

Comparability of Health Surveys in Europe by countries: France, United Kingdom, Russia, Poland, Czech Republic, Germany, Greece, Italy, Spain and Sweden.

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- The purpose of this report is to review and assess the existing surveys and data on health and productive engagement in ten European countries in order to get comparable sources of data.

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 I).

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.

In examining **health indicators**, we focused on

- perceived health,
- disability prevalence
- chronic diseases,
- health-related quality of life scales,
- health-related behavior,
- anthropometrical measures
- 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)

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.

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.

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.

The different types of surveys

Most of the surveys are household surveys, which combine information on households and individuals. However, 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.

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.

¹ This information is unavailable for the surveys we examined.

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).

Quality of sampling plans

In most countries, the surveys seem to be able to claim national representativeness. 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.).

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.

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.

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.

Comparability of the indicators

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.

Sometimes, the definition of long-term illnesses is limited to diseases, which require regular monitoring, monitored diseases, diseases or handicaps which limit daily activities or work or require assistance in aspects of Daily Living

Relations between diseases and productive engagement are especially analysed when existing.

Some surveys do not contain this kind of question and ask directly about the existence of a limited list of diseases

Finally in the Arkhangelsk study in Russia, there is no general question on chronic disease but a general health question 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, diagnosed diseases, diseases with a medical follow up and treated diseases.
- Type of diseases: Current chronic diseases and/or history of chronic diseases and/or current acute diseases
- Form of the questions: open-ended questions +/-an additional question, closed-ended questions +/-an open-ended (*semi-closed ended* in the table 1) item for “other diseases” and/or a question relative to diseases occurred for the first time in the last 12 months or indicative lists of diseases and/or lists of specific diseases (such as diabetes, arthritis, infectious diseases...)or main groups of diseases (heart diseases, lung disease) without more precision.

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, pain, sleep disorders, symptoms of the chest, heart murmur, depressive symptoms, headache. 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.
- The CASP-19, consists of 19 Likert-scaled items, which cover four theoretical domains: control, autonomy, self-realisation and pleasure.
- The Mini International Neuropsychiatric Interview
- 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.

Other specific modules (diabetes, asthma, cardiovascular and high blood pressure module, chronic bronchitis, peripheral arterial disease, dental health, fractures, pregnancy, scale of pain' severity) are included in some of the surveys:

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 last 30 days | No | Yes (closed-ended, main systems) | No | No |
| 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 Conditions of the Population and the Use of health Services 1999-2000 | Yes | No | Yes (list of current or past diseases - semi closed-ended list Self-reported, diagnosed and treated diseases) | No | No |
| 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 |

Table 2 : 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.

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: In UK (GHS, HSE, SHS, ELSA), a general question on disability is included in a more general question asking also about long-standing illness Others surveys include health problem

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:

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. 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:

Table 2: Disabilities

| | General Question on disabilities | Pre chronic the qu dis |
|-------------------|--|------------------------|
| FRANCE | | |
| ESPS 2002 | Yes (mini module, restriction of activities) | No |
| European National | Yes (mini module, restriction of activities) | No / Yes |

| | | | | | | | | | | |
|--|--|----------------------------|----|----|--|----------------|---|---|----------------------------|----|
| 2003 | problems) | | | | | | | | Mental General handicap | |
| 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 and the Use of health Services 1999-2000 | Yes (permanent infirmity + limiting) | Yes | No | No | - Remain in bed even if someone is available to help him/her get up - Sit in a chair or armchair (not in a wheelchair) Dressing, get out the bed, Bathing, cutting the foods | Yes | - Stay at home without being able to go out for physical or psychological reasons Walking (the longest distance) | Blindness Deaf-dumbness Deafness Invalidity due to mental handicap Motor infirmity (lack of or paralysis of one of more limbs, ankylosis of one or more joints) | Yes (4 weeks) | |
| Aspects of daily living 2002 | Yes (+activity restriction) | Yes | No | 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 | Yes (+health | No | No | No | No | No | No | Seeing/hearing | No | |

| | | | | | | | | | |
|--------------------------------------|-----------------------|----|----|----|---|-----|---|----------------|----|
| Survey ad hoc module disability 2002 | problem) | | | | | | | | |
| 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 |

Table 3 : 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*”.

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

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, weight or with reference to a specific period of time

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.

Table 3: Perceived health

| | European C ques |
|---------------------------------------|------------------------------|
| FRANCE | |
| ESPS 2002 | Yes (very good, very bad) |
| French National Health survey 2002 | Yes (very good, very bad) |
| Health Barometer 2000 | No |
| CSHLC 2001 | No |
| UNITED KINGDOM | |

| | | | | | |
|---|--|--|-------|--|-------|
| Population and the Use of health Services 1999-2000 | | | 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 |

Table 4 : Risk factors Alcohol consumption

There is at least one question on alcohol consumption in each country but not in all surveys. 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 and on the number of units drunk usually on one occasion. Other surveys use different reference periods to measure frequency and consumption volume:

In addition, three surveys have a question on the frequency of drunkenness. 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 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.

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).

Table 5 Risk factor :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 the previous smokers

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 2001 | 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.

Table 6 :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, in the UK, in Russia and in Questions on Health Microcensus Supplementary Survey. Sources of income (pension, governmental support, familial allowance, etc.) are mentioned in France, in UK, in Russia in Poland, in Germany, in Italy and in Spain.

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 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/i nactive | Se empl |
|----------------------------------|---|------------|
| FRANCE | | |
| ESPS 2002 | Yes | Yes |
| French National Health survey | Yes | Yes |

| | | | | | | | | | | | |
|--|-----|-----|-----|-----------------------------|-----|-----|-----|-----|--------------------------------|-------------------------|-----|
| Supplementary Survey 2003 | | | | | | | | | | Sources | |
| 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 disability 2002 | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes (household) sources | Yes |
| SWEDEN | | | | | | | | | | | |
| Living Conditions Survey 2002 (ULF) | Yes | No | Yes | Yes | Yes | Yes | No | Yes | Yes (but only job description) | No | Yes |

Summary of available health and productive engagement indicators for international comparisons

1) Health Indicators

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 countries 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 countries and most 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 countries and 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 and 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.
- **Alcohol consumption** :There are many questions on 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.
- **Chronic diseases.** A general question 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.

2) Productive engagement Indicators

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 some surveys.
- **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.
- **Part-time work and full-time work** : the distinction between both situation is available in most countries except in both Czech surveys and in both Italian surveys.
- **Household income** is collected in all countries.
- **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.

3) IN CONCLUSION, 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.

in United Kingdom, it is difficult to recommend a particular survey. 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.

In Poland, even if the **Polish Health Survey** is the only health survey for this country, it can be fully recommended.

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 Spain : the **biannual National Health Survey** 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.

In Sweden : 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.

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).

Czech Republic : the two available surveys do not provide data that are comparable to other countries and the maintain 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.

| | | | | | | | | | | | | | |
|--|--------------------------------|----------------------|-----|-----|----|--------------------------|-----|-----|-----|--------------------------------|-----|-----|-----|
| 1998 | | | | | | | | | | | | | |
| Questions on Health Microcensus Supplementary Survey 2003 | Good | No | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 8/2 |
| Survey on living conditions, health and environment 1998 | Good | Yes (not comparable) | Yes | Yes | No | Yes | Yes | No | Yes | Yes | Yes | Yes | 7/3 |
| GREECE | | | | | | | | | | | | | |
| National Greek Survey 1998 | Reduced sample | Yes (not comparable) | No | Yes | No | Yes but no self-employed | No | Yes | Yes | Yes | Yes | Yes | 5/5 |
| ITALY | | | | | | | | | | | | | |
| Survey of Health Conditions of the Population and the Use of health Services 1999-2000 | Good | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 9/1 |
| Aspects of daily living 2002 | Good | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 9/1 |
| SPAIN | | | | | | | | | | | | | |
| National Health Survey | Good (but lack of information) | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 9/1 |
| Impairments, Disabilities and Health Status Survey 1999 | Good (but lack of information) | Yes | Yes | Yes | No | Yes | Yes | No | Yes | Yes | Yes | Yes | 8/2 |
| Labour Force Survey ad hoc module on disability 2002 | Good (but lack of information) | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 6/4 |
| SWEDEN | | | | | | | | | | | | | |
| Living Conditions Survey 2002 (ULF) | Reduced sample | Yes | Yes | Yes | No | Yes but no self-employed | Yes | Yes | Yes | Yes (but only job description) | No | Yes | 7/3 |

Table 8: Selection of countries and surveys with 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 | | | | | | | | | | | |
| French National Health survey | Good | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| UNITED KINGDOM | | | | | | | | | | | |
| GHS | Good | Yes, not comparable | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| RUSSIA | | | | | | | | | | | |
| RLMS | Good | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| POLAND | | | | | | | | | | | |
| Polish Health Survey | Good | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| GERMANY | | | | | | | | | | | |
| German National Health Examination and Interview Survey 1998 | Good (but strong non-response rate) | Yes (not comparable) | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| ITALY | | | | | | | | | | | |
| Survey of Health Conditions of the Population and the Use of health Services 1999-2000 | Good | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| SPAIN | | | | | | | | | | | |
| National Health Survey | Good (but lack of information) | Yes | Yes | Yes | No | Yes | Yes | Yes | 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 |