ISSN 1977-0375

eurostat
Methodologies and
Working papers

European Health Interview Survey (EHIS wave 2)

Methodological manual

2013 edition

eurostat
EUROPEAN COMMISSION

eurostat
Methodologies and
Working papers

European Health Interview Survey (EHIS wave 2)

Methodological manual

2013 edition

eurostat
EUROPEAN COMMISSION

Europe Direct is a service to help you find answers to your questions about the European Union.

Freephone number (*)**:**
00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

More information on the European Union is available on the Internet (http://europa.eu).

Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2013

ISBN 978-92-79-29424-2
ISSN 1977-0375
doi:10.2785/43280
Cat. No KS-RA-13-018-EN-N

Theme: Populations and social conditions
Collection: Methodologies & Working papers

Table of contents

Preface

The need for public health policies to get reliable data on health status, health care use and health determinants from all Member States on a regular basis from population surveys, in casu the European Health Interview Survey (EHIS), is stated by the Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work[1].

The first wave of EHIS was launched under a gentlemen's agreement and implemented in 17 Member States[2] between 2006 and 2009. This first wave was driven by an input-harmonised approach with a model questionnaire, conceptual guidelines and a common translation protocol.

The development for the second wave of EHIS started with a review process of the first wave. This process was driven by an 18-month project [3] led by the Robert Koch Institute (RKI) – Germany, the Scientific Institute of Public Health (IPH) – Belgium and the National Institute for Health Development (NIHD) – Estonia. Within this project an important event was the workshop regrouping data providers and users organised by the Robert Koch Institute in Berlin in September/October 2010.

Over the period 2010-2012 detailed discussions were held by different European Statistical System (ESS) bodies such as the Core Group HIS (ESS-net sub-group in charge of health interview surveys), the Technical Group EHIS, the Public Health Working Group, and the Directors of Social Statistics meeting.

Finally, following the approval by the ESS-Committee in September 2012 the Commission Regulation [4] on the implementation of the second wave of EHIS was adopted in February 2013. According to Article 3 of this Commission Regulation this methodological manual was developed to achieve a high level of harmonisation of the survey results across countries.

From the process it is clear that many experts from Eurostat, national statistical offices, ministries of health, public health institutes and similar national authorities were involved in the development of this manual. Project management and final editing were in the hands of Bart De Norre and Jakub Hrkal [5] of Eurostat's unit F5. For the chapter on statistical survey guidelines the support of Denisa Florescu and Emigio Di Meglio, methodologists in Eurostat – units B1 and F4 respectively - was fundamental. I would like to thank warmly all those who have contributed to the elaboration of the Regulation and the methodological manual.

Christine Coin,
Head of unit
Eurostat-F5 Statistics on Education, Health and Social Protection

[1] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:354:0070:0081:EN:PDF

[2] Belgium, Bulgaria, Czech republic, Germany, Estonia, Greece, Spain, France, Cyprus, Latvia, Hungary, Malta, Austria, Poland, Romania, Slovenia and Slovakia

[3] Final reports on CIRCABC: https://circabc.europa.eu/w/browse/b0fa82d3-978c-41e5-942c-0acb3fdc5c14

[4] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:047:0020:0048:EN:PDF

[5] Seconded national expert of the Institute of Health Information and Statistics of the Czech Republic

Introduction

Purpose of the manual

The manual should serve as a handbook for planning and implementing the EHIS wave 2 in EU member states. Conducting the survey according to the rules and recommendations described in these guidelines is crucial for ensuring harmonized and high quality data on health in EU.

The manual is split into two main parts. The first part includes conceptual guidelines and translation and interview instructions for all health modules, sub-modules and variables (including model questions) and provides also an overview on Core social variables. The second part deals with statistical survey guidelines.

Instructions on data processing (including a codebook and validation rules) and its transmission to Eurostat as well as the format for quality reporting (a quality report template) will be provided in separate documents.

No specific information on fieldwork organization (for example recruitment and training of interviewers or procedure of contacting interviewees) is provided in this document.

Legal basis

The legal framework for developing the European Health Interview Survey (EHIS) is the Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work[6]. This framework regulation specifies in its annexes the use of population surveys such as the EHIS to collect every five years statistics on health status, access and use of healthcare and health determinants.

Detailed specification of the data and metadata to be provided is pursuant to the **Commission Regulation (EU) No 141/2013** of 19 February 2013 implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council on Community statistics on public health and health and safety at work, as regards statistics based on the European Health Interview Survey (EHIS)[7] and **Commission Implementing Decision** of 19 February 2013 granting derogations to certain Member States with respect to the transmission of statistics pursuant to Regulation (EC) No 1338/2008 of the European Parliament and of the Council on Community statistics on public health and health and safety at work, as regards statistics based on the European Health Interview Survey (EHIS)[8].

Article 3 of the Commission Regulation (EU) No 141/2013 stipulates "With a view to achieving a high level of harmonisation of the survey results across countries, the Commission (Eurostat), in close cooperation with Member States, shall propose methodological and practical recommendations and guidelines on sampling and the implementation of the survey in the form of a 'European Health Interview Survey Manual' including a model questionnaire."

[6] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:354:0070:0081:EN:PDF

[7] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:047:0020:0048:EN:PDF

[8] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:048:0021:0022:EN:PDF

1 Conceptual guidelines and translation and interview instructions

This chapter provides a guide to a comprehensive and conclusive understanding of the EHIS variables and the translation and use of the English EHIS model questionnaire. True comparability of the collected EHIS data between countries requires not simply a direct translation of the English but a full understanding of the definition of the variables, the wording and format of the questions and the underlying concept of health to be elicited.

The chapter provides first some general information on: the translation protocol, the order of the questions, the recommended list of showcards and the structure of specific guidelines for health modules. It is followed by detailed guidelines on all the health variables (including model questions) and an overview of core social variables. The complete model questionnaire is included in Annex.

1.1 General guidelines and instructions

1.1.1 Translation protocol

The EHIS variables and associated English model questions were developed simultaneously. Experience shows that implementation of the national questionnaires might hamper comparability if no specific translation method is used. The following protocol for translation into other languages is recommended for developing national linguistic versions of the model questionnaire:

1. Initial translation: a translator working in the health/social statistics field, having an understanding of the health concepts used and having the target language as mother tongue and English as working language is supposed to perform the initial translation.
2. Reviewing of the initial translation: a checker with the same characteristics as the translator checks the initial translation making use of the interviewer's guidelines / Conceptual guidelines and instructions.
3. Final translation: the checker's views and the initial translation are brought together in a final translation. If they don't agree, a third expert is solicited to take a decision or lead the adjudication process.

It is also important to take note of the EHIS Commission Regulation which is adopted in all linguistic versions. This regulation contains the wordings of the variables and answer categories in all languages and was reviewed by the national health interview survey experts.

The model questionnaire is designed for a face-to-face interview mode (Interviewer-PAPI and CAPI). Because several other survey modes like computer-assisted telephone interviews (CATI), computer-assisted web-based interviews (CAWI) as well as mixed-mode designs will be applied by the responsible national authorities, adaptations of the model questionnaire to the requirements of a specific survey mode may be necessary.

If a specific model question cannot be translated directly to a specific target language (that is if a model question does not perform in a specific target language due to cultural differences or different organization of health care services), further modification of the model question may also be needed.

All these adaptations can be introduced under the condition, that the underlying concept (or concepts) of the original model question is completely applied and covered by a modified question and that the variable derived from the modified question completely corresponds to the target variable in the Regulation.

All modifications or adaptations shall be explained and documented in the quality report to be delivered

with the microdata.

Some sub-modules are based or adapted from existing instruments (as for example PHQ-9). If there are national translations of these source instruments they are recommended to be used.

Countries sharing the same language are recommended to coordinate the translation process in order to obtain the same questionnaire as far as possible taking into account the linguistic and cultural differences.

Cognitive testing is recommended to verify the quality of the translation.

Brief but important notes are given after the English version of the question. These notes should also be translated into national languages and used in the implementation of the survey.

1.1.2 The order of the questions

The term "sub-module" refers to a coherent set of one or more questions included in the survey questionnaire and aiming to investigate a specific subject matter. EHIS wave 2 consists of 21 health-related sub-modules.

The term "module" refers to the set of sub-modules reflecting the three general public health areas: health status, health care use and health determinants[9].

In general, the recommended order of modules, sub-modules and questions is given by the model questionnaire (see Annex). For some questions the recommended order should be followed as it is crucial for comparability of observed data. For other questions it is recommended to follow the order of the questions in the questionnaire to ensure better comparability with the previous survey and between countries. Countries are also allowed to include additional questions in the specific sub-modules or even specific sub-modules in the survey if does not have an impact on the results of the compulsory variables.

An overview of the modules and sub-modules and its recommended order[10] is as follows:

Code	Name
EHSM	**European Health Status Module**
HS	Health Status - Minimum European Health Module
CD	Diseases and chronic conditions
AC	Accidents and injuries
AW	Absence from work (due to health problems)
PL	Physical and sensory functional limitations
PC	Personal care activities
HA	Household activities
PN	Pain
MH	Mental health
EHCM	**European Health Care Module**
HO	Use of inpatient and day care
AM	Use of ambulatory and home care
MD	Medicine use
PA	Preventive services
UN	Unmet needs for health care
EHDM	**European Health Determinants Module**
BM	Weight and height

[9] In addition, a set of variables (called background variables) on demographic, geographical and socio-economic characteristics of respondents or their families is collected in EHIS wave 2.

[10] The order of sub-modules is mainly based on the order used in EHIS wave 1.

PE	Physical activity / exercise
FV	Consumption of fruit and vegetables
SK	Smoking
AL	Alcohol consumption
SS	Social support
IC	Provision of informal care or assistance

Concerning the variables on European Background Variables Module (EBVM): if the data are collected by interview then at least some should be collected at the beginning (for example age, sex and labour status serve as those serve also as filter variables) and some should be collected at the end of the interview because of their sensitivity (for example income).

The following rules concerning the order of some of the modules and sub-modules should be followed:

- EHSM before EHCM and EHDM
- Within EHSM:
  - HS shall be the first question set in EHSM
  - PL, PC and HA (in this sequence) after CD
- Within EHCM:
  - MD and PA after HO and AM
  - UN at the end of the module
- Within EHDM:
  - SS and IC at the end of the module (except if there are self-completion parts).

1.1.3 A list of showcards

The following list of showcards is recommended to be used for face-to-face interview mode:

- CD: A list of diseases and chronic conditions
- AC: Types of accidents
- PL: Response categories for physical and sensory functional limitations
- PC: A list of personal care activities
- HA: A list of household activities
- PN:
  - Response categories for PN1 question
  - Response categories for PN2 question
- MH: Answer categories for mental health questions
- PE:
  - SHOWCARD 1: Work-related physical activity
  - SHOWCARD 2: Getting to and from places
  - SHOWCARD 3: Sports, fitness, recreational (leisure) physical activity
  - SHOWCARD 4: Muscle-strengthening activities

- FV:
    - Examples of fruits and standard portions
    - Examples of vegetables and standard portions
- AL:
    - Country-specific standard drinks and containers
    - Response categories for AL1
    - Response categories for AL3 and AL5
    - Response categories for AL6.

1.1.4 Structure of the specific guidelines for the health modules and variables

Specific guidelines are defined according to the hierarchy of the model questionnaire: modules, sub-modules and individual variables. A short description and rationale is provided for each sub-module. For some sub-modules general guidelines or definitions relating to the whole sub-module are provided. The rest of the guidelines concern individual variables and follows the same structure:

Introduction: A statement used to facilitate introduction of the new question or set of questions.

Filter: An instruction to interviewers to facilitate correct conducting of the interview when asking question(s) only to a specific group of respondents or routing respondents to following questions based on their previous answers.

Code name and title of the variable according to the EHIS Commission Regulation.

1) Question: Wording of the model question.

Some questions include wordings in brackets:

- Parentheses ( ):
    - Synonyms (for example: "Myocardial infarction" and "heart attack") and explanations of abbreviations ("GP" and "General practitioner"). The text doesn't have to be read in case of personal interviews (but can if needed) but may be useful to put in the questionnaire for self-completion mode.
    - Clarifications or specifications (for example: "normal work" and "including both work outside the home and housework"; or "Asthma" and "allergic asthma included") The text is considered to be part of the question and is supposed to be read in case of personal interview and be part of a question in case of self-completion mode.
- Square brackets [ ]: Where optional wording is requested based on previous content (using singular or plural) or a place for country-specific adaptations ("[6 or more] drinks containing alcohol"). The text is part of the question but should be adapted according to the context.

Answer categories: Wording and codes for possible answers for the question. Besides these answer categories, other codes are to be used but are not mentioned in the further descriptions of questions/variables:

- '-1' for missing values (don’t know, refusal); and
- '-2' for not applicable questions (filter).

The order of response categories is important in many cases and should therefore be followed.

Interviewer instructions: Instructions of a technical kind facilitating correct formulation of the question, routing or recording of answers. The instructions are not to be read to respondents if not stated else.

Interviewer clarifications: An addition to the model question that facilitates and clarifies the

content of the question. It is to be read to respondent if not stated else.

2) Guidelines

General concept: A short description of the variable.

Policy relevance: A reference to policy needs is provided here. Most of the considered needs come from DG SANCO (European Core Health Indicators - ECHI) and DG EMPL (indicators of the health and long term care within the Open Method of Coordination (OMC) on Social Inclusion and Social Protection).

Use of proxy: States whether a proxy interview (it is conducted when another person responds on behalf of the selected respondent) is allowed for the variable. Proxy interviews are not allowed in cases when the question is very subjective, the topic is too sensitive or data is probably less known to proxy interviewees.

Degree of comparability with EHIS wave 1: Provides an evaluation of the degree of comparability of the variable in EHIS wave 2 with EHIS wave 1 using the scale: High, Medium, Low, None.

Definitions and examples: Definitions and clarifications of concepts included in the variable/model question (exclusion and inclusion criteria, reference to international classifications) as well as examples to facilitate its understanding. Further instructions for translators (for example adaptations of the model question) and interviewers (for example correct recording of answers) are also included here. A reference to showcards is given for some variables (a list of recommended showcards is listed at the end of this document).

1.2 European Health Status Module (EHSM)

The module on health status is a central point of the survey. It allows measurement of the health status of the population in general and not only in relation with specific health problems. It covers different aspects and dimensions of health: physical and mental health, chronic and temporary problems, specific conditions but also their general impact on the functional status and the limitations in activities of daily living of the respondents.

1.2.1 Health Status (HS) - Minimum European Health Module

The following three general questions on self-perceived health, chronic conditions and activity limitations constitute the **Minimum European Health Module (MEHM)**. The indicators calculated from the data are given high importance in EU health policies and monitoring of health state of populations and the module is also used in other social surveys.

Introduction HS

I would now like to talk to you about your health.

HS1: Self-perceived general health: how a person perceives his/her health in general

1) Question

How is your health in general? Is it…

1. very good

2. good

3. fair

4. bad

5. very bad

2) Guidelines

General concept: General self-perceived health.

Policy relevance: ECHI 33 and OMC HC-S2.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, no change.

The concept is restricted to an assessment coming from the individual and not from anyone else knowing him, whether a health care worker or relative.

The reference is to health in general rather than the present state of health, as the question is not intended to measure temporary health problems.

It is expected to include the different dimensions of health, i.e. physical, social and emotional functioning and biomedical signs and symptoms. It omits any reference to age as respondents are not specifically asked to compare their health with others of the same age or with their own previous or future health state.

"Fair": this intermediate category should be translated into an appropriately neutral term ("not good, not bad"), as far as possible keeping in mind cultural interpretations.

HS2: Long-standing health problem: Suffer from any illness or health problem of a duration of at least six months

1) Question

Do you have any longstanding illness or [longstanding] health problem? [By longstanding I mean illnesses or health problems which have lasted, or are expected to last, for 6 months or more.][11]

1. Yes

2. No

2) Guidelines

General concept: Self-reported longstanding illnesses and longstanding health problems.

Policy relevance: ECHI 34.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

It is necessary to keep in mind that the recommended wording contains 'alternatives'. For instance:

- 'chronic' or 'longstanding' should be chosen according to what is 'best understood' in a country/language;
- it is intended to ask if people 'have' a chronic condition, not if they really suffer from it. But it seems that in some countries/languages it would be strange to use the word 'have' and that the verb 'suffer' means the same as 'have';
- 'health problem' seems not to be understood in some countries/languages and therefore 'illness or condition' is the alternative.

In this question the words "disability, handicap, impairment" should not be used as synonyms for "illness or health problem".

The main characteristics of a longstanding illness or health problem are that it is permanent and may be expected to require a long period of supervision, observation or care.

Longstanding illnesses or health problems should have lasted or are expected to last for 6 months or more; therefore, temporary problems are not of interest. Problems that are seasonal or intermittent, even where they 'flare up' for four to six months at a time are included (for instance allergies).

Illness or health problem contain not only problems of ill-health or diseases; pain is also included as well as ill-health caused by injuries/accidents, congenital conditions, birth defects, etc.

It is irrelevant whether the health problem is diagnosed by a doctor or not.

In case the respondent has/had a longstanding disease that doesn't/didn't bother him/her or it is/was kept under control with medication, the answer is also yes. For instance, for a person with a high blood pressure, answer "Yes" has to be marked.

---

[11] This word / sentence is not part of the MEHM and shall not be considered as included in this question. However, in some languages it may be necessary to include them. In these languages, it would be useful to test first the effect of this addition to the question. Depending on results, the word / sentence may be added to the national question or only included in the instructions for the interviewers, etc. The translation and testing should be coordinated with the national teams using MEHM.

The HS2 shall be asked just after HS1 and just before HS3 and should not be used as a filter question for HS3 or CD sub-module.

HS3: General activity limitation: Limitation in activities people usually do because of health problems for at least the past six months

1) Question

For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do?

Would you say you have been …

1. severely limited

2. limited but not severely or

3. not limited at all?

2) Guidelines

General concept: Self-reported long-standing limitations in activities people usually do because of health problems.

Policy relevance: ECHI 35 and OMC HC-S1.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

The purpose of the variable is to measure the presence of long-standing limitations, as the consequences of such long-standing limitations (e.g. care, dependency) are more serious. A six months period is often used to define chronic or long-standing diseases in surveys.

The variable measures the respondent's self-assessment of whether he is hampered in "activities people usually do", by any on-going physical or mental health problem, illness or disability. As for HS2 consequences of injuries/accidents, congenital conditions and birth defects, etc. shall be covered.

For at least the past 6 months: the time period refers to the duration of the activity limitation and not to the duration of the health problem. The limitations must have started at least six months ago and still exist at the moment of the interview. This means that codes 1 or 2 should be recorded only if the person is currently limited and has been limited in activities for at least the past 6 months.

New limitations which have not yet lasted 6 months but are expected to continue for more than 6 months shall not be taken into consideration. The reason is that for long-standing diseases or health problems it is in general established from medical knowledge about diseases/illness whether they are longstanding or not. If a person is diagnosed having, e.g., diabetes, he/she knows from the first day that it is not curable, so long-standing. At this stage he/she also knows that it may be controlled or not so it might have consequences or not but he/she doesn't know yet about it. Consequently for the consequences it is a matter of experience from the individual, whether his or her diabetes will have disabling consequences. Only past experience can provide the answer.

Only the limitations directly caused by one or more health problems of whatever type are considered. Limitations due to financial, cultural or other none health-related causes should not be taken into account.

An activity is defined as: 'the performance of a task or action by an individual' and thus activity limitations are defined as 'the difficulties the individual experience in performing an activity'.

In activities people usually do: the question should clearly show that the reference is to the activities people usually do and not to the own activities. People with longstanding limitations due to health problems have passed through a process of adaptation which may have resulted in a reduction of their activities. To identify existing limitations a reference is necessary and therefore the activity limitations

are assessed against a generally accepted population standard, relative to cultural and social expectations by referring only to activities people usually do. Neither a list with examples of activities nor a reference to the age group of the subject is included in the question. This is a self-perceived health question and gives no restrictions by culture, age, gender or the person's own ambition.

The response categories include 3 levels to better differentiate severity. ‘Severely’ means that performing or accomplish an activity- that people usually do – can hardly be done or only with extreme difficulty.

HS3 should be asked to all respondents and should not be filtered by HS2.

1.2.2 Diseases and chronic conditions (CD)

The following sub-module measures chronic diseases which represent one of the main public health concerns. Chronic diseases are, in fact, a major cause of use of health care services and their treatments are often very expensive. Measuring chronic morbidity, both the extent of the phenomenon and the types of diseases, is useful for overall evaluations in the domain of health status. It is also useful for the study of health care systems in terms of evaluation, policy formulation and assessment of need for health care.

Introduction CD

Here is a list of chronic diseases or conditions.

CD1: Suffering from [specific disease] in the past 12 months

1) Question

During the past 12 months, have you had any of the following diseases or conditions?

1. Yes

2. No

Interviewer instruction: Tick 'Yes' or 'No' for each chronic disease.

A. Asthma (allergic asthma included)
B. Chronic bronchitis, chronic obstructive pulmonary disease, emphysema
C. Myocardial infarction (heart attack) or chronic consequences of myocardial infarction
D. Coronary heart disease or angina pectoris
E. High blood pressure (hypertension)
F. Stroke (cerebral haemorrhage, cerebral thrombosis) or chronic consequences of stroke
G. Arthrosis (arthritis excluded)
H. Low back disorder or other chronic back defect
I. Neck disorder or other chronic neck defect
J. Diabetes
K. Allergy, such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other allergy (allergic asthma excluded)
L. Cirrhosis of the liver
M. Urinary incontinence, problems in controlling the bladder
N. Kidney problems
O. Depression

2) Guidelines

General concept: whether the person has or had the specific chronic disease or condition in the past 12 months.

Policy relevance: ECHI21a, ECHI23a, ECHI26a, ECHI27a and ECHI43; the listed diseases which are not specified in the ECHI indicators are of importance as they lead to major disabling consequences.

Use of proxy interview: allowed (for some diseases like urinary incontinence or depression the answers may be biased and the use of the data is therefore limited).

Comparability with EHIS wave 1: high for conditions A, B, D, E, H, I, J, K, M, O; medium for G and L (rephrasing) and for C and F (consequences included), none for N (new question)[12].

The purpose of the question is to monitor the prevalence of selected chronic (longstanding/long term) diseases.

ICD-10 (resp. ICPC) codes are not specified in the questions and are only illustrative as no perfect matching between ICD (resp. ICPC) and questions in health interview survey is possible. They are used to facilitate common understanding and translation only. Therefore the codes should not be used for presenting the results.

The past 12 months are taken into consideration from the date of the interview (ex: the time between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

If a person had a disease/condition for few months and this happened within the past 12 months then answer "Yes" should be used. Problems which are seasonal or intermittent, even where they 'flare up' for a few months are included, as they occurred during the past 12 months. If a person had an episode of a disease/condition more than 12 month ago, then answer "No" should be used.

If the symptoms of a disease/condition are not present due to a medical treatment or the use of medicines, the answer is still yes.

Descriptions and comments on the specific diseases:

	Chronic disease or condition	Explanations and comments	Illustrative ICD-10[13] codes	Illustrative ICPC[14] v41 codes
A	Asthma (allergic asthma included)		J45 (Asthma), J46 (Status asthmaticus)	R96 Asthma
B	Chronic bronchitis, chronic obstructive pulmonary disease, emphysema	COPD need adaptation for local expression / language Option: "chronic respiratory diseases excluding asthma"	J40-J44 and J47 (Chronic lower respiratory diseases excluding asthma but including chronic asthmatic bronchitis)	R79 Chronic bronchitis, R95 Chronic obstructive pulmonary dis.
C	Myocardial infarction (heart attack) or chronic consequences of myocardial infarction	Includes also chronic consequences of an MI if the consequences occurred in the past 12 months (even if the MI occurred before). Heart attack can be used as an equivalent term. The variable should not be filtered by	I21 (Acute myocardial infarction), I22 (Subsequent myocardial infarction), I23 (Certain current complications following AMI), (consequences of former MI included partly also under I25	K75 Acute myocardial infarction

[12] In EHIS wave 1 three questions (HS04, HS05 and HS06) were used. From a public health perspective and for policy making it is far more informative to have data on the 12 months prevalence (kept in EHIS wave 2) than on the "ever" prevalence.

[13] *International Statistical Classification of Diseases and Related Health Problems 10th Revision.*

[14] *International Classification of Primary Care.*

	Chronic disease or condition	Explanations and comments	Illustrative ICD-10[13] codes	Illustrative ICPC[14] v41 codes
		'Coronary heart disease or angina pectoris' variable.	– "Chronic ischaemic heart disease")	
D	Coronary heart disease or angina pectoris	A hint to respondent: "heart-related chest pain" (Adapted from: WHO, World Health Survey) All Ischaemic heart diseases should be included. The variable should not be used as filter for 'Myocardial infarction (heart attack) or chronic consequences of myocardial infarction' variable.	I20-I25 (Ischaemic heart diseases)	K74 Ischaemic heart disease w. angina, K75 Acute myocardial infarction, K76 Ischaemic heart disease w/o angina
E	High blood pressure (hypertension)	High blood pressure (hypertension) occurs when the systolic blood pressure is consistently over 140 mm Hg or the diastolic blood pressure is consistently over 90 mm Hg	I10-I13 and I15 (Hypertensive diseases)	K86 Hypertension uncomplicated, K87 Hypertension complicated
F	Stroke (cerebral haemorrhage, cerebral thrombosis) or chronic consequences of stroke	Includes also chronic consequences of a stroke if the consequences occurred in the past 12 months (even if the stroke occurred before).	I60-I69 (Cerebrovascular diseases)	K90 Stroke/cerebrovascular accident, K91 Cerebrovascular disease
G	Arthrosis (arthritis excluded)	Arthrosis = non-inflammatory disease of the joints which destroys cartilage. Usually only affects the joints Arthritis = inflammation of joints which destroys cartilage. Symptoms can be felt throughout the entire body.[15] Vertebral arthrosis is included even if there may be overlap in responses on "Low back disorder or other chronic back defect" and "Neck disorder or other chronic neck defect".	M15-M19 (Arthrosis)	Osteoarthrosis of hip, of knee and other (L89-L91)
H	Low back disorder or other chronic back defect		No specific ICD-10 codes can be used but the condition is included under some M40-M54 (Dorsopathies) diagnosis (excluding M45 - Ankylosing spondylitis and M50 - Cervical disc disorders).	Back symptom/complaint (L02), Low back symptom/complaint (L03), Back syndrome without radiating pain (L84), Acquired deformity of spine (L85), Back syndrome with radiating pain (L86)
I	Neck disorder or other chronic neck defect		No specific ICD-10 codes can be used but the condition is included under some M40-M54 (Dorsopathies) diagnosis (excluding M45 - Ankylosing spondylitis and M51 - Other intervertebral disc disorders).	Neck symptom/complaint (L01), Neck syndrome (L83)

[15] Adapted from: http://www.rheumatoidarthritis.com/.

	Chronic disease or condition	Explanations and comments	Illustrative ICD-10[13] codes	Illustrative ICPC[14] v41 codes
J	Diabetes	Gestational diabetes excluded.	E10-E14 (Diabetes mellitus)	T89 Diabetes insulin dependent, T90 Diabetes non-insulin dependent
K	Allergy, such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other allergy (allergic asthma excluded)		J30 (Vasomotor and allergic rhinitis), L20-L30 (Dermatitis and eczema excluding L21 - Seborrhoeic dermatitis); and other allergies irrespective of the origin (especially adverse effects of drugs, chemicals and food classified in Chapter XIX - Injury, poisoning and certain other consequences of external causes, for example T88.2 - Shock due to anaesthesia).	R97 Allergic rhinitis, S02 Pruritus, S87 Dermatitis/atopic eczema, S88 Dermatitis contact/allergic
L	Cirrhosis of the liver	Even if the cirrhosis of the liver is rare, it has been kept because it is important to get figures to monitor alcohol behaviour policy. Liver dysfunction is not included. All cirrhoses (not only alcoholic cirrhosis are to be included)	K70 (Alcoholic liver disease); as secondary to other diseases (K71.7 - Toxic liver disease with fibrosis and cirrhosis of liver); part of K74 (Fibrosis and cirrhosis of liver); K76.1 (Chronic passive congestion of liver)	D97 Liver disease NOS
M	Urinary incontinence, problems in controlling the bladder	Urinary incontinence is kept because it's an important issue due to ageing population	R32 (Unspecified urinary incontinence); N39.3 (Stress incontinence); N39.4 (Other specified urinary incontinence)	U04 Incontinence urine
N	Kidney problems	Including renal or kidney failure. It should be clarified that only serious and/or chronic kidney problems should be included. Kidney stones in general are excluded but the perception of the respondent in how far she/he considers it as longstanding is finally decisive.	Chronic conditions under N00-N08 (Glomerular diseases), N10-N16 (Renal tubulo-interstitial diseases) and N17-N19 (Renal failure), N25-N29 (Other disorders of kidney and ureter)	U14 (Kidney symptom / complaint)
O	Depression		F31-F39 (Mood [affective] disorders excluding F30 - Manic episode), F41.2 (Mixed anxiety and depressive disorder), F53.0 (Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified)	P73 Affective psychosis, P76 Depressive disorder

Interviewer instructions:

- Showcard of chronic conditions and diseases can be used.
- Answers in all diseases/conditions should be recorded.

Adaptations of the sub-module:

- The sequencing of the questions is not obligatory; but no filtering of questions is allowed (for

example for Myocardial infarction and Coronary heart disease)

- Familiar (popular) names of the diseases/conditions are to be indicated by each country in the interviewer's manual.
- Countries may add other chronic diseases or conditions in the list for national purposes.
- Countries may also use additional questions related to the conditions: whether the respondent has ever had the disease, whether the disease was diagnosed by a doctor or whether the respondent used any treatment for the condition.

1.2.3 Accidents and injuries (AC)

The following questions aim to measure the occurrence of different kinds of accidents and injuries (excluding self-inflicted injuries or injuries due to interpersonal violence) which represent also a high burden in term of consequences on health state, use of health care services and health and rehabilitation expenditures, in particular among young people (which on the opposite suffer less from chronic diseases). The severity of the most serious injury is also observed.

AC1: Occurrence of [type of accident] in the past 12 months

1) Question

In the past 12 months, have you had any of the following type of accidents resulting in injury?

1. Yes

2. No

Type of accident
A. Road traffic accident
B. Home accident
C. Leisure accident

Interviewer clarification: 'Injuries resulting from poisoning or inflicted by animals or insects are also included. Injuries caused by wilful acts of other persons are excluded.'

Interviewer instruction: Tick 'Yes' or 'No' for each type of accident.

2) Guidelines

General concept: whether within the past 12 months, the respondent was victim of an accident resulting in injury.

Policy relevance: ECHI 29a, ECHI 30a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium for road traffic accidents and for the sum of home and leisure accidents. In EHIS wave 1[16] the question specified for injuries the wording 'external or internal' but dropping this wording has rather no impact on the comparability. Injuries due interpersonal violence were included in EHIS wave 1.

The question focuses injuries caused by unintentional accidents. Cases of acute poisoning are included. Intentional injuries (due to interpersonal violence - wilful acts of other persons - and deliberate self-harm) should be excluded.

[16] For the answer categories in EHIS wave 1, accidents at work and accidents at school were listed and home and leisure accidents were put in one category.

A general definition of accident: it is an unintentional event characterized by a rapid force or an impact which leads to physical harm. Injuries inflicted by animals or insects are considered as accidents.

A general definition of injury: it is a bodily lesion resulting from acute exposure to energy (mechanical, thermal, electrical, chemical or radiant) or from an insufficiency of a vital element (drowning, strangulation or freezing). The time between exposure and the appearance of the injury needs to be short. Injuries are caused by unintentional events (accidents) and intentional events (due to self-harm or interpersonal violence).

Diseases or illnesses are excluded.

Accidents at work are excluded from all three types of accidents[17].

Road traffic accident: all accidents occurred in public roads, public or private car parks provided that the accident didn't happen in the course of work. The victim may be either on board of a means of transport (driver or passenger) or a pedestrian. A land transport vehicle must be involved (for example a pedestrian tripping over a stone on the road is not a road traffic accident). Water, railways or air transport accidents are not included.

Accidents occurred in the course of commuting (travelling between home and work place and including travelling between work place and usual place of meals) are considered as road traffic accidents[18].

Home accident: all accidents which occurred at home (excluding road traffic and work accidents), whatever the activity the person was doing. A home accident occurs in a house (own house or other's) or around the house (garage, garden, alley).

People professionally working at (their or other's) home should consider an accident occurring at (their or other's) home and during the course of work as an accident at work.

Leisure accident: all the accidents occurred during leisure activities excluding those occurred at home and the home's surrounding (see above) or classified as road traffic or work accidents.

Leisure: personal activities for pleasure or interest excluding professional work and basic household activities; Examples of leisure activities: walking, jogging, playing a ball game, dancing, climbing a mountain, woodworking, engaging in hobbies, etc. The following activities/places also included here: visiting pub or restaurant, leisure parks, holiday resorts.

Multiple answers are allowed that is the Road traffic accident, Home accident and Leisure accident can all be ticked. An injury should always be classified as being caused by one and only one type of the 3 types listed (the types of accidents are mutually exclusive).

The past 12 months are taken into consideration from the date of the interview (ex: accidents between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

Examples:

Situation	Interpretation
A person burns his hand while cooking.	Home accident.
A person is bitten by a dog while jogging.	Leisure accident.
A person riding a bicycle on the public road in his free time falls without having a collision with another vehicle or person.	Road traffic accident. It happened on public road and land transport vehicle (bicycle) is involved.
A person riding a bicycle in the mountains (not on a public road) in his free time falls without having a collision with another vehicle or person.	Leisure accident.
A bicyclist on his way home is hit by a car.	Road traffic accident
A person has a back pain while carrying heavy loads.	Health problem (it is not an accident).

[17] Accident at work: an accident occurred at work or in the course of work. The term "in the course of work "means “whilst engaged in an occupational activity or during the time spent at work.”

[18] This criterion is also considered at EU level in the Labour Force Survey.

A person injures his back as a result of a sudden movement.	Can be any type of accident; it depends where and during what activity it happens.
A person, shopping in the city, was attacked and injured in the street.	A wilful act so not classified as accident.

Use of showcards: A showcard with categories of accidents.

FILTER

Interviewer: Next question AC2 is to be asked only for respondents having declared accidents resulting in injury (code 1 in either AC1A, AC1B, AC1C).

AC2: Most serious medical care intervention for the most serious accident in the past 12 months

1) Question

Did you need medical care as a result of this[these] accident[s]?

1. **Yes, I was ADMITTED to a hospital or any other health facility and stayed overnight**
2. **Yes, I was ADMITTED to a hospital or any other health facility but didn't stay overnight**
3. **Yes, from a doctor or nurse**
4. **No consultation or intervention was necessary**

Interviewer instruction: Only one answer is possible.

Interviewer clarification: if there is more than 1 accident of any of the considered types, the question refers to the most serious one (the one for which the most serious treatment was provided).

2) Guidelines

General concept: observing the severity of the most serious injury of any of the considered types asking a question whether because of the accident, the respondent had to visit a doctor, nurse or an emergency department of a hospital.

Policy relevance: ECHI 29a, ECHI 30a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium, only intervention related to the most serious accident is observed and only for the group of road traffic, home and leisure accidents the comparison can be done.

'Yes, I was admitted to a hospital or other health facility' refers to more serious injuries when admission to a specialized (emergency) department of a health facility was needed; this usually implies also being formally admitted and staying in the health facility (not necessarily overnight) for at least several hours.

'Yes, from a doctor or nurse' refers to less severe injuries when an outpatient care was necessary for treatment. Health care provided by paramedics is also included.

'No consultation or intervention was necessary' refers to cases when an intervention from health care providers/professionals was not needed. Care provided by respondent himself/herself or by non-professionals (including family members) is to be included here.

In case of more accidents of any of the considered types (either road traffic, home or leisure), the most serious of them has to be considered and only the most serious intervention ticked (if the person was firstly treated by a doctor but afterwards still had to go to hospital then only 'admitted to a hospital or other health facility…' will be marked).

In case an ambulance arrives at the place of accident and gives the first aid without being necessary to go to the emergency department or to see a doctor, answer "Yes, from a doctor or nurse" should be used. If

the first cares are not given by a medical or paramedical professional, then "no consultation or intervention was necessary" should be used.

For transmission of data to Eurostat first two answer categories are to be merged and all answer categories recoded: 1. admission to a hospital or any other health facility / 2. a doctor or nurse / 3. no intervention was needed.

1.2.4 Absence from work due to health problems (AW)

The questions measure the direct burden of health problems on the economic activity, i.e. in term of absenteeism during the last 12 months. They refer to all kind of health problems, i.e. the chronic diseases, injuries, occupational diseases measured in the previous questions, but also any other type of diseases and health problems including communicable diseases and temporary health problems.

FILTER

Interviewer: Next question (AW1) is to be asked only for respondents currently working (code 10 in MAINSTAT in the background module).

The next questions are to be asked only for currently employed people. Those who worked before in the year and are unemployed at the date of interview are filtered out.

AW1: Absent from work due to personal health problems in the past 12 months

1) Question

In the past 12 months, have you been absent from work for reasons of health problems? Take into account all kind of diseases, injuries and other health problems that you had and which resulted in your absence from work.

1. Yes

2. No

2) Guidelines

General concept: absence from work for reasons of health problems.

Policy relevance: SANCO/EMPL: major socio-economic importance and social gradient.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

Reasons of health problems: all kinds of physical or mental diseases (temporary, chronic, occupational), injuries, other health problems. All health problems even not due / related to work are taken into account. Only reasons related to respondent's own health should be taken into account.

Only full absence from work should be counted (i.e. the person does not continue with minor activities).

The absence from work does not necessarily be certified by a doctor. It neither matters whether the person had or had not an official sick leave for the absence.

The time period refers to the absences and not to the time when the respondent got sick (it could happen that the health problem started more than 12 months ago).

Absences from work for regular/preventive check-ups, not related to a specific health problem affecting the person, should not be included. Also, those absences for taking care of a sick person (for instance, a child) should not be considered. Maternity leave should also be excluded.

The past 12 months are taken into consideration from the date of the interview (ex: absences between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

FILTER

Interviewer: Next question (AW2) is to be asked only for respondents having been absent from work for reasons of health problems (code 1 in AW1).

AW2: Number of days of absence from work due to personal health problems in the past 12 months

1) Question

In the past 12 months, how many days in total were you absent from work for reasons of health problems?

Number of days: └─┴─┴─┘

2) Guidelines

General concept: total number of calendar days of absence from work for reasons of health problems in the past 12 months.

Policy relevance: SANCO/EMPL: major socio-economic importance and social gradient.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, no change.

All calendar days when the person was absent from work for reasons of health problems (i.e. from the day he was considered as unable to work until the day he/she is able to work, even partly) have to be taken into consideration (normal working days or not, including Sundays, bank holidays, etc.). If the respondent, at the day of the interview, is still absent from work for reasons of health problems, he/she should report only the days of absence occurred before the day of the interview.

Only days lost strictly related to the inability to work because of a health problem have to be counted. Consequently, when the respondent has already recovered from a health problem but has not started to work immediately, the days when he/she was able to work but did not do it due to other reasons should not be taken into consideration. The absence from work does not necessarily be certified by a doctor. It neither matters whether the person had or had not an official sick leave for the absence.

If the person didn't work for a certain period of time and then started to be integrated back to work gradually, for example working part-time, only the days when he/she was not working at all are counted.

The days of absence for taking care of somebody else (a family member, for instance a sick child) should not be counted.

The past 12 months are taken into consideration from the date of the interview (ex: days of absence from work between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

1.2.5 Physical and sensory functional limitations (PL)

The questions come from the Budapest Initiative (BI) – Mark 2 (A Survey Module for Measuring Health State). These questions measure the main physical and sensory functional limitations. Measuring the prevalence of these limitations constitute the basic evaluation of the health state of the population, i.e. its situation in terms of functioning capacity whatever the reasons of the limitations (born with, disease, accident, ageing, etc.).

Introduction PL

Now I am going to ask you some further questions about your general physical health. These questions deal with your ability to do different basic activities. Please ignore any temporary problems.

Guidelines

Think about situations: a physical or sensory functional limitation can be measured through reference to many actions/situations; the action/situation is there only to help the respondent to assess the level of functioning. For this reason the distances (4 metres, 500 metres), number of steps, etc. should not be taken literally but to describe the scale we are interested in.

Different basic activities: respondents do not necessarily face the situation proposed and so the functional limitation is measured in terms of capacity to undertake the task (can you/could you if you had to) rather than performance (do you);

Ignore any temporary problems: the aim is to measure long-term (chronic) limitations. This wording is used so that a time limit is not required;

The aim of the following questions is to assess the person's own capacity (Do you have difficulty …). The actions/situations are there only to help the respondent, and interviewer, to assess the level of functioning. In some cases technical devices/aids are considered (vision and hearing) while in others not (mobility).

For vision and hearing, the general rule on measuring capacity was not followed. Vision and hearing aids are essentially being considered here as "within-the-skin" aids (that is independent of external factors such as the physical or social environment). Individuals who always use vision/hearing aids to enhance or correct vision/hearing problems would have difficulty responding about functioning without these aids. Moreover, given the omnipresence and effectiveness of such aids, one would not want to consider persons whose vision/hearing was corrected by the aids as having a functional limitation.

Without aids: the aim is to ensure that the limitation is not due to financial reasons for not owning the most commonly available types of technical aids for people with functional limitations (such as walking sticks).

Assistance means help from another person (for instance, the help of someone who helps a disabled person to wash himself/herself). It could be from a person not living in the household.

Use of showcards: for questions PL2, PL4-PL7.

Interviewer instruction: If the respondent is completely blind do not ask the question, mark with code 3 in PL1 and then go to PL3. For the others, ask PL1.

PL1: Wearing glasses or contact lenses

1) Question

Do you wear glasses or contact lenses?

1. Yes

2. No

3. I am blind or cannot see at all

2) Guidelines

General concept: whether the person uses or not glasses or contact lenses for improving his/her seeing.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change even if the Budapest initiative (BI) question is used.

FILTER

Interviewer instruction: Next question (PL2) is to be asked only for respondents who are not blind (codes 1, 2 in PL1).

PL2: Difficulty in seeing, even when wearing glasses or contact lenses

1) Question

Interviewer instruction: Phrasing if PL1 = 1:

Do you have difficulty seeing even when wearing your glasses or contact lenses?

Would you say…

Interviewer instruction: Phrasing if PL1 = 2:

Do you have difficulty seeing?

Would you say…

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

2) Guidelines

General concept: assessment of the extent of difficulty which a person has in seeing.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium. In EHIS wave 1 two questions were asked. The combined result might be comparable with the EHIS wave 2 indicator.

The aim of the question is to assess the person's own capacity (Do you have difficulty…). The use of technical devices/aids is considered. Both, long and short distance seeing should be taken into account. Eyesight problems should not be reported if glasses or contact lenses are 'sufficiently effective'. For a respondent with seeing impairment who does not have glasses (for instance, due to financial reasons), he/she should answer without considering these aids.

If asked, the interviewer should mention that good lightening conditions are foreseen.

The Budapest initiative vision domain covers a spectrum of seeing problems including dimensions of near and far vision, night blindness, and monocular vision. Testing of the single Washington group (WG) short set question provided evidence that this question was able to capture all of these aspects of difficulty seeing.

The WG and the BI developed and tested extended questions in order to gain more insight into some of the individual dimensions of vision, in particular near and far sightedness. Analyses of the results of the testing indicated that responses to the extended questions were able to differentiate between near and far sightedness but taken together they were not able to improve upon the single question regarding severity.

Interviewer instruction: If the respondent is completely deaf do not ask the question, mark with code 3 in PL3 and then go to PL6. For the others, ask PL3.

PL3: Use of a hearing aid

1) Question

Do you use a hearing aid?

1. Yes

2. No

3. I am profoundly deaf

2) Guidelines

General concept: whether the person uses or not a hearing aid.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, the only change is the word "wear" by "use."

Other hearing aids habitually worn and considered as ‘within-the-skin’ can be taken into account if it is relevant and important in a particular country. Implants are considered as ‘within-the-skin’ aids.

FILTER

Interviewer instruction: Next Question (PL4) is to be asked only for respondents who are not deaf (codes 1, 2 in PL3). Otherwise go to question PL.6.

PL4: Difficulty in hearing what is said in a conversation with one other person in a quiet room even when using a hearing aid

1) Question

Interviewer instruction: Phrasing if PL3 = 1

Do you have difficulty hearing what is said in a conversation with one other person in a quiet room, even when using your hearing aid?

Would you say…

Interviewer instruction: Phrasing if PL3 = 2

Do you have difficulty hearing what is said in a conversation with one other person in a quiet room?

Would you say…

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

2) Guidelines

General concept: assessment of the extent of difficulty which a person has in hearing what is said in a conversation in a quiet room.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium, the reference to "conversation with several people" is changed and a characteristic of the room where the conversation takes place (quiet or noisy) is added. Combining PL4 and PL5 from EHIS wave 2 an indicator comparable with EHIS wave 1 might be received.

The aim of the question is to assess the person's own capacity (**Do you have difficulty…**). The situation is there only to help the respondent, and interviewer, to assess the level of functioning. The use of technical devices/aids is considered. Hearing problems should not be reported if hearing aids are 'sufficiently effective'. For a respondent with hearing impairment who does not have hearing aid (for instance, due to financial reasons), he/she should answer without considering these aids.

The question implies a normal situation where there is no background noise or at a very low level, so that there is no background noise that could make difficult to hear what another person says.

In case a person is deaf in one ear, his/her answer should reflect an average situation.

Hearing difficulties include a range of problems that deal with some specific aspects of the hearing function: the perception of loudness and pitch, the discrimination of speech versus background noise, and

the localization of sounds. Background noise is a detractor for hearing and this distraction becomes worse with increasing levels of hearing loss.

The WG and the BI developed and tested several versions of extended hearing questions in order to develop a scale of severity for hearing problems. The questions used in the cognitive and field testing elicited two levels of difficulty in hearing – hearing in a quiet room (easier activity) and hearing in a noisy room (more difficult activity). The extent of the hearing problem for individuals who report difficulty hearing in a quiet room is likely to be moderate to severe, while many more people are likely to find hearing in a noise room difficult (mild difficulty hearing). Analyses of results of the evidence provided from the testing indicated that responses to the extended questions were both able to discriminate individuals with hearing problems on a scale of severity.

FILTER

Interviewer instruction: Next Question (PL5) is to be asked only for respondents who can hear what is said in a conversation in a quiet room (codes 1, 2, 3 in PL4).

PL5: Difficulty in hearing what is said in a conversation with one other person in a noisier room even when using a hearing aid

1) Question

[Interviewer instruction: Phrasing if PL3 = 1]

Do you have difficulty hearing what is said in a conversation with one other person in a noisier room, even when using your hearing aid?

Would you say…

[Interviewer instruction: Phrasing if PL3 = 2]

Do you have difficulty hearing what is said in a conversation with one other person in a noisier room?

Would you say…

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

2) Guidelines

General concept: assessment of the extent of difficulty which a person has in hearing what is said in a conversation in a noisier room.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium, the reference to "conversation with several people" is changed and a characteristic of the room where the conversation takes place (quiet or noisy) is added. Combining PL4 and PL5 from EHIS wave 2 an indicator comparable with EHIS wave 1 might be received.

The aim of the question is to assess the person's own capacity (Do you have difficulty…). The situation is there only to help the respondent, and interviewer, to assess the level of functioning. The use of technical devices/aids is considered. Hearing problems should not be reported if hearing aids are 'sufficiently effective'. For a respondent with hearing impairment who does not have hearing aid (for instance, due to financial reasons), he/she should answer without considering these aids.

In case a person is deaf in one ear, his/her answer should reflect an average situation.

Hearing difficulties include a range of problems that deal with some specific aspects of the hearing function: the perception of loudness and pitch, the discrimination of speech versus background noise, and the localization of sounds. Background noise is a detractor for hearing and this distraction becomes worse with increasing levels of hearing loss.

The WG and the BI developed and tested several versions of extended hearing questions in order to develop a scale of severity for hearing problems. The questions used in the cognitive and field testing elicited two levels of difficulty in hearing – hearing in a quiet room (easier activity) and hearing in a noisy room (more difficult activity). The extent of the hearing problem for individuals who report difficulty hearing in a quiet room is likely to be moderate to severe, while many more people are likely to find hearing in a noise room difficult (mild difficulty hearing). Analyses of results of the evidence provided from the testing indicated that responses to the extended questions were both able to discriminate individuals with hearing problems on a scale of severity.

PL6: Difficulty in walking half a km on level ground without the use of any aid

1) Question

Do you have difficulty walking half a km on level ground that would be […][19] without the use of any aid?

Would you say…

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

2) Guidelines

General concept: assessment of the extent of difficulty which a person has in walking 500 meters on level ground without any aid or support.

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, the phrasing has been changed compared to EHIS wave 1 question but it measures the same.

The aim of the question is to assess the person's own capacity (Do you have difficulty…). The situation is there only to help the respondent, and interviewer, to assess the level of functioning. The use of technical devices/aids or assistance is not considered when evaluating the extent of difficulty.

The question investigates for limitations in the physical act of walking, and not for limitations in walking due to other functioning problems. For example, for a blind person, the guide dog or the use of a stick or other walking aid or assistance, if the reason for using it is only limited seeing, should not be seen as an aid; such person (even using a walking stick or having a guide dog) should not be seen as having walking difficulties.

Walking aids includes: surgical footwear, canes or walking sticks, zimmer frames, callipers, splints, crutches, wheelchair, artificial limb (leg/foot), prostheses, someone's assistance. Holding someone's arm is considered as receiving assistance.

Even the respondent seems to be permanently confined to bed, it's preferable that the interviewer ask this question as well as the following ones.

Note: the question has to be completed with an example fitting the national context. For example: the length of five football fields.

Adaptation of the question: national equivalents for 500 metres are allowed to use in wording of the question.

[19] The question has to be completed with an example fitting the national context. For example: 'the length of five football fields' or 'one city block '.

PL7: Difficulty in walking up or down 12 steps

1) Question

Do you have difficulty walking up or down 12 steps? Would you say…

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

2) Guidelines

General concept: assessment of the extent of difficulty which a person has in walking up and down 12 steps without any aid or assistance (both activities of walking up and down are implied by the question).

Policy relevance: ECHI 36.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, the phrasing has been changed compared to EHIS wave 1 question but it measures the same.

The aim of the question is to assess the person's own capacity (Do you have difficulty…). The situation is there only to help the respondent, and interviewer, to assess the level of functioning. In general, the use of technical devices/aids or assistance - with the exceptions of handrails and bannisters - is not considered when evaluating the extent of difficulty. The specification of devises/aids should not be part of the wording of the question (to follow the standard BI question).

The BI justification for including the use handrails or bannisters is triple: a) the near-universal presence of handrails would make it difficult for respondents to conjure situations in which these would not be available and/or used; b) the use of handrails is nearly automatic as one walks up and down steps and is not necessarily a reflection of functional ability; c) the use of handrails may be a greater reflection of external conditions, for example wet or icy steps. While not mentioning handrails does introduce a source of error, the testing done suggested that the error introduced was greater when handrails were mentioned.

The question investigates for limitations in the physical act of walking, and not for limitations in walking due to other functioning problems. For example, for a blind person, the guide dog or the use of a stick or other walking aid or assistance, if the reason for using it is only limited seeing, should not be seen as an aid; such person (even using a walking stick or having a guide dog) should not be seen as having walking difficulties.

Walking aids includes: surgical footwear, canes or walking sticks, zimmer frames, callipers, splints, crutches, wheelchair, artificial limb (leg/foot), prostheses, someone's assistance. Holding someone's arm is considered as receiving assistance.

'A flight of stairs' can be used as equivalent to 12 steps.

1.2.6 Personal care activities (PC)

The questions measure the performance and the help received or needed concerning the main Activities of Daily Living (ADL) according to the International Classification of Functioning, Disability and Health (ICF). The measurement of the ADL constitutes the first basic evaluation of disability prevalence in the population, in terms of performance for personal care activities, whatever the reasons of the disabilities (born with, disease, accident, ageing, etc.), and of related support provided to the disable persons.

FILTER

Interviewer: Next questions (PC1 to PC3) are to be asked only for respondents who are 65 years or older (age => 65).

An age filter (65 and older) can be applied (as defined in the EHIS Commission Regulation to indicate the minimum requirement of collecting those PC variables)**.** Countries, which don't want to use the filter, can open the questions to all participants**.**

Introduction PC1

Now I would like you to think about some everyday personal care activities. Here is a list of activities. Please ignore temporary problems.

PC1: Difficulty in [kind of personal care activity]

1) Question

Do you usually have difficulty doing any of these activities without help?

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

Interviewer instruction: Tick an answer for each of the personal care activities.

Activities
A. Feeding yourself
B. Getting in and out of a bed or chair
C. Dressing and undressing
D. Using toilets
E. Bathing or showering

2) Guidelines

General concept: measure the degree of independence in doing activities of personal care.

Policy relevance: ageing population issues.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a change of wording: "by yourself" was replaced by "without help."

"Do you": the listed activities are the most essential for self-care in daily life that respondents have to perform. Independence corresponds to what respondents do (not what they think they can do) and we therefore ask about reported performance (do you...) rather than self-assessed capacity (can you...), thus closer to actual performance.

"Usually" is included to exclude temporary problems. This wording is used so that a time limit is not required.

"Without help": help from another person, the use of technical aids and housing adaptation are excluded. The aim is to ensure that any restriction is not due to financial or other reasons (such as unavailability of personal help).

Feeding – the respondent is able to get the food from the plate to his/her mouth, lift a full glass to his/her mouth, cut up food, use the fork, spoon, spread butter and/or jam on a slice of bread, add salt. This activity excludes shopping for food or food preparation and cooking.

Getting in and out of a bed or chair – the respondent does not need help to get in and out of the bed or chair; coming to a standing position is implied. In case the respondent has a different level of difficulty in performing these 2 activities, the interviewer should record the answer corresponding to the activity which is more difficult for the respondent.

Dressing and undressing – getting clothes from closets and drawers, putting them on, removing and fastening all clothing and tie shoe laces, doing buttons. In case the respondent has a different level of difficulty in performing the 2 activities, the interviewer should record the answer corresponding to the activity which is more difficult for the respondent.

Using toilets – the following activities are concerned: use toilet paper / cleaning himself/herself after elimination, arranging clothes before and after toilet use.

Bathing or showering – the following activities are concerned: washing and drying the whole body; get in and out of the bathtub. In case the respondent has a different level of difficulty in performing these 2 activities, the interviewer should record the answer corresponding to the activity which is more difficult for the respondent.

Use of showcards: A showcard of activities can be used.

FILTER

Interviewer: Next question (PC2) is to be asked only for respondents who have declared difficulty in at least one activity (codes 2, 3, 4 in PC1A – PC1E). Otherwise go to Introduction HA1 (Household Care Activities).

Introduction PC2

Thinking about all personal care activities where you have difficulty in doing them without help…

PC2: Usually receiving help with one or more self-care activities: feeding yourself, getting in and out of a bed or chair, dressing and undressing, using toilets, bathing or showering

1) Question

Do you usually have help for any of these activities?

1. Yes, with at least one activity

2. No

2) Guidelines

General concept: assessing whether the person has help in performing an activity.

Policy relevance: importance for Long-Term Care, active ageing and health inequalities.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a slight change of wording.

Any kinds of help should be considered: help from another person, the use of technical aids and housing adaptation.

PC3: Need to receive help or more help with one or more self-care activities: feeding yourself, getting in and out of a bed or chair, dressing and undressing, using toilets, bathing or showering

1) Question

[Interviewer instruction: Phrasing if PC2 = 1]

Would you need more help?

[Interviewer instruction: Phrasing if PC2 = 2]

Would you need help?

1. Yes, with at least one activity

2. No

2) Guidelines

General concept: assessing whether the person needs help / whether the help is enough (need more help).

Policy relevance: importance for Long-Term Care, active ageing and health inequalities.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a slight change of construction of the question but the concept is the same.

1.2.7 Household activities (HA)

These questions measure the performance and the help received or needed concerning the main instrumental activities of daily living (IADL) according to the International Classification of Functioning, Disability and Health (ICF). The measurement of the IADL constitutes the second basic evaluation of disability prevalence in the population, in terms of performance for household care activities, whatever the reasons of the disabilities (born with, disease, accident, ageing, etc.), and of related support provided to the disable persons.

FILTER

Interviewer: Next questions (HA1 to HA3) are to be asked only for respondents who are 65 years or older (age => 65).

An age filter (65 and older) can be applied (as defined in the EHIS Commission Regulation to indicate the minimum requirement of collecting those HA variables)**.** Countries, which don't want to use the filter, can open the questions to all participants**.**

Introduction HA1

Now I would like you to think about some household activities. Here is a list of activities. Please ignore any temporary problems.

HA1: Difficulty in doing [kind of household activity]

1) Question

Do you usually have difficulty doing any of these activities without help?

1. No difficulty

2. Some difficulty

3. A lot of difficulty

4. Cannot do at all / Unable to do

5. Not applicable (never tried it or do not need to do it)

Interviewer instruction: Tick an answer for each of the household activities.

Interviewer clarification: If the spontaneous answer is 'NO DIFFICULTY' or you are not sure about the answer you should probe if the respondent does the activity or cannot do the activity by him-/herself but for other reasons than his/her health state. In these cases answer 'Not applicable' should be recorded.

Activities
A. Preparing meals
B. Using the telephone
C. Shopping
D. Managing medication
E. Light housework
F. Occasional heavy housework
G. Taking care of finances and everyday administrative tasks

2) Guidelines

General concept: measure the degree of independence in doing activities of household care related to longstanding health-related problems.

Policy relevance: ageing population issues.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a slight change of wording: "by yourself" was replaced by "without help".

The question probes primarily for difficulties due to health state, disability or old age. If the problems are due to other reasons the last answer category should be ticked (Not applicable, never tried it or do not need to do it). This difference should be stressed to respondents.

"Do you": as for personal care activities we ask about reported performance (do you...) rather than self-assessed capacity (can you...), to be closer to the actual performance. However respondents may have the

capacity but choose to have the activity performed by someone else, for instance employment of a cleaner. This is addressed later in the question.

"Usually" is included to exclude temporary problems. This wording is used so that a time limit is not required.

"Without help": help from another person, the use of technical aids and housing adaptation are excluded. The aim is to ensure that any restriction is not due to financial or other reasons (such as unavailability of personal help).

Explaining the response categories:

- No difficulty = I do the activity and I can do it without any help;
- Not applicable (never tried it or do not need to do it) = I never tried or do not need to do the activity; or I cannot do the activity by myself but for other reasons than a health state, difficulties with basic activities or old age.

Preparing meals – the person is able to cook or prepare meals for himself/herself.

Using the telephone – the person can make calls and answer the telephone.

Shopping – the person is able to go for shopping without help from another person.

Managing medication – the person does not need help from another person to prepare a daily pill-box and take his/her medication. This activity concerns only the fact that the person is able to take his/her medication (the ability to take pills oneself) and not the one of being able to go to the pharmacy in order to take the pills home.

Light housework – the person is able to do the following activities: washing dishes, ironing, bed making, and child care.

Occasional heavy housework – the person is able to do the following activities: walking with heavy shopping for more than 5 minutes, spring cleaning, scrubbing floors with a scrubbing brush, vacuum-cleaning, cleaning windows, or other similar heavy housework.

Taking care of finances and everyday administrative tasks – paying bills, etc.

Use of showcard: A showcard of activities can be used.

FILTER

Interviewer instruction: Next question (HA2) is to be asked only for respondents who have declared difficulty in at least one domestic activity because of health state (codes 2, 3, 4 in HA1A – HA1G). Otherwise go to the next sub-module.

Introduction HA2

Thinking about all household activities where you have difficulty in doing them without help.

HA2: Usually receiving help with one or more domestic activities: preparing meals, using the telephone, shopping, managing medication, light or occasional heavy housework, taking care of finances and everyday administrative tasks

1) Question

Do you usually have help with any of these activities?

1. Yes, with at least one activity

2. No

2) Guidelines

General concept: assessing whether the person has help in performing an activity.

Policy relevance: importance for Long-Term Care, active ageing and health inequalities

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a slight change of wording.

Any kind of help should be considered: help from another person, the use of technical aids and housing adaptation.

HA3: Need for help or more help with one or more domestic activities: preparing meals, using the telephone, shopping, managing medication, light or occasional heavy housework, taking care of finances and everyday administrative tasks

1) Question

[Interviewer instruction: Phrasing if HA2 = 1]

Would you need more help?

[Interviewer instruction: Phrasing if HA2 = 2]

Would you need help?

1. Yes, with at least one activity

2. No

2) Guidelines

General concept: assessing whether the person needs help / whether the help is enough (need more help).

Policy relevance: importance for Long-Term Care, active ageing and health inequalities

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, filtered for population 65+ and a slight change of construction of the question but the concept is the same.

1.2.8 Pain (PN)

Pain covers other important domain of health state, in particular in terms of physical aspects of well-being.

The questions on measuring bodily (physical) pain comes from SF-36v™ 2 Health Survey © 1996, 2000 by Quality Metric Incorporated and Medical Outcomes Trust. They focus the intensity of bodily pain and the extent pain interfered with normal work.

Some national language versions of the questions are available.

Introduction PN

Next questions are about any physical pain you have had during the past 4 weeks.

PN1: Intensity of bodily pain during the past 4 weeks

1) Question

How much bodily pain have you had during the past 4 weeks?

1. None

2. Very mild

3. Mild

4. Moderate

5. Severe

6. Very severe

2) Guidelines

General concept: physical pain experienced by the respondent in the past 4 weeks, on average (measure of the intensity of pain).

Policy relevance: ECHI 37.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, slightly different wording and response categories.

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage[20].

Pain is subjective and respondents should reply according to their experience of it.

Respondents who experienced more than one pain have to consider all of them together.

Use of showcard: A showcard of response categories can be used.

[20] The definition of pain according to the International Association for the Study of Pain.

PN2: Extent that pain interfered with normal work during the past 4 weeks (including both work outside the home and housework)

1) Question

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

1. Not at all

2. A little bit

3. Moderately

4. Quite a bit

5. Extremely

2) Guidelines

General concept: impact of the pain on respondent's daily life.

Policy relevance: ECHI 37.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage[21].

Pain is subjective and respondents should reply according to their experience of it.

Respondents who experienced more than one pain have to consider all of them.

Normal work includes all activities respondent usually does in leisure time (sports, housework) or at work (or school).

Use of showcard: A showcard of response categories can be used.

[21] The definition of pain according to the International Association for the Study of Pain.

1.2.9 Mental health (MH)

Mental health is an important domain of health state because it composes a high share of the total burden of diseases and because it is an important factor in well-being.

The Patient Health Questionnaire (PHQ-8), 8-item depression screener, was selected as the instrument to monitor mental health and it encompasses a subset of the negative mental health dimension - mental health problems. It is an instrument for assessing and monitoring the prevalence and severity of current depressive symptoms and functional impairment and to make tentative depression diagnosis[22].

It originally comes from the Brief Patient Health Questionnaire, Depression Module (PHQ-9) and is based on criteria for depression of the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV).

This sub-module can be combined into one survey with the appropriate SF-36 instrument on well-being and psychological distress (MHI-5, EVI).

Introduction MH

Next questions are about how you feel and how things have been with you during the past 2 weeks. For each question, please give the answer that come closest to the way you have been feeling.

MH1: Extent of [problem related to mental health] over the last 2 weeks

1) Question

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1. Not at all

2. Several days

3. More than half the days

4. Nearly every day

Interviewer instruction: Tick an answer for each of the questions.

Problem
A. Little interest or pleasure in doing things
B. Feeling down, depressed or hopeless
C. Trouble falling or staying asleep, or sleeping too much
D. Feeling tired or having little energy
E. Poor appetite or overeating

[22] For more information see the *Final Report of the Eurostat grant on Improvement of the European Health Interview Survey (EHIS) modules on alcohol consumption, physical activity and mental health*, pages 322-341.

F. Feeling bad about yourself or that you are a failure or have let yourself or your family down
G. Trouble concentrating on things, such as reading the newspaper or watching television
H. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual

2) Guidelines

General concept: sub-module for assessing and monitoring the prevalence and severity of current depression according to criteria of the Diagnostic and Statistical Manual of Mental Disorders – version 4 (DSM-IV).

Policy relevance: ECHI 38.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

Country specific versions of the PHQ-9 are freely available at www.phqscreeners.com and are recommended to be used. PHQ-9 has been translated into some European languages. The following European language translations were missing at the time of finalizing the manual: Latvian, Estonian, Slovenian and Maltese.

If there is no official country version available, please use the instrument version above and apply the following descriptions of the specific criteria for major depressive episodes according to DSM-IV for the translation process:

a) *Little interest or pleasure in doing things*: markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

b) *Feeling down, depressed or hopeless*: depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g. feels sad or empty) or observations made by others (e.g. appears tearful)

c) *Trouble falling or staying asleep, or sleeping too much*: sleep disturbances or excessive sleepiness nearly every day

d) *Feeling tired or having little energy*: fatigue or loss of energy nearly every day

e) *Poor appetite or overeating*: decrease or increase in appetite nearly every day

f) *Feeling bad about yourself - or that you are a failure or have let yourself or your family down*: feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being ill)

g) *Trouble concentrating on things, such as reading the newspaper or watching television*: diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

h) *Moving or speaking so slowly that other people could notice. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual*: psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

Interviewer's instructions:

- The interviewer should ensure that complete information is obtained for all of the questions;

otherwise the output indicators can't be calculated.

- Respondents should select the answer categories that best describe their situation over the last 2 weeks that is the preceding period of 2 weeks (from yesterday).
- Respondents should answer the questions by using the given answer options only. Answers outside the given answer categories are not permitted.
- A showcard with possible response categories can be used.

1.3 European Health Care Module (EHCM)

The ECHM module collects data on the use of health care services and the unmet needs for health care. Information on health care consumption is an essential part of the health information system in order to assign necessary resources to the population. Administrative data may provide more reliable and accurate data on health care services, but not necessarily comparable between countries. The advantage of observing the data via EHIS is that firstly, we can receive comparable data for all countries due to same method of data collection; and secondly, it enables linking the data with characteristics of health status, health determinants and socio-economic characteristics. This allows analysing the relations between health consumption and several determinants such as health status, lifestyles or socio-demographic characteristics as well as the relations between different types of health care use. As such EHIS data permit the comparison of the health needs and health consumption and thus make it also possible to explore the concepts of vertical and horizontal equity in health care.

A general note: for all questions of the EHCM, the operationalization and translation into the different national languages should take into account the specificities of the national health care systems.

1.3.1 Use of inpatient and day care (HO)

Introduction HO

The next set of questions is about time spent in hospital. All types of hospitals are included.

Interviewer clarification: For women up to age 50 years, add: 'The time spent in hospital for giving birth should not be included'.

Hospital services are the most expensive care services and are in particular related to the most severe health problems for which ill person are admitted either as inpatients or day-patients (out-patient services including emergency services are not included).

Guidelines

Hospitals comprises licensed establishments primarily engaged in providing medical, diagnostic, and treatment services that include physician, nursing, and other health services to in-patients and the specialised accommodation services required by in-patients.

Hospitals provide in-patient health services, many of which can only be provided using the specialised facilities and equipment that form a significant and integral part of the production process. In some countries, health facilities need in addition a minimum size (such as number of beds) in order to be registered as a hospital (SHA definition).

Hospitals may also provide out-patient services (i.e. a patient has contact with an ambulatory care physician in hospital) as a secondary activity, but such cases are not considered with this question.

All types of hospitals are included: the general term hospital is preferred. When necessary due to local singularities, the interviewer should explain that all kinds of hospitals as well as psychiatric/mental health hospitals and specialized hospitals are included; nursing homes and institutes providing care for those with learning disabilities are excluded.

Hospitalisation abroad is also included.

The time spent for reasons related to antenatal and postnatal period (e.g. complications during pregnancy, abortions, and complications after giving birth) should be included.

HO1: Admission as an inpatient in a hospital in the past 12 months

1) Question

In the past 12 months have you been in hospital as an inpatient, that is overnight or longer?

1. Yes

2. No

Interviewer clarification: 'Visits to emergency departments only (without overnight stay) or as outpatient only should not be included'.

2) Guidelines

General concept: occurrence of hospitalisation as inpatient.

Policy relevance: health system performance and sustainability, planning of health care resources, equity.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, only slight change of wording.

An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution providing in-patient care.

During the past 12 months, that is since (date one year ago): a period of 12 months that started one year from the date of the interview (ex: the time period between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

The day of interview should not be considered as part of the reference period.

In case the respondent is currently hospitalised and it is the only hospitalization in the past 12 months, answer "Yes" should be used (that is the current hospitalisation should be counted).

A case when a patient is discharged for a short time (for example for the weekend) and then re-admitted (for example on Monday morning) should be considered as one case of hospitalization.

Day (care) cases (patients formally admitted for a medical procedure or surgery in the morning and released before the evening) are excluded.

FILTER

Interviewer: Next question (HO2) is to be asked only for respondents who have been in hospital as an inpatient (codes 1 in HO1).

HO2: Number of nights spent as a patient in a hospital in the past 12 months

1) Question

Thinking of all these occasions you have been an inpatient, how many nights in total did you spend in hospital?

Number of nights: └┘└┘└┘

2) Guidelines

General concept: number of nights hospitalised as inpatients.

Policy relevance: health system performance and sustainability, planning of health care resources, equity.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, only slight change of wording.

Thinking of all these occasions you have been an inpatient, how many nights in total did you spend in hospital: aims to measure the total number of nights during the past 12 months.

In case the respondent is currently hospitalised, the number of nights corresponding to the current hospitalisation should not be counted. In case the respondent is currently hospitalised and it has been the only hospitalization in the past 12 months, the code '-2' for 'not applicable' is to be recorded.

HO3: Admission as a day patient in a hospital in the past 12 months

1) Question

In the past 12 months have you been admitted to hospital as a day patient, that is admitted to a hospital for diagnostic, treatment or other types of health care, but not required to remain overnight?

1. Yes

2. No

2) Guidelines

General concept: occurrence of hospitalisation as day patient.

Policy relevance: health system performance and sustainability, planning of health care resources, equity.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, same concept but slightly different wording: "admitted to a hospital bed" has been changed to "admitted to a hospital for diagnostic, treatment or other types of health care".

During the past 12 months, that is since (date one year ago): a period of 12 months that started one year from the date of the interview (ex: the time period between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

Day care (adapted according to SHA 2011):

- The day-care approach is still incipient in many countries and is often linked to specific objectives such as cost containment and waiting list reduction.
- In contrast to inpatient and outpatient care, day care comprises planned medical and paramedical services delivered to patients who have been formally admitted for diagnosis, treatment or other types of health care but with the intention to discharge the patient on the same day. Day care can relate to preventive, curative, rehabilitative and long-term care services.
- Day-care elective surgery is often performed in institutions or wards that specialise in planned services. This can include any elective invasive therapies provided, usually under general or local anaesthesia, to day-care patients whose post-surveillance and convalescence care requires no overnight stay as an inpatient (for example, laser surgery, dialysis and so on). It may also include non-invasive recurrent and planned therapy (such as rehabilitation in individual or group sessions).
- A day patient (or “same-day patient”) is usually admitted and then discharged after staying between 3 and 8 hours on the same day. Services for non-admitted patients that are extended to formal admission for day-care are considered as day care.
- Being admitted usually mean that the patient is assigned a room or a bed during his stay in the health care facility.
- A contact for a patient who is admitted as a day-care patient, but then due to a complication is retained, should be re-classified as an inpatient case.
- A contact for a patient who is not formally admitted for diagnosis, treatment or other types of health care should be considered as outpatient care and therefore not included here day care.

FILTER

Interviewer: Next Question (HO4) is to be asked only for respondents who have been in hospital as a day patient (codes 1 in HO3).

HO4: Number of times admitted as a day patient in a hospital in the past 12 months

1) Question

In the past 12 months how many times have you been admitted to hospital as a day patient?

Number of times: └┘└┘└┘

2) Guidelines

General concept: number of hospitalisations as day patient.

Policy relevance: health system performance and sustainability, planning of health care resources, equity.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, same concept slightly different wording: "days" replaced by "times" and "(date since one year age)" changed into "past 12 months".

How many times have you been admitted as a day patient: measures the number of separate stays as a day patient.

'Days' can be used instead of 'times' if it is more appropriate in national context.

1.3.2 Use of ambulatory and home care (AM)

Introduction AM1

The next set of questions is about visits to dentists, orthodontists or other dental care specialist.

Dental services are not the most frequently used outpatient care services but they are often expensive and have a big prevention potential.

Guidelines

Dentist: professional who provides comprehensive care regarding teeth and oral cavity, including prevention, diagnosis and treatment of aberrations and diseases.

Dentist's tasks include: making diagnosis, advising on and giving necessary dental treatment, giving surgical, medical and other forms of treatment for particular types of dental and oral diseases and disorders.

Orthodontist: is a dental specialist who diagnoses, prevents and corrects irregularities of the teeth and jaw problems (for example, correcting misaligned teeth through the use of braces).

Other dental care specialists (dental hygienists or dental hygiene practitioner): their tasks can differ from one country to another. Also, in some cases they practice under the supervision of a dentist. They do less complex dental and oral care, such as advice patients to develop and maintain good oral health, examine patients' teeth and gums, remove deposits and plaque from teeth, make fillings, dental X-rays or local anaesthesia, etc.

AM1: Last time of a visit to a dentist or orthodontist (for personal treatment)

1) Question

When was the last time you visited a dentist or orthodontist on your own behalf (that is, not while only accompanying a child, spouse, etc.)?

1. Less than 6 months

2. 6 to less than 12 months

3. 12 months or longer

4. Never

2) Guidelines

General concept: moment of last visit to a dentist.

Policy relevance: ECHI 72a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, same question as in EHIS wave 1; only the answer category "less than 12 months ago" is split into two answer categories.

On your own behalf: refers to visits that focus on respondent's health.

Only consultations in a medical office should be considered. Home visits and consultations by telephone should not be included.

Adaptations of the question: Countries may split the first answer category to "less than 3 months" and to "3 to less than 6 months".

Introduction AM2

The next set of questions is about consultations with your general practitioner or family doctor. Please include visits to your doctor's office as well as home visits and consultations by telephone.

General practitioners (GP) and family doctors constitute the primary access to health care in the majority of the EU Member States. In addition, in numerous countries, the GPs and family doctors shall be consulted in order to be oriented to a specialist when needed. Access to dental or primary medical examination is consequently a key element of equity in relation to health care.

Guidelines

Consultations with your general practitioner or family doctor: all types of consultations are considered (face-to-face, by telephone or e-mail).

Excluded: Contacts with a nurse on behalf of a GP, for instance for receiving a receipt; or visits for prescribed laboratory tests or visits to perform prescribed and scheduled treatment procedures (e.g. injections). Telephone contacts (even with a doctor) without consulting own health (for example just for arranging an appointment with a doctor).

Your doctor's practice: the office of the physician.

Home visits: consultations at your place/ at home.

General practitioner (GP)/ family doctor is a physician (medical doctor) who does not limit his/her practice to certain disease categories and assumes the responsibility for the provision of continuing and comprehensive medical care or referring to another health care professional. In some countries, GP is treated as a specialisation. The definition should be accommodated local languages/terms. Some illustrative examples of GP's given in ISCO-08 and SHA 2011: district medical doctor – therapist, family medical practitioner, general practitioner, medical doctor (general), medical officer (general), resident medical officer specializing in general practice, paediatricians providing general medicine in private offices (general practitioner for children and adolescents), physicians in walk-in offices/centres.

Adaptations of the questions: If some countries cannot distinguish between GPs/family doctors and specialists they may join the respective questions into one. This adaptation should only be exceptional as the split is requested by ECHI (71a and 72a). This should also be justified and described in quality report.

AM2: Last time of a consultation of a general practitioner or family doctor (for personal treatment)

1) Question

When was the last time you consulted a GP (general practitioner) or family doctor on your own behalf?

1. Less than 12 months ago

2. 12 months ago or longer

3. Never

2) Guidelines

General concept: moment of last consultation of a general practitioner or family doctor.

Policy relevance: ECHI 71a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

"When was the last time you consulted" refers to the moment of the last consultation.

On your behalf: refers to visits/contacts that focus on respondent's health.

Also visits to a physician in foreign countries are to be included.

Adaptations of the questions: Countries may further split the first answer category to "less than 3 months" and to "3 to less than 6 months" or to "6 to less than 12 months".

FILTER

Interviewer: Next question is to be asked only for respondents who consulted a GP in the last 12 months (value 1 in AM2).

AM3: Number of consultations of a general practitioner or family doctor during the past four weeks (for personal treatment)

1) Question

During the past four weeks ending yesterday, how many times did you consult a GP (general practitioner) or family doctor on your own behalf?

Number of times: └─┴─┘ **[NOT AT ALL = 0]**

2) Guidelines

General concept: number of consultations of general practitioner or family doctor within the past 4 weeks.

Policy relevance: ECHI 71a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

'During the past four weeks ending yesterday': a period that started 4 weeks from yesterday.

'How many times did you consult': number of consultations.

'On your behalf': refers to visits/contacts that focus on respondent's health.

Introduction AM4

Next questions are about consultations with medical or surgical specialists. Include visits to doctors as outpatient or emergency departments only, but do not include contacts while in hospital as an in-patient or day-patient.

Specialists treat often more severe diseases and are usually not directly accessible but only if referred by a GPs and family doctors. In some Member States this situation is generating waiting lists. In addition, medical and surgical specialists' rates may be high and consequently not fully compensated by insurance systems. For all these reasons the access to medical and surgical specialists is measuring an important aspect of equity in relation to health care.

Guidelines

Consultations with medical or surgical specialists: all types of consultations are considered (face-to-face, by telephone or e-mail).

Medical or surgical specialists: refers to physicians that are medical specialists, including dental and other surgeons, but not general dentists. Their tasks include: conducting medical examination and making diagnosis, prescribing medication and giving treatment for diagnosed illnesses, disorders or injuries, giving specialized medical or surgical treatment for particular types of illnesses, disorders or injuries, giving advice on and applying preventive medicine methods and treatments. Included are also general gynaecologists or other specialties that may be called in some countries as 'general' but fulfilling the above definition.

Psychiatrists should be included in medical specialties but put also into mental health care providers (together with psychologists and psychotherapists) (see AM6b).

Visits to doctors at the workplace or school: Tasks of doctors at the workplace or school may differ between countries. If their tasks cover mainly or the reason for visiting these doctors is occupational health care (preventive, curative or any other) then the doctors should be treated as specialists. If the nature of their task is mainly general medicine they should be treated as GPs.

Outpatient departments: ward at hospital for ambulatory care. It refers to visits/consultations of patients at the specialist's office in a hospital.

Emergency departments: ward at hospital for emergency care.

Adaptations of the questions: If some countries cannot distinguish between GPs/family doctors and specialists they may join the respective questions into one. This adaptation should only be exceptional as the split is requested by ECHI (71a and 72a). This should also be justified and described in quality report.

AM4: Last time of a consultation of a medical or surgical specialist (for personal treatment)

1) Question

When was the last time you consulted a medical or surgical specialist on your own behalf?

1. Less than 12 months ago

2. 12 months ago or longer

3. Never

Interviewer clarification: 'Do not include visits to general dentists'.

Only for countries where this may cause confusion, add: 'Visits to dental surgeons should be included'.

2) Guidelines

General concept: moment of last consultation of (medical or surgical) specialist.

Policy relevance: ECHI 72a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

"When was the last time you consulted a medical or surgical specialist" refers to the moment of the last consultation.

On your behalf: refers to visits/contacts that focus on respondent's health.

Also visits to a physician in foreign countries are to be included.

General practitioners and dentists/stomatologists are excluded.

Paediatricians, obstetricians and gynaecologists, and psychiatrists are included.

Adaptations of the questions: Countries may further split the first answer category to "less than 3 months" and to "3 to less than 6 months" or to "6 to less than 12 months".

FILTER

Interviewer instruction: Next question is to be asked only for respondents who consulted a specialist in the 12 months (value 1 in AM4).

AM5: Number of consultations of a medical or surgical specialist during the past four weeks (for personal treatment)

1) Question

During the past four weeks, how many times did you consult a specialist on your own behalf?

Number of times: └┘└┘ **[NOT AT ALL = 0]**

2) Guidelines

General concept: number of consultations with (medical or surgical) specialist.

Policy relevance: ECHI 72a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, no change.

'During the past four weeks ending yesterday': a period that started 4 weeks from yesterday.

'How many times did you consult': number of consultations.

'On your behalf': refers to visits/contacts that focus on respondent's health.

AM6: Consultation of a [type of profession] in the past 12 months

Rehabilitative care services and mental care services constitute an important part of health care services and are increasing due to ageing societies and changes in burden of diseases profile. The survey questions focus on outpatient visits of the following professionals: physiotherapists/kinesitherapists representing rehabilitative care services and psychologists/psychotherapists (including psychiatrists) representing mental care services.

1) Question

In the past 12 months have you visited on your own behalf a…?

1. Yes

2. No

Interviewer instruction: Tick YES or NO for each of the professions.

Type of profession
A. Physiotherapist or kinesitherapist
B. Psychologist, psychotherapist or psychiatrist

2) Guidelines

General concept: whether the respondent visited different types of health care professionals.

Policy relevance: ECHI 72a.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: A. Physiotherapist or kinesitherapist: high, no change; B. Psychologist, psychotherapist or psychiatrist: medium, the definition is slightly broader (includes psychiatrist).

In the past 12 months, that is since (date one year ago): a period of 12 months that started one year from the date of the interview (ex: the time period between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

Physiotherapist is a health care professional who applies one or more of the following therapies for the improvement or restoration of motor functions: movement therapy, massage therapy and physical therapy in a strict sense, i.e. the application of physical stimuli, electrotherapy, ultra-sound therapy, thermotherapy, hydrotherapy, balneotherapy and electro-diagnostics, with the exclusion of the application of ionising beams. The therapies are provided in a variety of settings, such as hospitals, private practices, outpatient medical units, home care services establishment, schools, fitness centres, etc.

Physiotherapists and related associate professionals treat disorders of bones, muscles and parts of the circulatory or the nervous system by manipulative methods, and ultrasound, heating, laser or similar techniques, or apply physiotherapy and related therapies as part of the treatment for the (temporarily) physically disabled, mentally ill or unbalanced.

Psychologist, psychotherapist or psychiatrist category covers both medical and non-physician (non-

medical) mental health providers. The tasks cover psychological assessment and psychotherapy but also medical psychiatric care. Psychiatrists are also included here.

Adaptations of the question: Countries may further split AM6B to distinguish visits to psychiatrists from visits to psychologists or psychotherapists.

Instruction to interviewer: Answer codes should be recorded for each specialist.

AM7: Use of any home care services for personal needs during the past 12 months

Use of home care services and the corresponding expenditures are strongly increasing with the ageing of the society and are a key element of the future development of health care systems.

Introduction AM7:

The next question is about home care services that cover a wide range of health and social services provided to people with health problems at their homes. These services comprise for example [home care service provided by a nurse or midwife, home help for the housework or for elderly people, meals on wheels or transport service][23]. Only services provided by professional health or social workers should be included.

1) Question

In the past 12 months, have you yourself used or received any home care services?

1. Yes

2. No

2) Guidelines

General concept: whether the respondent has used any type of home (health and social) care services.

Policy relevance: measuring the use of long-term care services.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium, the question has been rephrased and the original questions on different services are asked by one question.

Home care services cover a wide range of health and social services and interviewers should specify them to get a full picture on their use. Home care services refers to the provision of medical and non-medical in-home supporting care services for persons who due to the physical or mental illness or disability or because of old age cannot perform specific personal or household care activities or are confined to their own houses. It includes home-offered services provided by a visiting nurse or midwife from a health institute, agency or association, or by a community organisation using professional or non-professional (volunteer) staff for care delivery.

Kinds of services according to national organization of the services should be presented to respondents by interviewers.

Examples of home medical services: extra assistance after a stay in the hospital, assistance to persons with chronic illnesses who need help caring for themselves long term, home dialysis, provision of antenatal and post-natal care instructions to parents, etc. Examples of home non-medical services: assistance for personal hygiene, eating, dressing, bathing, etc. The services are provided at the person in need own house.

Home help for the housework or for elderly people: these services include tasks such as assistance in performing daily or routine domestic tasks (preparing meals, housecleaning, doing laundry, ironing, medication reminder, taking care of finances and administrative tasks, shopping for different items, etc.).

[23] Kinds of services according to national organization of the services should be presented to respondents.

These services are offered by the municipality or private organisations in order to allow to the person in need to continue living in his own house.

"Meals on wheels": care service aiming at delivering a meal to persons who cannot go out to shop for food or have difficulty in preparing meals for themselves because of physical or mental illness or disability or because of impairment due to old age.

Transport service: door-to-door and sometimes specially adapted service who allows to the ones who are confined to their own houses because of a disability and/or old age to travel for different purposes, such as to medical appointments, to shop, for recreational activities, etc.

Other home care services can be provided such as support in the personal development to persons with a physical or mental disability and/or who are in a social isolation (in order to overcome the barriers in accessing employment, education and leisure opportunities). Moral support, general and family support should be included when answering the question; the same for help with interpreting for deaf people and reading for blind people.

Doctor visits at patient's homes are not included.

Only formal care services provided by professional health or social workers (not by family members, friends or neighbours) should be included here.

1.3.3 Medicine use (MD)

The use of medicines (pharmaceuticals, drugs) has increased a lot during the last decades (it may also be an issue in an ageing society) and it indicates aspects of accessibility, up-to-date quality of care and costs. They shall consequently be also surveyed together with the other elements of the health care services consumption.

The sub-module used distinguishes between prescribed medicines (these further divided between medicines used for treatment of certain diseases or health problems and other medicines) and non-prescribed medicines (also called over-the-counter medicines).

Introduction MD

I'd now like to ask about your use of medicines in the past 2 weeks.

MD1: Use of any medicines prescribed by a doctor during the past two weeks (excluding contraception)

1) Question

During the past two weeks, have you used any medicines that were prescribed for you by a doctor?

Interview clarification: For women, also add: 'Exclude contraceptive pills or hormones used solely for contraception'.

1. Yes

2. No

2) Guidelines

General concept: use of medicines prescribed by a doctor.

Policy relevance: ECHI 74.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the question and the concept have been slightly changed: the word "recommended" is dropped, "dietary supplements such as herbal medicines or vitamins" are excluded from the wording of the question and "contraceptive pills or hormones for contraception" are excluded. However, a comparable indicator can be derived from EHIS wave 1.

This question aims at measuring prescribed medicine consumption.

Your use of medicines: measures use of products that can be understood under the general terms "medicines".

During the past 2 weeks: the preceding period of 2 weeks (from yesterday).

Have you used: aims to measure actual use of all medicines used on a doctor's initiative.

Medicine: product that is used to alleviate symptoms, to prevent illness, or to improve poor health, and which is ordinarily purchased from a pharmacy (including hospital pharmacy) (adapted EUROHIS definition).

Prescribed: medicines which were written on a prescription by a doctor (irrespective whether they are reimbursed by health insurance or not). Here are also included the medicines which were prescribed in the past by a doctor and recently, the respondent has not visited the doctor to renew the prescription.

Included: medicines, herbal medicines, homeopathic medicines, or dietary supplements (such as vitamins, minerals or tonics), contraceptive pills used for different purposes than contraception, hormones (other than for contraception) that are prescribed by a doctor.

Excluded: contraceptive pills or hormones (both used for contraception) prescribed by a doctor, all non-prescribed medicines.

MD2: Use of any medicines, herbal medicines or vitamins not prescribed by a doctor during the past two weeks

1) Question

During the past two weeks, have you used any medicines or herbal medicines or vitamins not prescribed by a doctor?

Interview clarification: For women, also add: 'Exclude contraceptive pills or hormones used solely for contraception'.

1. Yes

2. No

2) Guidelines

General concept: use of medicines, herbal medicines or vitamins not prescribed by a doctor.

Policy relevance: relevant in order to obtain a whole picture of the medicines consumption.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the question and the concept have been slightly changed: the word "recommended" is dropped, "dietary supplements" are excluded from the question and "contraceptive pills or hormones for contraception" are excluded. However, a comparable indicator can be derived from EHIS wave 1.

Not prescribed by a doctor: medicines used at the respondent's own initiative or consulted with a doctor but were not written on a prescription.

Included: medicines, herbal medicines, homeopathic medicines, or dietary supplements (such as vitamins, minerals or tonics) that are not prescribed by a doctor.

Excluded: contraceptive pills or hormones (both used for contraception) and herbal teas (if they are not considered as medicines), all medicines or dietary supplements prescribed by a doctor.

1.3.4 Preventive services (PA)

Preventive care services are important not only to avoid certain diseases but also to identify already existing health problems in their early stages. This enables more effective treatment in terms of bigger impact on health status of the population but also in terms of saving of total health care expenditure.

Questions to measure the use of preventing care services, such as vaccination, checking for important blood parameters related to risk of diseases of the circulatory system and diabetes, and screening of some cancers are included in this section.

In EU Member States the majority of the population is covered from the first years of the life by the systematic vaccination against some of the most dangerous communicable diseases. In terms of vaccinations a growing challenge, in particular again in an ageing society, is to protect persons at risk – elderly people and people suffering some chronic diseases – against influenza.

In addition, the most important cause of deaths among people aged between 44 and 65 is cancer, and among people aged 65 and more is diseases of the circulatory system. This last type of diseases counts also for an important share of premature deaths (meaning below the age of 65).

Finally, in relation with the important increase of obesity in EU Member States in the last decades, diabetes becomes one of the main concerns for health care, morbidity and mortality in the future. This is why preventing actions related to these risks are now a strategic element for the quality and sustainability of health care systems and for the increase of healthy life.

Introduction PA1

Now I would like to ask you about flu vaccination.

PA1: Last time of vaccination against flu

1) Question

When was the last time you've been vaccinated against flu?

Month / year: ⌊_⌋⌊_⌋ / ⌊_⌋⌊_⌋⌊_⌋⌊_⌋

1. Too long ago (before last year)

2. Never

2) Guidelines

General concept: moment of last flu vaccination.

Policy relevance: ECHI 57, OMC HC-S4.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 3).

The intention of the question is to find out how many people are protected against seasonal flu.

Asking for the month and the year of the last vaccination should enable to measure the proportion of population reporting to have received influenza vaccine during the last 12 months, and the proportion of population reporting to have received influenza vaccine during the last flu season.

'too long ago' is supposed to be used when the last vaccination was provided 'before last year' that is when the last vaccination is not effective anymore (in the survey year). Example: If the interview is conducted in 2013 the period 'before last year' refers to the time before 31 December 2011.

The answer category 'too long ago' was included to avoid too many missing answers in cases when the respondent was vaccinated a long time ago but cannot recall the month and year.

The following adaptation/split of the question is allowed: first question: "Have you ever been vaccinated against flu?", and the second one: "When was the last time? Month/Year?"

For transmission of data to Eurostat answer categories 'Too long ago (before last year)' and 'Never' are to be merged and a category 'Never or too long ago' is to be used.

Introduction PA2

Now I would like to ask you about your blood pressure, blood cholesterol and blood sugar (glycaemia).

PA2: Last time of blood pressure measurement by a health professional

1) Question

When was the last time that your blood pressure was measured by a health professional?

1. Within the past 12 months

2. 1 to less than 3 years

3. 3 to less than 5 years

4. 5 years or more

5. Never

2) Guidelines

General concept: moment of last blood pressure measurement by a health professional.

Policy relevance: Health care system performance, quality and equity of health care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2). No change in the wording of the question; the answer category "1-5 years ago" is split into two answer categories and the answer "never" is added.

The answer should refer to blood pressure measured by a health professional and not by the respondent himself/herself.

A health professional is person who by education, training, certification, or licensure is qualified to and is engaged in providing health care. A healthcare professional is associated with either a specialty or a discipline and belongs to one of the following groups:

- medical and dental staff (associated with one or more specialties)
- nurses, midwives and health visitors
- professions allied to medicine, e.g. clinical psychologists, dieticians, physiotherapy.
- accident & emergency ambulance staff/paramedics
- other professionals who have direct patient contact, e.g. pharmacists, medical photographers, medical records staff.

Adaptation of the question allowed: first question: "*Have you ever been …?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option 'Never'.

PA3: Last time of blood cholesterol measurement by a health professional

1) Question

When was the last time that your blood cholesterol was measured by a health professional?

1. Within the past 12 months

2. 1 to less than 3 years

3. 3 to less than 5 years

4. 5 years or more

5. Never

2) Guidelines

General concept: moment of last blood cholesterol measurement by a health professional.

Policy relevance: Health care system performance, quality and equity of health care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2). "By a health professional" is added in the wording of the question; the answer category "1-5 years ago" is split into two answer categories and the answer "never" is added.

The answer should refer to blood cholesterol measured by a health professional and not by the respondent himself/herself.

A health professional is person who by education, training, certification, or licensure is qualified to and is engaged in providing health care. A healthcare professional is associated with either a specialty or a discipline and belongs to one of the following groups:

- medical and dental staff (associated with one or more specialties)
- nurses, midwives and health visitors
- professions allied to medicine, e.g. clinical psychologists, dieticians, physiotherapy.
- accident & emergency ambulance staff/paramedics
- other professionals who have direct patient contact, e.g. pharmacists, medical photographers, medical records staff.

Adaptation of the question allowed: first question: "*Have you ever been …?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option “Never.”

PA4: Last time of blood sugar measurement by a health professional

1) Question

When was the last time that your blood sugar was measured by a health professional?

1. Within the past 12 months

2. 1 to less than 3 years

3. 3 to less than 5 years

4. 5 years or more

5. Never

2) Guidelines

General concept: moment of last blood sugar measurement by a health professional.

Policy relevance: Health care system performance, quality and equity of health care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2). "By a health professional" is added in the wording of the question; the answer category "1-5 years ago" is split into two answer categories and the answer "never" is added to the answer category "more than 5 years ago".

The answer should refer to blood sugar measured by a health professional and not by the respondent himself/herself.

A health professional is person who by education, training, certification, or licensure is qualified to and is engaged in providing health care. A healthcare professional is associated with either a specialty or a discipline and belongs to one of the following groups:

- medical and dental staff (associated with one or more specialties)
- nurses, midwives and health visitors
- professions allied to medicine, e.g. clinical psychologists, dieticians, physiotherapy.
- accident & emergency ambulance staff/paramedics
- other professionals who have direct patient contact, e.g. pharmacists, medical photographers, medical records staff.

Adaptation of the question allowed: first question: "*Have you ever been …?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option “Never.”

Introduction PA5

The next questions are about faecal occult blood test and colonoscopy examination.

PA5: Last time of a faecal occult blood test

1) Question

When was the last time you had a faecal occult blood test?

1. Within the past 12 months

2. 1 to less than 2 years

3. 2 to less than 3 years

4. 3 years or more

5. Never

Interviewer clarification: You can add: 'The aim of the test is to detect subtle blood loss in the gastrointestinal tract, anywhere from the mouth to the colon'.

2) Guidelines

General concept: moment of last faecal occult blood test.

Policy relevance: ECHI 60.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2). No change in the wording of the question; the answer category "never" is added.

Faecal occult blood testing (FOBT) aims to detect subtle blood loss in the gastrointestinal tract, anywhere from the mouth to the colon. It is used for colorectal cancer screening.

All examinations (not only preventive) should be taken into account.

Adaptation of the question allowed: first question: "*Have you ever been …?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option "Never."

PA6: Last time of a colonoscopy

1) Question

When was the last time you had a colonoscopy?

1. Within the past 12 months

2. 1 to less than 5 years

3. 5 to less than 10 years

4. 10 years or more

5. Never

Interviewer clarification: You can add: 'It is visual examination of the colon (with a colonoscope) from the cecum to the rectum'.

2) Guidelines

General concept: moment of last colonoscopy.

Policy relevance: Health care system performance, quality and equity of health care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

Colonoscopy: visual examination of the colon (with a colonoscope) from the cecum to the rectum.

According to European guidelines for quality assurance in colorectal cancer screening and diagnosis[24]: screening colonoscopies do not need to be performed at intervals shorter than 10 years and average risk colonoscopy screening should not be performed before age 50 and should be discontinued after age 74.

All examinations (not only preventive) should be taken into account.

Adaptation of the question allowed: first question: "Have you ever been …?" with answer categories Yes/No, and the second one if Yes: "When was the last time…?" with answer categories as above except the option "Never."

[24] *European Guidelines for Quality Assurance in Colorectal Cancer Screening and Diagnosis - First Edition*. Segnan N, Patnick J, von Karsa L (eds), European Commission, 2010.

FILTER

Interviewer instruction: Next questions (PA7 and PA8) are to be asked only to women.

Introduction PA7

The next questions are about mammography and cervical smear tests.

PA7: Last time of a mammography (breast X-ray)

1) Question

When was the last time you had a mammography (breast X-ray)?

1. Within the past 12 months

2. 1 to less than 2 years

3. 2 to less than 3 years

4. 3 years or more

5. Never

2) Guidelines

General concept: moment of last mammography.

Policy relevance: ECHI 58, OMC HC-S5.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2); the answer category "never" is added.

Mammography is a procedure used to generate a mammogram, an X-ray image of the breast.

All examinations (not only preventive) should be taken into account.

Adaptation of the question allowed: first question: "*Have you ever had a mammography (breast X-ray)?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option "Never."

PA8: Last time of a cervical smear test

1) Question

When was the last time you had a cervical smear test?

1. Within the past 12 months

2. 1 to less than 2 years

3. 2 to less than 3 years

4. 3 years or more

5. Never

2) Guidelines

General concept: moment of last cervical smear test (Pap smear test).

Policy relevance: ECHI 59, OMC HC-P7.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2); the answer category "never" is added.

A cervical smear test: test to screen for uterus cancer known also as a pap smear test.

All examinations (not only preventive) should be taken into account.

Adaptation of the question allowed: first question: "*Have you ever had a cervical smear test?*" with answer categories Yes/No, and the second one if Yes: "*When was the last time…?*" with answer categories as above except the option 'Never'.

1.3.5 Unmet needs for health care (UN)

Equity in access to health care services including financial barriers to health care is given high importance in different EU policies.

Introduction UN

There are many reasons why people experience some delay in getting health care or do not get it at all.

UN1A: Unmet need for health care in the past 12 months due to long waiting list(s)

1) Question

Have you experienced delay in getting health care in the past 12 months because the time needed to obtain an appointment was too long?

1. Yes

2. No

3. No need for health care

Interviewer instruction: If the spontaneous answer is 'No' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need for health care' should be coded.

2) Guidelines

General concept: person's own assessment of unmet need for health care in the past 12 months due to long waiting list(s).

Policy relevance: OMC indicators and ECHI 80.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

This question aims to capture the dimension of restricted access to health care due to long waiting list(s). The perception of a need and delay is subjective.

Health care is defined according to the System of Health Accounts (SHA)[25] as individual health care goods and services (that is provided directly to and consumed by individual persons) (HC.1 – HC.5 codes). It covers curative care, rehabilitative care, long-term health care, ancillary services and medical goods provided to outpatients. Care provided for different purposes (curative, rehabilitative, long-term health care) and by different modes of provision (inpatient, outpatient, day, home) should all be included.

Only the delay which is perceived by respondent as worrying or possibly causing additional health problem or further significantly deteriorating his/her health should be taken into account.

Delay refers to either not receiving the health care soon enough or not receiving the health care at all by now. The cases when the respondent was refused for health care, had to look for and found after some time an alternative provider of health care services should also be reported as 'experiencing a delay'.

Included (should be considered as delay): a delay in getting appointment soon enough, being on a waiting list despite needing urgent care, someone discouraged from seeking care because of perceptions of the long waiting lists. In case of "medical goods provided to outpatients" (HC.5) the situation of delay may occur when a medicine is not available in stock in the pharmacy and the patient cannot receive it when he/she really needs it.

Excluded (should not be considered as delay): waiting time to see a doctor on day of appointment (the time spend in the waiting room), being on waiting list for planned (non-urgent) care if the need is not seen as urgent.

'in past 12 months': the period of the past 12 months from the date of the interview should be taken into consideration (ex: the time between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

[25] OECD, Eurostat, WHO (2011), *A System of Health Accounts, OECD Publishing*.

UN1B: Unmet need for health care in the past 12 months due to distance or transportation problems

1) Question

Have you experienced delay in getting health care in the past 12 months due to distance or transport problems?

1. Yes

2. No

3. No need for health care

Interviewer instruction: If the spontaneous answer is 'No' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need for health care' should be coded.

2) Guidelines

General concept: person's own assessment of unmet need for health care in the past 12 months due to distance or transport problems.

Policy relevance: OMC indicators and ECHI 80.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

This question aims to capture the dimension of restricted access to health care due to distance or transport problems. The perception of a need and delay is subjective.

Health care is defined according to the System of Health Accounts (SHA)[26] as individual health care goods and services (that is provided directly to and consumed by individual persons) (HC.1 – HC.5 codes). It covers curative care, rehabilitative care, long-term health care, ancillary services and medical goods provided to outpatients. Care provided for different purposes (curative, rehabilitative, long-term health care) and by different modes of provision (inpatient, outpatient, day, home) should all be included.

Only the delay which is perceived by respondent as worrying or possibly causing additional health problem or further significantly deteriorating his/her health should be taken into account.

Delay refers to either not receiving the health care soon enough or not receiving the health care at all by now. The cases when the respondent was refused for health care, had to look for and found after some time an alternative provider of health care services should also be reported as 'experiencing a delay'.

Included: far distance, no means of transport.

Excluded: could not afford the cost of transport.

'in past 12 months': the period of the past 12 months from the date of the interview should be taken into consideration (ex: the time between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

[26] OECD, Eurostat, WHO (2011), *A System of Health Accounts, OECD Publishing*.

UN2: Could not afford [kind of care] in the past 12 months

1) Question

Was there any time in the past 12 months when you needed the following kinds of health care, but could not afford it?

1. Yes

2. No

3. No need [for …][27]

Kinds of care
A. Medical care
B. Dental care
C. Prescribed medicines
D. Mental health care (by a psychologist or a psychiatrist for example)

Interviewer instruction: Tick 'Yes', 'No' or 'No need' for each kind of care.

Interviewer instruction: If the spontaneous answer is 'No' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need' should be coded.

2) Guidelines

General concept: specific types of health care which could not be afforded by a respondent.

Policy relevance: OMC indicators and ECHI 80.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

"Could not afford" refers to financial barriers (in terms of money). For example, it may be due to too expensive care or no coverage by health insurance.

Medical care refers to individual health care services (medical examination or treatment) provided by or under direct supervision of medical doctors (ISCO-08 code 221), traditional and complementary medical professionals (ISCO-08 code 2230) or equivalent professions according to national health care systems. Medical mental health care provided by psychiatrists is included.

Dental care refers to individual health care services provided by or under direct supervision of stomatologists (dentists) (ISCO-08 code 2261). Health care provided by orthodontists is included.

Prescribed medicines are medication that can only be obtained through a doctor or dentist. The medication is usually obtained from a pharmacy or mail order pharmacy using a written note or telephoned instruction from a doctor or dentist.

[27] The respective type of care can be mentioned when reading the answer categories.

Mental health care are health care services provided to treat mental and behavioural disorders. Both care provided by medical (psychiatrists) and non-medical staff is included.

For medical, dental and mental health care: care provided for different purposes (curative, rehabilitative, long-term health care) and by different modes of provision (inpatient, outpatient, day, and home care) should all be included.

'in the past 12 months': the period of the past 12 months from the date of the interview should be taken into consideration (ex: the time between the 15 April N-1 and the 14 April N for an interview carried out on 15 April N).

1.4 European Health Determinants Module (EHDM)

The general focus of the module is to measure some aspects in lifestyles or health-related behaviours having a positive or negative impact on someone's health state. Better lifestyles are probably the main potential source of improvement in the health of the population. For public health actors in health-promotion it is essential to measure regularly the prevalence of specific health-related behaviours and their trends at population level and in specific population subgroups. Such measurement is imperative for the evaluation of programmes and policies and for raising awareness of the population.

1.4.1 Weight and height (BM)

The increase of obesity and overweight among the population becomes one of the most important public health issues in the developed countries, as overweight and obesity represent a high risk factor for diseases of the circulatory system, diabetes and other chronic diseases. The evolution of the way of life and food consumption in the EU Member States is characterised by low physical activity and energetic food intake which involve the increase of the body mass index.

The questions on height and weight enable calculating the Body Mass Index (BMI).

Introduction BM

Now I'm going to ask you about your height and weight.

BM1: Height without shoes

1) Question

How tall are you without shoes? in [cm]

└┴┴┘ **[cm]**

2) Guidelines

General concept: body height.

Policy relevance: ECHI 42; OMC HC-P18.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, no change.

How tall are you without shoes: body length measured without wearing shoes.

Other measurement units are allowed but the data has to be converted into cm.

Ask for an estimate: an estimate should only be asked when respondent indicates that she/he doesn't know the exact answer.

Self-completion allowed.

BM2: Weight without clothes and shoes

1) Question

How much do you weigh without clothes and shoes? in [kg]

└┴┴┘ **[kg]**

Interviewer instruction: Check women aged 50 or younger whether they are pregnant and ask for weight before pregnancy.

2) Guidelines

General concept: body weight.

Policy relevance: ECHI 42; OMC HC-P18.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, no change.

The respondent is allowed to specify his weight without clothes and shoes in kilograms or stone and pounds.

For women who are pregnant the weight before pregnancy should be noted.

Other measurement units are allowed but the data has to be converted into kg.

An estimate should only be asked when respondent indicates that she/he doesn't know the exact answer.

Self-completion allowed.

1.4.2 Physical activity / exercise (PE)

While also linked with the previous topic on obesity and overweight, monitoring physical activity focuses more generally the measurement of the effect of physical activity on health states and risks of morbidity and mortality. In particular, increased physical activity has been related to reduction of mortality for all causes and in particular cardiovascular mortality; it decreases the risk of colorectal cancer, diabetes, depression, and is a factor in the prevention of osteoporosis.

There is a strong social gradient for physical activities and distinction between working and leisure time activities is essential from this point of view.

The physical activity sub-module enables assessment of work-related physical activity, transport (commuting) physical activity and leisure-time physical activities[28].

Introduction PE

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

The questionnaire will guide the respondents through different domains of physical activity such as 'work-related physical activity', 'transport (commuting) physical activity' and 'sports, fitness recreational (leisure) physical activity'.

All respondents are requested to answer the questions – including respondents who indicate that they do not do any 'sports, fitness or recreational physical activities', since the questionnaire also focuses on 'work-related' and 'transport' physical activity.

Respondents should refer their answers to a typical week. If respondents perform physical activities irregularly, or the physical activity behaviour differs between summer and winter or between weekdays and weekend days, they should estimate an average frequency and duration of the activities they perform in a 'typical week' in given season.

A 'typical week' refers to a 'typical' 7-day week, including weekdays and weekend days in given season (the season of the interview). The term 'typical week' can also be translated as a 'normal week' or 'usual week' if such terms are more commonly used in the specific language setting.

[28] For more information and some other language versions see the *Final Report of the Eurostat grant on Improvement of the European Health Interview Survey (EHIS) modules on alcohol consumption, physical activity and mental health*, pages 342-375.

SHOWCARDS for Physical activity / exercise

SHOWCARD 1: Work-related physical activity

Mostly sitting or standing	**Tasks of light physical effort, for example** - Light office work - Reading - Writing - Drawing - Using the computer - Talking or talking on the phone - Studying - Driving a car or truck - Teaching - Sewing - Selling bakery products - Hair styling - Directing traffic - etc.
Mostly walking or tasks of moderate physical effort	**Tasks of moderate physical effort, for example** - Delivering letters - Carrying light loads - Watering the lawn or garden - Electrical work - Plumbing - Automobile repairs - Machine tooling - Tapping - Drilling - Painting the house - Nursing - Multiple household chores of moderate physical effort such as - Cleaning the house - Vacuuming - Shopping - Playing with the children - etc.

Mostly heavy labour or physically demanding work	**Tasks of heavy physical effort, for example** - Using heavy power tools - Heavy construction work - Mining - Carrying heavy loads - Loading - Stacking or chopping wood - Clearing land - Shovelling or digging - Spading - Filling garden - etc.

SHOWCARD 2: Getting to and from places

10 to 29 minutes per day
30 to 59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

SHOWCARD 3: Sports, fitness, recreational (leisure) physical activity

Sports, fitness, recreational (leisure) physical activities	Leisure-time activities that cause **AT LEAST a small increase in breathing or heart rate**, for example - Nordic walking - Brisk walking - Ball games - Jogging - Cycling - Swimming - Aerobics - Rowing - Badminton - etc.

SHOWCARD 4: Muscle-strengthening activities

Muscle-strengthening activities	Physical activities **specifically designed to STRENGTHEN your muscles**, for example - Resistance training - Strength exercises (using weights, elastic band, own body weight ...) - Knee bends (squats) - Push-ups - Sit-ups - etc.

Work-related physical activity

Introduction PE1

Firstly think about the TIME you spend DOING WORK. Think of work as the things that you have to do such as paid and unpaid work, work around your home, taking care of family, studying or training. [Insert other examples if needed].

PE1: Physical effort of working tasks (both paid and unpaid work activities included)

1) Question

When you are WORKING, which of the following best describes what you do? Would you say …

Interviewer instruction: Respondents should refer their answer to the 'main work' they do. If respondents do multiple tasks, they should include all tasks. Respondents should select only one answer.

1. Mostly sitting or standing

2. Mostly walking or tasks of moderate physical effort

3. Mostly heavy labour or physically demanding work

Interviewer instruction: Do not read[29]:

4. Not performing any working tasks

2) Guidelines

General concept: measurement of the work-related physical activity level – working tasks according to different levels of physical effort which best describe what respondents do when they are working.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

The question focuses on work-related physical activity. Respondents should refer their answer to the 'main working task' they do. Respondents who do 'paid and unpaid work' should focus on the working tasks they have to accomplish in the context of their main occupation: homemakers should focus on the working tasks they have to do around their home and when they take care of their children and family; students should focus on the working tasks they have to accomplish in the framework of their study programme. The question will be more difficult to answer for people who are retired, unemployed or do more than one working activity. However, unemployed people should focus on the tasks they have to do when they seeking a job, and retired people on the tasks they have to do around their home, when they take care of their grandchildren or personally caring for a family member. People who do not have a

[29] In self-completion mode the answer category should be presented to respondent but more guidance on the definition should be provided with it.

clearly defined main working activity and have to fulfil 'multiple working tasks' - meaning for example, that they work part-time and take care of the household and the family in the remaining time - they should think of all activities they do and provide an average if these activities differ in terms of the degree of physical effort when answering the question. If respondents indicate that they do not have to accomplish any working tasks for varying reasons, for example since they are disabled, retired or unemployed, interviewers should tick the answer option 4 - 'Not performing any working tasks'. In general, respondents should tick only ONE answer option, multiple answers are not permitted.

Working: refers to a broad understanding of 'work' including all the things that respondents have to do as a part of their daily work activities. 'Doing work' includes not only paid and unpaid work, work around the respondents' home, taking care of family, studying or training, but also seeking a job, doing volunteer work or care for the elderly.

Mostly sitting or standing: refers to working tasks involving light physical effort which involve mostly sitting or standing activities. Only standing activities that do not involve extra physical effort should be included.

Examples:

- Sitting at work: light office work, desk work, reading, writing, drawing, using the computer, talking or talking on the phone, studying, driving a car or truck, etc.
- Standing at work not involving extra physical effort: teaching, selling bakery products, hair styling, directing traffic etc.

Mostly walking or tasks of moderate physical effort: refers to working tasks which involve mostly walking or tasks involving moderate physical effort.

Examples:

- Walking at work: delivering letters, carrying light loads, watering the lawn or garden, etc.
- Tasks of moderate physical effort: electrical work, plumbing, automobile repairs, machine tooling, tapping, drilling, painting the house, nursing, multiple household chores involving moderate physical effort such as cleaning the house, vacuuming, shopping or playing with the children, etc.

Mostly heavy labour or physically demanding work: refers to working tasks involving heavy physical effort.

Examples: using heavy power tools, heavy construction work, mining, carrying heavy loads, loading, stacking or chopping wood, clearing land, shovelling or digging, spading, filling garden, etc.

Use of showcards: Showcard 1 'Work-related physical activity':

Getting to and from places (commuting activities)

Introduction PE2

The next questions EXCLUDE the WORK-RELATED PHYSICAL ACTIVITIES that you have already mentioned. Now I would like to ask you about the way you usually GET TO AND FROM PLACES; for example to work, to school, for shopping, or to market. [Insert other examples if needed]

When answering the remaining questions of the questionnaire, the respondents should completely exclude from their mind ALL the work-related activities they already mentioned in the first question. In the question section 'Get to and from places (commuting activities)' the respondents should focus on the way they get to and from places in a typical week. Travelling for long journeys (irregular travelling meant) should not be included here.

Adaptation of the questions: Use of term "get to and from places" or "travel" can be confusing and countries should find the national validated translation.

The section about transport activities is divided into two sections. The first two questions ask about the frequency and duration of walking for transport, the next two questions ask about the frequency and duration of bicycling for transport.

In each first question of the set, respondents should indicate on how many days per week they walk or bicycle for at least 10 minutes without interruption in order to get to and from places. Distances shorter than 10 minutes should not be considered. Respondents should only include distances which they walk or bicycle for the purpose of travel in order to get to and from places. Respondents should not include walking or bicycling for pleasure or recreation, such as going for a walk or going on bicycle rides. Respondents should relate their answers to a typical week.

PE2: Number of days in a typical week walking to get to and from places at least 10 minutes continuously

1) Question

In a typical week, on how many days do you WALK for at least 10 minutes continuously in order to get to and from places?

Number of days: └─┘

0. I never carry out such physical activities

2) Guidelines

General concept: number of days in a typical week when walking for transport for at least 10 minutes continuously.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

If the respondent "does walk less than 1 day per week or never walk for at least 10 minutes continuously in order to get to and from places in a typical week", the interviewer should tick the box 'I never carry out

such physical activities' and skip the next question on amount of time spent walking. 'I never carry out such physical activities' is equal to 'less than 1 day per week or never'.

Valid values: 0 - 7 days.

Getting to and from places: refers to how a person gets from place to place. All distances a person travels in order to get to and from places should be considered.

Examples: from home to work and back home, or from home to work, from work to market, from market to home, etc.

At least 10 minutes continuously: refers to an activity (walking, bicycling) which is performed for at least 10 minutes at a time without interruption.

Walking: refers to travelling on foot or moving at a moderate pace up or down steps from one place to another.

FILTER

Interviewer: Next question (PE3) is to be asked only for respondents who've walked at least once a week 10 minutes (answer different from 'I never carry out such physical activities' in PE2).

PE3: Time spent on walking to get to and from places on a typical day

1) Question

How much time do you spend walking in order to get to and from places on a typical day?

1. 10 - 29 minutes per day

2. 30 - 59 minutes per day

3. 1 hour to less than 2 hours per day

4. 2 hours to less than 3 hours per day

5. 3 hours or more per day

2) Guidelines

General concept: time spend walking in order to get to and from places on a typical day.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

When answering the question, the respondents should estimate how much time they usually spend walking for transport to and from places on a typical day. The respondents should add up only distances which they walk for at least 10 minutes continuously. If respondents indicate that their walking for transport is irregular, that it differs between summer and winter or between weekdays and weekend days, they should estimate an average duration for a typical day in given season.

Walking in order to get to and from places: refers to a person's walking activities which are performed for the purpose to get from place to place (not for pleasure).

Typical day: refers to day period in which people behave in a way that they regularly do. The term 'typical day' can also be translated as 'normal day' or 'usual day'.

Answer categories: the answer category "1 hour to less than 2 hours per day", resp. "2 hours to less than 3 hours per day" can also be translated as "1 to below 2 hours per day", resp. "2 to below 3 hours per day" if such a wording combination ('to below') is common in a particular language setting.

Use of showcards: Showcard 2 'Getting to and from places'.

PE4: Number of days in a typical week bicycling to get to and from places at least 10 minutes continuously

1) Question

In a typical week, on how many days do you BICYCLE for at least 10 minutes continuously to get to and from places?

Number of days: └─┘

0. I never carry out such physical activities

2) Guidelines

General concept: number of days in a typical week bicycling in order to get to and from places for at least 10 minutes continuously.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

If the respondent "does bicycle less than 1 day per week or never bicycle for at least 10 minutes continuously in order to get to and from places in a typical week", the interviewer should tick the box 'I never carry out such physical activities' and skip the next question on amount of time spent bicycling. 'I never carry out such physical activities' is equal to 'less than 1 day per week or never'.

Valid values: 0 - 7 days.

Getting to and from places: refers to how a person gets from place to place. All distances a person travels in order to get to and from places should be considered.

Examples: from home to work and back home, or from home to work, from work to market, from market to home, etc.

At least 10 minutes continuously: refers to an activity (walking, bicycling) which is performed for at least 10 minutes at a time without interruption.

Bicycling: refers to riding on a bicycle.

If the respondents ask whether they should include also other means of non-motor-driven means of active transport such as scooter, roller or skates, the interviewer should confirm that they should do so. Each country can give its own examples of non-motor-driven vehicles of active transport.

FILTER

Interviewer: Next question (PE5) is to be asked only for respondents who have bicycled at least once a week 10 minutes (answer different from 'I never carry out such physical activities' in PE4).

PE5: Time spent on bicycling to get to and from places on a typical day

1) Question

How much time do you spend bicycling in order to get to and from places on a typical day?

1. 10 - 29 minutes per day

2. 30 - 59 minutes per day

3. 1 hour to less than 2 hours per day

4. 2 hours to less than 3 hours per day

5. 3 hours or more per day

2) Guidelines

General concept: time spent with bicycling in order to get to and from places on a typical day.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

When answering the question, the respondents should estimate how much time they usually spend bicycling in order to get to and from places on a typical day. The respondents should add up only such occasions which they bicycle for at least 10 minutes continuously. If respondents indicate that their bicycling in order to get to and from places is irregular, that it differs between summer and winter or between weekdays and weekend days, they should estimate an average duration for a typical day in given season.

Bicycling in order to get to and from places: refers to a person's bicycling activities which are performed for the purpose to get from place to place (not for pleasure).

Typical day: refers to day period in which people behave in a way they regularly do. The term 'typical day' can also be translated as 'normal day' or 'usual day'.

Answer categories: the answer category "1 hour to less than 2 hours per day", resp. "2 hours to less than 3 hours per day" can also be translated as "1 to below 2 hours per day", resp. "2 to below 3 hours per day" if such a wording combination ('to below') is common in a particular language setting.

Use of showcards: Showcard 2 'Getting to and from places'.

Sports, fitness and recreational (leisure) physical activities

Introduction PE6

The next questions EXCLUDE the WORK and TRANSPORT ACTIVITIES that you have already mentioned. Now I would like to ask you about SPORTS, FITNESS and RECREATIONAL (LEISURE) PHYSICAL ACTIVITIES that cause AT LEAST a small increase in breathing or heart rate. For example brisk walking, ball games, jogging, cycling or swimming. [Insert other examples if needed]

When answering the remaining two questions on physical activity, the respondents should completely exclude from their mind ALL the work-related and transport (travel) activities they have already mentioned previously. In the question section 'Sports, fitness and recreational activities' the respondents should focus only on the leisure-time physical activities they engage in a typical week, which cause at least a small increase in their breathing or heart rate and are performed for at least 10 minutes continuously. The two questions focus on the frequency and duration of sports, fitness and recreational activities in general.

A question on muscle-strengthening activities that are specifically designed to strengthen muscles is further added.

PE6: Number of days in a typical week doing sports, fitness or recreational (leisure) physical activities that cause at least a small increase in breathing or heart rate for at least 10 minutes continuously

1) Question

In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) physical activities for at least 10 minutes continuously?

Number of days: └─┘

0. I never carry out such physical activities

2) Guidelines

General concept: number of days in a typical week doing sport, fitness and recreational activity that cause at least a small increase in breathing or heart rate and which are performed for at least 10 minutes continuously.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

If respondents do not do any 'sports, fitness or recreational activities' or do it for less than 1 day per week in a typical week, the interviewer should tick the box 'I never carry out such physical activities', skip question PE7 and continue with question PE8. 'I never carry out such physical activities' is equal to 'less than 1 day per week or never'.

Valid values: 0 - 7 days.

Sports: refers to physical activity which is structured, repetitive and usually requires skills. Sports are

often aerobe physical activities, competitive or performed as a game.

Examples: ball games, athletics, competitive bicycling, running, swimming, etc.

Fitness: refers to the act or process of retaining or improving physical fitness. Fitness often relates to physical exercise.

Examples: endurance training, strength exercise, flexibility training, etc.

Recreational activity: refers to the act or process of creating regeneration by performing physical activities that cause at least a small increase in breathing or heart rate. 'Recreational activities' are physical activities performed in leisure time.

Examples: nordic walking, brisk walking, ball games, jogging, bicycling, swimming, aerobics, rowing, badminton, etc.

Causing at least a small increase in breathing or heart rate: refers to moderate- or vigorous-intensity sports, fitness or recreational (leisure) activities which are physically demanding and lead at least to a small increase in breathing or heart rate.

At least 10 minutes continuously: refers to an activity (brisk walking, ball games or jogging) which is performed for at least 10 minutes at a time without interruption.

Use of showcards: Showcard 3 ' Sports, fitness and recreational (leisure) physical activities'.

FILTER

Interviewer: Next question (PE7) is to be asked only for respondents who have done sports at least once a week 10 minutes (answer different from 'I never carry out such physical activities' in PE6).

PE7: Time spent on doing sports, fitness or recreational (leisure) physical activities in a typical week

1) Question

How much time in total do you spend on sports, fitness or recreational (leisure) physical activities in a typical week?

└─┴─┘ : └─┴─┘ per week

hours minutes

2) Guidelines

General concept: total time in a typical week spent sports, fitness and recreational activity.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

The question asks about the total duration of sports, fitness and recreational activities in a typical week. Respondents should add up all the sports, fitness and recreational activities they perform in a typical week. The respondents choose the time unit of the weekly duration themselves. The duration can be minutes or hours, or a combination of hours and minutes. The interviewer should enter the duration in the same way as the respondents answer the question. It is important to emphasise that work and transport activities should not be included in this question. Respondents should refer in their answer only to the activities they perform in their leisure-time and they did not already include, when they answered the work-related and transport physical activity questions.

Valid values: hours and/or minutes.

Sports: refers to physical activity which is structured, repetitive and usually requires skills. Sports are often aerobe physical activities, competitive or performed as a game.

Examples: ball games, athletics, competitive bicycling, running, swimming, etc.

Fitness: refers to the act or process of retaining or improving physical fitness. Fitness often relates to physical exercise.

Examples: endurance training, strength exercise, flexibility training, etc.

Recreational activity: refers to the act or process of creating regeneration by performing physical activities that cause at least a small increase in breathing or heart rate. 'Recreational activities' are physical activities performed in leisure time.

Examples: nordic walking, brisk walking, ball games, jogging, bicycling, swimming, aerobics, rowing, badminton, etc.

PE8: Number of days in a typical week doing muscle-strengthening activities

1) Question

In a typical week, on how many days do you carry out physical activities specifically designed to STRENGTHEN your muscles such as doing resistance training or strength exercises? Include all such activities even if you have mentioned them before.

Number of days: └─┘

0. I never carry out such physical activities

2) Guidelines

General concept: number of days in a typical week spent muscle-strengthening activities.

Policy relevance: ECHI 52.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new sub-module.

The last question, PE8, should be always raised even if respondents indicate at PE6 that they don't do any 'sports, fitness or recreational activity'.

The respondents should include all muscle-strengthening activities they do even if they included them before under question PE6 or PE7. Muscle-strengthening activities are not the same as endurance (aerobe) activities such as jogging, swimming or bicycling, since they are usually performed in sets of 8-15 repetitions with an approximate duration of one to two minutes with breaks between the sets, and not performed at least 10 minutes continuously.

'I never carry out such physical activities' is equal to 'less than 1 day per week or never'.

Valid values: 0 - 7 days.

Physical activities specifically designed to strengthen muscles: refers to physical exercise which is specifically performed to improve or maintain the strength of the major muscles groups. "Muscle-strengthening activities count if they involve a moderate to high level of effort and work the major muscle groups of the body: legs, hips, back, abdomen, chest, shoulders, and arms".

Examples: Resistance training, strength exercises (using weights, elastic band, own body weight, etc.), knee bends (squats), push-ups (press-ups), sit-ups, etc.

Resistance training: refers to activities causing "the body's muscles to work or hold against an applied force or weight". 'Resistance training' can be also translated as 'weight training'.

Strength exercises: refer to muscle-strengthening activity involving exercises using your own bodyweight (i.e. knee bends, push-ups, sit-ups) or using training equipment such as weights or resistance bands.

Use of showcards: Showcard 4 'Muscle-strengthening activities'.

1.4.3 Consumption of fruit and vegetables (FV)

Healthy food intake is a key element for preventing numerous chronic diseases.

Only selected aspects of food habits can be assessed via a general health survey and consumption of fruit and vegetables were selected.

Introduction FV

Next questions concern the consumption of fruits and vegetables.

FV1: Frequency of eating fruit, excluding juice

1) Question

How often do you eat fruits, excluding juice made from concentrate?

1. Once or more a day

2. 4 to 6 times a week

3. 1 to 3 times a week

4. Less than once a week

5. Never

Interviewer clarification: Only juices squeezed from fresh fruit are included. Juices prepared from concentrate or processed fruits, or juices artificially sweetened are excluded.

2) Guidelines

General concept: frequency of eating fruits (non-fresh juice excluded).

Policy relevance: ECHI 49.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the wording of the question is the same, only the answer categories "twice or more a day" and "once a day" are grouped into a single answer category "once or more a day" and fresh juices are included.

'How often' refers to a typical week, including weekdays and weekend days in given season.

The fruits can be fresh or frozen. Also, they can be cut in small pieces or mashed (puréed). Canned or dried fruits should be included.

Fresh fruit pressed at home (or in a restaurant, bar or similar facility) are included. Juices prepared from concentrate or processed fruits, or artificially sweetened are excluded. A glass (150 ml) of unsweetened freshly squeezed 100% juice is included in the definition of fruit. However, regardless the amount of the juice consumed, it can only count as one portion.

Each country can specify examples, some common, and some more specific to their country.

FILTER

Interviewer: Next question (FV2) is to be asked only for respondents who eat fruits once or more a day (code 1 in FV1).

FV2: Number of portions of fruit a day, excluding juice

1) Question

How many portions of fruit, of any sort, do you eat each day?

Number of portions: ⌊_⌋⌊_⌋

2) Guidelines

General concept: quantity of fruits consumed.

Policy relevance: ECHI 49.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

A portion of fruit is more or less a handful.

One portion of fresh fruit is:

- One medium-sized fruit, such as apple, banana, pear, orange, nectarine, or a sharon fruit.
- A number of small-sized fruits: for example two plums, two satsumas, three apricots, two kiwi fruit, seven strawberries, a handful (about 14) of cherries, six lychees, a handful of blueberries.
- A piece of a large-sized fruit: : for example half a grapefruit or avocado, a good slice(two-inch slice) of papaya, melon), pineapple, mango (two-inch slices).
- Fruit salad: three heaped tablespoons of fresh fruit salad.

A glass (150 ml) of unsweetened freshly squeezed 100% juice is included in the definition of fruit. However, regardless the amount of the juice consumed, it can only count as one portion.

Each country can specify examples, some common, and some more specific to their country.

Use of showcards: A showcard of examples of fruits and standard portions can be used.

FV3: Frequency of eating vegetables or salad, excluding juice and potatoes

1) Question

How often do you eat vegetables or salad, excluding potatoes and juice made from concentrate?

1. Once or more a day

2. 4 to 6 times a week

3. 1 to 3 times a week

4. Less than once a week

5. Never

Interviewer clarification: Soups (warm and cold) as well as juices squeezed from fresh vegetables are included. Juices prepared from concentrate or processed vegetables, or artificially sweetened are excluded.

2) Guidelines

General concept: frequency of eating vegetables or salad (potatoes and non-fresh juice excluded).

Policy relevance: ECHI 50.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the wording of the question is the same, only the answer categories " twice or more a day" and "once a day" are grouped into a single answer category "once or more a day" and fresh juices are included.

'How often' refers to a typical week, including weekdays and weekend days in given season.

Fresh or frozen vegetables are included. Vegetables may be cut in small pieces or mashed (puréed). Canned vegetables should be included. Legume (beans, lentils) and vegetable dishes, incl. soups (cooked as well as cold ones) should be included.

Fresh and squeezed vegetable juices prepared at home (or in a restaurant, bar or similar facility) are included. Juices prepared from concentrate or processed vegetables, or artificially sweetened are excluded.

A glass (150 ml) of unsweetened freshly squeezed 100% vegetable juice is included in the definition of vegetable. Regardless the amount of the juice consumed, it can only count as one portion.

Excluded: Potatoes and similar starchy foods, such as yam, plantain, and cassava which are carbohydrate foods, and are included in the bread and cereals food group. These foods cannot be counted as a daily portion of vegetables.

Each country can specify examples, some common, and some more specific to their country.

FILTER

Interviewer: Next question (FV4) is to be asked only for respondents who eat vegetables once or more a day (code 1 in FV3).

FV4: Number of portions of vegetables or salad, excluding juice and potatoes a day

1) Question

How many portions of vegetables or salad do you eat each day?

Number of portions: ⌊__⌋

2) Guidelines

General concept: quantity of vegetables consumed.

Policy relevance: ECHI 50.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

Fresh and frozen vegetables all count in the diet. Potatoes and similar starchy foods, such as yam, plantain, and cassava are carbohydrate foods, and are included in the bread and cereals food group. These foods cannot be counted as a daily portion of vegetables.

One portion of vegetables is:

- Green vegetables: Two broccoli spears, eight cauliflower florets, four heaped tablespoons of cabbage, spinach, spring greens or green beans.
- Cooked vegetables: Three heaped tablespoons of cooked (e.g. steamed, boiled, microwaved) vegetables such as courgettes, carrots, Brussels sprouts or swede.
- Salad vegetables: Three sticks of celery, two-inch piece of cucumber, one medium tomato, seven cherry tomatoes.
- Pulses and beans: Three heaped tablespoons of kidney, cannelloni or butter beans or chick peas. Remember that beans or pulses only count as one of the five day portions.

A glass (150 ml) of unsweetened freshly squeezed 100% vegetable juice is included in the definition of vegetable. Regardless the amount of the juice consumed, it can only count as one portion.

Each country can specify examples, some common, and some more specific to their country.

Use of showcards: A showcard of examples of vegetables and standard portions can be used.

1.4.4 Smoking (SK)

Smoking is an important risk factor for lung diseases, lung cancer, some other cancers and diseases of the circulatory system. Important policy activities are developed at national and EU level in order to limit tobacco consumption. For these reasons it is a major determinant of health outcomes.

The module on smoking may be implemented in self-completion mode. If self-completion mode is applied, the visual ('respondent-friendly') layout of the questionnaire is of greater importance. Specifically, the use of arrows for branching questions or referring to instructions should be carefully considered.

Introduction SK

The following questions are about your smoking habits and exposure to tobacco smoke.

SK1: Type of smoking behaviour

1) Question

Do you smoke?

1. Yes, daily

2. Yes, occasionally

3. Not at all

2) Guidelines

General concept: occurrence of current smoking.

Policy relevance: ECHI 44, OMC HC-S11.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, even if in the phrasing the words "at all nowadays" are removed.

Do you smoke: asks whether respondent currently smokes, regardless of the amount or kind of tobacco product.

Smoke: breathing in and out of the smoke of tobacco products (manufactured cigarettes, hand-rolled cigarettes, cigars, pipes, etc.). Electronic cigarettes are excluded. Smoking of cannabis mixed with tobacco (a cigarette including both substances) should not be considered as smoking tobacco. (The main purpose of the person hereby is consuming cannabis).

.

Adaptation of the question: It is possible to add other categories (such as former smoker) at national level.

FILTER

Interviewer: Next question (SK2) is to be asked only for respondents who smoke (code 1 or 2 in SK1).

SK2: Kind of tobacco product consumed

1) Question

What kind of tobacco product do you mostly consume?

Interviewer instruction: Only one answer is possible.

1. Cigarettes (manufactured and/or hand-rolled)

2. Cigars

3. Pipe tobacco

4. Other

2) Guidelines

General concept: the tobacco product(s) that is (are) smoked every day or occasionally.

Policy relevance: public health policy relevance (WHO indicator on smoking).

Use of proxy interview: allowed.

Comparability with EHIS wave 1: medium, occasional smokers were not asked in EHIS wave 1 and EHIS wave 2 question focuses only mostly consumed tobacco product. However, a comparable indicator can be derived from EHIS wave 1.

"Other": water-pipe, other national specific products.

Instruction for interviewer: Record one answer only for tobacco product which is mostly/mainly consumed.

FILTER

Interviewer: Next question (SK3) is to be asked only for respondents who smoke daily (code 1 in SK1) and smoke mostly manufactured or hand-rolled cigarettes (code 1 in SK2).

SK3: Average number of cigarettes a day

1) Question

On average, how many cigarettes, do you smoke each day?

Number of manufactured or hand-rolled cigarettes ⌊__⌋

2) Guidelines

General concept: amount of cigarettes smoked per day in daily smokers.

Policy relevance: preventive plan against smoking.

Use of proxy interview: allowed.

Comparability with EHIS wave 1: high, even though the comparison can be done only on cigarettes.

On average: the mathematical term average is recommended instead of terms such as "generally" or "usually".

Each day: during a complete day that ends when the person goes to bed again, regardless of the time (even after midnight).

Only manufactured or hand-rolled cigarettes should be taken into account although the respondent stated also smoking other tobacco products in the previous question.

SK4: Frequency of exposure to tobacco smoke indoors

1) Question

How often are you exposed to tobacco smoke indoors?

1. Never or almost never

2. Less than 1 hour per day

3. 1 hour or more a day

Interviewer clarification: You can specify that 'by indoors we mean at home, at work, at public places, at restaurants etc.'

2) Guidelines

General concept: frequency of exposure to indoor smoke (passive smoking).

Policy relevance: passive smoking.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the original 3 questions have been combined into 1 question and answer categories "1-5 hours a day" and "more than 5 hours a day" are grouped into one single answer category "1 hour or more a day".

How often are you exposed to tobacco smoke: aims to measure whether respondent is (more or less) frequently in rooms where other people smoke or have smoked.

Indoors: refers to inside the house where the person lives (at home), at work, at public places, at restaurants etc.

Only smoke produced by other people should be taken into account (the focus is on second-hand smoking).

1.4.5 Alcohol consumption (AL)

Alcohol is an important factor for numerous chronic diseases (liver cirrhosis, diseases of the circulatory system, etc.). The pattern of alcohol consumption has changed in various Member States during the last decades, but in total alcohol consumption remains high and at individual level excessive drinking involves high health-related risks.

General purpose of the sub-module is to gather data on drinking status, volume of intake and pattern of alcohol consumption[30].

Introduction AL

The following questions are about your use of alcoholic beverages during the past 12 months.

Each country should define its own **national standard drink** and develop respective showcards in case of face to face interviews. The data will then be post-harmonized to get comparable data on EU level.

The module on alcohol consumption may be implemented in self-completion mode. If self-completion mode is applied, the visual ('respondent-friendly') layout of the questionnaire is of greater importance. Specifically, the use of arrows for branching questions or referring to instructions should be carefully considered.

[30] For more information on the sub-module, especially if other modes of data collection are to be applied and some other language versions see the *Final Report of the Eurostat grant on Improvement of the European Health Interview Survey (EHIS) modules on alcohol consumption, physical activity and mental health*, pages 376-413.

AL1: Frequency of consumption of an alcoholic drink of any kind (beer, wine, cider, spirits, cocktails, premixes, liqueurs, homemade alcohol…) in the past 12 months

1) Question

In the past 12 months, how often have you had an alcoholic drink of any kind [beer, wine, cider, spirits, cocktails, premixes, liquor, homemade alcohol…]?

Interviewer instruction: Here, country-specific alcoholic beverages should appear in the listed examples. Home-made alcohol should also be explicitly cited.

Interviewer instruction: Hand showcard on country-specific standard drinks and containers.

1. Every day or almost every day

2. 5 - 6 days a week

3. 3 - 4 days a week

4. 1 - 2 days a week

5. 2 - 3 days in a month

6. Once a month

7. Less than once a month

8. Not in the past 12 months, as I no longer drink alcohol

9. Never, or only a few sips or trials, in my whole life

2) Guidelines

General concept: overall frequency of alcohol intake during the past 12 months. The question enables to ascertain respondents' current drinking status.

Policy relevance: ECHI 47, OMC HC-S12.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the phrasing is similar and only the list of alcoholic beverages has been extended in the question itself. The answer categories are more numerous and the scale is reversed.

'In the past 12 months' stands for "a period of 12 months that started one year before the date of the interview (e.g. the time period between 15 April N-1 and the 14 April N for an interview carried out on 15 April N)".

The term 'alcoholic drink' refers to all drinks that contain 'alcohol' (or more specifically 'ethanol'), regardless of the kind of drink (strong or light beer, wine, spirits, etc.), or the quantity consumed.

'(beer, wine, cider, spirits, cocktails, premixes, liquor, home-made alcohol…)': here, country-specific alcoholic beverages should appear in the list of examples, i.e. the list should be adapted in order to mention kinds of alcoholic drinks (or specific denominations, such as 'long drink' or 'alcopops') that are more popular in a specific country.

'Home-made alcohol' should be explicitly cited in the list of examples.

'Never…' to 'every day…': 9 response categories that are mutually exclusive and describe the continuum

from 'never' to 'daily consumption':

- The meaning of 'every day or almost' should be explicitly conceived in view of a 12-month timeframe. In this context, the category applies to a respondent who did drink on 365 days during the past 12 months, but not only. Indeed a respondent may not have drunk every single day during the past 12 months, but may have nevertheless consumed alcoholic beverages more often than 6 days a week (than is, more than 312 days during the past 12 months).
- "Not in the past 12 months, as I no longer drink alcohol": stands for a person who never had a 'drink' over the past 12 months, but at least one drink in his/her whole life that was not just perceived as a trial. Here respondents' subjective definition of what has to be considered a "trial" is key.
- "Never, or only a few sips or trials, in my whole life": stands for a person who has never had a 'drink' in his/her whole life, or at the most, a few sips or trial drinks for the purpose of testing. Here respondents' subjective definition of what has to be considered a "trial" is key.

Use of showcards: A showcard on country-specific standard drinks and containers on response categories (in face-to-face interview).

FILTER

Interviewer: Next questions (AL2 – AL5) are to be asked only for respondents who drink at least 1-2 days a week (codes 1, 2, 3, 4 in AL1).

AL2: Frequency of consumption of an alcoholic drink for Monday-Thursday

1) Question

Thinking of Monday to Thursday, on how many of these 4 days do you usually drink alcohol?

1. On all 4 days

2. On 3 of the 4 days

3. On 2 of the 4 days

4. On 1 of the 4 days

5. On none of the 4 days

2) Guidelines

General concept: frequency of alcohol intake (usual number of drinking days) on weekdays (Monday to Thursday). The question aims to determine the number of days on which the subject drinks alcohol in a way that is representative or characteristic of the respondents' usual behaviour on weekdays.

Policy relevance: ECHI 47, OMC HC-S12.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

"On how many of these 4 days…?" enquire about the respondent's usual number of drinking days respectively over weekdays. In this context, the respondents are asked to add up the number of days (out of 4 for weekdays) when drinking usually occurs.

"Do you usually drink alcohol?" The term 'usually' means that we are primarily interested in finding out the number of days when the subject effectively drinks alcohol, representative or characteristic of the respondent's behaviour on weekdays. In other words, we want to determine a number of days exemplifying the way the respondent commonly drinks on weekdays.

A 'day' must not be understood as a '24-hour period'. The term is defined as a period ranging from respondent's waking up till the moment he/she goes to sleep. In this context, if, for example, a respondent spends the evening out until 3:00 am, the period considered should account for one day. Of course, if a respondent does an all-nighter and continues drinking during the next day (two consecutive days are envisaged here), then the period considered should reasonably be two days.

FILTER

Interviewer: Next question (AL3) is to be asked only for respondents who drink at least 1 day from Monday to Thursday (codes 1, 2, 3, 4 in AL2).

AL3: Number of alcoholic (standard) drinks on average on one of the days (Monday to Thursday)

1) Question

From Monday to Thursday, how many drinks do you have on average on such a day when you drink alcohol?

Interviewer instruction: Please refer to the showcard of standard drinks.

1. 16 or more drinks a day

2. 10-15 drinks a day

3. 6 - 9 drinks a day

4. 4 - 5 drinks a day

5. 3 drinks a day

6. 2 drinks a day

7. 1 drink a day

8. 0 drink a day

2) Guidelines

General concept: quantity of alcohol consumed on weekdays (Monday to Thursday) when drinking occurs. The question aims to measure the number of drinks that is representative or characteristic of the respondent's usual behaviour on a drinking day during weekdays.

Policy relevance: ECHI 47, OMC HC-S12.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

The term ‘drinks’ could be replaced by ‘glasses’ or ‘units’ [or any other word with a ‘neutral’ connotation that has a similar meaning] if there is no national term for it.

“How many drinks…?”: respondents are requested to estimate the average number of drinks they usually consume on a drinking day for weekdays. The overall aim of these two questions is thus to determine the number of drinks exemplifying the way the respondent commonly drinks on a drinking day. Note that although literature shows that “respondents tend to report modal rather than mean frequencies and quantities”, it was decided to use the term ‘average’, which was perceived as more being meaningful than the terms ‘usually’ or ‘on a typical day’ for respondents who drink variable quantities, suggesting they can take an average across the different drinking days (an exact mean is not requested here).

When estimating the average number of drinks they usually consume, respondents are asked to consider all types of alcoholic drinks they may have on such drinking days (beer, wine, spirits, etc.).

Specific units of alcohol are measured at this stage. Indeed, in the context of the present exercise, the term

'drink(s)' stands literally for 'standard drink(s)' or 'standard unit(s)' which adhere to government issued standards. As can be inferred, these 'standards' vary from one country to another. The drinks or the glasses have to be defined by container sizes on a showcard for each country separately (for example, 0,33 l beer, 0,125 l wine, 4 cl spirits, etc.). The country will then convert them to grams of pure alcohol per day according to volume percentages based on country specific sales data[31]. Each member state will be requested to provide metadata on the content (in grams of alcohol) of each of the "national standard" drinks.

Use of showcards: A showcard on response categories (in face-to-face mode) and on country-specific standard drinks and containers.

[31] To estimate the pure alcohol content of a drink, one must multiply the (standard) size of container of a specific beverage (e.g. beer: 250 ml) x the proportion of volume of pure alcohol (e.g. 5% = 0.05 ml) and by the conversion factor (0.79) to obtain grams of pure ethanol.

AL4: Frequency of consumption of an alcoholic drink for Friday-Sunday

1) Question

Thinking of Friday to Sunday, on how many of these 3 days do you usually drink alcohol?

1. On all 3 days

2. On 2 of the 3 days

3. On 1 of the 3 days

4. On none of the 3 days

2) Guidelines

General concept: frequency of alcohol intake (usual number of drinking days) on weekend days (Friday to Sunday). The question aims to determine the number of days on which the subject drinks alcohol in a way that is representative or characteristic of the respondents' usual behaviour on weekend days.

Policy relevance: ECHI 47, OMC HC-S12.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

”On how many of these 3 days…?”: the question enquires about the respondent’s usual number of drinking days respectively over weekend days. In this context, the respondents are asked to add up the number of days (out of 3 for weekend days) when drinking usually occurs.

“Do you usually drink alcohol?” The term ‘usually’ means that we are primarily interested in finding out the number of days when the subject effectively drinks alcohol, representative or characteristic of the respondent’s behaviour on weekend days. In other words, we want to determine a number of days exemplifying the way the respondent commonly drinks on weekend days.

A ‘day’ must not be understood as a ‘24-hour period’. The term is defined as a period ranging from respondent’s waking up till the moment he/she goes to sleep. In this context, if, for example, a respondent spends the evening out until 3:00 am, the period considered should account for one day. Of course, if a respondent does an all-nighter and continues drinking during the next day (two consecutive days are envisaged here), then the period considered should reasonably be two days.

FILTER

Interviewer: Next question (AL5) is to be asked only for respondents who drink at least once during the week-end (codes 1, 2, 3 in AL4).

AL5: Number of alcoholic (standard) drinks on average on one of the days (Friday-Sunday)

1) Question

From Friday to Sunday, how many drinks do you have on average on such a day when you drink alcohol?

Interviewer instruction: Please refer to the showcard of standard drinks.

1. 16 or more drinks a day

2. 10-15 drinks a day

3. 6 - 9 drinks a day

4. 4 - 5 drinks a day

5. 3 drinks a day

6. 2 drinks a day

7. 1 drink a day

8. 0 drink a day

2) Guidelines

General concept: quantity of alcohol consumed on weekend days (Friday to Sunday) when drinking occurs. The question aims to measure the number of drinks that is representative or characteristic of the respondent's usual behaviour on a drinking day during weekend days.

Policy relevance: ECHI 47, OMC HC-S12.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

The term 'drinks' could be replaced by 'glasses' or 'units' [or any other word with a 'neutral' connotation that has a similar meaning] if there is no national term for it.

"How many drinks…?": respondents are requested to estimate the average number of drinks they usually consume on a drinking day for the weekend. The overall aim of the question is thus to determine the number of drinks exemplifying the way the respondent commonly drinks on a drinking day. Note that although literature shows that "respondents tend to report modal rather than mean frequencies and quantities", it was decided to use the term 'average', which was perceived as more being meaningful than the terms 'usually' or 'on a typical day' for respondents who drink variable quantities, suggesting they can take an average across the different drinking days (an exact mean is not requested here!).

When estimating the average number of drinks they usually consume, respondents are asked to consider all types of alcoholic drinks they may have on such drinking days (beer, wine, spirits, etc.).

Specific units of alcohol are measured at this stage. Indeed, in the context of the present exercise, the term

'drink(s)' stands literally for 'standard drink(s)' or 'standard unit(s)' which adhere to government issued standards. As can be inferred, these 'standards' vary from one country to another. The drinks or the glasses have to be defined by container sizes on a showcard for each country separately (for example, 0,33 l beer, 0,125 l wine, 4 cl spirits, etc.). The country will then convert them to grams of pure alcohol per day according to volume percentages based on country specific sales data. Each member state will be requested to provide metadata on the content (in grams of alcohol) of each of the "national standard" drinks.

Use of showcards: A showcard on response categories (in face-to-face mode) and on country-specific standard drinks and containers.

FILTER

Interviewer: Next question (AL6) is to be asked only for respondents who drink at least once in the past 12 months (codes 1, 2, 3, 4, 5, 6, 7 in AL1).

AL6: Frequency of risky single-occasion drinking (equivalent of 60g of pure ethanol or more) during the past 12 months

1) Question

In the past 12 months, how often have you had [6 or more][32] drinks containing alcohol on one occasion? For instance, during a party, a meal, an evening out with friends, alone at home, …

1. Every day or almost

2. 5 - 6 days a week

3. 3 - 4 days a week

4. 1 - 2 days a week

5. 2 - 3 days in a month

6. Once a month

7. Less than once a month

8. Not in the past 12 months

9. Never in my whole life

2) Guidelines

General concept: frequency of risky single-occasion drinking (RSOD), or binge drinking. The question aims to measure the "prevalence of days of high intake", or to assess the occurrence of episodes involving heavy drinking behaviours (that is consumption of large amount of alcohol).

Policy relevance: ECHI 47.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: medium, the phrasing of the question is similar, the answer categories are more numerous and the scale is reversed.

'In the past 12 months' stands for "a period of 12 months that started one year before the date of the interview (e.g. the time period between 15 April N-1 and the 14 April N for an interview carried out on 15 April N)" .

"How often have you had 6 or more drinks …?" Here, the term 'drinks' could be replaced by 'glasses' or 'units' [or any other word with a 'neutral' connotation that has a similar meaning] if there is no national term for it.

"6 or more drinks...": should be understood as the sum of alcoholic beverages of any kind, including mixed. The threshold should be the same for everyone (men and women).

[32] The number of 6 drinks in the model question presumes that 1 drink = 10 g of pure alcohol. The number of drinks used in the question by each country should be adapted to refer to equivalent of 60 g of pure ethanol.

"6 or more drinks…": as mentioned before, specific units of alcohol are measured here. Indeed, the term 'drink(s)' stands literally for "standard drink(s)" or "standard unit(s)". In view of this, the number of drinks mentioned here must add up to 60g of pure ethanol so it should be necessarily adapted in order to reflect countries' measures or "standard drink".

If the standard serving/container size or strength of beverages is higher or lower in a given country, it is advised that the number of drinks stated in the question be changed in order to meet the cut-off of 60g of ethanol per occasion. Accordingly, the '6 or more drinks' mentioned in this question should be replaced by:

- '4' in the case of a standard drink that contains 14g of pure alcohol;
- '5' in the case of a standard drink that contains 12g of pure alcohol;
- '6' in the case of a standard drink that contains 10g of pure alcohol;
- '7' in the case of a standard drink that contains 8g of pure alcohol.

The term 'occasion' strongly relies on respondents' interpretation, and should thus not be conceived as necessarily referring to a full day. In this context, an 'occasion' can be broadly described as any drinking episode (an event of undetermined duration, although expected to cover a short period of time) such as a party, a meal, an evening out with friends, alone at home, etc.

Use of showcards: A showcard on response categories in face-to-face interview.

1.4.6 Social support (SS)

The concept of social support is defined as the belief that one is cared for and loved, esteemed and valued. It is a consequence of the interplay between individual factors and the social environment. It is a strategic concept in not only giving understanding to the maintenance of health and the development of (mental and somatic) health problems, but also their prevention[33].

Introduction SS

In the following I will ask three questions about your social relationships.

The **Oslo Social Support Scale (OSS-3)** was selected to measure social support. It includes 3 questions on primary support group, interest and concern shown by others, and ease of obtaining practical help. The sequence of the questions must be respected.

The respondent should select for each question only one answer category. Make sure that all the three questions are answered (information on all the three question items are needed to calculate a social support sum score).

SS1: Number of close people to count on in case of serious personal problems

1) Question

How many people are so close to you that you can count on them if you have serious personal problems?

1. None

2. 1 or 2

3. 3 to 5

4. 6 or more

2) Guidelines

General concept: Number of persons to count on if in serious trouble.

Policy relevance: ECHI 54.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: high, no change.

The question focuses on the quality of social network. The respondents should indicate the amount of people they can rely on or trust in difficult life situations.

Many people cover both family and non-family members (friends, colleagues, social and religious groups, etc…).

Serious personal problems: the respondent can count on for help, advice, money.

[33] Adapted from http://www.euphix.org.

SS2: Degree of concern shown by other people in what the person is doing

1) Question

How much concern do people show in what you are doing?

1. A lot of concern and interest

2. Some concern and interest

3. Uncertain

4. Little concern and interest

5. No concern and interest

2) Guidelines

General concept: Perceived positive interest and concern from other people.

Policy relevance: ECHI 54.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

The question focuses on perceived social support. The respondents should indicate based on a five-point Likert scale how much concern or interest other people show in what they are doing based on their own perception.

People cover both family and non-family members (friends, colleagues, social and religious groups, etc…).

Adaptation of the question: For some countries this question may have a negative meaning, which concerns translation of the term "concern", and this should be avoided. The concept of 'positive interest' should be taken into account when translating the question.

The category 'uncertain' should represent a middle category in the sense of "neither little nor much concern." It may be used in cases when respondents have the information to judge but it is ambiguous (they come across both some but also little interest depending on situation) and they are not sure about the appropriate answer.

SS3: How easy is it to get practical help from neighbours in case of need

1) Question

How easy is it to get practical help from neighbours if you should need it?

1. Very easy

2. Easy

3. Possible

4. Difficult

5. Very difficult

2) Guidelines

General concept: Available help from neighbours if necessary.

Policy relevance: ECHI 54.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

The question focuses also on perceived social support. The respondents should indicate based on a five-point Likert scale how easy is for them to get practical help from neighbours according to their own perception.

"Practical help" is a help with ordinary affairs like personal support, advice, money.

1.4.7 Provision of informal care or assistance (IC)

The section should allow the assessment of long-term care activities provided by non-professional carers and provide data on possible lack in LTC care and on barriers for people in exercising their "normal" job.

Introduction IC

The next questions are about the provision of care or assistance to other people with health problems.

IC1: Providing care or assistance to one or more persons suffering from some age problem, chronic health condition or infirmity, at least once a week (professional activities excluded)

1) Question

Do you provide care or assistance to one or more persons suffering from some age problem, chronic health condition or infirmity, at least once a week?

Interviewer clarification: add: 'Exclude any care provided as part of your profession'.

1. Yes

2. No

2) Guidelines

General concept: care/assistance provided by the respondent to people suffering from long-term health problems.

Policy relevance: Barriers in employment, need for long-term care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

"at least once a week" should be asked as cases of irregular or occasional help should be excluded.

"Care or assistance" means help to other persons for personal care or activities of household care. Only care or assistance related to long-term (chronic) health conditions, infirmity (congenital or acquired physical defect) or old age should be included.

Any care provided as part of the respondent's profession should be excluded.

FILTER

Interviewer: Next questions (IC2 and IC3) are to be asked only for respondents who provide care or assistance at least once a week to other people (code 1 in IC1).

IC2: Prevailing relationship of the person(s) suffering from any chronic condition or infirmity or due to old age being provided with care or assistance at least once a week from the respondent

1) Question

Is this person or are these persons

1. Members of your family

2. Someone else (not members of your family)?

Interviewer instruction: Only one answer allowed. In case multiple persons are involved say: '*Select the one to whom you are providing the most care*.'

2) Guidelines

General concept: relationship with the people to whom the respondent provide care/assistance.

Policy relevance: Barriers in employment, need for long-term care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

"Member(s) of your family" that is relatives living either in or outside your household.

Only one answer is allowed. In case care is given to several persons this question should focus the one whom the respondent provides the most care.

IC3: Number of hours per week the respondent provides care or assistance to the person(s) suffering from any chronic condition or infirmity or due to old age

1) Question

For how many hours per week do you provide care or assistance?

1. less than 10 hours per week

2. at least 10 but less than 20 hours per week

3. 20 hours per week or more

2) Guidelines

General concept: total time during one week dedicated to take care of or provide assistance to other people.

Policy relevance: Barriers in employment, need for long-term care services.

Use of proxy interview: not allowed.

Comparability with EHIS wave 1: none, new question.

How many hours per week: sum the time spent during one week by providing care or assistance to all people (that is not only to a person whom the respondent provides the most care – a difference compared to IC2). If the respondent doesn't know exactly, he/she should be asked to give an estimate for the whole week.

1.5 Core social variables

This chapter provides a short description of the European Background Variables Module (EBVM).

The list of variables for EHIS wave 2 was adapted according to the so called Core Social Variables which are recommended to be used in all EU social surveys.

Variable name and description, answer categories and codes, filter and a short description with reference to the respective subchapter in the current version of methodological guidelines for implementing core variables in EU social surveys[34] is included below for each variable.

In case of proxy interview core social variables may be completed by the proxy respondent.

Variable name	Description	Answer categories and codes
SEX	**Sex of respondent**	1 Male 2 Female

Short description: Sex of the person (for more information see 1.1).

AGE	**Age of respondent in completed years at the moment of the interview**	Number (15 - 120)

Short description: Age of the person in completed years at the date of reference (at the moment of the interview) (1.2).

COUNTRY	**Country of residence**	2-digit code (based on NUTS, at the most aggregated level - level 0 or country level)

Short description: The respondent's country of usual residence (1.8).

The codes should conform to Eurostat NUTS (Nomenclature of Territorial Units for Statistics), by country (2digit country code): http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=NUTS_22&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC.

BIRTHPLACE	**Country of birth**	10 Native-born 21 Born in another EU Member State 22 Born in non-EU country

Short description: Country of birth is the country where a person was born, defined as the country of usual residence of mother at the time of the birth, or, by default, the country in which the birth occurred (1.3).

CITIZEN	**Country of citizenship at time of data collection**	10 National/ has the citizenship of the reporting country 21 Non-national/ does not have the citizenship of the reporting country but national of other EU Member States 22 Non-national/ does not have the

[34] *Implementing core variables in EU social surveys, Methodological guidelines (draft).* Eurostat, 2011.

		citizenship of the reporting country but national of non EU countries

Short description: Citizenship is defined as the particular legal bond between an individual and his/her State, acquired by birth or naturalisation, whether by declaration, option, marriage or other means according to the national legislation (1.4).

REGION	**Region of residence**	2-digit code (coding according to NUTS at 2-digit level)

Short description: This variable indicates the region where the individual/household is living (place of usual residence) (1.9).

The codes should conform to Eurostat NUTS (Nomenclature of Territorial Units for Statistics), by NUTS LEVEL 2 (2 numbers after the country code):
http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=NUTS_33&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC&IntCurrentPage=1

DEG_URB	**Degree of urbanisation**	1 Densely-populated area 2 Intermediate-populated area 3 Thinly-populated area

Short description: The type of locality the individual/household is living in, namely whether an urban or a rural area (or a borderline case) (1.10).

DEGURBA classification has to be used to fill in this variable. A complete documentation, including correspondence tables can be found on:
http://ec.europa.eu/eurostat/ramon/miscellaneous/index.cfm?TargetUrl=DSP_DEGURBA.

The degree of urbanisation creates a classification of all LAU2s (Local Administrative Units – Level 2). LAU2 consists of municipalities or equivalent units in EU Member States. Codes of LAU2s are to be collected and recorded and respective codes of degree of urbanization are to be assigned based on the correspondence tables.

MARSTALEGAL	**Legal marital status**	1 Never married and never in a registered partnership 2 Married or in a registered partnership 3 Widowed or with registered partnership that ended with death of partner (not remarried or in new registered partnership) 4 Divorced or with registered partnership that was legally dissolved (not remarried or in new registered partnership)

Short description: Legal marital status is defined as the (legal) conjugal status of each individual in relation to the marriage laws (or customs) of the country (i.e. de jure status) (1.5).

MARSTADEFACTO	**De facto marital status**	1 Person living in a consensual union 2 Person not living in a consensual union

Short description: De facto marital status is defined as the marital status of each individual in terms of his or her actual living arrangements within the household. Consensual union is defined as the union between

non-married partners (1.6).

HATLEVEL	**Highest level of education completed (Educational attainment)**	Based on ISCED-2011 classification: 0 early childhood development, pre-primary education 1 primary education 2 lower secondary education 3 upper secondary education 4 post-secondary but non-tertiary education 5 tertiary education; short-cycle 6 tertiary education; bachelor level or equivalent 7 tertiary education; master level or equivalent 8 tertiary education; doctoral level or equivalent

Short description: This variable provides information about educational level successfully completed by a person (1.15).

MAINSTAT	**Self-declared labour status**	10 Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc. 20 unemployed 31 pupil, student, further training, unpaid work experience 32 in retirement or early retirement or has given up business 33 permanently disabled 34 in compulsory military or community service 35 fulfilling domestic tasks 36 other inactive person

Short description: Normal or current 'main' labour status as perceived by the respondent (1.11).

FT_PT	**Full or part-time work**	1 full-time 2 part-time -2 not applicable

Short description: Characteristics of the main job of employed respondents (included in 1.11).

Asked only if MAINSTAT=10.

JOBSTAT	**Status in employment**	10 self-employed 21 employee with a permanent job/work contract of unlimited duration 22 employee with a temporary job/work contract of limited duration -2 not applicable

Short description: Professional status for the main job of employed persons (1.12).

Asked only if MAINSTAT=10.

JOBISCO	**Occupation in employment**	2-digit number (ISCO-08 coded at 2-digit level) -2 not applicable

Short description: Occupation in the main job (1.13).

Asked only if MAINSTAT=10.

The codes should conform to Eurostat standard code list (SCL) - International Standard Classification of Occupations 2008 (ISCO-08) (2 digits):

http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CL_ISCO08&StrLanguageCode=EN&IntPcKey=&StrLayoutCode.

Code	Description
11	Chief executives, senior officials and legislators
12	Administrative and commercial managers
13	Production and specialised services managers
14	Hospitality, retail and other services managers
21	Science and engineering professionals
22	Health professionals
23	Teaching professionals
24	Business and administration professionals
25	Information and communications technology professionals
26	Legal, social and cultural professionals
31	Science and engineering associate professionals
32	Health associate professionals
33	Business and administration associate professionals
34	Legal, social, cultural and related associate professionals
35	Information and communications technicians
41	General and keyboard clerks
42	Customer services clerks
43	Numerical and material recording clerks
44	Other clerical support workers
51	Personal service workers
52	Sales workers
53	Personal care workers
54	Protective services workers
61	Market-oriented skilled agricultural workers
62	Market-oriented skilled forestry, fishery and hunting workers
63	Subsistence farmers, fishers, hunters and gatherers
71	Building and related trades workers, excluding electricians
72	Metal, machinery and related trades workers
73	Handicraft and printing workers
74	Electrical and electronic trades workers
75	Food processing, wood working, garment and other craft and related trades workers
81	Stationary plant and machine operators
82	Assemblers
83	Drivers and mobile plant operators

91	Cleaners and helpers
92	Agricultural, forestry and fishery labourers
93	Labourers in mining, construction, manufacturing and transport
94	Food preparation assistants
95	Street and related sales and service workers
96	Refuse workers and other elementary workers
0	Armed forces occupations

LOCNACE	**Economic sector in employment**	1-digit letter (A - U) (NACE Rev. 2 - sections) -2 not applicable

Short description: Economic activity of the local unit where the respondent carries out his/her main professional activity (incl. self-employed) (1.14).

Asked only if MAINSTAT=10.

The codes should conform with Eurostat standard code list (SCL) - Statistical Classification of Economic Activities in the European Community (NACE Rev. 2) (21 sections, codes A to U): http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CL_NACE2&StrLanguageCode=EN&IntPcKey=&StrLayoutCode.

Code	**Description**
A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	Activities of extraterritorial organisations and bodies

Household composition variables

Variables HHNBPERS - HH_INACT refer to the size and composition of the private household and are derived from the information on the relationship between household members, and the economic activity

status (all variables are described under 1.7)[35].

HHNBPERS	**Number of persons living in household, including the respondent**	Number (0 - 98)
HHNBPERS_0_4	**Number of persons aged less than or equal to 4**	Number (0 - 98)
HHNBPERS_5_13	**Number of persons aged from 5 to 13**	Number (0 - 98)
HHNBPERS_14_15	**Number of persons aged from 14 to 15**	Number (0 - 98)
HHNBPERS_16_24	**Number of persons aged from 16 to 24**	Number (0 - 98)
HHNBPERS_25_64	**Number of persons aged from 25 to 64**	Number (0 - 98)
HHNBPERS_65plus	**Number of persons aged 65 and more**	Number (0 - 98)

HHTYPE	**Type of household**	10 One-person household 21 Lone parent with child(ren) aged less than 25 22 Couple without child(ren) aged less than 25 23 Couple with child(ren) aged less than 25 24 Couple or lone parent with child(ren) aged less than 25 and other persons living in household 25 Other type of household

Code 10 refers to one-person (non-family) households.

Codes 21, 22, 23 refer to one-family households (with exception of one-family households in which the child(ren) aged 25 years or older still live(s) with the parents and there is no other child(ren) below 25).

Code 24 refers to one-family households with other persons living in the household. Category "other persons" includes all other persons in the household who are not children aged less than 25 of the couple or lone parent or the partner in a couple (the child(ren) aged 25 years or older still living with the parents are considered as other persons).

Code 25 refers to "multi-person non-family households", "two or more family households" and "one-family households" in which the child(ren) aged 25 years or older still live(s) with the parents and there is no other child(ren) below 25.

HH_ACT	**Number of persons aged 16-64 in household who are at work**	Number (0 - 98)
HH_INACT	**Number of persons aged 16-64 in household who are unemployed or are economically inactive**	Number (0 - 98)

[35] Further guidance can be found in *EU legislation on the 2011 Population and Housing Censuses document*.

HHINCOME	**Net monthly equivalised income of the household**	1 Below 1st quintile 2 Between 1st quintile and 2nd quintile 3 Between 2nd quintile and 3rd quintile 4 Between 3rd quintile and 4th quintile 5 Between 4th quintile and 5th quintile

Short description: The total net monthly income of a household (total income of a household, after tax and other deductions, that is available for spending or saving; all monetary incomes received from any source by each member of a household are added up; these include income from work, investment and social benefits, plus any other household income; taxes and social contributions that have been paid, are deducted from this sum) that is equivalised (according to an equivalence scale) to reflect differences in a household's size and composition (item 1.16).

The variable is to be compiled based on information on household income and household size and composition. Firstly, the calculation of the equivalised total net monthly income of the household is to be done according to the following formula[36]:

$$Net\ monthly\ equivalised\ income\ of\ the\ household = \frac{Total\ net\ monthly\ income\ of\ the\ household}{Equivalent\ household\ size}$$

Where equivalised household size is a sum of weights attributed to each member of the household according to the modified OECD equivalence scale:

- 1.0 to the first adult;
- 0.5 to the second and each subsequent person aged 14 and over;
- 0.3 to each child aged under 14.

Secondly, conversion into quintile classes/groups is to be done. The data are ordered according to the value of the equivalised total net monthly income of the household. Four cut-point values (the so-called quintiles) of income, dividing all the survey population into five groups equally represented/frequent by 20 % of respondents, are found. 20 % respondents with lowest income are coded 1, …, and 20 % respondents with highest income are coded 5[37].

The questions on measuring income could be taken over from EHIS wave 1 (questions IN.1 – IN.4) or based on recommendations in the Methodological guidelines on implementing core variables in EU social surveys (page 53).

The way of data collecting (the questions used or the use of administrative source) and the data on four quintiles will be part of quality reporting.

[36] The respective detailed definitions are provided in the *Methodological guidelines on implementing core variables in EU social surveys* (pages 50-51).

[37] More correct description of answer category 5 – 'Between 4th quintile and 5th quintile' would be 'Above 4th quintile'.

2 Statistical survey guidelines

2.1 General definitions

Year of survey means the year in which the survey data collection, or most of the collection, is carried out.

Fieldwork period means the period of time in which the data is collected.

Household or more precisely private household[38] means a person living alone or a group of people who live together in the same private dwelling and share expenditure, including the joint provision of the essentials of living. This definition does not cover collective households or institutions.

Collective household refers to a non-institutional collective dwelling such as a boarding house or hostel, dormitory in an educational establishment or other living quarters shared by more than five persons without sharing household expenses. Also included are persons living as lodgers in households with more than five lodgers.

Institution refers to old persons' or residential homes, health care institutions (including hospitals and nursing homes), children's homes, religious institutions (convents, monasteries), correctional and penal institutions (prisons), military institutions. Basically, institutions are distinguished from collective households, in that in the former, the resident persons have no individual responsibility for their housekeeping. In some cases, old persons' home can be considered as collective households on the basis of this last rule.

Dwelling (or **living quarter**) is housing which is the usual residence of one or more persons. In general, it covers

- 'Conventional dwellings' (structurally separate and independent premises at fixed locations which are designed for permanent human habitation and are used as a residence, or vacant, or reserved for seasonal or secondary use),
- 'Other housing units' (huts, cabins, shacks, shanties, caravans, houseboats, barns, mills, caves or any other shelter used for human habitation, irrespective if it was designed for human habitation.)
- 'Collective living quarters' (premises which are designed for habitation by large groups of individuals or several households and which are used as the usual residence of at least one person).

Usual residence means the place where a person normally spends the daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage or in default, the place of legal or registered residence.

Only the following persons shall be considered to be usual residents of the geographical area in question:

1. those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference date; or
2. those who arrived in their place of usual residence in the 12 months before the reference date with the intention of staying there for at least one year.

Where the circumstances described in point (1) or (2) cannot be established, 'usual residence' shall mean the place of legal or registered residence.

Age refers to the age at the time of interview.

---

[38] The term "household" is used in the EHIS Regulation.

Microdata are non-aggregate observations or measurements of characteristics of individual units.

Metadata means data that defines and describes other data as well as statistical business processes.

Target population is the population the survey is interested in.

Frame population is the set of units that can be reached by means of the sampling frame used.

Survey population is the intersection of the target and frame population that is the subset of units that belong to the target population and can be reached via the sampling frame.

Sampling unit is a unit considered for selection in some stage of sampling procedure. In multistage sampling procedure the first-stage sampling units are often municipalities, villages or census enumeration areas. The second-stage sampling units are again addresses, houses or dwelling units, and the ultimate sampling units consist of individual persons.

Statistical unit is the entity for which information is sought (unit of observation) and for which statistics are ultimately compiled (unit of data analysis). The statistical units in EHIS are individual persons.

2.2 Target population

The target (reference) population shall be, according to the Commission implementing Regulation on EHIS (article 4, par. 2): '*individuals aged 15 and more living in private households residing in the territory of the Member State at the time of the data collection*'.

Persons living in collective households and in institutions are generally excluded from the target population.

National authorities may expand the surveyed population to younger age groups or persons living in collective households and in institutions but these respondents are not to be taken into account in calculating the respective effective sample sizes.

National territories that are excluded from the survey

According to the Commission implementing Regulation on EHIS, article 3, par. 5: '*Small parts of the national territory amounting to no more than 2% of the national population and the national territories listed in Annex III are excluded*[39].' The territories listed are as follows:

Country	National territories
France	French Overseas Departments and territories
Cyprus	The non-government controlled area
Netherlands	Caribbean Islands (Bonaire, St. Eustatius and Saba), the West Frisian Islands with the exception of Texel
Ireland	All offshore islands with the exception of Achill, Bull, Cruit, Gorumna, Inishnee, Lettermore, Lettermullan and Valentia
United Kingdom	Scotland north of the Caledonian Canal, the Scilly Islands

2.3 Data collection period

The data collection period (reference years) shall be, according to the Commission implementing Regulation on EHIS (article 4, par. 1), 2013, 2014 or 2015.

The data collection should ideally be spread over the whole year to take account of seasonal variation. The minimum requirement in the implementing regulation states (the article 4, par. 3) that: *'the collection of data shall be spread over at least 3 months including at least 1 month of the autumn season (September-December)'*.

Expanding a survey to cover a full year is also more practical for the management of a large sample size. A potential negative aspect of a long data collection period is the deterioration of the quality of the

[39] It means that small isolated parts of the national territory can be but does not have to be excluded.

sampling frame throughout this period: selected persons can die, can move, household compositions can change. Bearing this in mind, it can be recommended to divide the year in consecutive phases (for example trimesters). At the beginning of every phase an actualized sampling frame can be used to select respondents but overlap of sampled respondents should be avoided.

Recommendation on data collection period:

- The data collection should ideally be spread over the whole year.

2.4 Data collection mode

The most important choice that must be made before selecting the mode of administration is based on the answer to the question whether verbal interactions between interviewers and respondents are necessary to collect the data (interviewer-administered questionnaires) or whether one can rely on the respondent to provide responses without the interference of interviewers (self-administered questionnaires).

Interviewer-administered questionnaires are questionnaires administered in face-to-face (personal) interviews and in telephone interviews. In a face-to-face interview an interviewer administers, within a limited period of time, a structured or partly structured survey instrument in the presence of the respondent. In a telephone interview the respondent is contacted by phone and hence receives assistance from an interviewer who administers the questions by telephone.

When using **self-administered questionnaires**, a respondent receives a structured questionnaire and an introductory letter, answers the questions in his/her own time without any assistance[40] from the interviewer except for any written instructions in the questionnaire or in the accompanying letter. Self-administered questionnaires can be handed over, sent by mail, by electronic mail or by Internet.

In all these cases, the administration of the questionnaires can be based on paper-and-pencil procedures (PAPI) or be assisted by computer. The role of the computer may differ considerably:

- Computer-assisted personal interviewing (CAPI) refers to the use of the computer to assist in face-to-face personal interviewing and hence is typically applied in personal interviews;
- Computer-assisted telephone interviewing (CATI) refers to the use of computers in telephone interviewing;
- Rather than sending a copy of a questionnaire, respondents can also be sent a diskette/CD/USB stick with the questionnaire and instructions. This is known as computer administered questioning (CA(SA)Q). Sometimes, this is also referred to as CASI (self-administered computer interviewing);
- Computer-assisted web interviewing (CAWI) is a form of self-administered questionnaires, in which a computer administers a questionnaire to respondents on a web site. The responses are transferred through the Internet to the server.

Mixed-mode forms for data collection are also possible:

- Respondents can be contacted by phone while the purpose of the study and instructions on how to fill the questionnaire are explained at home. The questionnaire is then left behind for respondents to fill out, and be picked up the following day (or the questionnaire can be mailed back). In case of problems when completing the questionnaires, respondents can contact the interviewers by phone.

Other data sources like administrative registers might be used to obtain data if record linkage on individual level can be done.

[40] But the respondent could also receive assistance from the interviewer if needed in case of a combination of face-to-face and self-completed interviews (that is mixed-mode administration).

One reason for collecting data on the mode of data collection is to enable an analysis of the possible impact of the mode(s) of data collection on results. If mixing up different modes for different sub-modules for different respondents is envisaged, the reporting on respective modes of data collection would ideally need to be specified in more details which is not foreseen in the variable specifications of the Regulation. In that case it is recommended that countries should report on the use of methods for data collection in detail in the metadata.

These types of interview are to be reported via INTMETHOD (Data collection method used) variable:

- Postal, non electronic version
- Postal, electronic version (e-mail)
- Face-to-face, non electronic version
- Face-to-face, electronic version
- Telephone, non electronic version
- Telephone, electronic version
- Use of internet
- Mixed mode collection (e.g.: both postal and interview to collect data).

Detailed instructions on coding the mode of data collection are provided in sub-chapter Technical survey variables, the part on INTMETHOD variable.

Recommendations on data collection mode:

- Personal (face-to-face) interviews are preferred mode of data collection to be used and the model questionnaire refers to this mode.
- If other modes of data collection are used the questionnaire should be adapted accordingly to better serve the respective type of interview.
- Detailed reporting on the use of modes of data collection is recommended to enable an analysis of possible impacts of different modes on results.

2.5 Sampling frame

According to the Commission implementing Regulation on EHIS, Article 3, par. 2: the microdata *'shall be based on nationally representative probability samples.'* This requirement can only be achieved if a good source of data on population is used for the selection of respondents.

The sampling frame is the list of the target population units from which the sample is drawn. It is any material or device used to obtain observational access to the finite population of interest. It can be any list that delimits, identifies and allow access to the elements of the target population. The frame should contain all the units belonging to the population, reporting information about address and localization, together with other variables (age, sex, etc.) useful for the designing of the sample. In some cases a unique and complete list may not exist or can be built only by means of a laborious work.

Coverage

The characteristics of the sampling frame are an important issue. It is important to consider the type of sampling units listed in the frame, the extent of coverage of the target population, the accuracy and completeness as well as the amount and quality of auxiliary information. The extent to which a frame includes all the elements of the target population is referred to as coverage.

There are three types of frame imperfections, giving rise to three different types of frame errors. Loss of coverage can be due both to under-coverage, which is failure to include some units, to over-coverage, which is inclusion of some foreign elements into the sampling frame or to multiple listings, which is inclusion of the same element more than one time into the sampling frame.

Under-coverage occurs when target population units are not accessible via the frame. The sampling frame is incomplete, some units are omitted and potential respondents cannot be selected to participate in the survey. Under-coverage is different from deliberate exclusion of sections of the target population. Usually survey objectives and practical difficulties determine such deliberate exclusions. For example, in a national survey certain segments may be excluded because the survey objectives are confined to the other segments of the target population (e.g. institutional households, etc.). Such exclusions are not errors of non-coverage, but it has to be emphasised in the survey report that the results apply only to the groups of target population included to the sample.

Over-coverage is when some selected units do not belong to the population. Just as some units may not be represented in the frame other units belonging to the frame might not belong to the target population. They might for example have died recently, moved abroad or do not belong for other reasons to the target population.

Multiple listings occur when some units that belong to the target population appear in the frame more than once, giving them a larger probability of selection than intended. This needs to be known and taken into account when selecting the sample by using different sampling probabilities for different units. A good sampling frame should also provide sufficient information on the basis of which the selected units can be contacted and uniquely identified on the territory (precise and up-to-date address). Failure to do so can result in distortions in probabilities of selection and in the sample structure because some units cannot be contacted and their inclusion probability becomes equal to zero.

Ideally, the sampling frame should be complete, unduplicated and unambiguous. Therefore, initial preparation of the frame may be required to ensure that the most ideal conditions are met. A relevant issue is the evaluation of the coverage level of the frame with respect to the target population; that is to estimate the percentage of excluded population members, which gives rise to under-coverage.

Sometimes it is possible to evaluate the impact of under-coverage on the resulting sample. A key factor is how the under-coverage is distributed across the various sub-populations in the country, for example if a large proportion of under-coverage is related to one or two small sub-populations or if there is a uniform under-coverage across many sub-populations.

Frame imperfections, not only coverage errors but also out-of-date information, are likely to bias or reduce the reliability of the survey estimates and to increase data collection costs. For example, over-

coverage generally increases variance because it results in a reduced sample (elements which do not belong to the target population are excluded) as compared to what would have been obtained under no over-coverage. The random size of the final sample will also bring more variance. Multiple listings can increase variance. One of the main reasons is that multiple listings reduce the size of the final effective sample (population elements that appear in the sample more than once are excluded from it).

Types of sampling frame

For health surveys the most complete register including the target population units can be chosen among population registers, electoral lists, census lists or public health registers.

In some countries there exist population registers containing the names and addresses of all persons in the population, as well as additional auxiliary information, such as age, sex, education, etc.

Another example of a list commonly used for sampling is the telephone directory. This list is usually not complete because of unlisted number of households without telephone (and because of the increasing number of mobile phones often not included in directories). This is an example of under-coverage. A telephone directory can allow for inclusion of some households (household with more than one number). This is an example of multiple listings.

When one of these two kinds of list of individuals is to be used for the sample, a one-stage sample design can be drawn, in which each final sampling unit is directly selected from the list. Of course, even when a population register is available, also a two-stage sampling design can be defined.

In many countries, however, a complete list of all the persons in the target population may not exist. In this case an area frame can be defined as a geographic frame consisting of area unit; every population element belongs to an area unit and can be identified after inspection of the area unit. In these situations the total number of population units is often unknown. The sets of elements drawn using an area frame are usually called clusters. The selected clusters can be sub-sampled in a secondary selection step.

Recommendations on the sampling frame:

- The sampling frame should adequately cover the target population.
- The information used from the sampling frame should be up-to-date with respect to the survey's reference period.
- The accuracy of the frame's data should be assessed in means of coverage errors and classification errors.

2.6 Sampling design and sampling method

According to the Commission implementing Regulation on EHIS, Article 3, par. 2: the microdata *'shall be based on nationally representative probability samples.'* This means that only the use of probability sampling methods is acceptable.

Member States shall provide to Eurostat only information on primary strata (PRIMSTRAT) and primary sampling units (PSU).

Two important aspects of a survey design are the choices of sampling design and estimation procedure to be used. The sampling design is a theoretical concept, directly related to the probabilistic method used for sample selection. By using a specific sample selection technique (sampling method), a certain sampling design is implemented. The estimation procedure concerns the methods used for numerical processing of data, in order to allow drawing conclusions on the target population based on the sample. The choices of sampling design and estimation procedure should not be made independently. On the contrary, they are to be chosen as a combination, and the latter must reflect the former as closely as possible.

Many sampling methods can be found in the literature and this chapter will not present all of them. It focuses on the main sampling techniques and stresses the consequences of using one method rather than another. The typical sampling design used in practice consists of a combination of various sample selection techniques. As the sampling design is only one of many aspects that governs the quality of statistics, there exists no such thing as a uniformly best sampling design.

In order to define the sampling strategy, it is essential that the main parameters of which the estimates are required are precisely defined. The parameters are defined with regards to the variables to be collected with the questionnaire: for categorical variables the parameters are absolute or relative frequencies, for continuous variables the parameters usually are means or totals. The domains of estimate are the levels for which estimate are to be produced, like regions or sex and age groups. The domains are considered planned in the sampling design if they can be obtained by means of aggregation of sampling strata, unplanned if they are not (or cannot be) taken into account when designing the sample.

The sample design has to take into account what has been previously fixed in terms of objectives and constraints of the survey and consists of defining:

- the sampling scheme, characterized by:
    - selection stages;
    - stratification criteria: stratification variables, number of strata;
    - unit selection probabilistic method: equal or unequal probabilities;
- total sample size and its allocation among strata.

It is considered good survey practice to use a sampling design which yields a probability sample. Under such a design, each member of the sample frame has a non-zero probability of being selected (also named inclusion probability). It does not necessarily require that every person has the same probability of being selected, but simply that each person has a chance of being included. The probability of an individual to be selected should be known or estimable (consistently), but does not have to be constant.

Only probability sample designs are based on accepted sampling distribution theory, allowing the estimates derived from the survey data to be legitimately generalized to the population from which the sample is drawn, and also permitting the estimation of measures of precision of the survey estimates.

2.6.1 Probability sampling methods

The first step of a sampling design is to decide the number of sampling stages, which usually is defined by the availability of sampling frames, the type of interview and the possible need to concentrate the fieldwork geographically.

A **one-stage design** can be chosen only if a list of the population units is available, so that each unit can

be directly selected from the list. In this case the final sampling units (individuals or households) can be drawn from the list by simple random sample or, better, by a stratified random sample, if the frame contains some variables (such as sex, age, or other) that can be used to stratify the population units. The selection process can be either via a simple random sampling or a systematic sampling within each stratum.

Probability sampling methods often used in practice are as follows[41]:

- Simple random sampling (without replacement) (SRS)
- Systematic sampling (SYS)
- Probability proportional to size sampling (PPS).

In a **multi-stage sampling**, a hierarchy of units is selected: we start with primary sampling units (PSU), within which secondary sampling units (SSU) are sub-selected, within which tertiary sampling units (TSU) are sub-selected, etc. The different samplings (PSU, SSU, TSU) can be drawn by using different sampling techniques (PPS in a first stage, SRS or SYS in the others). Indeed, multi-stage sampling goes hand in hand with weighting, since primary and secondary units may have different sizes and/or sub-units may be selected with unequal probability.

Clustering refers to the fact that several non-independent units (stemming from a 'cluster') are simultaneously selected. Multi-stage sampling can be seen as a complex form of cluster sampling. Using all the sample elements in all the selected clusters may be prohibitively expensive or not necessary. Under these circumstances, multi-stage cluster sampling becomes useful. Instead of using all the elements contained in the selected clusters, the researcher randomly selects elements from each cluster. Constructing the clusters is the first stage. Deciding what elements within the cluster to use is the second stage. Both concepts go hand in hand, but are not the same. For instance, selecting only one household in a town and only one individual within a household is a multi-stage sampling but not a cluster sampling. Conversely, selecting households from a list of households, and then include all household members is a cluster sampling without multi-stage sampling. Because there is no sub-selection taking place, this is a one-stage procedure.

An important advantage in multi-stage sampling is that a sampling frame at the element level is not needed for the whole population. The only requirements are for cluster-level sampling frames and, in two-stage sampling, frames for sampling of elements from the sampled clusters. For instance, while there is no list of all pupils, there is a list of all schools and every school has got a list of its pupils. A second benefit to resort to multi-stage sampling is that it facilitates fieldwork. This is especially true for populations that have a large regional spread. When multi-stage sampling leads to clusters, often geographically close, interviewers will be able to organize their work more efficiently.

The main drawbacks of multi-stage sampling deal with statistical efficiency. When multi-stage sampling induces clustering and the within-cluster correlation is positive (that is clusters tend to be internally homogeneous) the precision will go down. This typically is the situation that happens in practice. This clustering effect can be reduced by stratifying the population of clusters, tending to improve efficiency. Auxiliary information in cluster sampling therefore concerns not only the grouping of the population elements into clusters but also the properties of the clusters needed if stratification is used.

Multi-stage sampling is aimed for to counter-balance the statistical precision loss by a stronger increase in fieldwork efficiency, so that overall there is a gain.

Oversampling

Oversampling is selecting more people from certain groups than would typically be done if everyone in the sample had an equal chance of being selected. Oversampling is usually used when the sample size does not allow reaching specified precision targets over certain sub-populations and it leads to more accurate estimates for those groups.

---

[41] For more information and additional literature on different sampling methods see *Task Force III report on sampling issues (pages 19-25), European Health Interview survey*. Eurostat, 2009.

The technique has proven particularly suitable to:

- Small sub-populations;
- Sub-populations suffering from severe non-response problems;
- Sub-populations with large internal variability on the key variables.

When oversampling is applied to certain population groups then appropriate method of re-weighting has to be applied on data to avoid bias in national estimates (see subchapter on Weighting).

2.6.2 Stratification

The stratification process involves dividing the population into groups (strata) before the selection of a sample within each of these subsets. The aim is to gain precision by creating strata that are internally homogenous with respect to the characteristic to be estimated. The stratification is usually defined in such a way that the planned domains for the estimates are obtainable by aggregating strata.

Two main reasons justify stratification. It increases precision and it enables inferences about the strata population (that is drawing conclusions on the target population of strata based on the sample), provided that the strata sample sizes are not too low. Even if stratification is intended for increasing precision, it is technically possible the reverse effect occurs and this should be avoided. The condition for stratification to work better than SRS is that the correlation between stratifying variable and survey variable should be high. Clearly, such stratifying variables need to be known prior to the sampling process starts. Typical candidates for stratification are age, sex, geographical information, size of units, socio-economic status, educational level, occupational status and type of activity/occupation.

The number of stratifying variables and the number of categories per stratifying variable should not be too large otherwise the number of units per stratum will be reduced. Very small strata affected by severe non-response can lead to one respondent per stratum which makes impossible to estimate the variance of any statistics, unless strata are collapsed.

The general principle for estimation follows a 2 stages rationale: first construct an estimator for each stratum separately and then combine the stratum-specific estimators to a population-level estimator. In stratified sampling the target population is divided into non-overlapping subpopulations called strata. These are regarded as separate populations in which sampling of elements can be performed independently. Within the strata, some of the basic sampling techniques, SRS, SYS or PPS, are used for drawing the sample of elements. Stratification involves flexibility because it enables the application of different sampling techniques for each stratum. In general, there are several reasons for the popularity of stratified sampling:

- For administrative reasons, many frame populations are readily divided into natural subpopulations that can be used in stratification. For example, strata are identified if a country is divided into regional administrative areas that are non-overlapping.
- Stratification allows for flexible stratum-wise use of auxiliary information for both sampling and estimation. For example, PPS technique can be used in sampling within the stratum, and ratio or regression estimation can be used for the selected sample, depending on the availability of additional auxiliary information in the stratum.
- Stratification can involve improved efficiency if each stratum is homogeneous with respect to the variation of the study variables. Hence, the within-stratum variation will be small, which is beneficial for efficiency.
- Stratification can guarantee representation of small subpopulations or domains in the sample if desired. This means that inclusion probabilities can vary between strata. The variation is controlled by the so-called allocation techniques.

The information needed for the stratification has to be available in advance on the selection frame; therefore, when an individual register is available for the survey it will be possible to define a stratification relative to individual characteristic, otherwise only geographic variables can be used.

2.6.3 Selection of individuals in selected households

Statistical (observation and analysis) units are individuals in EHIS. When households or dwellings are used as sample frame, the member state has to provide information on the method chosen to select individuals and explain their rationales for choosing the number of individuals selected.

When households are the sampling units listed in the frame, the issue on the method to select individuals for the final sample arises. One possibility is retaining in the sample all eligible individuals in a selected household. Including in the sample every eligible member within the household may be a statistically inefficient procedure, unless one of these two conditions is met:

- Households are often formed by only one individual;
- Intra-class correlation within the household of the variables measured is of negligible size. If intra-class correlation is low for the studied characteristics, we can assume the random assignment of individuals to households from those characteristics perspective. But homogeneity within households often occurs and it increases the variance of estimations. For this reason, statisticians recommend to select in the sample only one eligible member per household.

If not retaining in the sample all eligible individuals in the selected households, methods to select individuals have to be defined. The implemented within-household sampling rule must be random and probabilistic, and must avoid the introduction of bias in total coverage of the target population. A list of possible methods is given bellow[42]:

- Kish grid method
- Troldahl and Carter method
- 'quota selection within a household' method
- 'birthday' method.

Selection of methods depends, among other aspects, on the data collection mode. For instance, Kish is generally used in door-to-door interviews, while Troldahl – Carter or birthday method is generally used in telephone or mail surveys.

In case dwellings are selected it is necessary that when more than one household live in the dwelling, one of them is selected at random. Each country has to provide documentation of the methods used to select household and individuals. Besides, the inclusion probabilities have to be calculated taking into account all these stages of selection.

Recommendations on sampling design and sampling method:

- No specific recommendations on the type of sampling design and sampling method is provided[43].
- Stratification and oversampling are recommended if it can improve the quality of the survey; if applied they must be tackled in an appropriate way in further phases of processing of data.
- Direct sampling of individuals or sampling of one person per household is recommended.
- Only limited information on sampling is required by Eurostat but keeping all of it in the records (especially in multi-stage sampling) and microdata files for possible further use is recommended.

[42] For more information and additional literature on different sampling methods see *Task Force III report on sampling issues (pages 17-18), European Health Interview survey*. Eurostat, 2009.

[43] The only requirement, as stated in the EHIS Regulation, is the use of probability sampling method.

2.7 Sample size

The implementing regulation states in Annex II final sample sizes (minimum effective sample sizes) to be achieved by each member state:

EU Member States	Minimum effective sample sizes
Belgium	6500
Bulgaria	5920
Czech Republic	6510
Denmark	5350
Germany	15260
Estonia	4270
Ireland	5057
Greece	6667
Spain	11620
France	13110
Italy	13180
Cyprus	4095
Latvia	4555
Lithuania	4850
Luxembourg	4000
Hungary	6410
Malta	3975
Netherlands	7515
Austria	6050
Poland	10690
Portugal	6515
Romania	8420
Slovenia	4486
Slovakia	5370
Finland	5330
Sweden	6200
United Kingdom	13085
Total of EU Member States	**194,990**
Switzerland	5900
Iceland	3940
Norway	5170
Total including Switzerland, Iceland and Norway	**210,000**

Each member state must assure that the national sample size chosen fulfils the precision desired under the estimation strategy used.

2.7.1 Minimum effective sample sizes

The reference is to the effective sample size of persons, which is the size required if the survey were based on simple random sampling (design effect[44] in relation to the "percentage of people severely limited in daily activities" variable = 1.0). The actual sample sizes will have to be larger to the extent that the design effects exceed 1.0 and to compensate for all kinds of non-response.

[44] For definition and more information on design effect see *Task Force III report on sampling issues* (page 33), *European Health Interview Survey or Handbook on Precision Requirements and Variance Estimation for ESS Household Surveys.*

The minimum sample to be selected depends on the overall response rate (*RR*) achieved:

$$n_{sel} = n_{ach} / RR$$

The minimum achieved sample size relates to the stipulated minimum effective sample size in terms of the design effect (*Deff*) as follows:

$$n_{ach} = Deff \cdot n_{eff}$$

The general formula for the design-based estimation of the design effect is as follows[45]:

$$Deff = \frac{V}{V_{SRSWOR}}$$

Where the numerator is the variance of an estimator under the actual sampling design and the denominator represents the variance that would have been obtained from a hypothetical simple random sample without replacement (SRSWOR) of the same size.

2.7.2 Calculation method

Required sample size in terms of precision requirements

In practice, sample size has to be determined as a compromise between various practical, cost and statistical considerations.

A start can be made by determining the required sample size in terms of precision requirements for the most critical variable in the survey.

For EHIS, the GALI question, i.e. the "percentage of people severely limited in daily activities" has been taken as the most critical variable.

In EU countries, based on SILC data, this percentage is found to vary roughly in the range 4% to 11%. Taking p=8% as the basis for computations, a (simple random) sample of 7,000 persons is required to estimate this with less than 1 percentage point error, i.e. with the 95% confidence interval as 7.4 - 8.6% for the whole population and 7.1% - 8.9% by sex (under the hypothesis of a 50 - 50% repartition).

On this basis, it is taken that 7,000 persons is an appropriate target for the average minimum sample size, implying a total EU (plus Norway, Iceland and Switzerland) sample size of 210,000 persons.

An illustration of confidence intervals calculated for the sample size of 7,000 persons is provided here:

Prevalence	**95% confidence interval**		
p (%)	from		to
5.0	4.48	-	5.52
8.0	**7.35**	**-**	**8.65**
10.0	9.29	-	10.71

Allocation across countries

The allocation of the EU sample among countries represents a compromise between two objectives: the production of results at the level of individual countries, and production for the EU as a whole.

While different countries may require – despite differences in their population sizes - similar sample sizes for the same level of precision, there are many well-known reasons why it is meaningful and useful to have larger samples in larger countries.

The added reason for increasing the sample size with increasing population size (but of course much less

[45] More guidance on calculation of design effect is provided in Appendix 7.2 in *Handbook on Precision Requirements and Variance Estimation for ESS Household Surveys*.

than proportionately) is the requirement for reporting at the EU level. For such reporting, the ideal would be to sample at a uniform rate throughout, i.e. increase the national sample size in proportion to the population size. However, this will be unacceptable for the production of national level statistics (which require more equal sample sizes). A common and convenient compromise is to allocate the sample proportional to the square-root of the population size, modified by the imposition of minimum and maximum limits, for instance as:

$$n_i = n_0 \cdot \sqrt{\left(k^2 + \left(1 - k^2\right) M_i^{\alpha}\right)}$$

Where:

- k is a parameter determined by the relative importance given to the national versus EU level estimation;
- M_i is a (relative) measure of the population size of country i (normalised to average 1.0 over countries;
- Constant n_0 is determined to make the samples n_i add up to the desired overall total size, $\Sigma n_i = n$;
- Parameter α, close to 1.0, is introduced to limit the maximum value of n_i, the sample allocated to the largest country.

The values of the parameters used in determining the sample size allocation per country are shown in the table below.

Allocation of EU cross-sectional sample size of 210,000 persons		
Target EU sample size (persons):	Σn_i	210,000
Parameters:		
	k^2	0.25
	n_0= 210,000 / 27.349	7,678
	α	1

2.8 Participation and non-participation

In most surveys efforts should be established to "convert" non-participants in the first round into participants. Increasing the sample size does not remove the non-response bias; it just increases the precision of obtained estimates.

Interviewers should be asked to continue to try to contact the selected persons in order to establish a contact. In the case of an interview survey, at least three call-backs should be made before a household or individual is accepted as non-responding, unless there are conclusive reasons (such as a definite refusal to co-operate, circumstances endangering the safety of the interviewer, etc.) why this cannot be done.

All contact attempts with the households/individuals must be recorded by the interviewer: the date, the mode of contact (contacted by telephone / contact at doorstep), when the attempt took place (before noon / in the afternoon / during evening time) and the result of contact.

Survey participants (respondents) are those who take part to the interview and answer either all or part of the questions relevant for them (relevant means taking into account filtered questions).

Reporting on sample cases

1	**Total released sample cases** The households/individuals initially selected from the sampling frame. ► [1] = [2] + [3] + [6]
2	**Ineligible sample cases / out-of-scope units** The unit does not belong to the population of interest for the survey although it is included in the sampling frame.
2.1	**Non-existent units** The unit does not exist although it was included in the frame due to errors (house/building not existing, no one living in the building/on the address).
2.2	**Changes in status** The unit has changed its status becoming out of scope for the survey (e.g. change of residence for a household, selected individual died between the reference data of the sampling frame and the moment of the interview, etc.).
2.3	**Out of target units** The unit has never been in-scope although it was included in the frame due to an inclusion error.
2.4	**Other ineligible** Other types of ineligibility encountered. It should be specified what are the reasons for this kind of ineligibility.
3	**Eligible sample cases / in-scope units** The unit belongs to the population of interest for the survey (both non-response and response cases). ► [3] = [4] + [5]
4	**Non-response cases / Non-participation** Units for which it has not been able to obtain information.
4.1	**Non-contact** A unit which has not been possible to contact (e.g. no one was at home or wrong address).
4.2	**Refusal** e.g. selected household or individual was contacted but refused to take part in the survey.
4.3	**Inability to respond** e.g. selected household or individual was unable to participate due to language barriers or cognitive or physical incapacity to respond (and no proxy interview was conducted).
4.4	**Rejected interviews** e.g. the selected household/individual did take part but the survey form cannot be used (poor quality - e.g. strong inconsistencies; unacceptable item-response – e.g. individual left most of the questions unanswered; survey form got lost and interview cannot be repeated; etc.).

4.5	**Other non-response** Other types of non-response encountered. It should be specified what are the reasons for this kind of non-response.
5	**Response cases / Participation** Units for which it has been possible to obtain information.
5.1	**A fully completed interview** All relevant questions answered by the respondent.
5.2	**A partly completed interview** Not all relevant but at least some technical variables (PID, HHID, PRIMSTRAT, PSU, WGT, PROXY, REFYEAR, REFMONTH, INTMETHOD), sex and age and at least 50 % of all other variables (to be answered) answered by the respondent or by a proxy interview.
6	**Unknown eligibility** Selected units with unresolved eligibility.

2.8.1 Response rate

A formula for calculation of response rate:

$$response\ \ rate = \frac{number\ of\ \ completed\ interviews\ [5]}{number\ of\ \ eligible\ sample\ \ population\ [3] + unresolved\ selected\ units\ [6]}$$

Where:

- Numerator = number of fully completed interviews [5.1] + number of partly completed interviews [5.2]
- Denominator = original sample size [1] - number of ineligible sample population [2].

Analogically, the non-response rate is calculated as 1 - response rate. The non-response rate can be weighted (taking into account design weights) or unweighted. It can be calculated for individuals or households. Where substitutions are made in cases of unit non-response, non-response rates is to be calculated before and after substitutions.

Requested reporting on non-response will consist of data on the structure of the reached survey population and of the overall reference population. The data will be requested for sex and ten-year age groups structure; and also for household size, region (NUTS 2 level), education and labour status. Data on the whole survey population and non-response population for the same breakdown can be provided if data is available.

2.8.2 Proxy interviews

Proxy interview is conducted when another person responds on behalf of the selected respondent. Use of proxies may be cost-effective if the interviewer can obtain information from the proxy during the first contact and does not have to come back later to do the interview with actual respondent. Saving the time and money by using proxies in all occasions is not recommended, since answers provided by proxy are not necessarily the same that the selected respondent might have provided.

In general, proxy interviews are not recommended in cases if less reliable or accurate results can be expected that is in cases:

- the topic is very subjective (for example for general self-perceived health)
- the topic is too sensitive (such as less accepted behaviour like alcohol consumption)
- data is probably less known to proxy respondents (physical activity).

Proxy answers shall only be allowed in cases where the respondent is unable to answer for one of the following reasons:

1. Suffering from long-term cognitive impairment;

2. Suffering from long-term severe debilitation;
3. Suffering from a long-term sensory impairment that prevents the interaction between interviewer and interviewee;
4. In hospital/health or social care facility for the entire period of the fieldwork[46];
5. Away from the household for educational or work purposes for the entire period of the fieldwork in their area of residence.

For cases of long-term absence (stated under points 4 and 5), it should be decided first, based on the criteria of 'usual residence', whether they belong to the household or should be treated as ineligible cases.

Any other proxy interviews are to be excluded from the dataset (for example for people not contacted because they are absent 'only' for several weeks or months due to health, working or studying matters).

A person responding on behalf of the respondent should be someone who is close and knows very well the selected respondent. It should be another household member or someone who takes care of the selected respondent. If a respondent has difficulties to understand the national language and there is a person helping the respondent with translation he/she is not considered as proxy respondent and all questions are allowed to be answered.

Note that the use of proxy answers is allowed only for some variables (see conceptual guidelines). When more than one person per household is to be interviewed the rules on proxy interviewer must be even more strictly checked.

When a proxy interview has been conducted, it has to be identifiable in the dataset (via the "proxy" variable taking a value equal to 2 or 3). For quality assessment it is useful to have a more detailed overview on the reasons for conducting the proxy interview.

If the information is carried out with a proxy interviewee and there is a possibility to contact the sampled respondent later on, the interviewer should use the opportunity to check the answers provided by the proxy in the questionnaire.

The use of proxy interview should conform to national data protection requirements.

2.8.3 Substitution

Substitution is a replacement of non-respondents (eligible non-response cases) with new, additional survey responding units.

The method is not recommended since there is no guarantee that it would actually reduce the non-response bias. The other reported disadvantage of the substitution is a decrease of the interviewer's efforts to contact people and persuade them to participate when they know that substitution is used for non-respondents. Substitution also increases the required time to conduct the survey. A general recommendation is to use resources better on other methods to increase the response rate of the original sample – anything from how to improve contact rates to how to persuade people to participate.

It is recommended not to use substitution of non-respondents in EHIS. However, the method of "stratified oversampling"[47] could be used:

1. for each original sampling unit three additional units are selected at random; each of those units match the original one for specific socio demographic characteristics (age, number of people in the same household, area of residence (same municipality, same neighbourhood));
2. the interviewer cannot decide by himself when to use the additional unit: he has to report to the central coordination of the survey on the contacts he had with the original unit and the results of those contacts;

[46] If institutional access is possible, access should be attempted.

[47] Described together with other methods in *Task Force III report on sampling issues (page 13), European Health Interview survey*. Eurostat, 2009.

3. the interviewer is then receiving from the central coordination of the survey the additional matching unit;
4. the inclusion probability of the additional matching unit is calculated on the basis of the selection probability of the original unit and the conditional probability of the matching one.

Member States allowing the use of substitution methods should:

- specify after how many attempts the unit is considered as "lost" and the interviewer can use another unit. This information should be provided at the time of data dissemination. Additional information should also be provided on the procedure used to select the additional matching units.
- be able to identify the additional matching cases in their dataset in order to be able if needed to report results only with original units.

Recommendations related to participation:

- No recommendation on the response rate to be achieved is given but Member States shall follow appropriate procedures to maximize the response rates achieved.
- It is recommended not to use substitution of non-respondents. However, the method of "stratified oversampling" could be used in justified cases and described in detail.
- Records on type of participation and non-participation should be kept and delivered to Eurostat.
- The proxy rate shall be kept as limited as possible. The proxy interview can be conducted only in specific cases and only for specific variables and need to be justified and reported on.

2.9 Weighting

The present section outlines a unified structure for the whole weighting procedure. According to the Commission implementing Regulation on EHIS, Article 3, par. 4: *'Weighting factors shall be calculated to take into account the units' probability of selection, non-response and, as appropriate, to adjust the sample to external data relating to the distribution of persons in the target population.*'

Member States will provide to Eurostat the value of the corresponding weighting factor for each individual (variable WGT - Final individual weight). They will document how they have been constructing these factors in the quality reports. This information shall be included in the Metadata at the time of data dissemination. The minimum request for adjustment of the sample to external data should be done with respect to the distribution of persons in the target population according to sex and ten-year age groups.

The purpose of the use of weighting factors is to take into account the chosen design features as well as to reduce biases caused by the non-response. Sample weights indicate the number of units in the survey target population that are represented by the sample unit.

Weights (or weighting factors) take into account:

- unit's probability of selection;
- correct non-response (NR);
- oversampling/under-sampling of certain population groups[48];
- adjust/calibrate the sample to external data relating to distribution of persons in the target population.

2.9.1 Use of auxiliary information at the estimation stage

The most obvious reasons for using auxiliary information at the estimation stage are reduction of the sampling and non-response errors, it may also be used for reducing other types of non-sampling errors (for example frame errors).

Efficient use of auxiliary information in the estimation may, for example, allow for the use of a less complex sampling design without loss of efficiency. This might be a wise approach to use in practice, as the task of variance estimation typically is simplified through the use of a less complex sampling design (calculations are easier). In addition, incorporating auxiliary information at the estimation stage rather than the sampling design stage typically requires less a priori knowledge about the auxiliary information. Indeed, when including auxiliary information at the design stage, unit-level auxiliary data are needed for the sampled elements whereas only aggregated data are required when integrating auxiliary information at the estimation stage. Another strong argument for using auxiliary information is that it may improve the efficiency.

The idea is that the design weights are adjusted through the use of auxiliary information in order to improve the overall accuracy of estimators.

The standard methods for using auxiliary information at the estimation stage are[49]:

- ratio estimation
- regression estimation
- post-stratification.

---

[48] This issue is not discussed in further text but countries introducing oversampling have to deal with the issue to avoid bias in national estimates.

[49] For more information and additional literature see *Task Force III report on sampling issues (pages 27-28), European Health Interview survey*. Eurostat, 2009.

2.9.2 Reweighting to adjust for unit non-response

Unit non-response occurs when not all elements (households and/or individuals) of the original sample (i.e. the initial sample drawn from the reference sampling frame) participate in the survey and then no data on the vector of study variables is recorded for a unit.

If some of the data missing are available in other data sources like administrative registers, record linkage might be used to obtain additional information for non-respondents. In general, however, the missing information is not available in other data sources. Non-respondents are typically not a random sample of the total sample. In household surveys, for instance, there is strong evidence that non-respondents are younger than respondents, and that men are harder to persuade to take part than women. Response rates also tend to be lower than average in cities and in deprived areas. Numerous studies show that respondent and non-respondents differ in socio-economic status as well as in their health profiles. As a consequence, missing data stemming from non-response will cause population level estimators to be biased unless appropriate action is taken. Hence, choice of methods for treatment of missing data is an important aspect of the survey design.

Due to differences between respondents and non-respondents, it is likely that the respondent set will not reflect the population in the same way as it would, had full response been attained. Rather than accept a poor match, it is common to use weights to bring the two more closely into line. This is known as **non-response weighting**.

The literature on non-response weighting is vast and varying in perspective. In modern survey literature, however, the response behaviour is typically seen as stochastic process governed by an unknown probabilistic model, sometimes referred to as the response distribution. In practice the response distribution is unknown. Nevertheless, it can be of great help for the survey statistician in the search for a weight system. In the planning of a survey, different weight systems, corresponding to different assumptions about the response distribution, should be considered and evaluated. The goal is to select a weight system which provides estimate of acceptable quality for all parameters of interest for all domains of interest. Such weight systems ordinarily require strong auxiliary information. A model is of course never a perfect image of the real world, but using a good response model is a large step in the direction of unbiasedness and valid inferences can be taken.

Two different approaches for deriving weights under non-response leading to linear weighting estimators can be mentioned[50]:

- Explicit modelling of the response distribution
- Implicit modelling of the response distribution.

Because of the difficulties associated with proper variance estimation, Eurostat does not recommend imputation for unit non-response. Eurostat recommends using auxiliary information at design stage and estimation stage since sampling and non-response errors can be reduced.

To be able to estimate the potential bias caused by non-response, Eurostat recommends MS to provide an analysis of non-response, i.e., some key information, like age, sex, socio-economic status and if possible some health indicators, about the non-respondents should be collected. This can be done either through the sampling frame, a separate short questionnaire specially designed for non-respondents or record linkage. However, as the availability to additional data sources and linkage possibilities vary considerably between Member States, it is not possible to set a fixed list of data items desirable to have from non-respondents.

2.9.3 Calculation of weighting factors

Step 1: Calculation of initial weights (design weights)

Initial (design) weight = 1 / unit's probability of selection

[50] For more information and additional literature see *Task Force III report on sampling issues (pages 29-30), European Health Interview survey*. Eurostat, 2009.

The calculation of unit's probability of selection depends on the sampling procedure. In case of multi-stage sampling, the unit's probability of selection is the product of the probabilities of selection at each stage. If the sampling procedure includes the selection of households (HH) and individuals then both probabilities of selection of households and individuals (individual respondents) can be computed.

Step 2: Correction for non-response (NR)

General idea is that the design weights have to be inflated by the inverse of the response probabilities in order to compensate for the loss of units in the sample. These probabilities have to be estimated.

One of the possible methods[51], Stratum-specific response rate method, is presented here[52]. The procedure consists in modifying the design weights by a factor inversely proportional to the response rate within each "homogeneous group", wherein the response probabilities are assumed to be equal:

$$weight\,(corrected\ \ for\ NR) = \frac{Design\ weight}{R_K}$$

Where R_K denotes the (weighted) response rate in the group k the individual belongs to:

$$Rk = \frac{sum\ of\ \ design\ \text{weights}\ of\ \ responding\ units\ in\ cell\ k}{sum\ of\ \ design\ \text{weights}\ of\ \ selected\ \ units\ in\ cell\ k}$$

Numerous, very small weighting cells can result in a large variation in R_K values, and should be avoided. On the other hand, if only a few broad classes are used, little variation in the response rates across the sample may be captured – making the whole re-weighting process ineffective. On practical ground, cells of average size 100-300 units may be recommended.

In dealing with the effect of non-response, it is of crucial importance to identify responding and non-responding units correctly:

- Selected units which turn out to be non-eligible must be excluded and not counted as non-responding.
- For the units with unknown status, it is recommended to consider that all of them are eligible because this gives a conservative (upper bound) non-response rate[53]. This approach is in line with the formula of the response rate presented before in this manual. Since all units with unknown status should be treated as eligible, therefore they cannot be considered other than non-respondents. Thus, they contribute to the overall unit non-response which should be accounted for in the weighting process by correction (readjustment) of weights.

Step 3: Calibration with auxiliary information

In this step the modification of the individual/household weights is to be done to reproduce from the sample population characteristics, namely totals and category frequencies. The distribution of the population characteristics is often known from other statistical sources and by proper modification of the survey weights, the population structure may be exactly reproduced by the sample. For variables in the survey correlated with the auxiliary information, higher precision in estimates is usually obtained on application of the new calibrated weights. Examples of the auxiliary information on individual level: age, sex, level of education or type of profession; and at household/dwelling level: household size and household composition. Regions (NUTS 2) can be used on individual and household level.

More precisely, suppose that there exist J auxiliary variables $x_1 \ldots x_j \ldots x_J$, called calibration variables, with known population totals (for the numerical variables) or marginal counts (for the categorical variables). Without loss of generality, we can assume that all the calibration variables are numerical (otherwise, we consider the 0/1 variables for each category).

---

[51] used in EU-SILC.

[52] Another alternative method to estimate response probabilities is to use the regression-based approach.

[53] *ESS Handbook for Quality Reports.*Eurostat (2009).

We seek new individual weights that are "as close as possible" (as determined by a certain distance function) to the non-response-corrected weights. These new weights are calibrated on the totals X_j of the J auxiliary variables; in other words they verify the calibration equations:

$$\forall\, j = 1\text{K}\ J \qquad \sum weight\,(calibrated)\cdot x_j = X_j$$

The distance function D: $Min\sum D\big(weight\,(calibrated), weight\,(corrected\ \ for\ NR)\big)$

Where for each unit: $weight\,(calibrated) = g \times weight\,(corrected\ \ for\ NR)$

In practise, it is recommended to use a bounded method and to impose lower and upper bounds on the weight adjustment factors g, usually referred to as g-weights. Putting calibration bounds prevents from negative and extreme weights. Extreme weights can lead to unexpected values especially for domain estimates. Negative weights are not acceptable from a practical point of view.

Calibration can also be used as a standard method for treatment of non-response. This allows calculating sample weights which are both adjusted for non-response and calibrated to external sources by using a single-step calibration.

For calculation of calibrated weights different software applications can be used[54].

For countries using households as sampling units and interviewing all adult population within the households an "integrative" calibration is recommended. The idea is to use both household and individual external information in a single-shot calibration at household level. The individual variables are aggregated at household level by calculating household totals such as the number of male/female in the household, the number of adult persons… The calibration is done then at household level using household variables and the individual variables in their aggregated form. This technique ensures "consistency" between household and individual estimates by making the household and the individual weights equal.

In the framework of calibration, it is critical that the external control variables are strictly comparable to the corresponding survey variables, the distribution of which is being adjusted.

A remark on trimming

Trimming refers to recoding of extreme weights to more acceptable values. The objective of trimming is to avoid excessive increase in variance due to weighting, and possibly give rise to influential data, even though the process introduces some bias. The aim is to seek a trimming procedure which reduces the mean squared error. Basically, at each step of the weighting procedure, the distribution of the resulting weight adjustments should be checked.

There is no rigorous procedure for general use for determining the limits for trimming. While more sophisticated approaches are possible, it is desirable to have a simple and practical approach. Such an approach may be quite adequate for the purpose if the permitted limits are wide enough.

The following simple procedure is recommended with:

- wi(1) = weight before adjustment (non-response, calibration…)
- wi(2) = weight determined after adjustment
- $\varpi(1)$, $\varpi(2)$ their respective mean values,

Any computed adjusted weights outside the following limits should be recoded to the boundary of these limits:

$$\frac{1}{C} \le \frac{w_i(2)/\varpi(2)}{w_i(1)/\varpi(1)} \le C$$

[54] An overview of different software applications is provided in Annex 5 of the *Task Force III report on sampling issues, European Health Interview survey*. Eurostat, 2009.

A reasonable value for the parameter is C=3. Since trimming alters the mean value of the weights, the above adjustment may be applied iteratively, with the mean re-determined after each cycle. A very small number of cycles should suffice normally. Information on variability of the weights and method of treatment of extreme weights will be asked via quality report.

Recommendations on weighting:

- Eurostat does not recommend imputation for unit non-response.
- Three-step weighting procedure described above which take into account the sample design, non-response and possible over-sampling of certain population groups is recommended.
- Adjustment of the sample to external data should be done at least according to sex and ten-year age groups (15-24, 25-34, …, 75+); but is recommended to be done for five-year age groups or for ten-year age groups with a top category 85+; and also according to region (preferably NUTS 2 level; or any aggregation of NUTS 2 or NUTS 1) and education (ISCED 2011 levels: 0-2, 3-4, 5-8) if data is available and respective strata representative enough.
- Outlier detection and treatment should be considered in estimation since outliers can lead to large variability in the estimates.
- Only final individual weights (WGT) are to be delivered to Eurostat (referring to all 'response cases' - full and partial interviews) but all weights (design weights, weights corrected for non-response and if relevant also all household weights) are recommended to be kept in the microdata files for possible further use.

2.10 Imputation

In general, imputation can be described as the process used to determine plausible values for replacing missing, invalid or inconsistent data. Here we consider it as a method for dealing with non-response only.

Unit non-response refers to absence of information on whole units (persons) selected into the sample. Normally the impact of unit non-response is reduced by attaching appropriate weights to the responding cases (see the previous chapter on weighting).

Item non-response refers to the situation when a sample unit has been successfully enumerated, but not all the required information has been obtained.

In certain situations, such as when the incidence of item non-response is low and the indicators are means or proportions (not totals), it may be a reasonable option to ignore the problem and confine the analysis only to cases with complete information.

There are reasons to impute missing data:

- statistical reasons: to minimise the mean squared error of survey estimates ➔ non-response bias component that arises when the pattern of missing data is not random;
- practical reasons: consistency between the results from different analysis and convenience of not having to deal with missing data problem at the analysis stage.

Imputation implies assigning artificial substitute values to the missing values. For imputation to be successful, imputed values should show close resemblance to the missing values. There are two principal uses of imputation:

- Imputation for both item and unit non-response. The resulting data matrix contains numerical information for all study variables for all units in the sample. No weighting adjustment for unit non-response is needed;
- Imputation for the item non-response only. The resulting data matrix contains numerical information for all study variables for all units in the unit response set. Weights need to be adjusted for unit non-response.

Both approaches result in complete data matrices, albeit of different dimensions. This is one of the virtues of imputation, as it is a considerable advantage at the estimation stage to be able to work on a complete data matrix.

A set of rules is needed as a guide to generate acceptable imputation results. The quality of the results always requires considerable amounts of good judgement during the imputation process, in the identification of patterns, in the selection of the appropriate techniques, choice of auxiliary variables, etc.

The literature suggests several imputation methods for item non-response, which can generally be grouped into three categories:

- **Deductive methods**: The imputed value is deduced from known information or relations. A deductive method is connected with editing of data. Often, it takes place as a part of data entry program, such as a computer assisted interview program or a data extract program from administrative sources, equipped with a set of logical checking routines which can detect errors and also give either right or “best guess” imputed values for the missing or incorrect ones.
- **Deterministic methods**: Repeating the imputation process for units with the same characteristics would produce the same imputed values. If the missing value is borrowed from a neighbouring unit – physically the next or previous observation – the method is referred to as hot-deck imputation. Traditional hot-decking often leads to implausible situations and therefore it is improved with some nearest neighbour imputation method, where similar units are sought with some metrics or by choosing sub-populations. The value may be taken directly from the closest unit or taken as lottery from a pool of similar units.
- **Stochastic methods**: Repeating the imputation process for units with the same characteristics

would produce different imputed values. Stochastic methods are characterized by the presence of a random component (residual), corresponding to a probabilistic scheme associated with the chosen imputation method. Using a stochastic method is one way to make sure that at least some of variance increase caused by imputation for item non-response is reflected in the variance estimates.

There are clearly some desirable properties which the procedure used should have, and some procedures are better than other in terms of those properties. The procedure should preserve variation of and correlations between variables. Methods that incorporate into the imputed values some 'error component' are preferable to those which simply impute a predicted value. Similarly, methods which take into account the correlation structure (or other characteristics of the joint distribution of the variables) are preferable to the marginal or univariate approach which deals with the imputation of each variable separately. On the other hand, it is also desirable to limit the complexity or the computational work involved in the construction of the imputations. Special techniques such as multiple imputation or methods using neural networks may be ruled out in view of this consideration, despite some desirable statistical properties they may have.

Recommendations on imputation:

- Imputation could be used to adjust only for item non-response.
- No particular method on dealing with item non-response is recommended but a method from the group of stochastic methods is recommended to be applied in order to make sure that at least some of variance increase caused by imputation is reflected in the variance estimates.
- If an imputation is applied the method should be chosen carefully taking into account the type of data to be imputed and to preserve relationships between variables as much as possible. In case of proxy interviews, imputations should be avoided for variables which are not to be completed by proxy respondent.
- When the imputation is carried out, countries should be able to provide both un-imputed and imputed data and provide data on imputation rates for all imputed variables. The imputation method should be clearly described.

2.11 Technical survey variables

This part gives an overview and short description of technical survey variables that are to be delivered in the microdata file.

Variable name	Description

PID	Identification number of respondent

Codes:

10-digit number

-1 missing

The identification number should be a meaningless unique identifier for each respondent. It must NOT contain any information that conflicts with confidentiality rules.

HHID	Identification number of household

Codes:

10-digit number

-1 missing

The identification number (a meaningless unique identifier) should be the same for respondents belonging to the same household. It must NOT contain any information that conflicts with confidentiality rules.

For countries selecting individuals the HHID is supposed to be the same as the Identification number of respondent (PID).

This variable is needed for analysing a cluster effect and family health patterns in countries that will interview more respondents within one household.

PRIMSTRAT	Primary strata as used in the selection of the sample

Codes:

4-digit code (0001-9999)

-2 not applicable (no stratification)

PRIMSTRAT provides an identification code for the strata in case the target population (or a part thereof) is stratified. Stratifying a population means dividing it into non-overlapping sub-populations, called strata. Independent samples are then selected within each stratum.

PSU	Primary sampling units as used in the selection of the sample

Codes:

4-digit code (0001-9999)

-2 not applicable (no multistage sampling)

PSU provides identification codes for the selected PSUs. If direct-element sampling is either impossible (lack of sampling frame) or its implementation too expensive (the population is widely distributed geographically), multi-stage selections can be done. Firstly, the population is divided into disjoint sub-populations, called primary sampling units (PSUs). A sample of PSUs is then selected (first–stage sampling).

WGT	Final individual weight[55]

Codes:

Number (format 5.3 - 8 digits in total – maximum 5 digits for the integer part and 3 digits for the fractional part)

-1 missing

PROXY	Was the selected person interviewed or someone else (proxy interview)

Codes:

1 person himself/herself

2 other member of the household

3 someone else outside the household

-1 missing

REFYEAR	Reference year of the interview

Codes:

4-digit number

The codes used for EHIS wave 2 should be 2013, 2014 or 2015.

REFMONTH	Reference month of the interview

Codes:

Number (1 - 12)

-1 missing

INTMETHOD	Data collection method used

Codes:

10	Postal, non electronic version
11	Postal, electronic version (e-mail)
20	Face-to-face, non electronic version
21	Face-to-face, electronic version
30	Telephone, non electronic version
31	Telephone, electronic version
40	Use of internet
50	Mixed mode collection (e.g.: both postal and interview to collect data)

The variable refers and should be coded specifically to each interview. Codes 10, 11 and 40 refer to self-administered methods and codes 20, 21, 30 and 31 to interviewer-administered methods. An interview between a respondent and an interviewer conducted on-line via internet should be classified as telephone interview (codes 30 or 31).

[55] For more information see sub-chapter on Weighting.

The coding of the INTMETHOD variable is dependent on the scenario chosen.

First scenario: all variables for all respondents are collected via the same method:

⇨ INTMETHOD is coded as one of {10, 11, 20, 21, 30, 31, 40} and has the same value for all respondents.

Second scenario: all variables for one group of respondents are collected via one method and for another group via another method.

⇨ INTMETHOD is coded as one of {10, 11, 20, 21, 30, 31, 40} and shall differ per group of respondents.

Third scenario: a major part of health variables is collected through for example an interview (21 – CAPI) but for example for the modules on alcohol consumption and smoking self-completion is used (for example '10' – postal, non-electronic form). This was the case in EHIS wave 1 for some countries. In this case:

⇨ INTMETHOD = 21 (for all respondents)

⇨ the metadata report states that the modules on alcohol consumption and smoking are asked via a self-completion form (postal)

Remark: in such scenario coding INTMETHOD as "Mixed mode collection" would lead to a loss of information (we cannot distinguish between for example face-to-face and telephone).

Fourth scenario: a major part of health variables is collected through for example an interview (21 – CAPI) for one group of respondents and through a telephone interview (31) for another group. But for example for the modules on alcohol consumption and smoking self-completion is used for all respondents (for example '10' – postal, non-electronic form). In this case:

⇨ INTMETHOD = 21 for one group of respondents

⇨ INTMETHOD = 31 for the other group of respondents

⇨ the metadata report states that the modules on alcohol consumption and smoking are asked via a self-completion form (postal).

Fifth scenario: more flexibility is implemented mixing up different modes for different modules (sub-modules) for different respondents:

- Respondent x – module A telephone
- Respondent x – module B internet
- Respondent x – module C postal
- Respondent y – module A telephone
- Respondent y – module B telephone
- Respondent y – module C internet
- etc.

In this scenario the coding of the single variable INTMETHOD in the data file will not allow tracing and analysing later on the effect of the modes of data collection.

⇨ INTMETHOD = 50 is the only code which can apply

⇨ An additional file with paradata (= data about the process by which the survey data were collected) is requested where all combinations can be encoded through a multiple key:

  - Respondent ID
  - Sub-module ID (we suppose that all variables in one sub-module are collected through the same mode)

- Mode used (for this Respondent / Sub-module) according to the INTMETHOD.

The use of administrative data for some variables may not be reflected in the mode of data collection: it is not considered as a mixed mode. The metadata should specify for which variables administrative data were used.

All details on different modes of data collection should be described in quality report.

INTLANG	Language used for interview

Codes:

3-digit code (Standard Code List Eurostat)

-1 missing

The codes should conform to Eurostat standard code list (SCL) – Languages (3-letter code): http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CL_LANG&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC

References

Guidelines for the development and criteria for the adoption of Health Survey instruments. Eurostat, 2005.

European Health Interview Survey, Task Force II. Report on guidelines and quality criteria for population health survey design and methods. Eurostat, 2009.

European Health Interview Survey, Task Force III. Report on sampling issues. Eurostat, 2009.

Minimum Effective Sample Sizes for EHIS – Wave II. (A background document presented at TG EHIS 2012 meeting). Eurostat, 2011.

Survey sampling reference guidelines, Introduction to sample design and estimation techniques, 2008 edition. Eurostat, 2008.

Handbook on Precision Requirements and Variance Estimation for ESS Household Surveys. Eurostat. DRAFT, 2013.

Implementing core variables in EU social surveys (Draft), Methodological guidelines. Eurostat, 2011.

EU legislation on the 2011 Population and Housing Censuses, Explanatory Notes. Eurostat, 2011.

EU-SILC 065 (2013 operation), Description of target variables: Cross-sectional and Longitudinal. 2013 operation (Version May 2012). Eurostat, 2012.

Improvement of the European Health Interview Survey (EHIS) modules on alcohol consumption, physical activity and mental health. Final Report. Jonas Finger, Lydia Gisle, Hélène Mimilidis, Elin-Külliki Kruusmaa, Ardo Matsi, Leila Oja, Mare Ruuge, Anna Lena Kratz, Cornelia Lange. Eurostat, 2011.

Eurostat's Standard code lists (SCL): http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM&StrGroupCode=SCL&StrLanguageCode=EN.

Annex: EHIS wave 2 model questionnaire

Question code	Question, answer categories and instructions
EHSM	**European Health Status Module**
HS	**Minimum European Health Module – Health Status**
Introduction HS	I would now like to talk to you about your health.
HS1	How is your health in general? Is it… 1. very good 2. good 3. fair 4. bad 5. very bad?
HS2	Do you have any longstanding illness or [longstanding] health problem? [By longstanding I mean illnesses or health problems which have lasted, or are expected to last, for 6 months or more.] 1. Yes 2. No
HS3	For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been … 1. severely limited 2. limited but not severely or 3. not limited at all?

CD	Diseases and chronic conditions
Introduction CD	Here is a list of chronic diseases or conditions.
CD1	During the past 12 months, have you had any of the following diseases or conditions? 1. Yes 2. No INTERVIEWER INSTRUCTION: Tick 'Yes' or 'No' for each chronic disease.
	A. Asthma (allergic asthma included)
	B. Chronic bronchitis, chronic obstructive pulmonary disease, emphysema
	C. Myocardial infarction (heart attack) or chronic consequences of myocardial infarction
	D. Coronary heart disease or angina pectoris
	E. High blood pressure (hypertension)
	F. Stroke (cerebral haemorrhage, cerebral thrombosis) or chronic consequences of stroke
	G. Arthrosis (arthritis excluded)
	H. Low back disorder or other chronic back defect
	I. Neck disorder or other chronic neck defect
	J. Diabetes
	K. Allergy, such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other allergy (allergic asthma excluded)
	L. Cirrhosis of the liver
	M. Urinary incontinence, problems in controlling the bladder
	N. Kidney problems
	O. Depression
AC	**Accidents and injuries**
AC1	In the past 12 months, have you had any of the following type of accidents resulting in injury? INTERVIEWER CLARIFICATION: 'Injuries resulting from poisoning or inflicted by animals or insects are also included. Injuries caused by wilful acts of other persons are excluded.' INTERVIEWER INSTRUCTION: Tick 'YES' or 'NO' for each type of accident.

	A. Road traffic accident 1. Yes 2. No
	B. Home accident 1. Yes 2. No
	C. Leisure accident 1. Yes 2. No
Filter	**If AC1A = 1 or AC1B = 1 or AC1C = 1 GO TO AC2** **Otherwise GO TO next sub-module**
AC2	Did you need medical care as a result of this[these] accident[s]? 1. Yes, I was ADMITTED to a hospital or any other health facility and stayed overnight 2. Yes, I was ADMITTED to a hospital or any other health facility but didn't stay overnight 3. Yes, from a doctor or nurse 4. No consultation or intervention was necessary INTERVIEWER INSTRUCTION: Only one answer is possible. INTERVIEWER CLARIFICATION: If there are more than 1 accident of any of the considered types, the question refers to the most serious one (the one for which the most serious treatment was provided).
AW	**Absence from work (due to health problems)**
Filter	**Question AW1 is to be asked only for respondent currently working (MAINSTAT=10).**
AW1	In the past 12 months, have you been absent from work for reasons of health problems? Take into account all kind of diseases, injuries and other health problems that you had and which resulted in your absence from work. 1. Yes 2. No
Filter	**If AW1 = 1 GO TO AW2** **Otherwise GO TO next sub-module**

AW2	In the past 12 months, how many days in total were you absent from work for reasons of health problems? └┴┴┘ Number of days
PL	**Physical and sensory functional limitations**
Introduction PL	Now I am going to ask you some further questions about your general physical health. These questions deal with your ability to do different basic activities. Please ignore any temporary problems.
PL1	INTERVIEWER INSTRUCTION: If the respondent is completely blind do not ask the question, mark with code 3 in PL1 and then go to PL3. For the others, ask PL1. Do you wear glasses or contact lenses? 1. Yes 2. No 3. I am blind or cannot see at all
Filter	**If PL1 = 1 or 2 GO TO PL2** **Otherwise GO TO PL3**
PL2	**Phrasing if PL1 = 1** Do you have difficulty seeing even when wearing your glasses or contact lenses? Would you say … **Phrasing if PL1 = 2** Do you have difficulty seeing? Would you say … 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do
PL3	INTERVIEWER INSTRUCTION: If the respondent is completely deaf do not ask the question, mark with code 3 in PL3 and then go to PL6. For the others, ask PL3. Do you use a hearing aid? 1. Yes 2. No 3. I am profoundly deaf

Filter	**If PL3 = 1 or 2 GO TO PL4** **Otherwise GO TO PL6**
PL4	**Phrasing if PL3 = 1** Do you have difficulty hearing what is said in a conversation with one other person in a quiet room, even when using your hearing aid? Would you say … **Phrasing if PL3 = 2** Do you have difficulty hearing what is said in a conversation with one other person in a quiet room? Would you say… 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do
Filter	**If PL4 = 1, 2, 3 GO TO PL5** **Otherwise GO TO PL6**
PL5	**Phrasing if PL3 = 1** Do you have difficulty hearing what is said in a conversation with one other person in a noisier room, even when using your hearing aid? Would you say **Phrasing if PL3 = 2** Do you have difficulty hearing what is said in a conversation with one other person in a noisier room? Would you say 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do
PL6	Do you have difficulty walking half a km on level ground, that would be the length of […][56] without the use of any aid? Would you say … 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do

[56] The question has to be completed with an example fitting the national context. For example: 'five football fields' or 'one city block.'

PL7	Do you have difficulty walking up or down 12 steps? Would you say … 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do
PC	**Personal care activities**
Filter	**If AGE is 65 years or more GO TO Introduction PC1.** **Otherwise GO TO next sub-module.**
Introduction PC1	Now I would like you to think about some everyday personal care activities. Here is a list of activities. Please ignore temporary problems.
PC1	Do you usually have difficulty doing any of these activities without help? 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do INTERVIEWER INSTRUCTION: Tick an answer for each of the personal care activities.
	A. Feeding yourself
	B. Getting in and out of a bed or chair
	C. Dressing and undressing
	D. Using toilets
	E. Bathing or showering
Filter	**If PC1A = 2,3,4 or PC1B = 2,3,4 or PC1C = 2,3,4 or PC1D = 2,3,4 or PC1E = 2,3,4 GO TO Introduction PC2.** **Otherwise GO TO next sub-module.**
Introduction PC2	Thinking about all personal care activities where you have difficulty in doing them without help…
PC2	Do you usually have help with any of these activities? 1. Yes, with at least one activity 2. No

PC3	**Phrasing if PC2 = 1** Would you need more help? **Phrasing if PC2 = 2** Would you need help? 1. Yes, with at least one activity 2. No
HA	**Household activities**
Filter	**If AGE is 65 years or more GO TO Introduction HA1.** **Otherwise GO TO next sub-module.**
Introduction HA1	Now I would like you to think about some household activities. Here is a list of activities. Please ignore any temporary problems.
HA1	Do you usually have difficulty doing any of these activities without help? 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all / Unable to do 5. Not applicable (never tried it or do not need to do it) INTERVIEWER INSTRUCTION: Tick an answer for each of the household activities. INTERVIEWER clarification If the spontaneous answer is 'NO DIFFICULTY' or you are not sure about the answer you should probe if the respondent does the activity or cannot do the activity by him-/herself but for other reasons than his/her health state. In these cases answer 'Not applicable' should be recorded.
	A. Preparing meals
	B. Using the telephone
	C. Shopping
	D. Managing medication
	E. Light housework
	F. Occasional heavy housework
	G. Taking care of finances and everyday administrative tasks
Filter	**If HA1A=2,3,4 or HA1B=2,3,4 or HA1C= 2,3,4 or HA1D= 2,3,4 or HA1E= 2,3,4 or HA1F= 2,3,4 or HA1G= 2,3,4 GO TO Introduction HA2.** **Otherwise GO TO next sub-module.**

Introduction HA2	Thinking about all household activities where you have difficulty in doing them without help...
HA2	Do you usually have help with any of these activities? 1. Yes, with at least one activity 2. No
HA3	**Phrasing if HA2= 1** Would you need more help? **Phrasing if HA2= 2** Would you need help? 1. Yes, with at least one activity 2. No
PN	**Pain**
Introduction PN	Next questions are about any physical pain you have had during the past 4 weeks.
PN1	How much bodily pain have you had during the past 4 weeks? 1. None 2. Very mild 3. Mild 4. Moderate 5. Severe 6. Very severe
PN2	During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? 1. Not at all 2. A little bit 3. Moderately 4. Quite a bit 5. Extremely

MH	Mental health
Introduction MH	Next questions are about how you feel and how things have been with you during the past 2 weeks.
MH1	Over the last 2 weeks, how often have you been bothered by any of the following problems? 1. Not at all 2. Several days 3. More than half the days 4. Nearly every day INTERVIEWER INSTRUCTION: Tick an answer for each of the questions.
	A. Little interest or pleasure in doing things
	B. Feeling down, depressed or hopeless
	C. Trouble falling or staying asleep, or sleeping too much
	D. Feeling tired or having little energy
	E. Poor appetite or overeating
	F. Feeling bad about yourself or that you are a failure or have let yourself or your family down.
	G. Trouble concentrating on things, such as reading the newspaper or watching television
	H. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual

EHCM	European Health Care Module
HO	**Use of inpatient and day care**
Introduction HO	The next set of questions is about time spent in hospital. All types of hospitals are included. INTERVIEWER clarification: For women up to age 50 years, add: 'The time spent in hospital for giving birth should not be included'.
HO1	In the past 12 months have you been in hospital as an inpatient, that is overnight or longer? 1. Yes 2. No INTERVIEWER clarification: 'Visits to emergency departments only (without overnight stay) or as outpatient only should not be included'.
Filter	**If HO1 = 1 GO TO HO2.** **Otherwise GO TO HO3.**
HO2	Thinking of all these occasions you have been an inpatient, how many nights in total did you spend in hospital? └┴┴┘ Number of nights
HO3	In the past 12 months, have you been admitted to hospital as a day patient, that is admitted to hospital for diagnosis, treatment or other types of health care, but not required to remain overnight? 1. Yes 2. No
Filter	**If HO3 = 1 GO TO HO4.** **Otherwise GO TO next sub-module.**
HO4	In the past 12 months how many times have you been admitted to hospital as a day patient? └┴┴┘ Number of times

AM	Use of ambulatory and home care
Introduction AM1	The next question is about visits to dentists, orthodontists or other dental care specialist.
AM1	When was the last time you visited a dentist or orthodontist on your own behalf (that is, not while only accompanying a child, spouse, etc.)? 1. Less than 6 months 2. 6 to less than 12 months 3. 12 months or longer 4. Never
Introduction AM2	The next set of questions is about consultations with your general practitioner or family doctor. Please include visits to your doctor's office as well as home visits and consultations by telephone.
AM2	When was the last time you consulted a GP (general practitioner) or family doctor on your own behalf? 1. Less than 12 months ago 2. 12 months ago or longer 3. Never
Filter	**If AM2 = 1 GO TO AM3.** **Otherwise GO TO AM4.**
AM3	During the past four weeks ending yesterday, how many times did you consult a GP (general practitioner) or family doctor on your own behalf? └┴┘ Number of times

Introduction AM4	Next questions are about consultations with medical or surgical specialists. Include visits to doctors as outpatient or emergency departments only, but do not include contacts while in hospital as an in-patient or day-patient.
AM4	When was the last time you consulted a medical or surgical specialist on your own behalf? 1. Less than 12 months ago 2. 12 months ago or longer 3. Never INTERVIEWER clarification: 'Do not include visits to general dentists'. ONLY FOR COUNTRIES WHERE THIS MAY CAUSE CONFUSION, ADD: 'Visits to dental surgeons should be included.'
Filter	**If AM4 = 1 GO TO AM5.** **Otherwise GO TO AM6.**
AM5	During the past four weeks, how many times did you consult a specialist on your own behalf? └┴┘ Number of times
AM6	In the past 12 months have you visited on your own behalf a…? INTERVIEWER INSTRUCTION: Tick 'Yes' or 'No' for each of the professions.
	A. Physiotherapist or kinesitherapist 1. Yes 2. No
	B. Psychologist, psychotherapist or psychiatrist 1. Yes 2. No
Introduction AM7	The next question is about home care services that cover a wide range of health and social services provided to people with health problems at their homes. These services comprise for example [home care service provided by a nurse or midwife, home help for the housework or for elderly people, meals on wheels or transport service][57]. Only services provided by professional health or social workers should be included.

[57] Kinds of services according to national organization of the services should be presented to respondents.

AM7	In the past 12 months, have you yourself used or received any home care services? 1. Yes 2. No
MD	**Medicine use**
Introduction MD	I'd now like to ask about your use of medicines in the past 2 weeks.
MD1	During the past two weeks, have you used any medicines that were prescribed for you by a doctor? INTERVIEWER clarification: For women, also add: 'Exclude contraceptive pills or hormones used solely for contraception'. 1. Yes 2. No
MD2	During the past two weeks, have you used any medicines or herbal medicines or vitamins not prescribed by a doctor? INTERVIEWER clarification: For women, also add: 'Exclude contraceptive pills or hormones used solely for contraception'. 1. Yes 2. No
PA	**Preventive services**
Introduction PA1	Now I would like to ask you about flu vaccination.
PA1	When was the last time you've been vaccinated against flu? └─┴─┘ / └─┴─┴─┴─┘ Month / Year 1. Too long ago (before last year) 2. Never

Introduction PA2	Now I would like to ask you about your blood pressure, blood cholesterol and blood sugar (glycaemia).
PA2	When was the last time that your blood pressure was measured by a health professional? 1. Within the past 12 months 2. 1 to less than 3 years 3. 3 to less than 5 years 4. 5 years or more 5. Never
PA3	When was the last time that your blood cholesterol was measured by a health professional? 1. Within the past 12 months 2. 1 to less than 3 years 3. 3 to less than 5 years 4. 5 years or more 5. Never
PA4	When was the last time that your blood sugar was measured by a health professional? 1. Within the past 12 months 2. 1 to less than 3 years 3. 3 to less than 5 years 4. 5 years or more 5. Never
Introduction PA5	The next questions are about faecal occult blood test and colonoscopy examination.
PA5	When was the last time you had a faecal occult blood test? 1. Within the past 12 months 2. 1 to less than 2 years 3. 2 to less than 3 years 4. 3 years or more 5. Never INTERVIEWER clarification: You can add: 'The aim of the test is to detect minor blood loss in the gastrointestinal tract, anywhere from the mouth to the colon'.

PA6	When was the last time you had a colonoscopy? 1. Within the past 12 months 2. 1 to less than 5 years 3. 5 to less than 10 years 4. 10 years or more 5. Never INTERVIEWER clarification: You can add: 'It is visual examination of the colon (with a colonoscope) from the cecum to the rectum'.
Filter	**If SEX = 2 (woman) GO TO PA7.** **Otherwise GO TO next sub-module.**
Introduction PA7	The next questions are about mammography and cervical smear tests.
PA7	When was the last time you had a mammography (breast X-ray)? 1. Within the past 12 months 2. 1 to less than 2 years 3. 2 to less than 3 years 4. 3 years or more 5. Never
PA8	When was the last time you had a cervical smear test? 1. Within the past 12 months 2. 1 to less than 2 years 3. 2 to less than 3 years 4. 3 years or more 5. Never

UN	Unmet needs for health care
Introduction UN	There are many reasons why people experience some delay in getting health care or do not get it at all.
UN1A	Have you experienced delay in getting health care in the past 12 months because the time needed to obtain an appointment was too long? 1. Yes 2. No 3. No need for health care INTERVIEWER INSTRUCTION: If the spontaneous answer is 'NO' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need for health care' should be coded.
UN1B	Have you experienced delay in getting health care in the past 12 months due to distance or transport problems? 1. Yes 2. No 3. No need for health care INTERVIEWER INSTRUCTION: If the spontaneous answer is 'NO' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need for health care' should be coded.
UN2	Was there any time in the past 12 months when you needed the following kinds of health care, but could not afford it? INTERVIEWER INSTRUCTION: If the spontaneous answer is 'NO' you should probe if the respondent needed health care or not. In case no care was needed answer '3. No need' should be coded.
	A. medical care 1. Yes 2. No 3. No need for medical care

	B. dental care 1. Yes 2. No 3. No need for dental care
	C. prescribed medicines 1. Yes 2. No 3. No need for prescribed medicines
	D. mental health care (by a psychologist or a psychiatrist for example) 1. Yes 2. No 3. No need for mental health care
EHDM	**European Health Determinants Module**
BM	**Weight and height**
Introduction BM	Now I'm going to ask you about your height and weight.
BM1	How tall are you without shoes? in [cm] └┴┴┘ [cm][58]
BM2	How much do you weigh without clothes and shoes? in [kg] └┴┴┘ [kg][59] INTERVIEWER INSTRUCTION: Check women aged 50 or younger whether they are pregnant and ask for weight before pregnancy.

[58] National measuring units can be used but the variable needs to be transformed into cm.

[59] National measuring units can be used but the variable needs to be transformed into kg.

PE	Physical activity / exercise
Introduction PE	Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.
PE1	Firstly think about the TIME you spend DOING WORK. Think of work as the things that you have to do such as paid and unpaid work, work around your home, taking care of family, studying or training. When you are WORKING, which of the following best describes what you do? Would you say … 1. Mostly sitting or standing 2. Mostly walking or tasks of moderate physical effort 3. Mostly heavy labour or physically demanding work INTERVIEWER INSTRUCTION: Do not read: 4. Not performing any working tasks
Introduction PE2	The next questions EXCLUDE the WORK-RELATED PHYSICAL ACTIVITIES that you have already mentioned. Now I would like to ask you about the way you usually GET TO AND FROM PLACES. For example to work, to school, for shopping, or to market.
PE2	In a typical week, on how many days do you WALK for at least 10 minutes continuously in order to get to and from places? Number of days: ⌊__⌋ 0. I never carry out such physical activities
Filter	**If PE2 = 0 ("Never") or MISSING GO TO PE4.**
PE3	How much time do you spend walking in order to get to and from places on a typical day? 1. 10 - 29 minutes per day 2. 30 - 59 minutes per day 3. 1 hour to less than 2 hours per day 4. 2 hours to less than 3 hours per day 5. 3 hours or more per day

PE4	In a typical week, on how many days do you BICYCLE for at least 10 minutes continuously to get to and from places? Number of days: ⌊__⌋ 0. I never carry out such physical activities
Filter	**If PE4 = 0 ("Never") or MISSING GO TO PE6.**
PE5	How much time do you spend bicycling in order to get to and from places on a typical day? 1. 10 - 29 minutes per day 2. 30 - 59 minutes per day 3. 1 hour to less than 2 hours per day 4. 2 hours to less than 3 hours per day 5. 3 hours or more per day
Introduction PE6	The next questions EXCLUDE the WORK and TRANSPORT ACTIVITIES that you have already mentioned. Now I would like to ask you about SPORTS, FITNESS and RECREATIONAL (LEISURE) PHYSICAL ACTIVITIES that cause AT LEAST a small increase in breathing or heart rate. For example brisk walking, ball games, jogging, cycling or swimming.
PE6	In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) activities for at least 10 minutes continuously? Number of days: ⌊__⌋ 0. I never carry out such physical activities
Filter	**If PE6 = 0 ("Never") or MISSING GO TO PE8.**
PE7	How much time in total do you spend on sports, fitness or recreational (leisure) physical activities in a typical week? ⌊__⌋⌊__⌋ : ⌊__⌋⌊__⌋ per week hours minutes
PE8	In a typical week, on how many days do you carry out activities specifically designed to STRENGTHEN your muscles such as doing resistance training or strength exercises? Include all such activities even if you have mentioned them before. Number of days: ⌊__⌋ 0. I never carry out such physical activities

FV	Consumption of fruit and vegetables
Introduction FV	Next questions concern the consumption of fruits and vegetables.
FV1	How often do you eat fruits, excluding juice made from concentrate? 1. Once or more a day 2. 4 to 6 times a week 3. 1 to 3 times a week 4. Less than once a week 5. Never INTERVIEWER clarification: Only juices squeezed from fresh fruit are included. Juices prepared from concentrate or processed fruits, or juices artificially sweetened are excluded.
Filter	**If FV1 = 1 THEN GO TO FV2.** **Otherwise go to FV3.**
FV2	How many portions of fruit, of any sort, do you eat each day? Number of portions: ⌊_⌋⌊_⌋
FV3	How often do you eat vegetables or salad, excluding potatoes and juice made from concentrate? 1. Once or more a day 2. 4 to 6 times a week 3. 1 to 3 times a week 4. Less than once a week 5. Never INTERVIEWER clarification: Soups (warm and cold) as well as juices squeezed from fresh vegetables are included. Juices prepared from concentrate or processed vegetables, or artificially sweetened are excluded.
Filter	**If FV3 = 1 THEN GO TO FV4.** **Otherwise GO TO next sub-module.**
FV4	How many portions of vegetables or salad do you eat each day? Number of portions: ⌊_⌋⌊_⌋

SK	Smoking
Introduction SK	The following questions are about your smoking habits and exposure to tobacco smoke.
SK1	Do you smoke? 1. Yes, daily 2. Yes, occasionally 3. Not at all
Filter	**If SK1 = 1 or 2 GO TO SK2.** **Otherwise GO TO SK4.**
SK2	What kind of tobacco product do you mostly consume? INTERVIEWER INSTRUCTION: Only one answer is possible. 1. Cigarettes (manufactured and/or hand-rolled) 2. Cigars 3. Pipe tobacco 4. Other
Filter	**If SK1 = 1 and SK2 = 1 GO TO SK3.** **Otherwise GO TO SK4.**
SK3	On average, how many cigarettes do you smoke each day? Number of cigarettes: ⌊_⌋⌊_⌋
SK4	How often are you exposed to tobacco smoke indoors? 1. Never or almost never 2. Less than 1 hour per day 3. 1 hour or more a day INTERVIEWER clarification: You can specify that 'by indoors we mean at home, at work, at public places, at restaurants etc.'

AL	Alcohol consumption
Introduction AL	The following questions are about your use of alcoholic beverages during the past 12 months.
AL1	In the past 12 months, how often have you had an alcoholic drink of any kind [beer, wine, cider, spirits, cocktails, premixes, liquor, homemade alcohol…]? INTERVIEWER INSTRUCTION: Here, country-specific alcoholic beverages should appear in the listed examples. Home-made alcohol should also be explicitly cited. 1. Every day or almost every day 2. 5 - 6 days a week 3. 3 - 4 days a week 4. 1 - 2 days a week 5. 2 - 3 days in a month 6. Once a month 7. Less than once a month 8. Not in the past 12 months, as I no longer drink alcohol 9. Never, or only a few sips or trials, in my whole life
Filter	**If AL1 = 1 or 2 or 3 or 4 GO TO AL2.** **If AL1 = 5 or 6 or 7 GO TO AL6.** **If AL1 = 8 or 9 or MISSING GO TO next sub-module.**
AL2	Thinking of Monday to Thursday, on how many of these 4 days do you usually drink alcohol? 1. On all 4 days 2. On 3 of the 4 days 3. On 2 of the 4 days 4. On 1 of the 4 days 5. On none of the 4 days

Filter	**If AL2 = 1 or 2 or 3 or 4 GO TO AL3.** **Otherwise GO TO AL4.**
AL3	From Monday to Thursday, how many drinks do you have on average on such a day when you drink alcohol? 1. 16 or more drinks a day 2. 10-15 drinks a day 3. 6 - 9 drinks a day 4. 4 - 5 drinks a day 5. 3 drinks a day 6. 2 drinks a day 7. 1 drink a day 8. 0 drink a day
AL4	Thinking of Friday to Sunday, on how many of these 3 days do you usually drink alcohol? 1. On all 3 days 2. On 2 of the 3 days 3. On 1 of the 3 days 4. On none of the 3 days
Filter	**If AL4 = 1 or 2 or 3 GO TO AL5.** **Otherwise GO TO AL6.**

AL5	From Friday to Sunday, how many drinks do you have on average on such a day when you drink alcohol? 1. 16 or more drinks a day 2. 10-15 drinks a day 3. 6 - 9 drinks a day 4. 4 - 5 drinks a day 5. 3 drinks a day 6. 2 drinks a day 7. 1 drink a day 8. 0 drink a day
AL6	In the past 12 months, how often have you had [6 or more][60] drinks containing alcohol on one occasion? For instance, during a party, a meal, an evening out with friends, alone at home, … 1. Every day or almost 2. 5 to 6 days a week 3. 3 to 4 days a week 4. 1 to 2 days a week 5. 2 to 3 days in a month 6. Once a month 7. Less than once a month 8. Not in the past 12 months 9. Never in my whole life
SS	**Social support**
Introduction SS	In the following I will ask three questions about your social relationships.
SS1	How many people are so close to you that you can count on them if you have serious personal problems? 1. None 2. 1 or 2 3. 3 to 5 4. 6 or more

[60] The number of 6 drinks in the model question presumes that 1 drink = 10 g of pure alcohol. The number of drinks used in the question by each country should be adapted to refer to equivalent of 60 g of pure ethanol.

SS2	How much concern do people show in what you are doing? 1. A lot of concern and interest 2. Some concern and interest 3. Uncertain 4. Little concern and interest 5. No concern and interest
SS3	How easy is it to get practical help from neighbours if you should need it? 1. Very easy 2. Easy 3. Possible 4. Difficult 5. Very difficult
IC	**Provision of informal care or assistance**
Introduction IC	The next questions are about the provision of care or assistance to other people with health problems.
IC1	Do you provide care or assistance to one or more persons suffering from some age problem, chronic health condition or infirmity, at least once a week? 1. Yes 2. No INTERVIEWER clarification: Please add: 'Exclude any care provided as part of your profession'.
Filter	**If IC1 = 1 THEN GO TO IC2.** **Otherwise go to next sub-module.**
IC2	Is this person or are these persons 1. Members of your family 2. Someone else (not members of your family)? INTERVIEWER INSTRUCTION: Only one answer allowed. In case multiple persons are involved say: 'Select the one to whom you are providing the most care.'

IC3	For how many hours per week do you provide care or assistance? 1. less than 10 hours per week 2. at least 10 but less than 20hours per week 3. 20 hours per week or more

European Commission

European Health Interview Survey (EHIS wave 2) — Methodological manual

Luxembourg: Publications Office of the European Union

2013 — 193 pp. — 21 x 29.7 cm

ISBN 978-92-79-29424-2
ISSN 1977-0375
doi:10.2785/43280
Cat. No KS-RA-13-018-EN-N

Theme: Populations and social conditions
Collection: Methodologies & Working papers

HOW TO OBTAIN EU PUBLICATIONS

Free publications:

- one copy:
  via EU Bookshop (http://bookshop.europa.eu);
- more than one copy or posters/maps:
  from the European Union's representations (http://ec.europa.eu/represent_en.htm);
  from the delegations in non-EU countries (http://eeas.europa.eu/delegations/index_en.htm);
  by contacting the Europe Direct service (http://europa.eu/europedirect/index_en.htm) or calling 00 800 6 7 8 9 10 11 (freephone number from anywhere in the EU) (*).

  (*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you).

Priced publications:

- via EU Bookshop (http://bookshop.europa.eu).

Priced subscriptions:

- via one of the sales agents of the Publications Office of the European Union (http://publications.europa.eu/others/agents/index_en.htm).

KS-RA-13-018-EN-N

Publications Office

ISBN 978-92-79-29424-2