

# **National Health Survey 2017**

## **SNHS 2017**

Methodology

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The basic information from the Spanish National Health Survey (SNHS) 2017 is the result of the collaboration agreement signed between the Ministry of Health, Social Services and Equality and the National Statistics Institute.

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## 1. INTRODUCTION

The Spanish National Health Survey (SNHS) is a serial set of surveys that constitutes the main source of information on the perceived health of the population residing in Spain. It is one of the Ministry of Health, Consumer Affairs and Social Welfare's (MSCBS) largest data collection programmes and provides data on the population residing in main family dwellings at the national and Autonomous Community levels.

Since 1987, the SNHS has regularly provided statistical information on the health of the population and its determinants, the magnitude and distribution of disease and disability, and access to and use of health services. SNHS is a reference point for health policies and, in order to be able to infer population estimates, it requires a clear population framework, close monitoring of field work and effective control of data processing, which is done in collaboration with the National Statistics Institute (INE).

Since 2009, it alternates with the European Health Survey in Spain (EHS 2009 and EHSS 2014) every two and a half years, with which it shares a wide range of variables. Both surveys have been harmonised in order for them to constitute a single series.

The SNHS is part of the National Health System's (NHS) Information System. It is a basic tool for determining the health of citizens, for planning and for research. The data are widely used in health administration for monitoring and, above all, for the evaluation of the major health strategies, allowing an assessment of the progress made toward the achievement of national health targets. The data are also used for health, epidemiological and strategy analysis research, on very important aspects such as access barriers, the appropriate use of health services or risk factors for chronic diseases.

The General Public Health Law 33/2011, of 4 October, provides for the design and performance of a regular health survey amongst the public health supervisory functions of the Ministry of Health, Consumer Affairs and Social Welfare in article 14.

The SNHS is a statistical operation for government purposes provided for in the National Statistics Plan (NSP), the main organisational tool of the State Administration's statistical activity. The National Health Survey 2017 statistical operation is covered by the 2013-2016 NSP, approved by Royal Decree 1658/2012, of 7 December, and by the 2017-2020 NSP, approved by Royal Decree 410/2016, of 31 October, currently in force, as well as by the 2016, 2017 and 2018 annual programmes, with the MSCBS being the body responsible for the SNHS and the INE the collaborative partner. Collaboration between the two bodies has been established through an Agreement for the performance of the SNHS.

The population under study in this edition of the SNHS are persons residing in main family dwellings on Spanish territory in 2017. The information is collected through interviews in households throughout the country.

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## 1.1. The National Health Survey within the National Health System's Information System

Spanish health policy requires subjective information on individuals' health status, the use of health services and the social, environmental and lifestyle determinants of health that go beyond the health system, amongst other indicators. These indicators constitute a key element for planning and adopting public health measures and must be obtained regularly for the evaluation of health policy.

Various statistical sources can be used to collect this information, some of them based on administrative sources such as those on morbidity, causes of death or health records. However, although these sources may be population or quasi-population based, they do not cover all aspects of health and, generally, cannot be related to sociodemographic variables nor to other determinants of health status. For this reason, it is necessary to use surveys.

The SNHS is representative on the national and Autonomous Community level and is a basic element of territorial cohesion for the population monitoring of joint NHS health strategies: tobacco, obesity, diabetes, alcohol, mental health, risk factors for cancer, coronary heart disease and other highly prevalent diseases, with it being the reference source for many of these indicators.

The main asset of the National Health Survey is the historical series, which allows the MSCBS to observe the evolution of indicators and analyse trends from 1987 onwards.

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## 1.2. The National Health Survey and the European Statistical System

In order to harmonise information and create common indicators that would allow comparison between countries, the EU decided to introduce a European Health Survey System (EHSS) within the European Statistical System, which included a health survey via personal interviews (*European Health Interview Survey - EHIS*).

The need to guarantee the statistical component of the information system associated with Community public health programmes led the EU to regulate statistics in this field through Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 and Commission Regulation (EU) No 141/2013 of 19 February 2013 that implements it. With these regulations, the European Health Survey was included in the European Statistical System, and therefore became binding in all Member States.

In Spain, the European Health Survey was carried out in 2008 and 2014, alternating with the SNHS. The next edition is scheduled for 2019.

Furthermore, the European Union Statistics on Income and Living Conditions (EU-SILC) collects, annually or triennially, information on a large group of variables on health status, disability, the use of health services, unmet needs, health expenditure, lifestyle and other environmental determinants.

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## 2. OBJECTIVES OF THE SNHS 2017

The SNHS's main objective is to monitor the health of the population residing in Spain through the compilation and analysis of a broad set of health aspects broken down according to their demographic and socioeconomic characteristics, and by Autonomous Community. The National Health Survey contributes to decision-making and the evaluation of health policies, and provides material for research studies on the health status of Spaniards.

The 2017 SNHS is designed to provide information on:

- The health status and perceived morbidity of citizens, their distribution and characteristics.
- The degree of access to and use of health services and their characteristics.
- Health determinants: lifestyles and environmental characteristics (physical and social) that may pose a risk to health.
- The relationship between the population's health status, the use of health services and individual, sociodemographic and territorial health determinants.

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## 3. RESEARCH SCOPES

Population scope.

The research is aimed at persons that reside in main family dwellings. When a dwelling is composed of two or more households, the study extends to all of these, independently for each household.

Geographical scope.

The Survey is carried out throughout the whole national territory.

Temporal scope.

The information collection period extends throughout the year, from October 2016 to October 2017, with the aim of collecting data that may be affected by seasonality.

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## 4. QUESTIONNAIRE DESIGN

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### 4.1. Structure

The information collected by the survey is divided into three questionnaires:

- Household questionnaire
- Adult questionnaire
- Child questionnaire

The household questionnaire covers all members of the household and some basic sociodemographic variables on all of these (age, sex, education level, current employment situation). In addition, it collects information on other sociodemographic characteristics of the household's reference person (person who contributes the most to the household budget) and on the characteristics of the dwelling and its surroundings.

The adult and child questionnaires collect individual information on a person aged 15 and over, probabilistically selected amongst household members, and, where applicable, on a minor, probabilistically selected amongst the members aged 0-14, respectively. This information covers the selected person's additional sociodemographic variables and all the survey's health variables.

The health content of the 2017 SNHS questionnaires is structured into three modules:

- i. Health status module: health status and chronic diseases, accident rate, restriction of activity, physical, sensory and cognitive limitations, limitations on daily activities (only for persons aged 65 and over), pain, mental and occupational health.
- ii. Healthcare module: access and use of health services (doctor and other health care professional consultations, diagnostic tests, dental care, hospitalisations, emergencies), unmet needs, type of insurance, consumption of medicines and preventative practices.
- iii. Health determinants module: physical characteristics (body mass index), physical activity and rest, feeding and breastfeeding, tobacco and alcohol consumption, social support and informal care.

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## 4.2. Review of the questionnaires

Between 2006 and 2011/12 the period between SNHSs extended to five years in order to accommodate the European survey, which also occurs every five years, without an overlap (EHS 2009 and EHSS 2014). This extension could have resulted in an excessive gap in updates to health indicators, which is why it was necessary for these to be completed in the EHSS. In a way it could be said that the differences between the questionnaire for the 2017 SNHS and the 2011/12 SNHS have not occurred now, but rather in 2014 when adapting the EHSS questionnaire for Spain.

For the second edition of the *European Health Interview Survey* (EHIS), the INE and the MSCBS formed a working group in 2012/13 to review the questionnaire. The result was the 2014 EHSS questionnaire, a product of the harmonisation between the EHIS questionnaire proposed by Eurostat and the 2011/12 National Health Survey. The European questionnaire was adapted and expanded so that it could also respond to national information needs and allow comparison with the SNHS series' main indicators. It was

also necessary to remove some of the variables that were being collected in the Spanish questionnaire, mainly regarding disabilities. Finally, an adult questionnaire was agreed upon that practically concluded the harmonisation between the two surveys, which began in 2006. This questionnaire, the 2014 EHSS, has hardly been changed for the present edition of the SNHS, except for the new objective of including the population aged 0-14.

### **Changes to the 2014 EHSS**

As indicated above, the changes made to the 2014 EHSS mean that the 2017 SNHS contains few new developments compared to that year.

In the 2014 EHSS, there were 2011/12 SNHS variables that were not covered as it was considered that it was sufficient to collect this information every five years, thus reducing the burden on respondents. These variables are covered in this edition of the 2017 SNHS. These are the characteristics of the dwelling and its surroundings (household questionnaire), work-related satisfaction and stress, emotional and personal support (Duke-UNC), the use of alternative and community medicine and dental hygiene.

Two of the 2011/12 SNHS's measuring instruments are also included, measuring mental health and physical activity. These could not be included in the 2014 EHSS because it already had alternatives: the *Global health questionnaire*, GHQ-12, replacing the EHIS's PHQ-8, and the *International Physical Activity Questionnaire*, IPAQ, replacing the EHIS's EuroPAQ.

### **Differences from the 2011/12 SNHS**

There are several types of differences between the 2017 SNHS questionnaire and the 2011/12 SNHS. These are described below:

- Variables that were investigated in 2014 according to the European model that remained the same in 2017, in order not to introduce new changes. These are cases where the measuring instrument has already been established in the EHIS and seems to show greater validity and/or comparability. This is the case with the section on accident rates, sensory limitations and restricted mobility, limitations on daily activity, episodic heavy alcohol consumption or care of other people with health problems.
- New variables. The physical and sensory limitations section now also collects information on cognitive limitations. Measuring blood glucose and carrying out a colonoscopy are now included amongst preventative practices. Angina pectoris and kidney diseases are included in the list of diseases or health problems.
- Instruments or sections of the SNHS 2011/12 that are not included in this edition, such as health-related quality of life, EuroQol, or reproductive work (only information on the informal care of people with health problems is collected)...
- The child questionnaire has not been harmonised for the 2014 EHSS, since the European survey does not currently investigate the population aged 0-14. In 2017, changes were made to the adult questionnaire (and that affected children), with the aim of being able to give estimates for the entire population. In addition, autism

spectrum disorders were added to the list of diseases or health problems and questions on television use and other electronic devices were adapted to reflect current methods of use.

There are 250 questions (maximum without filters):

Household questionnaire (31)

Adult questionnaire (135)

Child questionnaire (84)

Both the SNHS and EHSS surveys share an otherwise identical methodology.

In section 7, the variables included in each module of the questionnaire are outlined.

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## 5. SAMPLE DESIGN

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### 5.1. Type of sampling. Stratification

The type of sampling used is stratified three-stage sampling.

The first stage units are the census tracts. The second stage units are the main family dwellings. An adult (aged 15 or over) is selected within each household to fill in the Adult Questionnaire. Where there are also children in the household (aged 0-14), one is also selected to fill in the Child Questionnaire.

The framework used for selecting the sample of first stage units is a framework of areas made from the list of existing census tracts, with reference to January 2016. For the second stage units, the list of main family dwellings was used in each of the tracts selected for the sample. The third stage units are selected from the list of surveyable persons in the dwelling at the time of the interview.

The first stage units are grouped in strata according to the size of the municipality to which the tracts belong.

The following strata are considered:

**Stratum 0:** Municipalities with over 500,000 inhabitants.

**Stratum 1:** Municipality that is the province capital (except those covered by the above).

**Stratum 2:** Municipalities with over 100,000 inhabitants (except those covered by the above).

**Stratum 3:** Municipalities with 50,000 to 100,000 inhabitants (except those covered by the above).

**Stratum 4:** Municipalities with 20,000 to 50,000 inhabitants (except those covered by the above).

**Stratum 5:** Municipalities with 10,000 to 20,000 inhabitants.

**Stratum 6:** Municipalities with fewer than 10,000 inhabitants.

An independent sample is designed to represent each Autonomous Community, as one of this survey's objectives is to provide data to this level of disaggregation.

## 5.2. Sample size. Allocation

To meet the survey's objectives of providing estimates at the national and Autonomous Community level to a certain degree of reliability, a sample of approximately 37,500 dwellings in 2,500 census tracts has been selected. 15 dwellings were selected in each census tract.

The type of characteristics in question, the fact that the information would be provided by the selected person (the use of proxy respondents was not allowed), the importance of studying children and the sample's representativeness were all considered when determining the sample size. Available information from surveys of the same type that were carried out over recent years was also used.

The sample is distributed between Autonomous Communities, assigning one part uniformly and another proportionally to the size of the Community.

The distribution of the tract sample by Autonomous Community is:

**Table I.-Distribution of the sample by Autonomous Community**

<b>Autonomous Community</b>	<b>Number of census tracts</b>
Andalucía	304
Aragón	104
Asturias, Principado de	92
Balears, Illes	96
Canarias	128
Cantabria	84
Castilla y León	144
Castilla-La Mancha	128
Cataluña	280
Comunitat Valenciana	208
Extremadura	92
Galicia	148
Madrid, Comunidad de	248
Murcia, Región de	104
Navarra, Comunidad Foral de	85

País Vasco	128
Rioja, La	79
Ceuta	24
Melilla	24
<b>Total</b>	<b>2,500</b>

### 5.3. Sample selection

Within each stratum, tracts are selected with probability proportional to their size. In each tract, the dwellings are selected with equal probability through systematic sampling, after being organised by dwelling size. This method leads to self-weighted samples in each stratum.

The Kish random selection procedure is used to select the person who will fill in the Adult Questionnaire, which assigns equal probability to all adults in the household.

In the case of households with children, the same procedure described above is used to select a child under the age of 15 to fill in the Child Questionnaire.

### 5.4. Distribution over time

The tract sample is distributed over all four quarters homogeneously, so that all times of the year are equally represented.

### 5.5. Estimators

To estimate the population characteristics, ratio estimators have been used to which calibrating techniques are applied, taking age, sex and nationality groups as auxiliary variables, for the population of the Autonomous Community.

To do this, the following steps were followed:

#### A. Estimates of households and individuals

##### 1.- Estimator based on the sample design.

$$\hat{Y}_d = \sum_h \sum_{i,j \in h} \frac{1}{K_h \frac{V_h^{(16)}}{V_h^{(16)}}} y_{hij} = \sum_h \sum_{i,j \in h} \frac{V_h^{(16)}}{v_h^i} y_{hij}$$

where:

$y_{hij}$  : Value of target variable Y in household j, in tract i, stratum h

$K_h$  : Number of tracts in the sample in stratum h

$V_h^{(16)}$  : Number of theoretical dwellings in the sample in stratum h, according to the 2016 framework

$v_h^t$  : Number of theoretical dwellings in stratum h. It can be observed that:

$$v_h^t = K_h \cdot 15$$

$$K_h = \frac{15}{V_h^{(16)}}$$

$K_h \frac{15}{V_h^{(16)}}$  : probability of selecting a dwelling from stratum h.

**2.- Correction of non-response.** Non-response is corrected at the level of the

stratum, multiplying the previous elevation factor  $\frac{V_h^{(16)}}{v_h^t}$  by the inverse of the probability of estimated response within this, i.e.:

$$\hat{Y}_2 = \sum_h \sum_{i,j \in h} \frac{V_h^{(16)} v_h^t}{v_h^t v_h^e} y_{hij} = \sum_h \sum_{i,j \in h} \frac{V_h^{(16)}}{v_h^e} y_{hij}$$

where  $v_h^e$  is the effective sample of dwellings in stratum h.

**3.- Ratio estimator.** This uses the population residing in family dwellings as an auxiliary variable, taken from the Population Figures prepared by the INE halfway through the survey. Its main goal is to improve the estimator obtained in the previous steps, updating the employed population at the time of sample selection when carrying out the survey. This is expressed by:

$$\hat{Y}_3 = \sum_h \frac{\sum_{i,j \in h} \frac{V_h^{(16)}}{v_h^e} y_{hij}}{\sum_{i,j \in h} \frac{V_h^{(16)}}{v_h^e} p_{hij}} P_h = \sum_h \sum_{i,j \in h} \frac{P_h}{p_h^e} y_{hij}$$

where:

$P_h$  is the Current Population Estimate halfway through the performance of the survey (1 April 2017) for stratum h.

$p_h^e$  is the population of the effective dwelling sample ( $v_h^e$ )

$$F_j^{(1)} = \frac{P_h}{p_h^e}$$

By calling

Then:

$$\hat{Y}_3 = \sum_h \sum_{i,j \in h} F_j^{(1)} y_{hij}$$

**4. Calibration techniques.** The previous factor is re-weighted to adjust the distribution of some of the characteristics estimated by the sample to the information from external sources.

The population used as an external source for calibration is an estimate of the population residing in main family dwellings on 1 April 2017, provided by the INE (Population Figures).

This calibration is carried out using the CALMAR macro of the French National Institute of Statistics and Economic Studies (INSEE). The variables used in the adjustment process at the Autonomous Community level were:

- Age and sex groups. Men and women distributed between the following age groups: 0-4, 5-9, 10-15, 16-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65 and over.
- Population totals by province.
- Households by size: 1, 2, 3, 4 or more members .

After applying the above steps, the final elevation factor is obtained  $F_j^{(2)}$  for each of the households (j) in the effective sample.

In this way, the estimator of the total  $\bar{Y}$  of a characteristic Y can be expressed by:

$$\bar{Y} = \sum_{j \in S} F_j^{(2)} y_j$$

where the sum extends to all the households in sample S.

The estimators of proportions  $P = \frac{X}{Y}$  are in the form  $P = \frac{\bar{X}}{\bar{Y}}$  where the estimates  $\bar{X}$  and  $\bar{Y}$  are obtained through the above formula.

The previous household factor is also assigned to all its members for estimating characteristics of all the people.

## B. Factor of selected adults and children.

In addition to estimates derived from the characteristics of the household and all its members, consideration should be given to the characteristics that are obtained from the information provided by the selected adult and child who filled out the Individual Questionnaire. Similarly to section A, this factor is obtained in several steps.

1.- **Design factor:** On the basis of the aforementioned household factor  $F_j^{(1)}$  (see Step 3), we can obtain the:

**Factor of the selected adult from household j:**  $F_{jk}^{(3A)} = F_j^{(1)} A_j$ , where subscript *jk* represents the person (adult) *k* from household *j* who has to fill in the adult individual questionnaire and where  $A_j$  is the number of adults in household *j*.

**Factor of the selected child from household j** (if there are children in the household):

$F_{jk}^{(3M)} = F_j^{(1)} M_j$ , where subscript *jk* represents, in this case, the person (child) *k* from household *j* who has to fill in the child individual questionnaire and  $M_j$  is the number of children from household *j*.

**2.- Correction of non-response.** Due to the existence of non-response for individual questionnaires, where adults and children who should have filled in the corresponding individual questionnaires do not do this, the above factors need to be corrected.

This correction is carried out as follows:

In the case of adults:

$$F_{jk}^{(4A)} = F_{jk}^{(3A)} \frac{\sum_{im \in CIAT_G} F_{im}^{(3A)}}{\sum_{im \in CIAE_G} F_{im}^{(3A)}}$$

Where the sum of the numerator extends to the set of individual theoretical questionnaires for Group G ( $CIAT_G$ ), and the sum of the denominator to the set of individual effective questionnaires for the same group ( $CIAE_G$ ). The subscript  $im$  represents adult  $m$  from household  $i$ .

In the case of children:

$$F_{jk}^{(4M)} = F_{jk}^{(3M)} \frac{\sum_{lm \in CIMT_G} F_{lm}^{(3A)}}{\sum_{lm \in CIME_G} F_{lm}^{(3A)}}$$

similar expression to the above, only changing  $A$  to  $M$  and extending the sums to the set of individual questionnaires for children. The subscript  $lm$  represents child  $m$  from household  $l$ .

The groups  $G$  that were considered, both for adults and children, were the Autonomous Community and sex and five-year age groups up to 65 and over.

**3.- Calibration techniques.** Finally, calibration techniques have been applied to the aforementioned individual factors using the CALMAR software.

The external sources (Population Figures referring to 1 April 2017) used within each Autonomous Community were the population by age group and sex: men and women aged 0-15, 16-24, 25-34, 35-44, 45-54, 55-64, 65 or over; and total Spanish citizen population and foreign population by Autonomous Community.

These factors are those used for estimating the characteristics of the Individual Questionnaires.

## 5.6. Sampling errors

The Jackknife method was used to estimate sampling errors, which enables an estimate of the variance of the estimator of characteristic  $X$  to be obtained through the expression:

$$\hat{V}(\hat{Y}) = \sum_h \frac{K_h - 1}{K_h} \sum_{i \in h} (\hat{Y}_{(ih)} - \hat{Y})^2$$

With  $\hat{Y}_{(ih)}$  being the estimate of characteristic Y, obtained by removing tract i of stratum h, and  $K_h$  being the number of tracts in the sample of stratum h.

To obtain the estimator, and for the sake of simplicity, instead of recalculating the elevation factors the stratum factors where a tract was

removed were multiplied by the factor:  $\frac{n_h}{n_h - 1}$ .

Accordingly:

$$\hat{Y}_{(ih)} = \sum_{j \in h} F_j y_j + \sum_{\substack{j \in h \\ j \neq i}} F_j \frac{n_h}{n_h - 1} y_j$$

where  $n_h$  is the total of sample tracts from stratum h

The relative sampling error is published in the tables by percentage and variation coefficient, whose expression is:

$$CV(\hat{Y}) = \frac{\sqrt{\hat{V}(\hat{Y})}}{\hat{Y}}$$

The sampling error allows the confidence interval, within which the true value of the estimated characteristic can be found, to be obtained with a certain probability.

The sampling theory determines that in the interval between

$$(\hat{Y} - 1,96\sqrt{\hat{V}(\hat{Y})}, \hat{Y} + 1,96\sqrt{\hat{V}(\hat{Y})})$$

there is 95% confidence that the true value of parameter Y will be found.

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## 6. INFORMATION COLLECTION

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### 6.1. Interview stages

In the 2017 SNHS, selected households were initially contacted through a letter from the MSCBS requesting their collaboration, in which they were informed that they had been selected for the survey and that this survey was confidential, and notified of the upcoming visit of a duly authorised interviewer.

The number of existing households was identified in each dwelling selected. For each household in the dwelling, the study was carried out in two stages; firstly, the Household Questionnaire was carried out, secondly, an Adult Questionnaire (for persons aged 15 and over) and, if applicable, a Child Questionnaire (persons aged 0-14) were carried out.

## **First stage**

In the first stage, an attempt is made to collect information on all people residing in the household, requesting, for each of them, information on some key demographic variables collected in the Household Questionnaire.

The Household Questionnaire must be answered by an adult who is capable of reporting the household's characteristics and composition.

At this stage of the interview, the computer application randomly selects a person aged 15 and over ("adult") residing in the household that must answer the adult health questionnaire and if there is any person under 15 residing in the household, the computer application randomly selects one of them in the same way to respond to the child health questionnaire. This random selection implemented on the portable device is carried out using a *Kish grid*. In this way, it is not possible to swap the selected adult or child for others in the household to answer the respective questionnaires.

In addition, the identification of a reference person for the household is requested and, in the case that this is not the selected adult, information on additional sociodemographic variables is requested from them. Finally, questions are asked about the dwelling and household's characteristics.

## **Second stage**

In the second stage, health information is collected on the selected person aged 15 or over and, if any, on the selected child (0-14 years).

The Adult Questionnaire will be directly informed by the selected person aged 15 or over. A person other than the selected person can only be the (proxy) respondent if:

- a) The selected person is in a hospital or care facility
- b) The selected person's ability to answer is incapacitated by a serious illness or a disability
- c) The selected person cannot answer because of language reasons

In these cases, it is accepted that another adult in the household, or even another person over the established age who is not a member of the household, can respond to the questionnaire instead of the selected person. Where the reason for a proxy is unfamiliarity with the language, it is acceptable for the respondent who acts as a translator to be younger than the established age, if there is no other adult who can interpret.

In contrast, the information corresponding to the Child Questionnaire is obtained indirectly, provided by the mother, father or guardian. If these cannot provide information due to illness, language, etc. or they were going to be absent at all times, this information could be provided by another authorised person who is sufficiently well-informed on the requested information and capable of doing so.

Both questionnaires collect sociodemographic information that is additional to that obtained in the household questionnaire for each selected person, and all the questions of the three modules of the health variables.

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## 6.2. Collection method

The information collection method is the computer-assisted personal interview (CAPI), which could be supplemented, where necessary and in exceptional cases, with a telephone interview.

The interviews are carried out in the selected dwellings. The staff responsible for carrying out the interviews are assigned a quota of periodic work distributed in accordance with the sample design. The interviewer should make at least 6 visits to the dwelling on three different days, until the household is contacted or the corresponding incidence is achieved.

The field work (data collection, inspection, monitoring and preliminary information filtering) has been carried out, under the close supervision of the INE, by the company to which the contract was awarded, as publicised by the MSCBS.

Before the collection tasks began, staff from the INE and the MSCBS provided training courses to those responsible for each area from the company in charge of collection. These, in turn, are responsible for the training of their staff in the respective areas. The first stage training courses lasts 2 days, as do the second stage courses, both in morning and afternoon sessions.

In these courses, the methodological concepts and theoretical considerations of the survey's contents, the management of portable devices and the rules for filling in the questionnaire are explained. The procedure for administering the questionnaire, rules for carrying out the interview, rules for conducting field work (collection and inspection) and collection incidences and their processing are also explained, illustrated by practical cases. The use of the application for field work monitoring and control (ADM) and the process of downloading the information are also explained.

The training courses are supported by the 2017 SNHS Manual for interviewers, which thoroughly covers the information collection process. It also explains to interviewers the importance of their mission and the relevance to data collection of correctly carrying out the interview and managing factors that influence people's collaboration and the quality of the answers they provide.

In order to verify the good progress of information collection in the field, the company in charge of collection regularly carries out inspections of the visits made by interviewers.

In addition to these regular inspections, other one-off inspections are carried out where collection problems or doubts arise.

A total of 408 tracts were inspected (16% of the sample).

The main purpose of the inspection is to confirm that the interviewers are correctly carrying out their work in the original interview, following the established rules, checking in particular that incidences have been allocated correctly and correcting errors that have been made.

In addition to the aforementioned inspections carried out by the company in charge of collection, telephone inspections are carried out in order to verify

the quality of data entered and the completion of tasks that the awarded company is responsible for. A total of 7,549 calls were made, with contact made and the inspection being carried out in 3,964 households.

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### **6.3. Basic Units**

The basic units needed to identify the surveyable human group for each interview are defined below.

#### **FAMILY DWELLING**

A family dwelling is considered to be any room or set of rooms and premises that occupy a building or a structurally separate part of a building and that, as a result of the way they have been constructed, reconstructed or transformed, are destined to be inhabited by one or various households and are not used for wholly other purposes at the time of the interview. The following are included in this definition:

- Fixed accommodation: homes that do not fully correspond to the definition of family dwelling as they are semi-permanent (huts or cabins), improvised with waste materials such as cans and boxes (shacks, shelters) or may not have been intended for residential purposes nor reformed to be used to this end (stables, barns, mills, garages, warehouses, caves, natural shelters) but that constitute the main and usual residence of one or several households.
- Family dwellings existing within collective dwellings, provided that these are intended for the collective establishment's management, administrative or service staff.

#### **Household**

A household is defined as a person (single-person household) or set of persons (multi-person household), both connected or not connected through family relationships, that live together in a main family dwelling or part of it, have a joint budget and consume and/or share food or other relevant expenses in relation to this budget.

A set of persons who live in a collective establishment (hospital, hotel, halls of residence, etc.) does not constitute a household. However, it should be borne in mind that a household may exist within the premises of a collective establishment, provided that this has a clearly distinguishable budget from the collective, for example in the case of those responsible for the maintenance of schools or other institutions, whose dwelling is within the premises of these.

In order to identify the number of households within a dwelling, this survey considers that a dwelling contains multiple households only when these households have separate budgets, in other words, when there is economic separation between them and, even when sharing some basic housing expenses (rent, gas, electricity, water), they are autonomous with regards to all relevant expenses such as food, clothing, telephone bills, etc... In addition, each household occupies a distinct and delimited area of the dwelling, even when all the households in the dwelling have access to some common

rooms (for example, dwellings with sublets, dwellings shared by two or more families that have separate budgets, etc.).

Therefore, if the dwelling is occupied by two or more human groups with these characteristics, each of these groups are considered to constitute their own household and a Household Questionnaire will be opened for each of them.

In order to determine the maximum number of households there can be in a single dwelling, the following is taken into account:

- When only independent persons reside in the same dwelling who use one or several rooms on an exclusive basis and have no common budget (lodgers, sublets...), each person is considered to be a private household wherever the number of these people residing in the dwelling is no greater than 5. In this case, each person will be considered as an independent household and an interview will be carried out with each of them. When the number of persons with these characteristics residing in the dwelling is greater than 5, the dwelling is considered to be collective and therefore not surveyable.

- When persons who use one or several rooms on an exclusive basis and do not have a common budget (lodgers, sublets...) live with other persons that do constitute a household and have a common budget in the same dwelling, the household formed of the group of persons is considered on the one hand and the other people residing in the same dwelling are considered as independent households on the other, if there are 5 or fewer of these, meaning interviews should be carried out with each of them. In contrast, if the number of these persons is greater than 5 they will not be interviewed, although the group that constitutes a household will be interviewed, therefore making the dwelling surveyable.

### **Members of the household**

The conditions established to determine whether or not a person is a member of a household attempt to avoid the possibility that a single individual can fall under more than one household or not fall under any household.

Once the number of households in a dwelling has been established, members of the household of the surveyed dwelling are considered, for the purposes of this survey, to be those people that:

- Usually reside and intend to reside in the household of the surveyed dwelling for the majority of the year.

- If a person has or will have one or more residences in which they will usually reside over the next 12 months, they are considered to be a member of the household in the one in which they will spend the most time.

- Usually reside in another dwelling, a health centre or other kind of collective establishment and intend to return to the surveyed dwelling within a year, so that they will spend the majority of their time in the household of the surveyed dwelling over the next 12 months.

For example, in the case of students who live away from their parents' household. If they only return home during holiday periods, they are not considered members of the household as they will spend a majority of their time in a different dwelling over the next 12 months.

- Persons employed in the household and lodgers who always usually reside in the household and share a common budget and consume and/or share food or other relevant expenses in relation to this budget with the rest of the household members are considered to be members of the household.

- As a special case, those persons who reside in several households, all for the same period of time throughout the year, are considered to be members of the household in which they reside at the time of the Survey.

For example, elderly people who alternate their residence, living with different children or other relatives throughout the year, may present us with two cases:

1 They spend the same period of time with each of their children throughout the year. In this case, they will be considered a member of the household of the surveyed dwelling provided that they live in this household at the time of the survey.

2 They do not spend the same period of time with each of their children throughout the year. In this case, they will be considered a member of the household of the dwelling in which they spend the most time.

The children of divorced parents with shared custody will be treated the same way, being considered members of one household or another according to the time they spend with each of their parents.

- People, without any other private address, who currently live or intend to live in the dwelling for the majority of the time over the next 12 months.

For example, in the case of a lorry driver, with long absences from their usual residence. As they have no other private address, for the question "*Do you think that any of these people will reside for a longer period of time in another dwelling, residence or hospital than in this dwelling over the next 12 months?*", "No" should be checked, therefore meaning that this person will be considered as a member of the household being surveyed.

### **Usual residence**

A person is considered a usual resident if they spend most of their daily life there, assessed over the year prior to the interview.

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## **6.4. Collection incidences and their processing**

Of the initial sample of 37,500 dwellings selected for the 2017 SNHS, an effective sample of 23,860 households was obtained. Households from which information could not be obtained were assigned an incidence depending on the different situations that the interviewer identified for each of these. The following describes the different incidences considered and the processing defined for each of them.

### **A. INCIDENCES**

There are three types:

## **I. Incidences in dwellings**

According to their situation at the time of the interview, all dwellings are classified as one of the following kinds:

### **I.1 *Surveyable Dwellings* (E)**

This is a dwelling that is used throughout the whole or the majority of the year as a usual residence. Considering a dwelling to be surveyable is the step prior to carrying out the interview.

### **I.2 *Non Surveyable Dwelling*, which could be because it is:**

#### **- *Empty dwelling* (V):**

The selected dwelling is uninhabited, in ruins or is a seasonal residence.

#### **- *Unlocateable dwelling* (IL):**

Dwelling could not be located at the address that appears on the list of selected dwellings, either because the address is incorrect, the dwelling does not exist or for other reasons.

#### **- *Dwelling used for other purposes* (OF):**

The selected dwelling is used for wholly different purposes than being a family residence, due to an error in selection or having changed its purpose and, therefore, does not form part of this study's target population.

### **I.3 *Inaccessible Dwelling* (IN):**

This is a dwelling that cannot be accessed in order to conduct the interview due to weather or geographical reasons, for example, when there are no passable roads to reach the dwelling.

### **I.4 *Previously selected dwelling* (SA):**

This is a dwelling that has been selected again, having been previously selected (less than five years ago) in the sample of any other INE household survey and collaborated with this.

## **II Incidences in households**

Once the interviewer has located the selected dwelling and confirms that it is a main family dwelling, that is to say, that it is surveyable, through contacting the household, the following cases may arise:

### **II.1 *Wholly surveyed household* (ET):**

This is considered to be the case if the household agrees to provide information and the Household Questionnaire, Adult Questionnaire and, where there are children, the Child Questionnaire are filled in.

For the purposes of collaboration in this survey, the requirements to consider a household to be wholly surveyed will vary depending on whether or not there are children in the household. Thus, a household without children will be considered wholly surveyed when the Household Questionnaire and Adult Questionnaire are both obtained and considered to be valid. A

household with children will only be considered to be wholly surveyed when the Household Questionnaire, Adult Questionnaire and Child Questionnaire are all obtained and considered to be valid. For a questionnaire to be considered valid, it must contain a minimum amount of information.

### *II.2 Partially surveyed household (EP)*

This incidence will be assigned when a household with children has validly filled in the Household Questionnaire and the Adult Questionnaire or the Child Questionnaire, but not both.

### *II.3 Household not surveyed*

A household that hasn't been wholly or partially surveyed is considered to be a household that has not been surveyed, and will belong to this incidence due to one of the following circumstances:

#### *- Refusal (NH):*

The household as a whole or the person/s in contact with the interviewer refuses to collaborate in the survey in the first instance.

#### *- Absence (AH)*

All members of the household are absent and will continue to be over the period of time that the fieldwork will be carried out in the tract.

#### *- Inability to answer (IH)*

All members of the household are unable to respond, either due to old age, illness, unfamiliarity with the language or any other circumstance.

## **III. Incidences in the selected person**

These incidences can only be recorded in those cases in which the household has been allocated the 'Partially surveyed' incidence and will refer to the incidence of the lack of a respondent for the questionnaire (adult or child questionnaire). This can be due to:

#### *- Refusal (NP)*

The person who should fill in the missing questionnaire refuses to provide the information required.

#### *- Absence (AP)*

This incidence occurs when the person selected to respond to the missing questionnaire is absent and will continue to be throughout the period of time that the field work in the tract will last.

#### *- Inability to answer (IP)*

The person selected to answer the missing questionnaire is unable to respond to the interview, whether this be due to disability, illness, unfamiliarity with the language or any other circumstance. In the case of disability or illness, this incidence is recorded when there is no other person who can answer the questionnaire as an indirect respondent.

## **B. PROCESSING OF INCIDENCES**

In each tract, 15 principal dwellings should all be visited to attempt to fill in the survey.

There are no reserve dwellings to replace any of the incidences with the dwelling, household or selected person arising during collection.

Regarding dwellings previously selected for another INE population survey (SA), if this circumstance is identified in the field and the household is not willing to collaborate on this occasion then the definitive key SA is indicated. In the event that the human group wants to collaborate, the interview is carried out, assigning it the corresponding collaboration incidence.

Regarding the Refusals, in the specific case that the selected person refuses to provide information corresponding to the Adult Questionnaire, information can NOT be provided by any other person nor can another person in the household be selected to fill in the Adult Questionnaire.

In the case that the child's parents or guardian refuse to provide data on them, it is only acceptable to resort to another person in the household who is capable of providing the information, if the parent or guardian has agreed to this.

Regarding absences, if the absence is due to being admitted to a healthcare establishment or due to a disability in the case of the selected adult, data referring to them may be provided by another person in the household who is capable of providing this and where this would not produce a household incidence (see section 6.3). In the event of another reason for absence, the information cannot be provided by another member of the household nor be replaced.

In the event that the persons responsible for the selected child are absent, other sufficiently well-informed persons may provide the information, provided that permission is received from those responsible for the child.

## 6.5. Response rate

The distribution of incidences in the dwellings and the response rates were as follows:

### Dwellings visited

Total Dwellings	Surveyable	Empty	Other Purposes	Unlocateable	Inaccessible	Prev. Select.
37,500	32,783	4,016	238	405	55	3
100%	87%	11%	1%	1%	0%	0%

33,046 different households were identified amongst the 32,783 surveyable dwellings, meaning that more than one household was identified in approximately 0.8% of surveyable dwellings for the purposes of the survey

### Households visited

Total Households	Surveyable	Household Refusal	Household Absent	Inability to Answ. Household

33,046	24,357	3,947	4,592	150
100%	74%	12%	14%	0%

### **Adult Questionnaires**

Surveyable Households	Adult Surveyed	Adult Refusal	Adult Absence	Inability to Answ. Adult
24,357	23,090	317	937	13
100%	95%	1%	4%	0%

Of the 24,357 surveyable households, 6,297 had a child amongst its residents, representing 25.9% of surveyable households.

### **Child questionnaire**

Surveyed Households with a child.	Child Surveyed	Child Refusal	Child Absence	Inability to Answ. Child
6,297	6,106	133	56	2
100%	97%	2%	1%	0%

Considering "Surveyed Households" to be those that completed all individual questionnaires (Adult and Child if applicable) and "Partially Surveyed" Households, in which there were children, but only one out of the two individual questionnaires was obtained, the following results are achieved:

<b>Households Surveyed</b>	<b>22,931</b>
<b>Partially surveyed households</b>	<b>929</b>
<b>Final Non-Response</b>	<b>27.8%</b>

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## **7. FUNDAMENTAL CONCEPTS AND CHARACTERISTICS STUDIED**

The survey is divided into four modules that are, in turn, divided into three questionnaires. These collect the questionnaire's target variables, as well as the socioeconomic classification variables needed for later tabulation and analysis. The fundamental concepts and definitions that are included in the survey in each module and in each questionnaire are detailed below.

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### **7.1. MODULE ON SOCIOECONOMIC VARIABLES**

This module is found in all three questionnaires: in the Household Questionnaire, it collects socioeconomic information relating to the members of the household and specific information on the reference person; in the Adult Questionnaire and Child Questionnaire it collects some socioeconomic

variables relating to the selected person that are not covered by the Household Questionnaire.

#### (I) IN HOUSEHOLD QUESTIONNAIRE

**Reference person (primary wage earner):** this is the member of the household who regularly (not occasionally) contributes the most to the household budget, to defray the communal household expenditure.

**Level of education completed:** each member of the household's level of education is identified using the following classification (the objective is to provide a subsequent aggregated coding in accordance with the 2014 National Classification of Education in levels of education achieved (CNED14-A)):

- *Not applicable, they are under 10 years old*

These people have not completed any stage of the school system, so they are directly assigned this code.

- *Does not know how to read or write*

Corresponds to code 01 of the CNED14-A

- *Incomplete primary education (has attended less than 5 years of school)*

Corresponds to code 02 of the CNED14-A.

- *Complete primary education (attended 5 or more years of school and did not reach the final year of compulsory education)*

Corresponds to code 10 of the CNED14-A.

- *First stage of Secondary Education, with or without a qualification (Passed Second Cycle ESO [Compulsory Secondary Education], EGB [Basic General Education], Bachillerato elemental [Elementary Spanish Upper Secondary Education])*

Corresponds to codes 21, 22, 23 and 24 of the CNED14-A.

- *Upper secondary education*

Corresponds to code 32 of the CNED14-A.

- *Intermediate vocational training or equivalent*

Corresponds to codes 33, 34, 35, 38 and 41 of the CNED14-A.

- *Advanced vocational training or equivalent*

Corresponds to codes 51 and 52 of the CNED14-A.

- *University studies or equivalent*

Corresponds to codes 61, 62, 63, 71, 72, 73, 74, 75 and 81 of the CNED14-A.

#### **Situation in relation to economic activity**

*Working:*

People considered to be working are those who, at the time of the interview, have a contractual relationship through which they receive remuneration in

cash or in kind, people who are self-employed and members of production cooperatives working at these.

### *Unemployed*

All people who, at the time of the interview, do not have a job and are available to work within two weeks and are seeking employment, that is to say, over the last four weeks they have taken specific measures to find employment from others or to become self-employed are considered to be unemployed.

### *Retired or early retired person*

People who were previously economically active and who stopped this activity due to their age or causes other than disability, with their source of livelihood being pensions and/or income obtained from their previous activity are considered to be retired or early retired.

People who receive a non-contributory old age/retirement pension, in other words, a regular payment that is made due to their age and that does not derive from their previous economic activity, are also included.

People who receive a pension derived from another person's contribution (widow's pension, orphan's pension, etc.) are also classified under this heading.

People who **retire early** due to restructuring (with a reduction in the regular pension amount) without complying with the general requirements set out by law to receive a retirement pension are also classified under this heading.

### *Studying*

People who, at the time of interview, are receiving tuition at any stage of education are considered to be studying. This also includes people who are preparing for competitive exams and those who are doing work experience in a job without receiving remuneration in exchange.

### *Unable to work (includes disability benefits or permanent disability)*

People who are indefinitely disabled (not temporarily), whether or not they have worked previously and whether or not they are receiving disability benefits, are classified under this heading.

### *Mainly dedicated to household work (non-economic activity)*

People who are mainly dedicated to looking after their own home without remuneration (housework, taking care of children, etc.) are classified under this heading.

### *Other situations*

This category includes all people who are not assigned to any of the previous categories, particularly: landlords (people who receive income from leasing property and/or other investments without having any remunerated or self-employed activity); workers on leave of absence without plans to return to work; unemployed people who are not looking for work; people temporarily deprived of their freedom, people who, without being economically active, receive public or private aid...

## **Professional Situation**

### *Employee*

An employee is considered to be someone who works for a public (public sector worker) or private (private sector worker) company or body and receives a salary, commission, reward, payments by results or any other form of regulated remuneration in cash or in kind.

### *Business owner or professional with employees.*

This is considered to be a person who manages their own company, industry or business (with the exception of cooperatives), or a self-employed professional or trader that hires one or more employees or workers to help who are remunerated through a salary, wages, commission, etc.

### *Business owner without employees or an independent worker.*

This is considered to be a person who manages their own company, industry, business, agricultural holding or who is a self-employed professional or trader who does not employ remunerated staff. This includes those working in their own company with the exclusive help of relatives who do not receive regular remuneration.

### *Family assistance.*

This is considered to be a person who works without regular remuneration at the company or business of a relative with whom they live.

### *Member of a cooperative.*

This covers all members of production cooperatives who work at these.

### *Other situation.*

This includes those people who are not covered by any of the previous sections.

## **Type of income**

### *Self-employed or an employee*

Self-employed income is the income obtained as an independent worker, business owner or employer through carrying out business, professional or artistic activities, regardless of whether or not this income is from work carried out previously or advances for future tasks.

### *Unemployment benefits and allowance*

This is income received by unemployed people over a certain period of time, after having worked for a certain contribution period (benefits) or after having exhausted the unemployment benefits and fulfilled some of the

criteria set forth by law (allowance). Other unemployment aids or benefits are also included.

*Retirement, widow's, orphan's pension or pension due to other family members*

The contributory retirement pension comprises ordinary retirement and the different types of early retirement for those entitled to receive this pension.

The non-contributory retirement pension comprises economic benefits that are given to those citizens who, having retired and being entitled to receive protection, have not paid contributions for enough time to obtain benefits paid under the contributory system.

The widow's and orphan's pension and pensions due to other family members are benefits intended to compensate the situation of economic need that is created, for certain people, following the death of another person, provided that they meet the appropriate requirements.

*Disability or incapacity pension*

Economic benefits that are intended to cover the loss of wage or professional income, where a person affected by a pathological or traumatic process derived from a disease or accident sees their ability to work reduced or voided, presumably definitively. This can be contributory (incapacity) or non-contributory (disability).

*Economic benefits for dependent child or other economic benefits such as family aid*

The economic benefit for dependent children is income received in the form of financial allocations for each child under the age of 18, or older if affected by disability to a degree equal or superior to 65%, in the care of the beneficiary. The beneficiaries may also be disabled persons themselves, provided that they are orphaned or were abandoned by their parents, whether or not they are in foster care.

*Housing benefits or subsidies*

This aid refers to the public authorities' intervention to help households cover expenditure related to housing, for example: rent or homeowner subsidies.

*Education benefits or subsidies*

Subsidies, scholarships and other study benefits received by students.

*Other regular income / Other regular social subsidies or benefits (social integration salaries, etc.)*

This is income regularly received by the household without any labour compensation and not described above.

(II) IN THE ADULT QUESTIONNAIRE

**Selected adult's level of education completed:** the selected adult's level of education is identified, but in this case it is done to the detail of 2 digits according to the CNED14-A

**Type of working day:** This is the amount of time that each worker dedicates to carrying out the work for which they have been contracted. It is counted by the number of hours that the employee works to carry out their employment activity within the period of time in question.

- *Split work day:* This work day includes at least one hour of rest that does not count as time worked.

- *Continuous work day:* This work day is carried out continuously for over 6 hours, including a rest period of no less than 15 minutes that counts as time worked. The work can be carried out in the morning, afternoon or night (**night work** is considered to be work carried out between ten o'clock in the evening and six o'clock in the morning).

- *Reduced work day:* This is a shorter work day due to the specific physical circumstances under which the work is carried out.

- *Shift work:* This is any organisation of teamwork according to which workers successively occupy the same roles, according to a certain continuous or discontinuous pace, meaning that the worker is required to provide their services at different times in a certain period of days or weeks.

### (III) IN THE CHILD QUESTIONNAIRE

In the child questionnaire, the Module on Sociodemographic Variables is reduced to collecting information about the child's country of birth and nationality.

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## 7.2. MODULE ON HEALTH STATUS

This module collects information on perceived health status, chronic disease and limitation, diseases and health problems, accidents, restriction of activity, physical, sensory and cognitive limitations, limitations on daily activities, mental health, stress and job satisfaction.

### (I) ADULT QUESTIONNAIRE

**General health status.** Individual's perception of their general health status in the past twelve months.

There are 5 levels for the self-assessment of health status: Very good, Good, Fair, Bad and Very bad.

**Chronic or long-term diseases.** This is about establishing if the respondent has any chronic or long-term disease or health problem, that is to say, that is long-lasting or permanent in nature, which may or may not need care over a long period of time. This may refer to isolated conditions, such as, for example, pain.

**Chronic or long-term** refers to diseases or health problems that have lasted at least 6 months. This does not include temporary problems, but does cover seasonal or recurrent issues.

**Limitations on carrying out usual activities due to health problems. Degree of limitation and type of problem.** An attempt is made to determine if the person's usual activities have been limited by any health problems. This must be assessed in relation to the population's generally accepted standards on people's usual activities. It refers to limitations that have lasted at least 6 months.

The **degrees of severity** covered are: Severely limited; Limited but not severely; Not at all limited.

The type of problem that causes the limitation(s) on carrying out day-to-day activities is investigated, and could be:

**Physical:** This makes it difficult to move, talk, see, hear, as well as restricting bodily functions. This includes diseases of the nervous system (multiple sclerosis, essential tremor, chorea, etc.), muscular diseases (rheumatism), cerebrovascular accidents (cerebral haemorrhages, thrombosis and embolisms), trauma sequelae, congenital abnormalities, etc.)

**Mental:** This is when difficulty carrying out activities is due to a mental illness and does not cause any physical limitation or problem. For example: Depression, dementia and generally psychosis and neurosis.

**Both:** Diseases of the nervous system that initially present physical disorders, such as difficulty of movement, but that may have mental manifestations. For example: Parkinson's disease initially presents movement disorders and can progress to dementia, some levels of infantile cerebral palsy that present mental impairment... Mental illnesses that have such a significant effect that they also cause physical problems are also included.

**Diseases and health problems.** An attempt is made to investigate the types of long-term diseases or health problems that the population has suffered at any time, those that have been suffered in the last twelve months and whether they were diagnosed by a doctor.

Types of diseases and health problems:

1. Hypertension
2. Myocardial infarction
3. Angina pectoris, coronary disease
4. Other heart diseases
5. Varicose veins in the legs
6. Osteoarthritis (excluding arthritis)
7. Chronic back pain (cervical)
8. Chronic back pain (lumbar)

9. Chronic allergy, such as rhinitis, conjunctivitis or allergic dermatitis, food allergy or other allergy (allergic asthma excluded)
10. Asthma (including allergic asthma)
11. Chronic bronchitis, emphysema, chronic obstructive pulmonary disease (COPD)
12. Diabetes
13. Stomach or duodenum ulcer
14. Urinary incontinence or problems controlling urine
15. High cholesterol
16. Cataracts
17. Chronic skin problems
18. Chronic constipation
19. Cirrhosis, liver dysfunction
20. Depression
21. Chronic anxiety
22. Other mental problems
23. Stroke (embolism, cerebral infarction, cerebral haemorrhage)
24. Migraine or frequent headaches
25. Haemorrhoids
26. Malignant tumours
27. Osteoporosis
28. Thyroid problems
29. Kidney problems
30. Prostate problems (only men)
31. Menopausal problems (only women)
32. Permanent injuries or defects caused by an accident

**Accidents.** An attempt is made to determine if the person has had an accident (fortuitous and unexpected event that occurs suddenly to the individual and produces identifiable bodily harm) in the last 12 months, of the following kinds:

**Traffic Accident:** all accidents occurring on public roads, public or private car parks provided that the accident does not occur during work. The accident can occur to a driver, passenger or pedestrian. A vehicle must be involved in the accident. Train, aeroplane or any kind of ship accidents are not considered. Accidents that occur during the commute from home to work are considered to be traffic accidents.

**Accident at home:** Any accident that occurs in the home regardless of the activity being carried out. Accidents at home are accidents that occur in the home or in external dependencies that are on the premises (stairs, gate, garden, garage...). It can refer to the individual's own house or that of another person.

**Accident during leisure time:** These are accidents that occur during leisure time, excluding those that have been classed as accidents at home or traffic accidents.

**Medical care as a result of an accident:** This investigates the type of medical care received in the event of having been involved in one of the above accidents over the past 12 months (in the case of having had several, in the most severe). Types of medical care:

- Admission to a hospital
- Attending an emergency centre
- Consulting a doctor or nurse
- Did not attend a consultation or receive interventions

**Restriction of activity.** The restriction of usual activity is analysed through one or several pains or symptoms. The person is asked whether they have had to reduce or limit their usual activities in the past two weeks, if they have stayed in bed due to these symptoms and the number of days that they had to do this.

**Usual activities:** Includes activities carried out in the employment sphere and in domestic work or attending education or training centres and activities carried out in free time that normally include relationships with friends and family, sports, attending performances, etc.

**Day in bed:** day in which a person stays in bed for at least half the daylight hours.

**Physical, sensory and cognitive limitations.** An attempt is made to measure functional (physical, sensory and cognitive) limitations that affect the health status of the population in terms of ability to function, regardless of the reason behind the limitation. The Spanish language version of the International Classification of Functioning, Disability and Health (ICF)<sup>1</sup> is adopted, and limitations are measured using questions from the Budapest Initiative<sup>2</sup>. All of them, except the one relating to cognition that is investigated for the first time, are included in the 2014 European Health Survey.

The characteristics under study are:

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<sup>1</sup> International Classification of Functioning, Disability and Health: ICF (publication rights for the Spanish edition ceded by the World Health Organization to the Institute of Migrations and Social Services (IMSERSO). Madrid. Ministry of Labour and Social Affairs. General Secretariat of Social Affairs. IMSERSO, 2001.

<sup>2</sup> *Survey Module for Measuring Health State. Developed by the Budapest Initiative Task Force on Measurement of Health Status. United Nations Economic Commission for Europe. ECE/CES/27. United Nations; New York and Geneva, 2013.*

[https://www.unece.org/fileadmin/DAM/stats/publications/BI\\_Report\\_to\\_CES\\_2012\\_-\\_BI-M2\\_Final\\_Version\\_\\_10\\_with\\_cover.pdf](https://www.unece.org/fileadmin/DAM/stats/publications/BI_Report_to_CES_2012_-_BI-M2_Final_Version__10_with_cover.pdf)

**Vision** (ability to see, even using glasses or contact lenses, is investigated)

**Hearing** (ability to hear, either in a quiet place or a louder place, even when using a hearing aid, is investigated)

**Walking** (ability to walk 500 metres on level ground with no support is investigated).

**Problems going up and down flights of stairs** (ability to go up or down 12 steps without any support is investigated)

**Ability to remember or concentrate** (in people aged 45 and over).

The levels of ability considered were: No difficulty; Some difficulty; A lot of difficulty; They cannot do it at all.

**Limitations on basic daily activities.** An attempt is made to measure the difficulties people aged 65 and over have in carrying out basic daily activities, also called personal care activities, according to the Spanish language version of the International Classification of Functioning, Disability and Health (ICF)<sup>15</sup>, as well as the help received or the need for help in order to carry out these activities (both technical and personal assistance). This provides the first basic indicator on the prevalence of disability in the population.

The basic daily activities considered are:

**Feeding oneself:** The respondent is capable of taking food from a plate and lifting it to their mouth, lifting a glass to their mouth, cutting food, using a fork, using a spoon, spreading jam or butter on a slice of bread, adding salt to meals... This activity excludes shopping or cooking.

**Sitting down, getting out of a chair or bed, lying down:** The respondent should consider their ability in carrying out these activities without any kind of help; standing up is also included. In the event that the person carries out the two activities with varying degrees of difficulty, the interviewer has to record the one that poses the greatest difficulty for the respondent.

**Getting dressed and undressed:** includes taking clothing from the wardrobe or drawer, putting them on, fastening their clothes, tying their shoes. In the event that the person carries out the two activities with varying degrees of difficulty, the interviewer has to record the one that poses the greatest difficulty for the respondent.

**Going to the bathroom:** refers to the following activities: using toilet paper, cleaning themselves, taking off and putting on clothes before and after relieving themselves.

**Showering or bathing:** refers to the following activities: washing and drying the entire body, getting in and out of the shower or bath. In the event that the respondent carries out the two activities with varying degrees of difficulty, the interviewer has to record the one that is more simple for the respondent.

The levels of ability considered were: No difficulty, Some difficulty, A lot of difficulty, They cannot do it.

**Limitations on carrying out instrumental activities of daily living, related to the household.** An attempt is made to measure difficulties in carrying out activities related to the household in people aged 65 and over, according to the Spanish language version of the International Classification of Functioning, Disability and Health (ICF)<sup>15</sup>, as well as the help received or the need for help in order to carry out these activities (both technical and personal assistance). This provides the second basic indicator of the prevalence of disability in the population.

Activities related to the household considered are:

**Preparing their own meals:** the person is able to prepare meals for themselves.

**Using the phone:** the person can make calls and answer the phone.

**Shopping:** the person can shop without needing help from another person.

**Taking medications:** the person does not need help taking their own medication. This activity only refers to whether a person is capable of taking their own medicine and remembering the dose, not to whether they can buy the medication at the pharmacy.

**Light household chores:** the person is able to carry out the following kinds of activities: cooking, washing the dishes, ironing, looking after children...

**Heavy household chores:** the person is able to carry out the following kinds of activities: carrying heavy shopping for over 5 minutes, moving heavy furniture, generally cleaning the house, scrubbing floors with a brush, cleaning windows...

**Managing their own money:** for example, paying their own bills.

The levels of ability considered were: No difficulty, A lot of difficulty, They cannot do it and Not applicable (never tried it or needed to do).

**Pain.** The intensity of physical pain experienced by the interviewee (six levels) and the interference of the pain in day-to-day activities (both those carried out as usual activity and in their leisure time) are measured. Pain is an important aspect of health status, notably in terms of physical well-being. The questions on pain included are part of the SF-36<sup>3</sup>. The time reference is the last 4 weeks.

**Mental health.** The questions in this sub-module on mental health aim to assess the prevalence of risk of poor mental health. For this, the General Health Questionnaire (GHQ-12) is used for adults<sup>4</sup>. Making reference to the past few weeks, the person evaluates the frequency with which the following problems or situations have occurred:

- Concentrated well on what they were doing
- Worries made them lose a lot of sleep

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<sup>3</sup> SF-36v2 Health Survey™© 1996, 2000 by Quality Metric Incorporated and Medical Outcomes Trust.

<sup>4</sup> General Health Questionnaire (GHQ-12). Goldberg D, Williams P. Guía para el usuario de las distintas versiones [User's guide to the different versions]. Barcelona. Masson; 1996.

- Felt that they were fulfilling a useful role in life
- Felt able to make decisions
- Noted that they were constantly overwhelmed and tense
- Felt that they could not overcome their problems
- Able to enjoy their normal daily activities
- Able to properly deal with their problems
- Felt unhappy or depressed
- Felt a loss of self-confidence
- Thought that they were worthless
- Felt reasonably happy given the circumstances

The possible answers indicating frequency are: Better/more than usual, As usual, Less than usual, Much less than usual.

**Working conditions.** The level of work stress of the employed population is measured on a scale of 1 (not at all stressful) to 7 (very stressful) and the level of job satisfaction on a scale of 1 (not at all satisfactory) to 7 (very satisfactory).

## (II) CHILD QUESTIONNAIRE

In addition to the variables already defined in the adult questionnaire, information is collected on:

**Diseases and health problems in the child population.** An attempt is made to investigate the types of long-term diseases or health problems that the 0-14 year old population has suffered at some time, those that have been suffered in the last twelve months and whether they were diagnosed by a doctor.

Types of diseases and health problems:

1. Chronic allergies (excluding allergic asthma)
2. Asthma
3. Diabetes
4. Malignant tumours (including leukaemia and lymphoma)
5. Epilepsy
6. Behavioural disorders (including hyperactivity)
7. Mental illnesses (depression, anxiety...)
8. Permanent injuries or defects caused by an accident
9. Autism or autism spectrum disorders (ASD) (only between 3-14).

**Quality of life related to health in the child population.** The goal is to assess the health-related quality of life in the child population, according to the child's perspective of their physical, mental and social well-being, and to identify the population at risk in terms of their subjective health. This is done

using a generic questionnaire, the parents' version of the KIDSCREEN-10 tool<sup>5</sup> for the population aged 8-14. Although the respondent is indirect, they answer how they think the child would answer. Making reference to the last week, the person evaluates the frequency with which the child has been in the following situations or has had the following problems:

Has felt fit and well

Has felt full of energy

Has felt sad

Has felt alone

Has had enough time for themselves

Has been able to do the things they wanted to in their free time

Has played with their friends

Has had a good time at school

Has been able to pay attention

The possible answers indicating frequency are: Never, Almost never, Sometimes, Almost always, Always.

**Mental health.** The questions in this sub-module on mental health aim to assess the prevalence of risk of poor mental health in the population aged 4-14. The *Strengths and Difficulties Questionnaire (SDQ)*<sup>6</sup> sub-module is used in the questionnaire for this purpose. Referring to the past six months, the person evaluates the child's behaviour:

1. Takes other people's feelings into account
2. Is restless, hyperactive, cannot stay still for a long time
3. Often complains of headaches, stomach pains or nausea
4. Often shares their trinkets, toys, pencils with other children
5. Often has tantrums or a bad temper
6. Prefers to be alone and tends to play alone
7. Is usually obedient, tends to do what adults ask them to
8. Has many worries, often appears restless or worried
9. Offer helps when someone is injured, upset or ill
10. Continually moves and is disruptive
11. Has at least one good friend
12. Often fights with other children or teases them

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<sup>5</sup> The version adapted by the authors is used for the Eurobarometer, with one question fewer than the original version. *The KIDSCREEN Group Europe. The KIDSCREEN Questionnaire Handbook*. Lengerich, Germany. Pabst Science Publishers; 2006.

<sup>6</sup> Goodman R. *The Strengths and Difficulties Questionnaire: a research note*. J Child Psychol Psychiatry. 1997; 38:581-6.

13. Often feels unhappy, disheartened or tearful
14. Generally gets along well with other children
15. Is easily distracted, their concentration tends to run out
16. Is nervous in new situations, easily loses self-confidence
17. Treats younger children well
18. Often lies or plays tricks
19. Other children tease them or laugh at them
20. Often offers to help (parents, teachers, other children)
21. Thinks about things before doing them
22. Steals at home, school or elsewhere
23. Gets along better with adults than with other children
24. Has many fears, is easily scared
25. Finishes what they start, has good concentration

The answer options to indicate the child's behaviour are: Not true, Somewhat true, Absolutely true.

### 7.3. HEALTHCARE MODULE

This module collects information on the kinds of healthcare services that have been received: medical consultations, healthcare coverage, dental visits, diagnostic tests and other services, hospitalisations, outpatient care and use of emergency services, unmet medical assistance needs, consumption of medicine and preventive practices.

#### MEDICAL CONSULTATIONS

An attempt is made to investigate the frequency with which the respondent has attended primary and specialised outpatient medical consultations, where the consultation took place, the doctor's functional dependence, reason for the visit, waiting time, non-urgent testing, consultations with other healthcare professionals and home care services.

The following characteristics of consultations attended are investigated:

**Last time the respondent consulted a general practitioner or family doctor:**

The response categories are: In the past four weeks, Between four weeks and twelve months, Twelve months ago or longer, Has never gone to the doctor.

**Number of times the respondent has consulted a general practitioner or family doctor in the past four weeks.**

**Last time they consulted a specialist.** The response categories are: In the past four weeks, Between four weeks and twelve months, Twelve months ago or longer, Has never gone to a specialist.

**Number of times the respondent has consulted a specialist in the last four weeks**

**Where the last consultation took place in the past four weeks.** The answer options are as follows: Health Centre/Doctor's Surgery, Outpatient/Specialist Centre, Hospital outpatient service, Non-hospital emergency department, Hospital emergency department, Company doctor's surgery, Private doctor's surgery, Company or workplace, Home of the interviewee, Telephone consultation; Elsewhere.

**Medical consultation:** Any visit to a qualified professional doctor (in person or by telephone), for diagnosis, examination, treatment, follow-up, advice or any other procedure. Reviewing and requesting prescriptions is also considered to be a medical consultation.

**Health Centre/Doctor's Surgery:** Centres in which primary healthcare assistance is provided to beneficiaries of Social Security. Care is provided by general practitioners, paediatricians and nursing staff, although they may also have a range of support services that handle problems related to their specific training.

**Outpatient/Specialist Centre:** Centres in which specialised healthcare assistance is provided to beneficiaries of Social Security. Outpatient refers to all legally recognised medical and surgical specialities. The patient generally accesses this via referral from a primary healthcare doctor to receive outpatient assistance.

**Hospital outpatient service:** Consultations carried out in the hospital itself for those patients who need diagnosis, treatment and/or rehabilitation methods that cannot be provided at the primary healthcare level, including minor surgical procedures. This does not require hospital admission but is carried out on an outpatient basis.

**Non-hospital emergency department:** Located in an outpatient service, relies on professionals that provide urgent assistance outside of normal hours.

**Hospital emergency department:** Service located in the hospital, understood to be a service that relies on an organised workforce of professionals who provide urgent assistance 24 hours a day.

**Reason behind the consultation.** The reasons behind the consultation are the following: Diagnosis of an illness or health problem, Accident or violence, Review, Prescription dispensing only, Certificate of sick leave, confirmation or admission and Other reasons.

**Diagnosis of an illness or health problem:** The reason behind the consultation is a condition, discomfort or illness that requires medical examination for correct diagnosis and treatment, if applicable.

**Accident or violence:** The reason behind the consultation is an unforeseen event through which a person is voluntarily or involuntarily hurt.

**Review:** The reason behind the medical consultation is the control and continued monitoring of illnesses or processes already diagnosed and being treated.

**Prescription dispensing only:** The reason behind the consultation is exclusively requesting medicines for treatments that are already under way.

**Certificate of sick leave, confirmation or admission:** When the reason behind the consultation is obtaining a certificate of sick leave, its confirmation or certificate of admission.

**Other reasons:** For example, request for reports, certificates or other documents.

**Time between when the respondent began to notice they were ill or felt that they had a health problem and when the respondent requested a consultation appointment and the time between when the appointment was requested and when it was attended.**

**Functional dependence of the doctor.** Refers to the institution or system within which the doctor carries out their healthcare work, which could be: Public health (Social Security), Medical association, Private consultation, Other (company doctor, etc.).

**Public health (Social Security):** A doctor is considered to be from Social Security when they respond to the National Health System, which includes the health services of the Autonomous Communities and other public entities such as Provincial Councils, Town Councils, Local Authorities or the INGESA [National Healthcare Management Institute].

**Medical association:** These include private medical healthcare associations (ASISA, ADESLAS, DKV, SANITAS, PREVIASA, etc.).

**Private consultation:** This is a consultation carried out by a private doctor (who, in their free professional practice, receives direct remuneration for the medical service from the patient).

**Others:** Includes company, mutual insurance company and occupational illness, medical contract, traffic accident insurers, NGO and other doctors.

**Use of other services over the past 12 months.** The respondent is asked whether they have visited the following services: Physiotherapist; Psychologist, psychotherapist or psychiatrist;

Nurse or midwife.

**Physiotherapist:** a specialist who treats bone, muscular, circulatory or nervous system problems for the recovery, rehabilitation and prevention of disabilities or somatic disorders through movement therapy, therapeutic massage and application of physical stimuli, electrotherapy, hydrotherapy, balneotherapy... The therapies can be carried out in public hospitals, private consultations, day hospitals, schools, gyms...

**Psychotherapist:** a person qualified in medicine or psychology who is professionally dedicated to the application of psychotherapy, understood to be the scientific psychological treatment of physical or mental symptoms.

**Analysis carried out in the past 12 months**

**Diagnostic tests carried out in the past 12 months.** The respondent is asked if they have had the following tests: X-ray; CAT scan; Ultrasound; MRI.

**Visits to a Homeopath, Acupuncturist, Naturist or Other alternative medicine professionals in the last 12 months.**

**Use of home care services in the past 12 months (adults only).** Home care refers to both medical and non-medical care provided to people with some kind of physical or mental illness, with some kind of disability or to people who cannot carry out personal care activities or household chores due to their old age. This includes home services provided by a hospital nurse or midwife, by agencies, associations or by volunteers. The respondent is asked whether they have used the following home social and healthcare services:

**Home care provided by a nurse or midwife:** refers to both medical and non-medical care provided by a nurse or midwife to people with some kind of physical or mental illness, with some kind of disability or to people who cannot carry out personal care activities or household chores due to their old age.

**Home support for household chores or for older people:** these services include tasks such as cleaning the house, preparing food, doing the laundry, ironing, giving or reminding about medication, helping with economic or financial household tasks, shopping, etc. offered by City Councils, private associations, NGOs, etc.

**Meal delivery for elderly people (only to people over 65):** service that provides food to people who cannot leave the house to go shopping or find it difficult to prepare their own meals due to the fact that they suffer from some kind of illness or disability or because their old age prevents them from doing so.

**Special home transportation services:** services that allow people who are confined to their homes due to some kind of disability or because of their age to move around. They may leave the house for different reasons

**Other home care services:** includes support for personal development aimed at people with physical or mental illnesses or with some kind of disability who are isolated by their situation.

## **STOMATOLOGICAL, DENTAL AND DENTAL HYGIENIST CONSULTATIONS**

An attempt is made to determine the last time the respondent went to a dental consultation, the type of assistance they received, the visited professional's functional dependence and the state of the person's teeth. The following characteristics are investigated:

**Last time the respondent visited the dentist, stomatologist or dental hygienist.** The response categories are: Three months ago or less, Over three but less than six months ago, Over six but less than twelve months ago, Twelve months or more, Never.

**Dentist consultations:** Any visit to a qualified professional (dentist, stomatologist or dental hygienist) for examination, advice, treatment or review of dental or mouth problems.

Number of times the respondent has consulted the dentist, stomatologist or dental hygienist in the last three months

**Type of care.** The types of care received are: Review or check-up, Mouth cleaning, Fillings (inlays), endodontics, Extraction of a tooth/molar, Caps, dental splint or other kind of prosthesis, Treatment of gum diseases, Orthodontics, Fluoride application, Implants, Other care.

**Review or check-up.** The reason behind the consultation is the control and continued monitoring of illnesses or processes already diagnosed and being treated.

**Mouth cleaning:** Intervention with an ultrasound device to remove plaque and dirt from the teeth.

**Fillings (inlays):** Treatment that consists of filling a tooth or molar affected by decay with paste.

**Endodontics:** Therapeutic techniques for dental nerve conditions.

**Caps, dental splint or other kind of prosthesis:** Rehabilitation that replaces or covers one or more teeth, supported, fixed, retained or stabilised by dental structures or adjacent gingival remnants.

**Treatment of gum diseases:** Treatment of bleeding gums, teeth that move, oozing of pus (piorrea) or any other gum disease.

**Orthodontics:** Placement of appliances in the mouth to correct inadequate teeth or molar positions.

**Fluoride application:** Fluoride application is understood to be only that applied by an odontologist or hygienist (it does not refer to fluoride that is contained in toothpaste).

**Implants:** Replacing a lost tooth with an artificial bio-compatible piece permanently anchored to the jaw bone.

#### **Professional's functional dependence**

**Public health** (Social Security, City Council, private consultation financed by the Autonomous Government)

**Medical association**

**Private consultation**

**Others**

Refer to the definitions in the section on medical consultations.

#### **State of the teeth and molars**

- Have cavities (erosion of the teeth/molars' enamel through the presence of certain bacteria).
- Have had teeth/molars extracted
- Have had teeth/molars filled (inlayed)
- Their gums bleed when they brush their teeth or spontaneously

- Their teeth/molars move
- Have caps (crowns), dental splints, another kind of prosthesis or dentures
- Have missing teeth/molars that have not been replaced by prostheses
- Have all their natural teeth/molars

## **HOSPITALISATIONS, EMERGENCY SERVICES AND HEALTH INSURANCE**

This sub-module investigates cases of hospitalisation, both within the inpatient system and the day hospital, as well as the use of emergency services. It also investigates the type of health insurance that the respondent has.

### **HOSPITALISATIONS**

This section is aimed at people who have been admitted to hospital for at least one night in the past twelve months. The characteristics investigated are:

#### **Hospitalisation in the past twelve months, excluding births or caesarean sections**

**Hospitalisation:** This includes all admissions to hospital in order to receive medical or surgical care that involves spending at least one night in the hospital or having a bed assigned. Staying in an emergency department or other service in order to undergo diagnostic or therapeutic tests for under 24 hours is not included in this. People who are accompanying a sick person, even when they have a bed and are there for over a day, are also not considered under this heading.

**Hospital:** A healthcare establishment with an inpatient system that, regardless of its denomination, aims to provide medical or surgical care to the patients admitted therein. This does not include nursing homes, orphanages, nursery schools, charity houses, etc.

#### **Number of times respondent has been hospitalised in the past twelve months, excluding childbirth or caesarean sections**

#### **Number of nights respondent has been hospitalised in the past twelve months**

#### **Hospitalisation for childbirth or caesarean section (women under 52 years old)**

#### **Number of nights hospitalised at the last admission**

#### **Reason for admission**

- Surgical intervention
- Medical study for diagnosis
- Medical treatment without surgical intervention
- Childbirth (including caesarean section)
- Other reasons

## Waiting list

- Number of months spent on waiting list.

**Hospitalisation costs:** The body or institution that is ultimately responsible for the costs arising from the respondent's hospitalisation is identified. In the case where the institution who originally funds these costs (for example, ASISA) does so on the basis of an agreement with an obligatory mutual benefit society (for example, MUFACE), the category is "mutual benefit society". Hospitalisation costs may be the responsibility of:

- Public health (Social Security)
- Obligatory mutual benefit society (MUFACE, ISFAS, etc.)
- Private medical association
- At the respondent's own expense or of their household
- Other persons, bodies or institutions

## DAY HOSPITAL

An attempt is made to determine whether the respondent has been cared for in a day hospital in the last twelve months, what the reason was behind the latest admission to a day hospital (treatment, surgical intervention or others) and the number of times they have used a day hospital.

**Admission to a day hospital over the past twelve months for intervention, treatment, or to have a test done.** This is where the respondent is admitted to a hospital bed for diagnosis and/or scheduled treatment and is discharged before midnight on the same day. This includes admissions to beds or chair beds. It does not include stays in the emergency department or observation unit.

## EMERGENCY SERVICE

It is determined whether the person has had to use any emergency service in the past twelve months due to any problem or illness and the frequency, as well as, regarding the last time that they used them, the place where they were treated (in situ, mobile unit, emergency services), the time since they began to feel sick until they requested care (in days, hours and minutes), the time since the care was requested until it was provided (hours and minutes) and the type of service where they were cared for.

**Use of any emergency service in the past twelve months.** Emergency services are those that serve clinical processes, whatever their nature, that require urgent diagnostic and therapeutic approaches.

### Type of emergency service

#### Public health hospital (Social Security)

**Non-hospital public health emergency centre or service (Social Security).** For example, a health centre, outpatient service, etc. This is considered to be an established emergency service, understood as a service that has a staff of professionals that provide urgent care. These services are located in primary or outpatient care centres with

emergency care (points of continuing care) and that operate outside of primary care centres' normal hours. They also include the coordinating centres for medical emergencies (061, 112,..) that operate 24 hours a day and offer specialised health teams for urgent care inside and outside the home.

**Sanatorium, hospital or private clinic**

**Private emergency service**

**First-aid post or City Council emergency service**

**Other type of service**

## **HEALTH INSURANCE**

The types of health insurance that the person holds or benefits from are investigated.

### **Types of insurance**

**Public health** (previously Social Security). Includes those citizens who have the right to be cared for by Social Security health services or the Healthcare Service of the relevant Autonomous Community. They are the holder or beneficiary of a social security card or a healthcare card for the following reasons:

- They are the holder registered to social security (active worker or pensioner, unemployed, or without sufficient economic resources), or they are the beneficiary of an insured person.
- They are the foreign holder of authorisation to reside on Spanish territory, under the age of 18 or a citizen of any European Union member state or Switzerland, Iceland, Norway and Liechtenstein residing in Spain.

This method of healthcare coverage is exceptionally compatible with that of State Mutual Benefit Societies under Social Security and State Mutual Benefit Societies under private insurance. For example, it is possible that an official would have MUFACE healthcare coverage with healthcare provided by Social Security and also runs a business autonomously and, therefore, is insured under Social Security. An official with MUFACE healthcare coverage with healthcare provided by Social Security does not count under the Social Security heading.

**State Mutual Benefit Societies (MUFACE, MUGEJU and ISFAS) under Social Security:** Includes civil, military and judicial State officials (members of MUFACE, MUGEJU or ISFAS) and their respective beneficiaries, when they have chosen to receive public healthcare assistance.

This method of healthcare coverage is exceptionally compatible with that of Public health (Social Security).

**State Mutual Benefit Societies (MUFACE, MUGEJU and ISFAS) under private insurance:** Includes civil, military and judicial State officials (members of MUFACE, MUGEJU or ISFAS) and their respective beneficiaries, when they have chosen to receive healthcare from private

bodies and organisations (ADESLAS, ASISA, DKV, SANITAS, etc.). This section includes users that, whilst being members of officials' Mutual Benefit Societies and having chosen private insurance companies, receive general or family medicine and paediatric Public healthcare due to living in rural areas and through special agreements.

This method of healthcare coverage is exceptionally compatible with that of Public health (Social Security) and State Mutual Benefit Societies under Social Security.

**Private health insurance, arranged individually** (medical associations, professional boards, etc.): Includes people who have arranged policies with insurance companies at their own expense in order to receive healthcare in hospitals, private centres and consultations or those dependent on the insurance companies with which they have arranged the aforementioned policies.

**Private health insurance arranged by the company:** Includes people who have the right to receive healthcare through private companies contracted or arranged by the company at which they work. Generally, this private insurance covers workers and their families.

**They do not have medical insurance:** Includes people who do not have the right to public healthcare, nor have any type of insurance, either individually arranged or arranged by their company with private companies, and, when they need healthcare, they are attended by doctors who they pay directly.

This option is incompatible with all the other options.

**Other situation:** This includes people that refer to situations not covered by the sections above.

## CONSUMPTION OF MEDICATION

This section investigates whether the person has consumed medication in the last two weeks, which they have consumed and which of these were prescribed.

### Consumption of medication prescribed by a doctor in the last two weeks

**Prescription medications:** Medication that the person has consumed in the last two weeks and that were prescribed by a doctor are considered under this heading.

**Medications:** Only pharmaceutical specialities, pharmaceutical compounds, medicinal preparations and formulae and ready-made medications are considered to be medication. Personal hygiene products, bandages and other dressings, food products, cosmetics, sweets, chewing gum, etc. are not included.

**Pharmaceutical specialities:** Medicine with defined composition and information in a specific pharmaceutical form and dosage, prepared for immediate medicinal use, available and prepared for supply to the public, with a uniform name, packaging, container and label to which the State Administration has granted health approval and that has been registered in the Register of Pharmaceutical Specialities.

**Pharmaceutical compounds:** Medication prepared for a given patient by the pharmacist or under their guidance that expressly complies with a doctor's detailed prescription of the medicinal substances that it contains, according to the technical and scientific standards of pharmaceutical practices, which is dispensed at their pharmacy or pharmaceutical service.

**Medicinal preparations and formulae:** Medication prepared and guaranteed by a pharmacist, or under their direction, dispensed at their pharmacy or pharmaceutical service, listed and described by the National Formulary and intended for direct delivery to the patients that are supplied by the pharmacy or pharmaceutical service.

**Homeopathic product:** Small doses of diluted substances that aim to activate the body's own defences. In Spain, as in the rest of the European Union, homeopathic products are regulated medication, prescribed by doctors and dispensed by pharmacists.

**Natural product:** Treatment that is based on the administration of plant-based products, that is to say, whose medicinal substance is herbal.

**Type of medication consumed in the past two weeks and whether it was prescribed by a doctor**

1. Medicines for colds, flu, throat, bronchi
2. Medicines for pain
3. Medicines to lower a fever
4. Restorative, such as vitamins, minerals, tonics
5. Laxatives
6. Antibiotics
7. Tranquillisers, relaxants, sleeping pills
8. Allergy medication
9. Diarrhoea medication
10. Medicines for rheumatism
11. Medicines for the heart
12. Medicines for high blood pressure
13. Medicines for the stomach and/or digestive disturbances
14. Anti-depressants, stimulants
15. Contraceptive pills (only for women)
16. Menopausal hormones (for women only)
17. Weight loss medication
18. Cholesterol-lowering medication
19. Diabetes medication
20. Thyroid medication

21. Homeopathic products
22. Natural products
23. Other medication

In the **child's questionnaire** the list of medications that are asked about is shorter:

1. Medicines for colds, flu, throat, bronchi
2. Medicines for pain
3. Medicines to decrease a fever
4. Restorative, such as vitamins, minerals, tonics
5. Laxatives
6. Antibiotics
7. Tranquillisers, relaxants, sleeping pills
8. Asthma medication
9. Allergy medication
10. Diarrhoea medication
11. Vomiting medication
12. Diabetes medication
13. Other medication

## **PREVENTATIVE PRACTICES**

Both the general population's preventative practices as well as those specific to women are investigated in adults.

### **GENERAL PREVENTATIVE PRACTICES**

This investigates the coverage of flu vaccinations, the performance and frequency of taking blood pressure readings, measuring cholesterol levels, measuring the blood sugar level, carrying out faecal occult blood testing and colonoscopies.

**Blood pressure measurement.** This is the measurement of systolic and diastolic blood pressure by a healthcare professional (including pharmacies).

**Time passed since the last blood pressure measurement.** The respondent is asked about the last time that they monitored their blood pressure. The response intervals are: In the past 12 months, Over 1 year but less than 2 years ago, Over 2 years but less than 3 years ago, Over 3 years but less than 5 years ago, Over 5 years ago.

**Cholesterol measurement.** This is the determination of the amount of total serum cholesterol.

**Time passed since the last cholesterol measurement.** The respondent is asked about the last time that they measured their cholesterol. The response intervals are: In the past 12 months, Over 1 year but less than 3 years ago, Over 3 years but less than 5 years ago, Over 5 years.

**Blood sugar level measurement.** This is the determination of the amount of glucose in the blood.

**Time passed since the last blood sugar level measurement.** The respondent is asked about the last time that they measured the level of sugar in their blood. The response intervals are: In the past 12 months, Over 1 year but less than 3 years ago, Over 3 years but less than 5 years ago, Over 5 years.

**Carrying out faecal occult blood testing.** This is a test used for the early detection of colon or colorectal cancer. The presence of blood in one or more stool samples obtained by the patient, following the doctor's instructions, is detected through a laboratory analysis.

**Time passed since the last faecal occult blood testing.** The respondent is asked about the last time that they had a faecal occult blood test. The response intervals are: In the past 12 months, Over 1 year but less than 2 years ago, Over 2 years but less than 3 years ago, Over 3 years but less than 5 years ago, Over 5 years ago.

#### **Reasons for carrying out a faecal occult blood test**

- Due to some problem, symptom or illness
- Following the advice of their primary care doctor or specialist, although there was no problem
- Because they received a letter, a phone call or were told at their health centre that they could do this test
- Other reasons

**Colonoscopy.** This is a test through which the inside of the colon (large intestine) and the rectum are viewed, using an instrument called a colonoscope. The colonoscope is a small camera attached to a flexible tube that can reach the entire length of the colon.

**Time passed since the last colonoscopy.** The respondent is asked about the last time that they had a colonoscopy. The response intervals are: In the past 12 months, Over 1 year but less than 5 years ago, Over 5 years but less than 10 years ago, Over 10 years.

#### **WOMEN'S PREVENTATIVE PRACTICES**

In this section, the performance out of mammograms and cervical smears, their frequency and motives are investigated.

**Performance of mammograms.** Test used for the early detection of breast cancer. It consists of an X-ray of one or both breasts. This does not include an ultrasound of the breast.

**Time passed since the last mammogram.** The respondent is asked about the last time that they had a mammogram. The response intervals are: In the last

12 months, Over 1 year but less than 2 years ago, Over 2 years but less than 3 years ago, Over 3 years ago.

#### **Reasons for having their last mammogram**

- Due to some problem, symptom or illness
- Following the advice of their primary care doctor or specialist, although there was no problem
- Because they received a letter, a phone call or were told at their health centre that they could do this test
- Other reasons

**Cervical smear.** A cervical smear is a test used for the early detection of cervical and vaginal cancer and certain infections. It also allows the woman's hormonal activity to be determined. It involves taking a sample of cells that are then analysed in a laboratory.

**Time since the last cervical smear.** The respondent is asked about the last time that they had a cervical smear. The response intervals are: In the last 12 months; Over 1 year but less than 2 years ago, Over 2 years but less than 3 years ago, Over 3 years but less than 5 years ago, Over 5 years ago.

#### **Reasons for having their last cervical smear**

- Due to some problem, symptom or illness
- Following the advice of their primary care doctor or specialist, although there was no problem
- Because they received a letter, a phone call or were told at their health centre that they could do this test
- Other reasons

#### **UNMET MEDICAL CARE NEEDS**

This section attempts to measure whether the person has required healthcare in the last twelve months that they have not received. The main reason for which they did not obtain care is investigated, including: waiting list, transport or distance-related problem or whether the lack of care was due to economic reasons. In the latter case, the type of healthcare (medical, dental, pharmaceutical or mental) that they could not receive is identified.

### **7.4. MODULE ON HEALTH DETERMINANTS**

This module seeks to identify certain basic physical characteristics of the surveyed person, such as weight and height, and, in adults, lifestyle habits that are considered to pose a risk to health, such as tobacco and alcohol consumption. Eating, oral hygiene and exercise habits are also investigated. Environmental determinants, such as exposure to tobacco smoke and social support (adults only) are also investigated. It includes a section aimed at determining if the respondent spends part of their time taking care of other people with health problems (adults only). For children, time spent in front of a screen and breast feeding are also investigated.

## (I) ADULT QUESTIONNAIRE

### **PHYSICAL CHARACTERISTICS**

An attempt is made to obtain data on self-declared weight and height in order to categorise the interviewee according to body mass index.

**Body mass index (BMI):** the relationship between an individual's weight (in kilograms) and the height squared (in meters)

The population aged 18 years and over are considered to be:

- Underweight if their BMI is < 18.5 kg/m<sup>2</sup>
- Normal weight if their BMI is between 18.5 kg/m<sup>2</sup> and 25 kg/m<sup>2</sup>
- Overweight if their BMI is between 25 kg/m<sup>2</sup> and 30 kg/m<sup>2</sup>
- Obese if their BMI is > 30 kg/m<sup>2</sup>.

For the population aged 2-17, BMI has been categorised in accordance with the *World Obesity Federation* (previously the IOTF - *International Obesity Task Force*) proposal for the categories of underweight, <sup>7</sup> overweight and obese<sup>8</sup>.

### **PHYSICAL ACTIVITY**

Information is collected on the physical activity that the respondent carries out during their main activity and their leisure time. For adults aged 15-69, the days and time that the surveyed person spends carrying out physical activity and walking are investigated. The goal is to quantify the volume of physical activity and to be able to identify the population that does not meet the World Health Organisation's recommendations on physical activity. The short version of the adapted International Physical Activity Questionnaire (IPAQ)<sup>9</sup> is used. Referring to the past seven days, the person estimates the frequency with which they carried out intense physical activity, moderate physical activity and walking, as well as the duration. Finally, the amount of time that they remain seated in a normal day is evaluated.

**Physical activity in main activity** (at the place of work, school, in domestic household chores, etc.)

- Sitting down for most of the working day
- Standing up for most of the working day, without making large movements or efforts
- Walking, carrying some weight, frequently moving
- Carrying out tasks that require great physical effort

### **Physical activity during leisure time**

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<sup>7</sup> Cole TJ, Flegal, KM, Nicholls D, Jackson AA. *Body mass index cut offs to define thinness in children and adolescents: international survey. BMJ* 2007;335:194-197.

<sup>8</sup> Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. *Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ* 2000; 320:1-6.

<sup>9</sup> *International Physical Activity Questionnaire (IPAQ)*. Consensus group of experts on physical activity, 1998.

- I do not exercise. I spend my free time almost exclusively sat down (reading, watching television, going to the cinema, etc.)
- I do occasional sporting or physical activities (walking or cycling, gardening, low-impact gymnastics, recreational activities that require slight effort, etc.)
- I do physical activity several times a month (sports, gymnastics, jogging, swimming, cycling, team sports, etc.)
- I do sports or physical training several times a week

**Intense physical activity.** Intense physical activity is very physically demanding and results in much heavier breathing than normal (heavy lifting, digging, aerobic exercises, pedalling fast.).for at least 10 minutes at a time.

- Number of days the respondent did intense activities in the last 7 days
- Number of hours and minutes that they dedicated to intense physical activities on one of those days.

**Moderate physical activity.** Moderate physical activity is moderately physically demanding and results in somewhat heavier breathing than normal (carrying light weights, cycling at a regular speed, playing doubles tennis.).for at least 10 minutes at a time.

- Number of days the respondent did moderate activities in the last 7 days
- Number of hours and minutes that they dedicated to moderate physical activities on one of those days

**Time spent walking.** The time spent walking to work, around the house, going from one place to another or for sport, exercise or pleasure, for at least 10 minutes at a time, is measured.

- Number of days the respondent walked in the last 7 days
- Number of hours and minutes the respondent walked in the last 7 days

**Time spent seated** Time spent sitting at work, at home, in class, studying, reading, on transportation, in free time, or watching TV in the last 7 days is measured.

- Number of hours and minutes the respondent was seated in a normal day in the last 7 days.

## **DIET**

**Frequency of consuming food.** This covers the frequency of consuming certain foods. It is investigated in more detail whether the respondent consumes fruit daily, whether whole or as juice. The foods studied are:

- Fresh fruit (excluding juices)
- Meat (chicken, beef, pork, lamb, etc.)
- Eggs
- Fish

- Pasta, rice, potatoes
- Bread, grains
- Leafy greens, salads and vegetables
- Legumes
- Cold meats and cuts
- Dairy products (milk, cheese, yoghurt)
- Sweets (biscuits, pastries, jams, cereals with sugar, sweets, etc.)
- Soft drinks with sugar
- Fast food (fried chicken, sandwiches, pizzas, burgers)
- Snacks or salty snacks (chips, cheesy puffs, crackers)
- Natural fruit or vegetable juice

The response intervals for the frequency with which the respondent consumes certain foods are: One or more times a day; Between 4 to 6 times a week; Three times a week; Once or twice a week; Less than once a week; Never.

#### **DENTAL HYGIENE**

This records the frequency with which the respondent regularly brushes their teeth amongst the population aged 3 and over. The answers are: Occasionally, not every day; Never; Once a day; Twice a day; Three or more times a day.

#### **TOBACCO USE AND EXPOSURE TO TOBACCO SMOKE**

This section investigates the prevalence of tobacco consumption in people aged 15 or over, the kind of smoker they are (daily, not daily or an ex-smoker), type of tobacco, frequency of cigarette consumption, age they started and whether they intend to quit. Finally, exposure to tobacco smoke in enclosed spaces is investigated for the entire population, both adult and child.

**Type of smoker.** A smoker is defined as a person who currently consumes cigarettes, cigars, and/or pipes.

- Smokes daily
- Smokes but not daily
- Does not currently smoke but used to smoke
- Does not smoke and has never smoked habitually

**Type of tobacco smoked most frequently** (only for daily smokers).

- Cigarettes (including rolling tobacco)
- Cigars
- Pipe tobacco

- Others

**Number of cigarettes per day** (only for daily smokers).

**Age they began consuming tobacco** (only for daily smokers).

**Attempts to stop consuming tobacco** (only for daily smokers).

**Frequency of exposure to tobacco smoke in enclosed spaces.** The general population is studied to determine the number of passive smokers and the time that they tend to be exposed to tobacco smoke in enclosed spaces.

- Never or almost never
- Less than one hour a day
- Between one and five hours a day
- Over five hours a day.

## **CONSUMPTION OF ALCOHOLIC DRINKS**

The frequency with which the respondent has consumed alcohol over the last twelve months and the frequency with which this consumption is heavy are investigated. For people with more regular alcohol consumption, the type of drinks and units consumed in a week of normal activity are studied in detail.

**Frequency of alcohol consumption in the past 12 months.**

- Daily or almost daily
- 5 or 6 days per week
- 3 or 4 days per week
- 1 or 2 days per week
- 2 or 3 days a month
- Once a month
- Less than once a month
- Not in the last 12 months, I have stopped consuming alcohol
- Never or I have only tried a few sips in my lifetime

**Amount/frequency of consumption.** Number of times each type of drink is consumed each day of an average week. The number of glasses drunk is recorded for each of the following types of alcoholic drinks and for each day of the week.

- Alcoholic beers
- Wines, sparkling wines
- Vermouth, light sherry, sherry and other alcoholic aperitifs
- Liqueurs, anisette, pacharán
- Whisky, cognac, mixed drinks, rum, gin, vodka, pomace brandy, rum and coke and other distilled spirits, alone or with mixers

- Local drinks, cider, carajillo

**Frequency of heavy consumption.** Heavy consumption that is a risk to health (also known as binge drinking, heavy episodic drinking - HED or risky single-occasion drinking - RSOD): Consumption of 6 or more standard drinks (for men) or 5 or more standard drinks (for women) at a time.

"At a time" is understood to mean consumption in the same sitting, within approximately 4-6 hours. In order for the surveyed person to be clear on the concept of a "standard drink", they are provided with a card that illustrates the most common examples of drinks that correspond to one or two standard drinks.

- Daily or almost daily
- 5 or 6 days per week
- 3 or 4 days per week
- 1 or 2 days per week
- 2 or 3 days a month
- Once a month
- Less than once a month
- Not in the last 12 months
- Never in all my life

For the purposes of this survey, the equivalence in grams of pure alcohol and "standard drink units" of the most common drinks (a cup or glass) is as follows<sup>10</sup>:

» Alcoholic beer	10g pure alcohol	one standard drink unit
» Wine or sparkling wine	10g pure alcohol	one standard drink unit
» Alcoholic aperitifs (vermouth, light sherry, sherry)	20g of pure alcohol	two standard drink units
» Liqueurs, anisette, pacharán	20g of pure alcohol	two standard drink units
» Whisky, cognac, mixed drinks... drink units	20g of pure alcohol	two standard drink units
» Local drinks (cider, carajillo.).	10g pure alcohol	one standard drink unit

## SOCIAL SUPPORT

The Duke-UNC-11 Questionnaire, validated and adapted for Spain<sup>11</sup>, is used to measure the perceived social support of the population aged 15 and over. It is an instrument comprised of 11 items that measures perceived functional

<sup>10</sup> Rodríguez-Martos Dauer A, Gual Solé A, Llopis Llácer JJ. La «unidad de bebida estándar» como registro simplificado del consumo de bebidas alcohólicas y su determinación en España. [The "standard drink unit" as a simplified record of alcoholic drink consumption and its measurement in Spain.] Med Clin (Barc);112:12.

<sup>11</sup> Bellon JA, Delgado A, Moon JD, Lardelli P. Validez y fiabilidad del cuestionario de apoyo social funcional Duke-UNC-11. [Validity and reliability of the Duke-UNC-11 questionnaire of functional social support.] Aten Primaria. 1996; 18: 153-63.

or qualitative social support, which does not necessarily correspond with actual support, in two aspects of emotional support: confidential support (having people to communicate with) and affective support (demonstrations of love, affection and empathy).

Each item is scored on a frequency gradient (Likert Scale) that goes from 1 ("Much less than what I want") to 5 ("As much as I want"). The score is obtained by adding the responses for each item and calculating the average, so the higher the score, the greater the social support.

### **CARING FOR OTHER PEOPLE WITH HEALTH PROBLEMS**

In this section, it is determined whether or not the surveyed person is responsible for caring for older people or people with a health problem, whether or not this is a family member and how many hours a week they spend caring for these people. If the care is part of the respondent's work, this is excluded.

### **(II) CHILD QUESTIONNAIRE**

#### **IN THE CHILD QUESTIONNAIRE**

In addition to the variables already defined in the adult questionnaire, information on self-perception of the relationship between weight/height, sleeping habits (0 to 14 years), sedentary activities in leisure time (1-14 years) and characteristics of breast feeding (0-4 years) is collected on the child population.

#### **NUMBER OF DAILY HOURS OF SLEEP**

**Number of hours of leisure time spent in front of a screen.** This section records the time children older than 1 spend in front of a screen, including computers, tablets, television, videos, video games and mobile phone screens, from Monday to Friday and at the weekends.

**Breastfeeding at 6 weeks, 3 months and 6 months.** The population under 5 is studied according to the type of breastfeeding at the above ages: exclusive breastfeeding, mixed or formula only.

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## **8. Information processing**

As the information is collected through CAPI, the data is first filtered through errors entered on the laptop that allows for the detection of inconsistencies and provides warnings of outliers when the answers are being entered. In this way, correcting/confirming data can be carried out in the household at the time of the interview.

Once the information corresponding to each census tract is collected from the households, the information collected on the tablets is downloaded in the administrative centres of the company in charge of collection. In the INE's Central Services, the information is downloaded by theoretical collection period for centralised processing. This information processing consists of the following stages:

- *Coverage stage*: Detects duplicates, compares the number of theoretically collected questionnaires (according to the computer application monitoring fieldwork) and those actually received for each household.
- *Quality control stage*: The collected information is checked for inconsistencies or serious errors entered in the questionnaire.
- *Filtering and imputation stage*: This consists of detecting inconsistencies that were not included in the electronic questionnaire, as well as obtaining marginal tables, variable analysis tables, etc. The correction of possible incoherent or missing values is done automatically and, exceptionally, manually.
- *Calculation of elevation factors and estimators*: Ratio estimators, to which reweighting techniques are applied, are used to estimate the sample's characteristics. The auxiliary information used will depend on the characteristic under study.
- *Tabulation of results*. Tables are designed that present both absolute and relative results of the main variables studied, disaggregated by classification variables: age, sex, Autonomous Community, education level, country of birth, economic activity, social class of the reference person and household income level.
- *Calculation of sampling errors*: Variation coefficients are calculated for the main variables studied and disaggregations. These tables are published along with the methodology so that this calculation can be replicated and applied to any other variable.
- *Analysis of the non-response*: To analyse the non-response, information is collected on the basic characteristics of units that did not participate in the survey.

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## 9. Dissemination of results

Results are published in June 2018.

When the data are published, users will have access to the following products:

- (i) Main results report
- (ii) Presentation of the most noteworthy results in charts
- (iii) Statistical tables of the variables studied, classified according to different demographic characteristics
- (iv) Tables of sampling errors for the main variables
- (v) Report on the non-response
- (vi) Methodology

- (vii) Household, selected adult and child questionnaires
- (viii) Online databases: anonymised survey microdata files for public use, available for download. The "Record design and valid variable values", which is in Excel format, is needed to read the file in ASCII.

The following products are published later:

- Results report
- Case studies.

The data can be accessed through the following Ministry of Health, Consumer Affairs and Social Welfare and the National Statistics Institute links:

- <https://www.msssi.gob.es/estadEstudios/estadisticas/encuestaNacional/home.htm>
- [http://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica\\_C&c\\_id=1254736176783&menu=resultados&idp=1254735573175](http://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&c_id=1254736176783&menu=resultados&idp=1254735573175)

At the request of researchers, the following are valued:

- Personalised extraction of microdata not covered in the detailed results published. The reason behind this request is evaluated individually.
- Resolution of queries.

In these cases, a request is made through the health information area via the following email: [informacionsanitaria@msssi.es](mailto:informacionsanitaria@msssi.es).

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## 10. Confidentiality

Law 12/1989, of 9 May, on the Public Statistical Function obliges the National Statistics Institute and other State statistical services, including the Ministry of Health, Consumer Affairs and Social Welfare, not to disseminate personal data in any case.

Personal data are defined as data relating to individuals and legal entities that either allow immediate identification of the parties concerned or that could lead, due to its structure, content or degree of disaggregation, to the indirect identification of these.

In the case of the National Health Survey, the MSCBS and the INE adopt the necessary logical, physical and administrative measures to ensure that confidential data are effectively protected, from the collection of data to their anonymisation.

The SNHS questionnaires include a legal clause informing the surveyed persons of the protection of collected data.

The awarded company responsible for the collection of information and all staff involved in the work are formally obliged to safeguard statistical secrecy, and the contract provides for communications security.

In the information processing stages, the data allowing direct identification are only retained while they are necessary for guaranteeing the quality of the processes.

For the publication of results tables, information is analysed in order to ensure that the statistical units' confidential data cannot be deduced, ensuring confidentiality.

Microdata files are anonymised.

The SNHS microdata files are available for public use and not identifiable, so therefore do not require agreements for their use. They contain records of the individuals or households that replied to the survey, but are anonymised, therefore making it impossible to identify the surveyed person directly (by name, address, identification number, etc.) or indirectly (through combining especially infrequent characteristics of the people surveyed, such as age, country of birth or occupation), removing the variables that could allow for such identification.

Files for public use are not considered to be confidential, in accordance with Regulation (EU) No 2016/679 of the European Parliament and of the Council of 27 April 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (which came into force on 25 May 2016 and is binding since 25 May 2018). The principles of data protection do not need to be applied to anonymous information, in other words, information that is not related to an identified or identifiable individual, nor to data made anonymous where the person concerned is not identifiable, or ceases to be. As a result, the Regulation does not affect the treatment of published information of the SNHS. Even for statistical or research purposes, its use does not require the approval of an accredited ethics committee.

Access to partially anonymised data for research (microdata files with a higher level of disaggregation or an additional variable compared to public use files) must be duly justified, be requested by a recognised research body and obtain the corresponding transfer agreement, depending on the requested data's required protection level.

## ANNEX - SOCIAL CLASS

### LIST OF OCCUPATIONS TO THE THIRD DIGIT LEVEL OF THE NATIONAL CLASSIFICATION OF OCCUPATIONS 2011 (CNO-11) INCLUDED IN EACH SOCIAL CLASS CATEGORY.<sup>12</sup>

The social class categories have been taken from the proposal made by the Spanish Society of Epidemiology's (SEE) Working Group on Determinants<sup>13</sup>, in which social class is assigned according to occupation<sup>14</sup>. The different classes and codes that are considered in the survey according to the SEE's proposal, in accordance with the National Classification of Occupations 2011 (CNO2011), are listed below:

#### **CLASS I - Directors and managers of establishments with 10 or more employees and professionals traditionally associated with bachelor's university degrees.**

##### **1. Directors and managers of establishments with 10 or more employees and professionals traditionally associated with bachelor's university degrees.**

111	Members of the executive branch and legislative bodies; directors of the Public Administration and organisations of social interest
112	Chief Executive Officers and Chairmen
121	Directors of administrative departments
122	Commercial, advertising, public relations and research and development directors
131	Directors of production of agricultural, forestry and fishing undertakings and manufacturing, mining, construction and distribution industries
132	Directors of information and communication technologies (ICT) services and professional services companies
211	Doctors
213	Veterinarians
214	Pharmacists
215	Other health professionals
221	Professors of universities and other higher education (except for vocational training)
223	Teachers in secondary education (except for specific vocational training subjects)
241	Physicists, chemists, mathematicians and the like
242	Professionals working in natural sciences
243	Engineers (except for agricultural, forest, electric, electronic and ICT engineers)
244	Electric, electronics and telecommunication engineers
245	Architects, urban planners and geography engineers
251	Judges, magistrates, lawyers and prosecutors
259	Other legal professionals
261	Specialists in finances
262	Specialists in organisation and administration
265	Other sales, marketing, advertising and public relation professionals
271	Analysts and designers of software and multimedia
281	Economists

<sup>12</sup> The 8 groups from the Spanish Society of Epidemiology's (SEE) proposed exhaustive classification CSO2012 have been grouped into 6 classes, in order to allow comparability of data with the SEE's previous classification (CSO1995), used in previous SNHSs.

<sup>13</sup> The group of "non-classifiable" occupations (codes 001, 002 and 283) have been assigned to the same class categories as in previous editions of the SNHS to enable comparison between series.

<sup>14</sup> For codes 111, 112, 121, 122, 131, 132, 141, 142, 143 and 150, the SEE's proposal assigns social class according to the number of employees at the place of work. However, the same proposal states that wherever this information is absent (in the case of the SNHS), the following considerations are applied:

- In the event that there is no information about the number of employees, occupations 111 to 132 are assigned to social class I and occupations 141 to 150 to social class II.

- Where information is available about the number of employees, occupations 111 to 150 are assigned to social class I when these are establishments with 10 or more employees and social class II when they have fewer than 10 employees.

282	Sociologists, historians, psychologists and other professionals in social sciences
291	Archivists, librarians, curators and the like
292	Writers, journalists and linguists
283	Priests of different religions

**CLASS II - Directors and managers of establishments with fewer than 10 employees, professionals traditionally associated with diploma university degrees and other technical support professionals. Athletes and artists**

**2. Directors and managers of establishments with fewer than 10 employees, professionals traditionally associated with diploma university degrees and other technical support professionals. Athletes and artists.**

141	Directors and managers of accommodation businesses
142	Directors and managers of catering businesses
143	Directors and managers of wholesale and retail trade companies
150	Directors and managers of other service companies not classified under other headings
212	Nursing and midwifery professionals
222	Vocational training teachers (specific subjects)
224	Teachers in primary education
225	Child education teachers and educators
231	Special education teachers and technicians
232	Other education teachers and professionals
246	Technical engineers (except for farming, forest, electrical, electronics and ICT)
247	Technical engineers specialising in electricity, electronics and communications
263	Tourist companies and activities technicians
264	Professionals of technical and medical sales (except for ICT)
248	Technical architects, topographers and designers
272	Specialists in databases and computer networks
293	Creative and interpretative artists
311	Draughters and technical draftsmen
315	Professionals in sea and aeronautics navigation
316	Technicians of quality control of physical, chemical and engineering sciences
333	Professionals of alternative therapies
362	Customs and tax officers and the like, working in tasks of the Public Administration
372	Sportsmen, trainers, sports activities instructors; monitors of recreational activities
373	Technicians and professionals supporting cultural, artistic and culinary activities
001	Armed forces officers and non-commissioned officers

**CLASS III - Intermediate occupations and self-employed workers****3. Intermediate occupations: administrative employees and support professionals for administrative management and other services.**

331	Health technicians of laboratory, diagnostic tests and prostheses
332	Other health technicians
340	Support professionals in finances and mathematics
351	Trade representatives and agents
352	Other commercial agents
353	Real estate and other agents
361	Administrative and specialised assistants
363	Security force technicians
371	Support professionals to social and legal services
381	Technicians in information technology operations and user support
382	Computer programmers
383	Technicians in audiovisual recording, radio broadcasting and telecommunication
411	Accounting and financial employees
412	Employees dedicated to recording goods, production and transport support services
421	Library and archive employees
422	Postal service employees, encoders, proofreaders and personnel services
430	Other non-customer service administrative employees
441	Employees that provide information to consumers and receptionists (except for hotels)
442	Travel agency employees, hotel receptionists and telephone operators
443	Survey agents
444	Employees at banks and postal service windows and similar (except tellers)
450	Customer service administrative employees not included elsewhere
582	Workers who look after travellers, tourist guides and similar
591	Civil Guards
592	Police officers
593	Firemen
002	Armed forces army and navy
<b>4. Self-employed workers</b>	
500	Waiters and chefs that own the establishment
530	Shop owners
584	Owner-workers of small accommodation

**CLASS IV - Supervisors and workers in skilled technical occupations****5. Supervisors and workers in skilled technical occupations.**

312	Technicians in physical sciences, chemistry, environment and engineering
313	Process control and installation technicians
314	Natural sciences technicians and similar assistant professionals
320	Manufacturing industry, construction and mining engineering supervisors
521	Shop and warehouse floor managers
581	Hairdressers and beauty, well-being and similar specialists
713	Carpenters (except cabinetmakers and metallic structure fitters)
719	Other structural construction workers
721	Plasterer and those who apply paste and mortar
722	Plumbers and pipe fitters
723	Painters, paperhangers and similar
725	Mechanics-installers of cooling and air conditioning
731	Moulders, welders, panel beaters, metallic structure fitters and similar workers
732	Blacksmiths and workers in the manufacture of tools and similar
740	Machinery mechanics and fitters
751	Construction and similar electricians
752	Other electrical equipment installers and repairers
753	Electrical and telecommunications equipment installers and repairers
761	Metal precision mechanics, ceramists, glass makers and artisans
782	Cabinetmakers and related workers
783	Textile, clothing, leather, hide and footwear workers
789	Blasters, scuba divers, product testers and other various operators and artisans
831	Train drivers and similar

**CLASS V - Skilled primary sector workers and other semi-skilled workers****6. Skilled primary sector workers and other semi-skilled workers**

511	Salaried chefs
512	Salaried waiters
522	Shop and warehouse sellers
541	Kiosk or street market sellers
543	Petrol station vendors
549	Other sellers
550	Cashiers and clerks (except banks)
561	Nursing assistants
562	Auxiliary pharmacy technicians, healthcare emergency workers and other workers that care for people in health services
571	Home personal care workers (except for childcare providers)
572	Childcare providers
589	Other personal service workers
594	Private security staff
599	Other protection and security workers
611	Skilled agricultural activity workers (except in orchards, greenhouses, nurseries and gardens)
612	Skilled orchard, greenhouse, nursery and garden workers
620	Skilled livestock activity workers (including poultry, beekeeping and similar)
630	Skilled mixed livestock and farming workers
641	Skilled forest and environmental activity workers
642	Skilled fishery and aquaculture activity workers
643	Skilled hunting activity workers
711	Cement, formwork, iron and similar workers
712	Bricklayers, stonemasons, stone cutters, splitters and carvers
724	Welders, parquet flooring layers and similar
729	Other construction, installation (except electrical) and similar finishing workers
762	Graphic arts workers
770	Food, drink and tobacco industry workers
781	Workers who treat wood and similar
811	Ore extraction and exploitation facility operators
812	Metal processing facility operators
813	Chemical, pharmaceutical and photosensitive material facility and machine operators
814	Operations in facilities for the treatment and transformation of wood, manufacture of paper, paper products and rubber or plastic materials
815	Textile, leather and hide article production machine operators
816	Food, drink and tobacco production machine operators
817	Laundry and dry cleaning machine operators
819	Other facility and fixed machine operators
820	Installers and assemblers in factories
832	Mobile agricultural and forestry machine operators
833	Other mobile machine operators
841	Car, taxi and van drivers
842	Bus and tram drivers
843	Lorry drivers

**CLASS VI****7. Unskilled workers**

542	Telemarketing operators
583	Building and housekeeping supervisors, caretakers and domestic housekeepers
834	Deck cadets, engineer sailors and similar
844	Motorcycle and moped drivers
910	Domestic workers
921	Cleaning staff in offices, hotels and other similar establishments
922	Vehicle and window cleaners and manual cleaners
931	Kitchen assistants
932	Fast food chefs
941	Street sellers
942	Leafleters, shoeshiners and other street trade workers
943	Porters, baggage handlers, delivery workers and similar
944	Rubbish collectors, rubbish sorters, street sweepers and similar
949	Other elementary occupations
951	Agricultural labourers
952	Livestock labourers
953	Farming labourers
954	Fishing, aquaculture, forestry and hunting labourers
960	Construction and mining labourers
970	Manufacturing labourers
981	Transport labourers, unloaders and similar
982	Stockers

The correspondence between the occupational social classes of the shortened CSO-1995 and those of the grouped CSO-2012 is as follows:

CSO-1994		CSO-2012	
I	<b>Public Administration directors and directors of businesses with 10 or more employees. Professions associated with postgraduate university degrees</b>	CLASS I	<b>Directors and managers of establishments with 10 or more employees and professionals traditionally associated with bachelor's university degrees</b>
II	<b>Public Administration directors and directors of businesses with 10 or fewer employees. Professions associated with an undergraduate university degree. Senior technicians. Artists and athletes</b>	CLASS II	<b>Directors and managers of establishments with fewer than 10 employees, professionals traditionally associated with diploma university degrees and other technical support professionals. Athletes and artists</b>
III	<b>Administrative employees and support professionals for administrative and financial management. Personal service and security workers. Self-employed workers. Supervisors of manual workers</b>	CLASS III	<b>Intermediate occupations and self-employed workers</b>
IVa	<b>Skilled manual workers</b>	CLASS IV	<b>Supervisors and workers in skilled technical occupations</b>
IVb	<b>Semi-skilled manual workers</b>	CLASS V	<b>Skilled primary sector workers and other semi-skilled workers</b>
V	<b>Unskilled workers</b>	CLASS VI	<b>Unskilled workers</b>

