Living Conditions Survey 2002 (ULF)	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes (but only job description)	No	Yes

C. Summary of available health and productive engagement indicators for international comparisons

Few health indicators exist in all surveys, and furthermore existing indicators are, for the most part, non-comparable. However the following indicators could be considered for international comparison.

- Self-perceived health is present in all surveys except Labour Force Survey in Czech Republic, Questions on Health/Microcensus Supplementary Survey in Germany and Labour Force Survey ad hoc module on disability in Spain and we think that the comparability of the wording is acceptable in several surveys except for the CSHLC and the Health Barometer in France, the BHPS, the GHS and the WHS in UK, the Arkhangelsk Study in Russia, the German National Health Examination and Interview Survey and the Survey on living conditions, health and environment in Germany and in the National Greek Survey.
- Height and weight are available in all surveys except for CSHLC in France, BHPS in UK, ELSA in UK, Labour Force Survey in Czech Republic, Labour Force Survey ad hoc module on disability in Spain and the National Greek Survey.
- Smokers and non-smokers can be identified in all surveys except for the Labour Force Survey in Czech Republic and the Labour Force Survey ad hoc module on disability in Spain. Former smokers and those who never smoked can also be identified in almost all surveys with the exception of CSHLC in France, BHPS in UK, Labour Force Survey in Czech Republic and Labour Force Survey ad hoc module on disability in Spain. Finally the amount of tobacco smoked is measured in all surveys except for RLMS in Russia, WHS in UK, Labour Force Survey in Czech Republic, Labour Force Survey ad hoc module on disability in Spain and Living Conditions Survey in Sweden.
- There are many questions on alcohol consumption in the surveys but unfortunately most of the time they are very heterogeneous and not comparable. The only way to compare the alcohol consumption behavior between France, UK, Russia and Poland is to use the CAGE questionnaire, which assesses the level of alcohol addiction. The CAGE is only present in the following surveys: RLMS and Arkhangelsk Study in Russia, HSE and GHS in UK, French National Health Survey and Health Barometer in France.

A general question on chronic diseases is present in all surveys except for the Polish Health Survey and the Labour Force Survey in Czech Republic. However, the wording of the questions differs significantly between surveys. Therefore, we think that international comparisons might be misleading.

Other indicators, including general questions on disability, IADL, ADL or functional limitations, list of diseases or symptoms and quality of life scales either exist in very few surveys, or are not comparable.

For productive engagement, the following indicators could be considered for international comparison:

- Employment status (employed, unemployed, retired, and inactive) is collected in all surveys. However, the distinction between employed and self-employed cannot be made in the WHS in UK, in the Arkhangelsk Study in Russia, in the National Greek Survey and in the Living Conditions Survey in Sweden.
- Unpaid work (i.e., contributing to family enterprises) is mentioned in all surveys, except for the ESPS and the Health Barometer in France, the SHS in UK, the Arkhangelsk Study in Russia, the Czech Health Survey and in the National Greek Survey.
- The distinction between part-time work and full-time work is available in most of the surveys; the exceptions are CSHLC in France, WHS in UK, Arkhangelsk study in Russia, both Czech surveys, in Survey on living conditions, health and environment in Germany, in both Italian surveys, in the Impairments and in the Disabilities and Health Status Survey in Spain.
- Household income is collected in all surveys, except for WHS survey in UK, Arkhangelsk study in Russia, Labour Force Survey in Czech Republic and the Living Conditions Survey in Sweden.
- Occupation is asked in all surveys (for the Living Conditions Survey the description of job is only available).
- Education is mentioned in all surveys.

Other indicators (civil servant status, looking after disabled people, and collective participation) exist only in few surveys, and thus cannot be used for international comparisons.

It is possible to recommend certain a number of surveys on the basis of the health indicators they include. However, it is difficult to give recommendation from a methodological point of view, because of the lack of available information on numerous surveys. It is also difficult to recommend some surveys on the basis of available results in view of the small number of strictly comparable results.

To conclude, what are the major sources of data on health and productive engagement in the ten selected European countries?

In France, we recommend without hesitation, the ESPS and the French National Health Survey, based on their health indicators and methodology. The availability of productive engagement indicators (and particularly unpaid work) leads us to recommend the French National Health Survey for use in our final analysis of active ageing.

It is difficult to recommend a particular survey in United Kingdom. The criterion of the national representativeness would lead us to recommend the GHS or the BHPS, while the comparability of the health indicators would lead to recommend the other surveys (SHS, HSE, WHS), which concern respectively England, Scotland and Wales.

In Russia, the RLMS can be used in a satisfactory way based on its methodological quality and extent of comparable health indicators, except for alcohol

addiction. Even if the Polish Health Survey is the only health survey for this country, it can be fully recommended.

The two available surveys of the Czech Republic do not provide data that are comparable to the other countries in the project is questionable. On the one hand, the Czech Health Survey includes only 2500 individuals, which limits the robustness of the results and on the other hand, the Labour Force Survey contains only a few questions about disabilities.

In Germany, the German National Health Examination and Interview Survey contains the most exhaustive information about health and active indicators. Even if the non-response rate is very strong, the sample remains very consequent and representative. "Questions on Health – Microcensus supplementary survey" is the most statistically rigorous but contents are very insufficient.

In Greece, the single selected survey is characterized by methodological limits (restricted and weak sample) and doesn't be used to realize international comparisons for all ages. The comparison is possible for adults and general indicators (with a few items).

The biannual National Health Survey in Spain is much recommended because of methodological quality and most of main standardised health and productive engagement indicators are available.

In Italy, the most suitable survey is the Survey of Health Conditions of the Population and the Use of health Services. It is in conformity with the criteria of methodological requirement and contains a lot of information.

Finally the sample of the single Swedish survey is not very important with 6 000 persons. Nevertheless, this difficulty can authorize general indicators' comparison (as subjective health) with other countries.

Table 7: Availability of the main health and productive engagement indicators and quality of the methodologies

	Quality of the methodology	Self perceived health	Height and Weight	Smoker/ Non smoker	CAGE	Employed; self-employed; Unemployed; retired; inactive	Unpaid work	Part-time full-time or work time	Occupational status	Household income	Education
FRANCE											
ESPS 2002	Good	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
French National Health survey	Good	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health Barometer	Sampling biases	Not comparable	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Continuous survey on household living conditions 2001	Good	Yes, not comparable	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
UNITED KINGDOM											
GHS	Good	Yes, not comparable	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
HSE	Regional sample	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SHS	Regional sample	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
WHS	Regional sample	Yes, not comparable	Yes	Yes	No	Yes but no self-employed	Yes	No	Yes	No	Yes
BHPS	Good	Yes, not comparable	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
ELSA	Good	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
RUSSIA											
RLMS	Good	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Arkhangelsk Study	Local sample	Yes, not comparable	Yes	Yes	Yes	Yes but no self-employed	Yes	No	Yes	No	Yes
POLAND											
Polish Health Survey	Good	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CZECH REPUBLIC											
Czech Health Survey	Reduced sample	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes

SWEDEN											
Living Conditions Survey 2002 (ULF)	Reduced sample	Yes	Yes	Yes	No	Yes but no self-employed	Yes	Yes	Yes (but only job description)	No	Yes

Appendix: Comparability of published results

1. Type of available results

The results of the studies on health status and productive engagement appear either in articles in scientific journals (which generally study a particular aspect of the health status, as for example alcoholism or a specific pathology) or in reports (which provide an exhaustive panorama of the present indicators of health in surveys - often available directly on the web).

Articles search

First, we looked for the articles, which presented the results of the studies selected beforehand. This research is based on MEDLINE, EMBASE, CINDOC and IRDES Base. This first research permits to select **486 articles**.

Second, we selected:

- Articles published in French, in English, in German only on the last wave of the selected surveys (*i.e.* the wave of which we analysed the questionnaire and the methods)
- Results for surveys realized after 1995.
- By analysis of abstracts (by key-words)

In most of these articles, a specific sample of the population is studied on a particular theme (as for example the cardiovascular mortality in Averina M *and alii*, 2003³). Besides, a few articles give detailed and general data (tables of descriptive statistics), which are exploitable in a comparative perspective.

After all, only 15 articles corresponded to these criteria.

These articles are published in eleven leading international reviews: The Journal of Epidemiology Community Health, The European Journal of Epidemiology, The Journal of Health Economics, Social Science and Medicine, the Clinical Chemistry, Health Policy, International Journal of Methods in Psychiatric Research, Preventive Medicine, European journal of Clinical Nutrition, Reviews on Environmental health and the Archives of Psychiatry and Psychotherapy.

They are concentrated on 8 surveys: BHPS, GHS, ELSA, Polish Health Survey, Arkhangelsk study (Russia), German National Health Examination and Interview Survey and Microcensus in Germany and Living Conditions Survey in Sweden.

Results are presented in the third column of the synthetic tables (appendix 4 and 5) and the corresponding bibliographical references in the fourth column.

Search of reports

³ Averina M, Nilssen O, Brenn T, Brox J, Kalinin AG, Arkhipovsky VL, 2003, "High cardiovascular mortality in Russia cannot be explained by the classical risk factors". The Arkhangelsk Study 2000. European Journal of Epidemiology;18:871-78. (This article was retained)

The second type of available results is the reports and the online statistics.

After a research on the web and with the help of our correspondents, we had an access to:

- 2 French reports (Health Barometer 2000 and SPS 2002)
- 6 English reports (the Scottish Health Survey 1998 (SHS), the Welsh Health Survey 1998 (WHS), the English Longitudinal Study of Ageing 2002 (ELSA), The General Household Survey 2002 (GHS) and two reports for the Health Survey for England (HSE))
- 1 report for the Sample Survey of the Health Status of the Czech Population 2002
- 1 report for The Russian Longitudinal Monitoring Survey 2002 (RLMS)

Most of the on-line reports are accessible on governmental sites. When the full report is not accessible, it is possible to access to general statistics: the link <http://www.stat.gov.pl/english/index.htm> gives some results about the Polish Health Survey in Poland.

The results of the Health Survey for England (HSE) are very impressive and can be found in many reports. For each year, HSE reports are focused on a scope. For 2002, the study of children is privileged. Three reports are available (<http://www.official-documents.co.uk>): The Health of Children and Young People, Maternal and Infant Health and Methodology and Documentation. In 2000, a report deals with The General Health of Older People and their use of Health Services but only for people aged 65 and over. For this survey, results of 2002 and 2000 reports are mentioned to give complete information. In France, full reports of Health Barometer 2000 (<http://www.inpes.sante.fr/Barometres/Baro2000/pdf/pagees.pdf>) and SPS 2002 (<http://www.irdes.fr/irdes/Fichenqu/enquesps.htm>) were published and partially on the web.

For a survey as important as the British Household Panel Survey, no report is available on-line. However, for each year, an inaugural BHPS research conference is organized with the aim of providing an international forum for the exchange of research based on the web site of the BHPS⁴ (<http://iserwww.essex.ac.uk/ulsc/bhps/>). All working papers can be downloaded but they don't give a general vision of health status in UK because they are very specific papers.

Certain official web sites don't provide English information. For the three Spanish surveys, a lot of results (in Spanish only) in particular relatives to disabilities are available on the web site of the national institute of statistics (*Instituto Nacional de Estadística*: <http://www.ine.es>). In the web site of the National Center of statistics in Sweden (<http://www.ssd.scb.se/databaser/makro/start.asp?lang=2>), data health results are not downloaded in English. In Germany, the RKI (Robert Koch Institute) web site proposes booklets on line concerning to the National Health Examination (about diseases, overweight, Hepatitis C...) but only in German.

The Italy's National Statistical Institute (www.istat.it) provides many results about disabilities, chronic diseases, and alcohol and tobacco consumptions by regions, age-groups and sex.

The reading of the tables in appendix 4 is the following. In the card index of perceived health (appendix 4A), we can find results relative to self-rated health (good / poor for active

⁴ A list of publications based on BHPS Data is available in http://iserwww.essex.ac.uk/ulsc/bhps/doc/vola/app5_2.php.

and inactive) concerning the British Household Panel Survey between 1991 and 1998 in this bibliographic reference: Bartley M, Chandola T, Schofield P and Wiggins R, 2003⁵.

2. Comparability of results by indicators

If we assume that the understanding of the questions and the construction of variables are comparable (see sections III A & B) from one survey to the other, two conditions are required for comparing the results:

First, the questions of the survey must be similar to measure the same phenomenon. Second, the results have to be available and have to cover identical populations (sex, age-groups and socio-economic characteristics).

Besides, when the results consist on cross-tabulations of health indicators and productive engagement indicators, the comparison is never really possible for many reasons:

- The choice of the author to group variables in different categories. For example in the ELSA report (Marmot M et al., 2003) the occupational status are grouped in three groups: professional and managerial, intermediate and routine and manual. Based on the British household panel survey, Bartley, Clarke and Sacker (2004) class the occupational in 6 groups: higher managerial and professional, lower managerial and professional, intermediate occupations, small employers and own account, semi routine occupation and routine occupation (limiting long standing illness by sex and occupation).
- The choice of the age groups for the presentation of the results (five years age groups, ten years age group...)
- The studied sub sample (active only/ women only...)
-

A big difficulty refers to the comparison of productive engagement indicators because they are defined in reference of national specificities (educational system, job market characteristics, laws, own occupational classification...). Nevertheless, concerning health indicators certain comparisons are possible but they are limited.

Perceived health status

Perceived health status' results are available for 13 surveys (ESPS, Health Barometer, GHS, HSE, SHS, WHS, BHPS, ELSA, Polish Health Survey, Czech Republic, Survey of Health Conditions of the Population and the Use of health Services, National Health Survey in Spain and Living Conditions Survey in Sweden). As we noticed before, the perceived health status indicator respects mostly the first condition. Indeed for the most of surveys, which deals with perceived health status, the question's wording and item of answers are similar. Among these ten surveys results could be comparable according to the wording in only 10 surveys (ESPS, HSE, SHS, WHS, ELSA, Polish Health Survey, Czech Republic Health Survey, Survey of Health Conditions of the Population and the Use of health Services, National Health Survey in Spain and Living Conditions Survey in Sweden).

⁵ Bartley M, Chandola T, Schofield P and Wiggins R, 2003, "Social Inequalities in health by individual and household measures of social position in a cohort of healthy people", *Journal of Epidemiology Community Health*, 57, pages 56-62.

We can strictly compare the results of the perceived health status by sex and age groups between the Czech Republic and SHS because the question (*How is your health in general? Would you say it was? very good, good, fair, bad, very bad*) in the survey and the age groups (by ten years) are the same.

Disabilities

Disabilities results are present in 15 surveys (ESPS, Health Barometer, GHS, HSE, SHS, WHS, ELSA, Polish Health Survey, Czech Republic, German National Health Examination and Interview Survey, Survey of Health Conditions of the Population and the Use of health Services, National Health Survey in Spain, Impairments, Disabilities and Health Status Survey in Spain, Labour Force Survey ad hoc module on disability in Spain and Living Conditions Survey in Sweden). The form of results diverge significantly cause of differences in questions wording. In the Health Barometer, disabilities results appear in the Duke Health profile but no directly. ESPS survey use a very specific French score: the “level of handicap”. Even if results are very detailed (by sex, age-group, social category, education level, monthly income, sort of household) the comparison with others countries results is not evident. In GHS, the general question on disabilities and chronic diseases allows to provide numerous tables, it is not the case in others surveys.

In conclusion, many forms of results co-exist: the prevalence of disability (ESPS, HSE, Polish Health Survey, Czech Survey, Survey of Health Conditions of the Population and the Use of health Services, National Health Survey, Impairments, Disabilities and Health Status Survey, Labour Force Survey ad hoc module on disability) or the prevalence of hearing or seeing difficulties (WHS, ELSA), the average of level of handicap (ESPS), the association with other indicators or criteria (German National Health Examination and Interview Survey, Living Conditions Survey) and difficulties with ADL or IADL (ELSA, Polish Health Survey). The comparison does not seem possible with such results cause of the definition and methodology’s differences.

Chronic diseases

Many types of information are given in articles and reports for 15 surveys (ESPS, Health Barometer, GHS, HSE, SHS, WHS, BHPS, ELSA, Polish Health Survey, Czech Republic, Arkhangelsk Study, German National Health Examination and Interview Survey, Survey of Health Conditions of the Population and the Use of health Services, Labour Force Survey ad hoc module on disability and Living Conditions Survey):

- Number of diseases by person (by activity and occupational status in ESPS)
- Prevalence of diseases in general population by age and sex (ESPS, GHS, SHS, HSE, WHS, ELSA, Polish Health Survey, Czech survey) or diseases for a specific population (in Barometer for the aged population, after 65), or particular disease like cardio-vascular and stroke in Arkhangelsk study.

The most frequent results on diseases correspond to cardiovascular and respiratory diseases. We can find this information for 9 surveys (ESPS, Health Barometer, GHS, HSE, SHS, WHS, ELSA, Arkhangelsk Study and Czech survey).

Many cardio-vascular diseases are detailed in results in particular:

- Hypertension (GHS, HSE, SHS, WHS, ELSA, Arkhangelsk Study, Czech survey, Survey of Health Conditions of the Population, the Use of health Services and Living Conditions Survey)
- Heart Attack (GHS, HSE, SHS, WHS, ELSA and Arkhangelsk Study)
- Stroke (GHS, HSE, SHS, WHS, ELSA and Czech Survey)
- Diabetes (Health Barometer, SHS, WHS, ELSA, Arkhangelsk Study, Czech survey, Survey of Health Conditions of the Population and the Use of health Services and Living Conditions Survey)

Many respiratory diseases are detailed in results, the main diseases are following:

- Asthma (Health Barometer, GHS, SHS, WHS, ELSA, Czech survey and Survey of Health Conditions of the Population and the Use of health Services and Living Conditions Survey)
- Bronchitis and emphysema (Health Barometer, GHS, SHS, WHS, ELSA, Czech Survey and Survey of Health Conditions of the Population and the Use of health Services)
- Prevalence of diseases ever treated in the past (WHS, Survey of Health Conditions of the Population and the Use of health Services)
- Mental disorders or pain (German National Health Examination, Interview Survey and Living Conditions Survey)

The comparison of prevalence data between countries, and even between surveys in the same country is very difficult. The assessment of the prevalence is indeed very dependent on the methods of information collection. Thus, the prevalence will be probably underestimated when the interrogation is based on an open-ended question, and higher if the question is closed-ended. The results will be also different if the question asks about the presence of diseases, the presence of diagnosed diseases or on the presence of diseases under treatment. The collection conditions of the chronic diseases are very different from one country to another. As a consequence, few studies can be considered comparable.

Results of the prevalence of main diseases could be compared between 11 surveys (ESPS, GHS, SHS, HSE, WHS, ELSA, Polish Health Survey, Czech survey, German National Health Examination, Interview Survey, Survey of Health Conditions of the Population and the Use of health Services and Living Conditions Survey). Nevertheless, the type of the questions allows to compare only the following surveys:

- ESPS, the Polish Health Survey, the Czech Health survey, German National Health Examination and Interview Survey and Survey of Health Conditions of the Population and the Use of health Services (self reported diseases and semi closed-ended question)
- GHS, SHS and Living Conditions Survey (self reported diseases and open-ended question)
- WHS, the Polish Health Survey, the Czech Health survey and Living Conditions Survey (treated diseases and closed-ended or semi closed-ended questions)
- ELSA, the Polish Health Survey, the Czech Health survey and Living Conditions Survey (diagnosed disease and semi closed-ended questions)
- Living Conditions Survey (diagnosed diseases and open-ended question)
- Living Conditions Survey (treated diseases and open-ended question)

Even if comparisons are possible, for example for ELSA and the Czech Health survey, the words used in the questions differ significantly. Therefore, caution is required in comparing the results. In ELSA the question on chronic diseases is: “Has a doctor ever told you that you have (or have had) any of the conditions on this card?” whereas in the Czech Health survey, the question is: “(A) Do you have or have you ever had this disease? (B) Was this disease diagnosed by a doctor?”

To conclude, a strict comparison of disease results is correct: between the WHS and the Czech Health survey (Hypertension, Stroke, Diabetes, Asthma, Bronchitis and emphysema, and Musculoskeletal system too), between the WHS, the Czech Health survey and the Living Conditions Survey (Hypertension, Stroke, Diabetes, Asthma) and between the ELSA and the Czech Republic (Hypertension, Stroke, Diabetes, Asthma, Bronchitis and emphysema).

Tobacco consumption

Questions about smoking and drinking are the most studied. Then, a lot of results about smoking are available (14 surveys represented: ESPS, Health Barometer, GHS, HSE, SHS, WHS, ELSA, RLMS, Arkhangelsk Study, Czech survey, German National Health Examination and Interview Survey, Microcensus, Survey of Health Conditions of the Population and the Use of health Services and National Health survey).

- Prevalence of smoking: ESPS, Health Barometer, GHS, HSE, SHS, WHS, ELSA, RLMS, Arkhangelsk Study, Czech survey, Survey of Health Conditions of the Population and the Use of health Services and National Health survey).
- Prevalence of smoking with level smoking: HSE and SHS (never smoked cigarettes, never regularly smoked cigarettes, ex-regular cigarette smoker, current smoker), ELSA (light, moderate or heavy) and Czech survey (never smoked, former smoked, occasional smoker, light smoker and heavy smoker)
- Number of cigarettes per day: GHS, HSE, SHS, RLMS and Survey of Health Conditions of the Population and the Use of health Services.
- Type of tobacco: GHS.
- Association alcohol and tobacco consumption (German National Health Examination and Interview Survey)

Results of smoking and engagement productive are available:

- Prevalence of smoking by education level: ESPS.
- Prevalence of smoking by income level: ESPS, Health Barometer
- Prevalence of smoking by activity: ESPS, GHS.
- Prevalence of smoking by occupational status: ESPS, Health Barometer, GHS (manual, non-manual), ELSA, Microcensus.

A study of the global prevalence of smokers and non-smokers is possible for 12 surveys.

Alcohol consumption

Drinking results concern 12 surveys (Health Barometer, GHS, HSE, SHS, WHS, ELSA, RLMS, Arkhangelsk Study, Czech survey, German National Health Examination and Interview Survey, Aspects of daily living in Italy and National Health Survey in Spain).

Information about drinking is numerous; it can be resumed in two dimensions: Frequency and volume.

Frequency:

Last 12 months: Health Barometer, National Health Survey in Spain

Last month: Arkhangelsk Study

Last 7 days: GHS, HSE, SHS (Never drunk alcohol, Ex-drinker, Under 1, 1-10, Over 10-21, Over 21-35, Over 35-50, Over 50, Mean units), Czech

Yesterday: Health Barometer

Volume:

Yesterday: Number of drinks by occupational status (Health Barometer)

Per day:

- Frequency of alcohol use (twice a day or more, 2 daily or almost daily, 3 once or twice a week, 4 once or twice a month, 5 special occasions only, 6 or, not at all), by occupational class, age and sex. (ELSA)

- Mean daily amount of alcohol consumption: RLMS

- By BMI, socio-economic status: German National Health Examination and Interview Survey

- *By type of alcohol:* Aspects of daily living

Per week: GHS, Arkhangelsk Study

To assess alcohol consumption, these results do not allow comparing because they consider different periods (day, week or month) with many definitions of volume or frequency. In addition we found results on the CAGE questionnaire only in the Health Barometer in France.

Finally, few results relative to Body Mass Index (in Health Barometer, GHS, HSE, SHS, WHS, ELSA, Arkhangelsk study, Polish Health Survey, Czech Survey, German National Health Examination and Interview Survey), Health Related Quality of Life (SF-36 in WHS and in German National Health Examination and Interview Survey), GHQ-12 in Poland and by economic status in BHPS, CES-D in ELSA) are available.

Bibliography

- Auvray L., Doussin A., Le Fur P. 2003, 'Santé, Soins et Protection sociale en 2002', *CREDES report* n°1509.
- Averina M, Nilssen O, Brenn T, Brox J, Kalinin AG, Arkhipovsky VL, 2003, "High cardiovascular mortality in Russia cannot be explained by the classical risk factors, The Arkhangelsk Study 2000. *European Journal of Epidemiology*;18:871-78.
- Bartley M, Chandola T, Schofield P and Wiggins R, 2003, "Social Inequalities in health by individual and household measures of social position in a cohort of healthy people", *Journal of Epidemiology Community Health*, 57, pages 56-62.
- Bartley M, Head J, Sacker A, schofiel P and Wiggins RD, 2004, "Social position and minor psychiatric morbidity over time in the British Household Panel", *Journal of epidemiology Community Health*, 58, 779-787.
- Baudier F, Gautier A and Guilbert P, 2001, « Baromètre Santé 2000, Résultats, vol.2 », 2001, *Editions CFES*, 473 p. La santé des personnes âgées de 60 à 75 ans.
- Blaxter Mildred, 1989. "A comparison of measures of inequality in morbidity", in: *John Fox (ed.)*, Health inequalities in European countries, p. 199-230. – Aldershot (United Kingdom), Gower, 414 p.
- Burger M and Mensink Ger BM, 2004, High alcohol consumption in Germany: results of the German National Health Interview and Examination Survey 1998, *Public health Nutrition*, 7, p 879-884.
- Burger M, Mensink G, Bronstrup A, Thierfelder W and Pietrzink K, 2003, Alcohol consumption and its relation to cardiovascular risk factors in Germany, *European journal of Clinical Nutrition*, p 605-614.
- Burstrom K., Johannesson M., Diderichsen F. (2001), Health-related quality of life by disease and socio-economic group in the general population in Sweden, *Health Policy*, vol 55, n° 1, pp. 51-69
- Clark A. and Etilé F., 2002, "Do health changes affect smoking? Evidence from British panel data", *Journal of Health Economics* 21. p 533-562.
- Cockerham W.C, 2000, "Health lifestyle in Russia", *Social Science and Medicine* 51, 1313-1324.
- Helmer U, Shea S and Bammann, 1999, Social Correlates of Cigarette Smoking Cessation: Findings from the 1995 Microcensus Survey in Germany Review on environmental health, *Reviews on Environmental health*, p 239-249.
- Hoffmeister H, Schlep F-Peter, Mensink BM Gert, Dietz ekkehart and Böhning d, 1999, The relationship between alcohol consumption, health indicators and mortality in the German population, *International Journal of Epidemiology*, 1066-1072.

- Jacobi F, Hans-Ulrich W, Hölting et alii, Estimating the prevalence of mental and somatic disorders in the community: aims and methods of the German National Health Interview and Examination Survey, *International Journal of Methods in Psychiatric Research*, vol. 11, number 1, p1-18.
- Kiejna,A.; Wojtyniak,B.; Rymaszewska,J, ;Trypka,E, 2001, "The prevalence of minor psychiatric morbidity and its correlates in Poland" , December 2001, *Archives of Psychiatry and Psychotherapy* 3(4): 31-43.
- Kurth B-M, Ellert U, 2002, The SF-36 Questionnaire and its Usefulness in Population Studies - Results of the German Health Interview and Examination Survey 1998. *Soz. – Präventivmed.* 47, 266-277.
- Marmot M, Banks J, Blundell R, Lessof C and Nazroo J. 2003. Health, wealth and lifestyles of the older population in england: the 2002 english longitudinal study of ageing.
- Marmot, Michael and Martin Bobak. 2000. "International comparators and poverty and health in Europe", *British Medical Journal* (International edition) 321(7269): 1124-1128.
- Schmitz N, Kruse J, Kugler J, 2004, The association between physical exercises and health-related quality of life in subjects with mental disorders: results from a cross-sectional survey, *Preventive Medecine*, 39, p 1200-1207.
- Zohoori, N., D. Blanchette, and B.M. Popkin. "Monitoring Health Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2003." *Report submitted to the U.S. Agency for International Development. Carolina Population Center, University of North Carolina at Chapel Hill, North Carolina.* April 2004