

## 1 – Health status

### CHRONIC DISEASES

In order to study the chronic morbidity, interviewees were asked to indicate the diseases they were suffering from a pre-codified list with twenty-eight illnesses, part of the survey “Health status of the population and use of health services – years 1999-2000”. Compared to the 1994 survey, nine other pathologies were also examined: varicose veins, varicocele, haemorrhoids, skin diseases, thyroid trouble, lumbar pain, chronic hepatitis, and other nervous disorders. An open question was added for surveying also non pre-codified chronic pathologies. This makes up the aggregate “chronic”, in other words persons who declare to suffer from at least one chronic illness, not directly comparable with the one defined in the previous 1994 survey. The method for handing out the questionnaire was done differently than the 1994 survey, presenting a higher rate of direct answers. This means that the comparison cannot be carried out per pathology.

Two indicators have been created for identifying the segment of population suffering from bad health conditions and for analysing their socio-demographic characteristics: “persons suffering from at least one serious chronic disease” and “persons suffering from three or more chronic diseases”. The first indicator was defined by aggregating nine groups of pathologies in the category “serious”, assuming that these pathologies involve serious health conditions and a high level of limitations: diabetes; myocardium infarct; angina pectoris; other heart diseases; thrombosis, embolism, cerebral haemorrhage; bronchitis, emphysema, respiratory insufficiency; hepatic cirrhosis; cancer (included lymphoma/leukaemia); Parkinsonism, Alzheimer, epilepsy, memory loss. The second indicator refers indistinctly to all pathologies and was created by hypothesising evident difficult and limiting health conditions, together with a worsening of life quality.

### ACUTE DISEASES AND TRAUMATISMS

Acute diseases and traumatism are events that disturb the psychophysical balance of the population, even if, as regards some pathologies, temporarily. Episodes of aggravation of chronic pathologies have also been surveyed in order to evaluate their impact on the limitations of daily activities and work absence.

For this purpose, interviewees were asked in an open question whether, during the four weeks preceding the interview, they had suffered from some health problem, independently from their seriousness and taking into consideration, as already explained, possible chronic diseases, provided they had caused some difficulties during the reference period. The period is limited only to the four weeks preceding the interview so that it reduces effects of distortion that the reference to a longer period could introduce in the interviewee’s memory, especially in the case of less serious pathologies or pathologies of a lesser entity.

### PHYSICAL AND MENTAL COMPONENT SUMMARY MEASURES

The SF-12 (Short form health survey) is a questionnaire whose purpose is to survey the perception individuals have of their psychophysical conditions. It is based on a more extensive version, the SF-36, introduced in the United States during the 1980s. The latter is a multi-dimensional questionnaire as it is divided in 36 items that refer to eight dimensions (physical activity, limitation of the role due to the physical health, emotional condition, physical pain, perception of general health condition, vitality, social activity and mental health).

The synthesis of the scores enables to establish two health component summaries, one relative to the physical component summary (Pcs), and the other relative to the mental component summary (Mcs). The values of the synthetic indexes on the sample analysed vary from 10,5 to 69,7 as regards the Pcs and from 7,4 to 72,1 for the Mcs, where better psychophysical health corresponds to higher values. The very low levels (about under 20 points) of Pcs correspond to a condition of “substantial limitations in taking care of oneself and in physical, social and personal activity; important physical pain; frequent tiredness; health is considered as poor”. A low value of mental health index indicates “frequent mental trouble; important social and personal trouble due to emotional problems; health is considered as poor”.

### PERCEIVED HEALTH STATUS

The indicators on health perception are based on the question, recommended by the Who, from the multi-purpose survey on “Health status of the population and use of health services – 1999/2000. To the question “How is your health in general?” the interviewee answers by expressing an opinion on a verbal scale from one to five (very bad, bad, discreet, well, very well).

## DISABILITY

For surveying the phenomenon of disability, Istat used a set of questions, prepared by an Oecd work group and based on the Who’s Icidh classification (International classification of impairment, disability and handicap), that enables to examine specific dimensions of disability: the physical dimension, which refers to the mobility and locomotion functions, indicating a confinement in situations of serious limitations; the autonomy in activities of daily living as regards personal care activity; and the dimension of communication that relates to the sight, the hearing and the speech functions.

The classification makes a distinction between impairment, disability and handicap, establishing a relation among these three concepts defined as follows:

- impairment is intended to be “any mental or physical perturbation of the body’s functioning. It is characterised by losses or anatomic, physical or mental abnormalities (at the level of tissue, organ, a functional system or a body’s single function)”;
- disability is intended to be “a restriction or loss of functional ability or of activity ensuing from the impairment”;
- handicap is a “disadvantage lived as a result from an impairment or disability. It therefore indicates the social or environmental consequences of disability or impairment”.

A set of questions is dedicated to each type of disability, where the answer items indicate different levels of difficulty (from a partial autonomy to a greater difficulty and to the inability of carrying out a function without the help of other persons). For a correct interpretation of the data, one must bear in mind that, for each question, the interviewee answers according to a subjective evaluation of one’s own level of autonomy. This evaluation varies not only according to the different health conditions and autonomy levels, but also per cultural and cognitive differences or per differences in the availability of material and relational supports the disabled may use to deal with his or her own limitations.

A person is defined as disabled when, excluding conditions of temporary limitation, he or she declares to have the highest level of difficulty in at least one of the functions surveyed in each question, despite the sanitary equipments he or she may have (prosthesis, canes, glasses, etc.).

According to the functional autonomy compromised, four types of disability have been established: confinement, difficulties in movement, difficulties in daily life functions, and difficulties of communication. Confinement is permanent bed immobility, or to a chair, or in one’s own home due to physical or mental motives; persons who are confined, answer only to the questions that relate to motor activity compatible with their relative type of confinement. Persons experiencing difficulties in their movements, have problems in walking (they succeed only at making some steps without having to rest), they are not able to walk up and down alone the stairways without stopping, and do not succeed at bending down to pick up objects from the floor. The difficulties in daily life functions regard the complete lack of autonomy in carrying out essential daily activities or personal care activity, such as going to bed or sitting down alone, dressing alone, washing, taking a shower or a bath alone, eating alone even though their food has been cut. The difficulties in communication include the limitations in hearing (such as not following a television programme despite raising the volume and using acoustic equipments); limitations in seeing (not recognizing a friend at one metre of distance); and difficulties in speaking (not being able to speak without difficulties).

Finally, it is important to precise that, since the Adl (Activities of daily living) scale has been included in the disability survey set of questions with the purpose of evaluating the degree of autonomy in carrying out daily activities, this instrument is not adapted for children under the age of six. Therefore, the numeric consistency of the disabled does not include this segment of the population. The scale enables, moreover, to gather only partially the disabilities linked to psychiatric pathologies and to mental insufficiencies. In addition, the estimation deriving from the survey refers to persons who live with a family – the final units of sampling are indeed the families – and thus does not consider individuals living permanently in institutions. The latter category certainly accounts for a non-negligible percentage of disabled persons presumably with high levels of seriousness (one must think of the Residential institutions for non-sufficient elderly persons). Nevertheless, as in Italy the disabled persons live more frequently with their families, the effects in terms of underestimate of the phenomenon’s consistency result sufficiently contained.

## INDICATORS USED

*Standardised rates*: weighted average of specific rates per age decennial classes. The weights at age  $x$ ,  $x+9$  are obtained from the ratio between the resident population of age  $x, x+9$  during the 1991 Census and the total resident population at that same date (per one thousand).

## 2 – Life expectancy, healthy life expectancy, disability free life expectancy

### INDICATORS USED

*Life expectancy at age x*: average number of years survivors are expected to live at age x. When referred to a table of mortality, it indicates the ratio between the cumulated years lived ( $L_{x,x+\Delta x}$ ) from age x to the ultimate age  $\omega$  and survivors at age x ( $l_x$ ).

*Healthy life expectancy at age x*: average number of years survivors are expected to live at age x in good health conditions. Persons are considered to be in good health if, during the survey on “Health status of the population and use of health services”, they declared to feel “good” or “very good”. According to the Sullivan method in the calculation of the life expectancy at age x, the years lived ( $L_{x,x+\Delta x}$ ) between the various ages are multiplied by the percentage of persons who have declared to feel good or very good.

*Disability-free life expectancy at age x*: average number of years survivors are expected to live at age x without disabilities. According to the Sullivan method in the calculation of the life expectancy at age x, the years lived ( $L_{x,x+\Delta x}$ ) between the various ages are multiplied by the percentage of persons who are not disabled. See the methodological note of chapter 1 for the definition of disability.

### 3 – Mortality

#### INDICATORS USED

*Specific mortality rate*: ratio between the number of deaths at age  $x, x+4$  and the yearly average total of resident population of the same age (per one thousand).

*Crude mortality rate*: ratio between the total deaths and the yearly average total resident population (per one thousand).

*Standardised mortality rate*: weighted average of the specific mortality rates. The weights at age  $x, x+4$  are obtained from the ratio between the resident population of age  $x, x+4$  during the 1991 Census and the total resident population at the same date (per thousand).

*Infant mortality rate*: ratio between the number of deaths in the first year of life and the number of live births (per one thousand)

#### **4 – Life styles**

##### **INDICATORS USED**

*Body mass index*: ratio between a person's weight, expressed in Kg, and the square of the height, expressed in meters. A person is overweighed when the body mass index assumes values higher or equal to 25 but lower than 30. A person is obese when the body mass index assumes values higher or equal to 30.

## 6 – Public and private expenditure

### EUROPEAN SYSTEM OF ACCOUNTS: ESA95

The public health expenditure indicated in the present volume is elaborated according to the criteria and definitions provided in the National accounts, and in particular in the European system of national accounts Esa95 and the European system of integrated social protection statistics Esspros96. It represents the synthesis of current operations carried out by General government sector in the health field. These institutions include Local health units, Independent hospitals, Health institutes of research and University polyclinics, State, some Assistance institutions, such as the Italian red cross, municipality, provincial and regional Administrations.

The expenditure is analysed per region and per economic function. The public institution either operates directly in the health field, using its own productive structures, or according to a system of conventions, acquiring from private institutions goods and services to be supplied to citizens. The services directly supplied are made up of hospital services and outpatient medical services. The available sources do not enable to carry out the analysis of these services per type of assistance at the level of each region. As regards the goods and services that fall under the system of conventions, a greater desegregation is available: it is possible to quantify separately the pharmaceutical assistance, general practitioner assistance, the specialist assistance, hospital assistance in private nursing homes, prosthesis and balneo-thermal assistance and other assistances, mainly made up of integrative and home assistance. In order to evaluate the total current expenditure, in addition to the expenditure directly attributable to these activities, it is necessary to consider the spending for administrative services and interest allowed, taxes and fees, insurance premiums, and the various contributions (transfers to non-profit institutions serving households, households and corporations) charged to General Government.

The main sources used include Istat surveys as well as surveys from other institutions on the flow of accounts of public institutions that operate in the health sector. The data, surveyed on a regional level, are drawn from: the survey on economic accounts carried out by the Ministry of health as regards the Local health units and Independent hospitals; a census-like survey on the flows of accounts carried out by Istat as regards the Health institutes of research and University polyclinics; account and extra-accounting information directly acquired from the official institutions as regards the Assistance institutions; the flows of accounts made available by the Ministry of economy and finances as regards the State, analysed according to an economic-functional classification from which it was possible to identify the expenditure sustained in the health field; and finally, from Istat survey as regards territorial Administrations, in which the expenditure was analysed, just as for the State, according to an economic-functional classification.

## 7 – Health care supply

### DEFINITIONS

*Public hospitals:* they include independent hospitals, hospital depending from a Lhu (Local health unit), the university polyclinics, the public and private health institutes of research, the classified or assimilated hospitals, the psychiatric institutes, the private qualified hospitals depending from a Lhu, and the research institutions.

*Private accredited hospitals:* they include the private hospitals accredited with the National health service. The data referred to the characteristics and activities of these institutions do not include private activities against payment.

*Day hospital beds:* they indicate the available beds in day hospital, in other words the beds declared on the first of January of the data's reference year.

*Standard hospital acute beds:* they indicate hospital beds intended for the activities of persons suffering from acute illnesses that, under provisions of Law n.382 of 18/7/1996, each region must have in order to respect the parameter of standard equipments equal to 4.5 hospital beds per every 1,000 inhabitants.

### REMARKS

Since 1999, information regarding the personnel of the National health service, of independent hospitals and of hospitals depending from a Local health unit is surveyed by means of the "Conto annuale" in collaboration with the Ministry of economy and finance.

For the data on hospitals, since some hospitals did not send part of their information, Istat carried out estimates of the missing data for the years 1995-1998. Following the innovations introduced by the Ministry of health concerning data production from the year 1999, for following years it was not possible to proceed with those estimates and thus the data are the original ones.



## 8 – Health care demand and citizen satisfaction

### DEFINITIONS

*Public hospitals:* they include independent hospitals, hospital depending from a Lhu (Local health unit), the university polyclinics, the public and private health institutes of research, the classified or assimilated hospitals, the psychiatric institutes, the private qualified hospitals depending from a Lhu, and the research institutions.

*Private accredited hospitals:* they include the private hospitals accredited with the National health service. The data referred to the characteristics and activities of these institutions do not include private activities against payment.

### REMARKS

*Data on hospitals:* since 1999, the Ministry of health for public hospital activities use the data of the “Hospital discharges”. This innovation implies that information relative to hospitalisation and bed-days in public hospitals refers to the discharges and to days of hospitalisation of discharged patients and not to in-patients in the strict sense of the word (people already in the hospital at the beginning of the year + admissions during the year).

### INDICATORS USED

*Average length of stay:* ratio between bed-days and in-patients. It indicates the time (in days) that elapses on average between the moment in which the patient arrives to the hospital and the moment the patient is discharged, in other words the average number of days requested for the treatment.

*Hospitalisation rate:* ratio between the number of in-patients and the average resident population (for 1,000). It indicates the average number of hospitalisations per every 1,000 residents.

*Occupancy rate:* it is the ratio between the bed-days and the potential bed-days multiplied by 100. The potential bed-days are calculated by multiplying the number of hospital beds per days of the year in which the ward was active (365 or 366 in case of the whole year). It indicates in percentage the effective occupancy of the beds compared to the available beds.

*Admission rates to the emergency ward:* ratio between the number of admissions to the emergency ward and the average resident population (per 1,000). It indicates the average number of admissions to the emergency ward per every 1,000 residents.

## 9 – Demographic features

### INDICATORS USED

*Ratio of elderly people:* ratio between the resident population over 65 years of age and the population from 0 to 14 years of age (per 100).

*Natural growth rate:* the difference between the number of live births and the number of deaths in relation to the average resident population (per 1,000).

*Birth rate:* ratio between the number of live births per year and the average resident population (per 1,000).

*Mortality rate:* ratio between the number of deaths per year and the average resident population (per 1,000).

## 10 – Fertility and abortion

### INDICATORS USED

*Crude fertility rate:* ratio between the number of live births from women from 15 to 49 years of age and the average resident female population of the same age (per 1,000).

*Specific fertility rate:* ratio between the number of live births from women at age x and the average resident female population of the same age (per 1,000). Only female population from 15 to 49 years of age is taken into consideration.

*Total fertility rate:* sum of the specific fertility rates. It indicates the average number of children in a fictitious cohort of 1,000 women untouched by mortality, who experiment at the various ages the specific fertility rates observed in a given year of calendar t.

*Standardised fertility rate:* weighted average of the specific fertility rates. The weights are obtained from the ratio between the resident female population of age x at the 1991 Census and the resident female population (15-49 years of age) at the same date (per 1,000). The standardised rate is a measure that is “refined” from the effects of the population age structure. It enables thus to carry out comparisons between populations with different age structures.

*Crude abortion rate:* ratio between abortions carried out by women from 15 to 49 years of age and the average resident female population of the same age (per 1,000).

*Specific abortion rate:* ratio between the number of abortions carried out by women at age x and the average resident female population of the same age (per 1,000). Only the female population from 15 to 49 years of age is taken into consideration.

*Total abortion rate:* sum of the specific abortion rates. Its meaning is similar to the total fertility rate.

*Standardised abortion rate:* weighted average of the specific abortion rates. The weights are obtained from the ratio between the resident female population of age x at the 1991 Census and the resident female population (15-49 years of age) at the same date (per 1,000). Its meaning is similar to the standardised fertility rate.

*Crude abortion ratio:* ratio between the number of abortions carried out by women from 15 to 49 years of age and the number of live births from women of the same age (per 1,000).

*Specific abortion ratio:* ratio between the abortions carried out by women of age x and the live births from women of the same age (per 1,000).

*Standardised abortion ratio:* weighted average of the specific abortion ratios. The weights are obtained from the live births from the resident female population of age x at the 1991 Census and the live births from the resident female population (15-49 years of age) at the same date (per 1,000).

## **12 – Environment and territory**

### **DEFINITIONS**

*Urban population:* according to the definition adopted by the Oecd, the urban population is that residing in areas with density superior or equal to 150 inhabitants per square kilometre.

### 13 – Employment and poverty

#### THE ISTAT HOUSEHOLD BUDGET SURVEY

The Household budget survey is designed to survey the consumption expenditure structure and level referring to the main social, economic and territorial characteristics of the resident households. By its design, the survey allows knowing and following the evolution, in qualitative and quantitative terms, of the living standard and consumption behaviours of the main household typologies, referring to different territorial and social contest. The questionnaires and the survey times measure in detail all items relative to consumption expenditures, the main socio-characteristics of the family components, the main characteristics of the home, the ownership of permanent goods and some information on the wage and savings.

The process of acquisition is carried out according to the Cadi (Computer assisted data input) system and the data treatment is done by means of an automatic procedure made up of various phases (deterministic and probabilistic imputation for the missing or wrong data, coherence control on a micro and macro level, identification and treatment of *outlier* values). The weighing system too underwent some changes so that it would take into consideration the demographic evolution of the family population over the survey year.

The directly comparable time series is available since 1997.

The total average expenditure (net from expenses on extraordinary home maintenance, loans and premiums paid for life insurance and life annuity that are not part of the economic concept of consumption expenses) is the main variable used for analysing poverty; it is on this variable that the value of the poverty line is estimated, the equivalence scales are applied and the values of the main indexes are calculated (incidence and intensity). Also the directly comparable time series of the poverty indexes is available since 1997 and it cannot be directly compared with the estimates obtained and published for the previous years.

#### INDICATORS USED

*Activity rate*: ratio between labour force and resident population aged 15 and over (per 100).

*Employment rate*: ratio between the employed persons and the resident population aged 15 and over (per 100).

*Unemployment rate*: ratio between persons seeking employment and the labour force (per 100).

*Incidence of poverty*: ratio between poor families or persons and the total families or persons (per 100).

*Intensity of poverty*: average deviation of poor families' consumptions from the poverty threshold, in other words from the average per capita national consumption (per 100).