

# Annual Report on the National Health System of Spain 2016

## Summary



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English translation

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# Introduction

This SUMMARY brings together the most relevant information about health and the health system in Spain appearing in the 2016 Annual Report on the National Health System of Spain. This reduced version of the complete Report is intended to facilitate use of the Report and contribute to the dissemination of the information contained therein. The Summary centres on Spain's National Health System and does not cover the individualised reports prepared by the autonomous communities and INGESA, which, moreover, have not been translated into English. In general, the data appearing in the Report are the figures that became available prior to October of 2016, when the preparation of the document began, and they come from the official statistics included in the National Statistics Plan (PEN) and other information systems used in the health care sector. All of the sources can be accessed from the statistics portal of the website of the Ministry of Health, Social Services and Equality: <http://www.msssi.gob.es/> We are grateful to the members of the Ministry of Health, Social Services and Equality work teams in charge of statistics and information systems for their collaboration in the creation of the 2016 Annual Report on the National Health System of Spain.

# Summary

## Demographics and Health Status

### Population figures and basic demographic indicators

As of 1 January 2016 Spain has a population of 46.4 million, a crude birth rate of 9.2 births per 1,000 inhabitants and a mean maternal age of 31.9 years. The dependency ratio is 53.0%, 4.1 points higher than in 2000.

Life expectancy at birth is 83.2 years; 80.3 years for men and 86.1 years for women. Since 2001 life expectancy at birth has increased by 3.5 years. Life expectancy at age 65 is 21.5 years, 19.3 years for men and 23.4 years for women, who can thus expect to live 4.1 years longer than men.

The number of healthy life years at birth is estimated to be 66.9 years: in the case of men 67.6 and in the case of women 66.2. Between 2006 and 2014 the number of healthy life years has increased, overall, by 4 years, somewhat more for men (4.7 years) than for women (3.3 years).

Persons aged 65 can expect to have another 12.4 healthy life years; men 12.7 and women 12.1. Between 2006 and 2014 the figure has increased by 1 year for this population as a whole.

### Mortality

The crude death rate is 852.1 deaths per 100,000 inhabitants. Since 2001, the risk of death in Spain has fallen by 25.3%. The leading causes of death are diseases of the circulatory system (this disease group represents 29.7% of the total number of deaths) and tumours (which represent 26.8%).

Among cardiovascular diseases, the predominant cause of death is ischaemic heart disease, which causes 8% of the total deaths in Spain, although the risk of death from this cause has fallen by 45.3% since the beginning of this century. Within the same disease group, cerebrovascular diseases cause 7% of the total number of deaths. The risk of death from this cause has decreased by 50.5% since the beginning of this century.

Lung cancer causes 20% of the deaths from malignant tumours in Spain. It is the neoplasia that causes the most deaths in men: about 26%. The percentage is 10% in women. Changes in the risk of dying from lung cancer have been different for men and women: while in men the age-adjusted rate of death from this cause fell by 20.1% during the 2001/2014 period, in women it increased by 70.9%. Malignant breast tumours, however, are still the most frequent neoplasia among women, causing over 3% of all deaths in women and 15% of deaths from malignant tumours. Since the beginning of this century, women's risk of dying from breast cancer has fallen by 24.6%.

Liver cirrhosis is responsible for 1.1% of the total number of deaths, 1.6% in men and 0.6% in women. In Spain as a whole, since 2001 the risk of dying from liver cirrhosis has dropped by 34.2%.

With regard to deaths from external causes, in recent years there has been a reduction in the number and relative importance of traffic accidents, which are currently the cause of 13% of the total number of deaths due to external causes. The risk of dying from this cause has fallen by 72.6% since 2001. Suicide now occupies top position in this group: it represents 26% of the deaths by external causes and 1% of all deaths recorded.

The infant mortality rate is 2.9 deaths of children under one year of age per 1,000 live births, meaning there was a reduction of almost 30% in the 2001-2014 period.

As for the perinatal mortality rate, a more sensitive indicator than infant mortality for evaluating the coverage and quality of mother and child health care services, the figure is 4,6 deaths for every 1,000 live births. Between 2001 and 2014, perinatal deaths have fallen by 18% in Spain.

The rate of maternal death reflects the risk of mothers dying during gestation and delivery and is influenced by general socio-economic conditions and the conditions of mother and child health care services. In 2014 in Spain 9 women died due to complications during pregnancy, delivery and puerperium, the lowest number since 1999, when there were 15 maternal deaths.

## Perceived health status

In Spain 71% of the population perceive their health to be good or very good. More men than women report a good state of health: 75.4% and 67.0% respectively.

The perception of a positive state of health decreases with age: in the group aged 65 and over, 50.5% of men and 34.3% of women perceive their health to be good or very good, while in the population aged 85 and over, the assessment is positive in 36.8% of the men and 26.8% of the women. The greatest difference between men and women is found in the group aged 65 to 74 years, where the difference is 13 points, and the smallest difference is between 45 and 54 years, with only a 4 point difference.

## Chronic health problems

The most frequent chronic health problems in the adult population are arterial hypertension (18.4%), pain in the lumbar spine (17.3%), high cholesterol (16.5%), osteoarthritis (16.3%), and cervical back pain (14.7%).

Some of these problems have shown an upward trend over time: in the last 20 years the prevalence of hypertension has risen from 11.2% to 18.4% in the adult population, the prevalence of diabetes has risen from 4.1% to 6.8% and that of high cholesterol has risen from 8.2% to 16.6%.

## Limitations in the basic activities of daily living

In the group aged 65 and over, 20.7% of the population (15.0% of men and 25.2% of women) have difficulty performing some of the basic activities of daily living. These difficulties increase with age. In the population aged 85 and over limitations affect 53.7% (38.8% of men and 61.8% of women).

By type of limitation, bathing or showering, at 17.3%, is the most frequently reported limitation in the population aged 65 and over, both by men (11.7%) and by women (21.6%). At 5.4%, eating is the limitation least often reported by the population aged 65 and over, both in men (4.6%) and in women (6.0%).

## Limitations in the instrumental activities of daily living

In this regard, 47.2% of the population aged 65 and over (34.1% of men and 57.3% of women) have difficulty performing some of the instrumental activities of daily living. These difficulties increase with age; in the group aged 85 and over, 82.6% report some degree of difficulty in performing everyday household activities, 68.5% of the men and 90.3% of the women.

By type of limitation, housework chores, both heavy (49.7%) and light (31.9%), are the biggest limitations, in both men and women. Using the telephone and taking medication are the least frequently reported limitations in the population aged 65 and over (13.5%).

## Epidemiological surveillance

Rubella, measles and mumps, which are included in the standard vaccination calendar, have shown a downward trend since the 1990s, although mumps exhibits epidemic waves, the last of which occurred between 2010 and 2014. In 2015 the incidence of mumps increased slightly, with a rate of 8.11 reported cases per 100,000 inhabitants. That same year in Spain 0.08 cases of measles and 0.01 cases of rubella were reported for every 100,000 inhabitants. Pertussis maintains its cyclical epidemic pattern and since 2010 a progressive increase has been observed in incidence, hospitalisation and mortality from this disease. The number of reported pertussis cases was 17.99 per 100,000 inhabitants.

In 2015, a total of 4,578 cases of tuberculosis were reported in Spain, which corresponds to an incidence rate of 9.9 cases per 100,000 inhabitants, 8.3% less than in 2014. The incidence of tuberculosis in this country continues to fall, mainly due to the significant decrease observed recently in the respiratory forms, which have dropped from a rate of 14.2 per 100,000 inhabitants in 2007 to a rate of 7.6 per 100,000 inhabitants in 2015.

The number of new HIV diagnoses has remained stable in recent years, while the number of AIDS cases is showing a downward trend.

In the 1995-2015 period there was a marked decrease in the incidence of gonococcal infection; the rate fell from 11.7 per 100,000 inhabitants in 1995 to 10.4 in 2015. However, this trend is not homogeneous, since the initial decrease between 1995 and 2001 there has been a steady increase.

The syphilis data over these years also shows a decline in the rates of incidence in the 1995-2001 period, falling from 2.6 to 1.8 cases per 100,000 inhabitants, with an increase starting that year and reaching 8.0 per 100,000 inhabitants in 2015. That year the incidence rates of gonococcal infection exceed the incidence rate of syphilis.

Hepatitis A has decreased significantly in recent years, falling from 5.9 cases per 100,000 inhabitants in 2009 to 1.3 cases in 2015; also decreasing, but not as dramatically, are the cases of hepatitis B and other forms of viral hepatitis, which present an incidence of 1.7 and 1.5 cases per 100,000 inhabitants respectively.

As for hepatitis C, the prevalence of antibodies among adults is estimated to be 1.7%. Because hepatitis C poses a significant health problem in Spain the Interterritorial Council of the SNS (CISNS) unanimously resolved to draw up a Strategic Plan for dealing with hepatitis C in the SNS, for the three-year period 2015-2017.

## Low birth weight

The trend towards higher numbers of newborns with low birth weight continues, although it has stabilised in recent years. In 1990 the percentage of newborns with low birth weight was slightly over 5%, while in 2000 it was 6.9%, and in 2014 it was 8.2%.

## Elective termination of pregnancy

The number of elective terminations of pregnancy (ETOPs) in 2014 was 94,796, which represents an incidence of 10.5 per 1,000 women aged between 15 and 44 and confirms the downward trend of the last four years, the rate being 2.0 points less than in 2011. In the group of women under the age of 20 the incidence rate is 9.9 voluntary terminations of pregnancy, 3.8 points less than in 2011.

The number of elective terminations of pregnancy and the incidence rate in the group of women of fertile age (between 15 and 44 years) show clear signs of descent. Looking at the number of abortions relative to the number of births this tendency is confirmed, with 221.7 ETOPs for every 1,000 live births.

## Traffic, workplace, home and leisure accidents

Over the last twenty-five years the number of victims of traffic accidents has shown a clear decrease in relation to both the number of accidents and the number of inhabitants. The number of victims per 1,000 accidents fell from 1,582 in 1991 to 1,393 in 2015. The rate per 100,000 inhabitants fell from 399 in 1991 to 293, although a slight increase has been visible since 2012.

Construction is the economic sector in which the most workplace accidents occur, followed by industry. In 2015, the number of workplace accidents causing absence from work per million hours worked is 39.3 in the construction sector and 30.4 in industry. Generally, over the last decade the frequency of accidents during the workday that cause absence from work shows a downward trend. Specifically, between 2006 and 2016, the frequency of workplace accidents resulting in absence from work leave fell in Spain by 15.1 points.

Home and leisure accidents, in addition to being of the greatest magnitude, are the most frequent. Their importance lies in the different way they affect the population; they are more frequent in old age and among women. In Spain, 7.2% of the population reports having had an accident at home or during leisure time at some point during the past 12 months, 8.1% in women and 6.2% in men.

## Lifestyle habits

### Tobacco use

Of the population aged 15 and over, 23% smoke on a daily basis, 2.4% are occasional smokers and 25.7% say they are ex-smokers. The percentage of daily smokers is 27.6% in men and 18.6% in women. Looking at socio-economic and professional levels, in men a clear upward slope is visible from the lower rates of the more privileged classes to the higher rates of the less advantaged classes. In women no clear pattern is observed in the use of tobacco.

## Alcohol use

Of the population aged 15 and over, 67.3% has consumed alcohol some time within the past year, with differences by sex; in men the percentage is 77.5% and in women it is 57.7%.

In the same age group, 1.6% report drinking above the risk threshold regularly. This is a reduction with respect to the percentage observed 10 years ago. The drop has occurred in both sexes but is greater in men.

As regards heavy episodic drinking, 9.1% report having engaged in this activity within the last month, men with greater frequency; the percentage in men (13.5%) is more than twice the percentage in women (5%).

## Drug use among secondary school students

The use of drugs among secondary school students displays a downward trend. In reference to the last twelve months, the drugs most used by students aged 14 to 18 are alcohol (76.8%) and tobacco (31.4%) followed by cannabis (25.4%). These are followed, in this order, by: tranquilisers, with or without prescription (10.8%), cocaine (2.8%), hallucinogens (1.2%), ecstasy (0.9%), amphetamines (0.9%), volatile inhalants (0.7%) and heroin (0.7%).

The consumption of legal psychoactive drugs (tobacco, alcohol, tranquilisers) is more widespread among women than among men; in contrast, the use of illegal drugs is more widespread among men.

## Obesity and overweight

Obesity affects 16.9% of the population aged 15 and over (17.1% of men and 16.7% of women). This year, for the first time since 1987, no increase is observed in the reported prevalence of obesity in Spain. Obesity becomes more frequent as the level of education decreases: it affects 8.7% of the population with a university education, as compared to 26.4% of the population with a primary school education or less. Obesity or overweight affects 52.7% of the population aged 18 and over.

The prevalence of overweight in the school-going population aged 6 to 9 is 23.2% (22.4% in boys and 23.9% in girls). The prevalence of obesity in this group is 18.1% (20.4% in boys and 15.8% in girls). Looking at the trends over time, the prevalence of overweight has decreased and that of obesity has stabilised.

Among the possible factors associated with obesity, significant correlations continue to be found between the factors related to dietary habits and the lack of physical activity, such as not eating breakfast every day, having a television, computer or videogames in the bedroom, watching television for over 2 hours a day, sleeping less, and also low family income and low educational level of the parents.

## Intake of fruit and vegetables

The percentage of the population aged 15 and over that eats fresh fruit on a daily basis (not including juice) is 62.7%. By sex, 58.2% of men and 67.1% of women eat fresh fruit every day. This difference in favour of women is present in all social classes. The difference in the intake of fresh fruit between women of the most privileged social class and women of the least privileged social class is 8 points and the difference between men of the most privileged social class and those of least privileged is 8.4 points.

The percentage of the population aged 15 and over that eats salads, vegetables and garden produce on a daily basis is 44.6%. By sex, 39.1% of men and 50.0% of women eat these foods every day. Again, the difference in favour of women is present in all social classes. The difference in the intake of such items between women of the most privileged social class and women of the least privileged class is 5.9 points while between men of the most privileged social class and those of the least privileged class it is 7.5 points.

## Physical activity

With respect to physical activity, 36.7% of persons aged 15 and over describe themselves as sedentary in their free time, the habit being more widespread among women (42.0%) than among men (31.1%). The percentage of persons who describe themselves as sedentary in their free time shows a downward trend in both men and women.

In the population aged 5 to 14 years of age, 12.1% do not do any physical activity during their free time, with the percentage of sedentarism in girls being twice that of boys.

As for physical activity at the workplace, men (7.4%) perform activities that require great physical effort more frequently than women (1.9%) and they also perform activities that require walking, carrying weight and moving objects from place to place more often, 21.6% compared to 15.0% of women. In women there is a predominance of work that requires standing most of the day but does not involve moving objects or physical effort (46.4%).

## Care Resources: Physical Equipment and Workforce

### Medical and nursing professionals

As for doctors working in patient care, either in the public or the private sector, the rate of doctors per 1,000 population is 3.8. More than half of practising doctors are women (51.5%). The group with the most women in it is the group under 35 years of age, while the group aged 65 and over has the fewest women. The group of doctors over 44 years of age represents 54.7% of the total number of practising doctors.

The SNS care network has a total of 116,711 doctors and 169,601 nurses, the latter being the most numerous group, with a ratio of 1.5 nursing professionals for every doctor. In the primary care level there are 34,888 doctors and 29,441 nurses. Hospitals employ a higher number of professionals: 78,285 doctors and 136,699 nurses. A total of 3,538 doctors and 3,093 nurses work for the Urgent Care and Emergency Services 112/061.

The density of professionals remains stable, with 0.8 doctors per 1,000 population in primary care and 1.7 per 1,000 population doctors in specialised care.

In nursing the figures are 0.6 professionals per 1,000 population in primary care and 2.9 in specialised care.

The skill of the doctors and nurses is one aspect of the public system that citizens most highly value.

## Newly graduated doctors and nurses

Over 5,500 students completed studies in medicine in 2014. The rate of newly graduated doctors per 1,000 population is therefore 0.1. In relation to practising doctors, Spain has 33.2 new doctors per 1,000 practising doctors.

In 2014 a total of 11,700 students completed studies in nursing, which means Spain has 0.3 newly graduated nurses per 1,000 population and 48.9 new nurses per 1,000 practising nurses.

## Pharmacists

The rate of pharmacists who are working in either the private or the public sector is 1.2 per 1,000 population. The most frequent place of employment for this type of professional is dispensing pharmacies, where over 48,000 work. The hospitals of the SNS employ 1,753 pharmacists, which means the system has 0.04 pharmacists per 1,000 population. SNS primary care also has pharmacists who act in an advisory capacity and to promote the rational use of medicines.

## Primary Care Centres and hospitals

The SNS has 3,039 Primary Care Centres and 10,055 Local Primary Care Centres. The mean ratio of 3.3 Local Primary Care Centres to each Primary Care Centre reveals a wide range of values (14.8 – 0.0), the result of the variations in geographic dispersion in Spain. Although geographic variability is high, for every 100,000 SNS users there is an average of 28.2 primary care health centres.

The SNS also has a network of 451 hospitals, of which 324 are public. The hospitals of the SNS network offer 79.4% of the total number of hospital beds available. The total rate of available beds in Spain is 3.0 for every 1,000 inhabitants; for the SNS the rate is 2.4.

The network of public hospitals has 16,820 day beds (36.2 for every 100,000 inhabitants); this resource is increasing progressively in consonance with the rise in outpatient care provided in processes that do not require an overnight stay.

## Medical technologies

The SNS has 538 Computerized Axial Tomography (CAT) scanners (71.8% of the total number of scanners of this type in use in Spain) and a rate of 11.6 per million population. With respect to Magnetic Resonance Imaging (MRI), the SNS has 308 scanners (53.4% of the total number of this type of equipment in use in Spain) and a rate of 6.6 per million population. The number of mammogram machines in the SNS is 418 (65.8% of the total number of registered machines) and a rate of 9.0 per million population. The network of SNS hospitals has 184 radiotherapy devices (cobalt bombs and linear accelerators) (79.0% of the total in existence), which is a rate of 4.0 devices per million population.

The purpose of the Spanish Network of Health Technology Assessment Agencies is to evaluate medical techniques and procedures and decide upon the inclusion or exclusion, or the modification of the conditions of use, of these technologies in the SNS basket of services. The Spanish Network of Assessment Agencies also takes part in the activities of the European Network for Health Technology Assessment. In the European Network the Spanish Ministry of Health, Social Services and Equality acts as the representative of Spain, as a member state.

## Dispensing pharmacies

A network of 21,919 dispensing pharmacies collaborate in the provision of SNS pharmaceutical benefits, through agreements made between the health authorities of the autonomous communities and the professional organisations of pharmacists. There are 47 dispensing pharmacies per 1,000 population.

## Reference Centres, Services and Units

The SNS now has 227 Reference Centres, Services and Units in 46 different health care centres, to provide care to patients with 52 pathologies and/or perform especially complex procedures. In the first call for proposals for inclusion in the European Reference Networks (ERN) plan, the European Commission accepted 42 SNS services or units for consideration in the selection process.

## Network of transplant teams

Forty-four hospitals have authorized organ transplant programmes; participating in these programmes are 186 integrated co-ordination teams comprising 267 doctors and 173 nurses.

## Blood transfusion centres

The blood transfusion network consists of 20 public Transfusion Centres that organise transfusion therapy through 400 smaller Transfusion Services located within the network of public and private hospitals.

## Promotion, prevention and health problems attended

### Promotion and prevention activities in the health system

In 20% of the patients receiving care in the SNS Primary Care services during the year, clinical notes indicate that promotion and prevention activities were performed.

The coverage of the childhood vaccines recommended in Spain is over 96.7% and the percentage of children aged 1-2 who also receive the booster doses is over 95.7%. Vaccination against measles-mumps-rubella is over 96.2% in children aged 1-2, with more than 90% also receiving the recommended boosters.

As for the seasonal flu vaccine, 56.1% of adults aged 65 and over receive it, with coverage showing a downward trend in recent years.

With regard to population screening, an area in which the primary and specialised care levels work together, 8 out of 10 women have had early detection tests for breast cancer performed within the recommended period. In addition, 79.4% of women aged 25 to 64 have had a Pap smear done within the past 5 years, while 72.7% have had one in the past 3 years. Similarly, 12.4% of the population aged 50-69 have had a faecal occult blood test performed in the past two years.

## Health problems attended

At the primary care level, SNS professionals handle 373.3 million medical and nursing consultations. Frequentation in the case of medical consultations is 5.3 visits per person/per year and in the case of nursing consultations it is 2.9 visits per person/per year. By sex, frequentation, for both medical and nursing consultations, is higher in women than in men, with the difference being more patent in medical consultations.

With 13.3 million house calls/per year, care delivered in the homes of patients represents 1.7% of all general practice activity, while in the case of nursing 7.5% of all activity takes place at patients' homes. Most recipients of this type of care are over the age of 65.

Each person seen by a health professional at a primary care health centre during the year has an average of 5.7 active health problems. By sex, the average is 5.1 active problems in the case of men and 6.3 in the case of women.

Among children under the age of 15, the main reasons for consultation are problems with the respiratory system (1,233.3 per 1,000 patients seen), followed by problems of a general and unspecific nature (872.2), problems with the digestive system (665.7), with skin and skin appendages (619.4), and with the auditory system (315.7). In terms of their characteristics, the predominant problems are of an acute and infectious nature. Regarding differences by sex, asthma, bronchitis, acute laryngitis and conjunctivitis are more frequent in boys than in girls.

In the group aged 15 and over, the most frequent reasons for consultation are problems with the locomotor system (715.9 per 1,000 patients seen), especially in women, followed by problems of a general and unspecific nature (624.3) and problems with the respiratory system (494.8). The group aged 15 and over shows both chronic processes (arterial hypertension, lipid disorders) and acute processes (acute upper respiratory tract infection). In general terms health problems are more frequent in women and, among the most frequent problems, the greatest difference is found in cystitis, anxiety and osteoarthritis.

In persons aged over 64 the main reasons for consultation are, in this order of frequency, problems with the circulatory system (1,156.0 per 1,000 patients seen) and with the locomotor system (1,094.0) followed by problems of a general and unspecific nature (988.4) and problems related to the endocrine system, metabolism and nutrition (801.2). In this last group chronic diseases predominate: arterial hypertension, lipid disorders, osteoarthritis and diabetes mellitus.

Hospitals dependent on the SNS registered over 4 million admissions and handled 78.7 million medical consultations. The average hospital stay is 7.8 days, with a rotation index of 36.8.

A total of 3.6 million surgical interventions are performed; over a million of them are done as major outpatient surgery. In addition, over 329 thousand births are attended, with 21.6% of them being Caesarean deliveries. The total percentage of Caesareans in the sector as a whole (both public and private) is 25.0%.

Ambulatory procedures for the treatment of certain pathologies are progressively replacing the procedures that involve hospitalisation. Of all cataract operations, 98.1% are performed in ambulatory mode, as are 53.1% of the operations to repair inguinal hernia and 31.4% of the tonsillectomies. Similarly, the use of interventions involving less invasive surgical procedures has increased; 79.6% of cholecystectomies and 37.0% of appendectomies are performed using laparoscopic techniques.

The main causes of hospitalisation in Spain are circulatory system diseases (13.1%) followed by digestive system diseases (12.3%) and respiratory system diseases (11.4%). In men the most frequent causes of hospitalisation are circulatory system diseases, with 15.6% of the total, followed by digestive system diseases (14.5%), respiratory system diseases (13.8%) and tumours (10.9%). The most frequent causes of hospitalisation in women are childbirth, puerperium and complications during pregnancy (20.2% of the total number of admissions). These causes are followed, in order of frequency, by diseases of the circulatory system (10.9%), of the digestive system (10.4%), of the respiratory system (9.2%) and tumours (8.8%). Hospital admission due to mental health disorders is more frequent in men (2.2%) than in women (1.9%).

## Urgent care

Urgent care activity represents a total of 56.7 million consultations per year in the SNS. The SNS responds to the population's urgent care needs through three organizational spheres: the primary care level, the urgent care services at hospitals and the co-ordination activity performed by the Urgent Care and Emergency Services in response to demands received mainly through the telephone hotlines 112 and 061.

The urgent care delivered at the primary care level takes place, on the one hand, in the 3,039 Primary Care Centres and 10,055 Local Primary Care Centres and it is delivered by the professionals of the primary care teams that normally provide their services there, during their usual working hours, in combination with their regular activity. These professionals also provide this kind of care, as a non-habitual activity, in 1,977 urgent care centres not located in hospitals.

In the primary care sphere (at a health centre or at the patient's home) a volume of 28.1 million urgent care cases are handled, with an average frequentation of 0.6 per person/per year.

The demand for health care made annually to the hotlines 112 and 061 amounts to 7.1 million calls, which equals 156 requests per 1,000 population.

As for the urgent care services at SNS hospitals, every year 21.5 million urgent care cases are handled. Of them 11.3% require hospital admission.

## Reference Centres, Services and Units

In 2015 a total of 4,798 episodes of care were transferred to SNS Reference Centres, Services and Units. In the 2009-2015 period, the total number of episodes of care exceeded 14,000, with a total cost to the Cohesion Fund of 182.4 million Euros.

## Organ donation and transplants

The organ donor rate is 39.7 per million inhabitants, which means, in absolute values, 1,851 donors. The donor's average age is 60.0, continuing with the upward trend observed in recent years. By sex, of every 10 donors, 6 are men and 4 are women. The profile of donors in terms of the cause of death has changed: stroke as the cause of death has increased from 39.0% in 1992 to 65.1%; donors who died as a result of traumatic brain injury caused by a traffic accident currently represent only 4.2% of the donors, whereas in 1992 these cases accounted for 43.0%.

Kidney transplants are the most frequent (2,905), followed by liver transplants (1,162). Every year about 3,000 hematopoietic stem cell transplants are performed (3,068 in 2015). The Spanish Register of Bone Marrow Donors has a total of 200,678 donors.

## Transfusion network

In the blood transfusion network 1.7 million voluntary, non-remunerated blood donations took place, which represents a donation index of 36.9 per 1,000 population. Over the past three decades the blood donation rate per 1,000 population has increased by 16.9 points.

## Quality of the Health Care Services

Quite good (7.3) is the average score given by citizens to medical consultations in public primary care, based either on their personal experience or on the ideas they have about the services.

Citizens give the highest score to the confidence and security conveyed by the doctor (7.7). The lowest score (5.7) goes to the waiting time for the diagnostic tests.

Slightly less than 4 out of 10 users are given an appointment with the general practitioner for the same day they ask for it; of those not given an appointment for the same day, they must wait an average of 3.6 days to see the doctor. To make an appointment with the doctor 48.5% of users choose the on-line service. Users give this service a score of 8.4 points out of 10.

Of all hospital discharges, 9.0% are caused by situations that, potentially, need not motivate admission to a hospital provided there is adequate outpatient monitoring.

Regarding consultations with specialists in the public system, citizens give them an average score of 6.7. The interaction with health care personnel is the most highly valued aspect (7.3) of the system, while the lowest score (4.9) goes to the waiting time before the patient has the diagnostic tests.

Citizens give hospitalisation and the care provided in public hospitals an average score of 6.6. Based either on personal experience or on the ideas they have, they consider the equipment and technological resources at the hospitals to be the best aspect (7.7) and the wait time for a non-urgent admission the worst aspect, with a failing score of 4.7.

The average wait time for patients who are to have an initial consultation at the specialised care level is 58 days, 7 days less than the year before, while the wait for patients on the surgical waiting list is 89 days, 2 days more than the preceding year. For 10.6% of the patients the wait is over 6 months. The percentage of citizens who think that in the last year the waiting list problem has worsened or remained the same is 75.5%.

Hip fracture in hospitalised patients and in-hospital mortality following acute myocardial infarction and stroke are indicators of care quality. In hospitalised patients, the incidence of hip fracture during their stay is 0.05 fractures per 100 discharges and the number is falling. In-hospital mortality following acute myocardial infarction is 7.1 deaths per 100 diagnoses of acute myocardial infarction, showing a downward trend. Looking at mortality following hemorrhagic stroke, the percentage of deaths is 26.5% and in the case of ischaemic stroke it is 10.3%; the trend is downward in both.

In 2012 the Ministry of Health, Social Services and Equality initiated a systematised process for identifying, gathering, approving and disseminating best practices in the SNS. In 2016 the SNS catalogue of best practices comprises 225 best practices that have been identified and published in relation to ten SNS strategies: promotion and prevention, childbirth and reproductive health, health care actions in response to gender violence, ischaemic cardiopathy, cancer, diabetes, rare diseases, rheumatic and muscular-skeletal diseases, palliative care and chronic obstructive pulmonary disease.

## Professional Regulation and Ongoing Training

In 2015 the National Council on Health Science Specialities (CNECS) was renewed and its 11-member Permanent Committee was elected. The CNECS is the Ministry of Health, Social Services and Equality's advisory and scientific body in the area of specialised training in the health sciences.

A total of 7,501 slots were available in Specialised Health Care Training Programmes for the academic year 2015/16, which is 0.1% more than in the preceding year.

In 2015, there were 28,749 specialists being trained in one of the 57 specialities taught in the 3,256 accredited teaching units within the SNS. The number of residents per 100,000 inhabitants is 61.7.

Of the 24,988 doctors being trained in a speciality, 25% (6,255) are specialising in Family and Community Medicine. This is therefore the specialty with the highest number of residents in training, followed by Paediatrics and its Specific Areas (1,639) and Internal Medicine (1,539).

In 2015 a total of 21 audits were conducted in accredited teaching centres that provide specialised training in the health sciences, with the support of audit teams linked to the autonomous communities.

In 2015 the qualifications of 742 health care professionals (including basic degrees and specialised training) from other European Union countries were recognised, 27.1% more than the preceding year.

A total of 172 credentials recognising specialist qualifications obtained in non-European countries were issued (a 44.5% increase).

In 2015 a total of 940 training visits were authorised for foreign health care professionals, 94.0% of them doctors. These professionals come from 39 different countries.

In 2015, 94.7% of the 48,653 activities presented to the Accreditation System for recognition as ongoing training were accredited. Over 4 out of 10 of the accredited activities are for persons with a University degree.

## Pharmaceutical Benefits

### Medicines and health products included in SNS benefits

As of 31 December 2015 the number of presentations of medicines included in the public financing system, without regard to when their marketing began, was 19,177. Of them, 16,268 come in normal packaging and 13,837 are financed through the invoicing of SNS medical prescriptions dispensed at dispensing pharmacies. As of 31 December 2015, the total number of health products financed by the SNS was 4,784.

Over the course of the year 2015, a total of 1,456 new presentations were included for the first time, without regard to when their marketing began. With these additions 51 new active ingredients corresponding to 102 presentations of medicines were incorporated into the system. Of all the new presentations included, 72.9% are generic medicines.

The year 2015 saw the incorporation of the first presentations of biosimilar medicines of the monoclonal antibody Infliximab and the first biosimilar insulin, Glargina.

Over 28% of the presentations included in public financing (5,420) correspond to medicines that act on the nervous system and belong to the therapeutic group N.

### Pharmaceutical benefits provided through SNS prescriptions

Almost 22,000 dispensing pharmacies collaborate in the provision of SNS pharmaceutical benefits, invoicing a monthly average of 77 million SNS medical prescriptions to the public funds of the autonomous communities, the National Institute of Health Management (INGESA) and the insurance mutuals for civil servants (MUFACE, MUGEJU and ISFAS), with the average monthly sales per dispensing pharmacy being 46,000 Euros. In Spain the average number of inhabitants per pharmacy is 2,119.

In 2015 the pharmaceutical expenditure generated by the cost of SNS medical prescriptions is 9,962 million Euros. The amount invoiced has increased with respect to 2014 but remains below 2012 levels. From 2010 to 2015 pharmaceutical expenditure fell by 21.6%. Between the implementation of Royal Decree-Law 16/2012 and the end of 2015, there was a savings of 5,657.8

million Euros in the pharmaceutical expenditure generated by the invoicing of SNS medical prescriptions.

The average expenditure per prescription in 2015 is 10.8 Euros, the same as in 2014. This figure is almost 2 Euros less than in 2010, when it was 12.7 Euros.

In 2015 the pharmaceutical expenditure per inhabitant per year, through SNS medical prescriptions, is 214.5 Euros, 2.5% higher than in 2014. It fell by 20.6% between 2010 and 2015.

The number of prescriptions per inhabitant is 19.8, which is 2.1% more than in 2014. Between 2010 and 2015 the number of prescriptions per inhabitant per year fell by 6.6% due to the drop in the number of prescriptions invoiced to public funds.

Anti-ulcerants (proton pump inhibitors) are the subgroup with the highest consumption in terms of the number of packages dispensed through SNS medical prescriptions. Omeprazole, the preferred pharmaceutical in the group of anti-ulcerants, is the most-used active ingredient (54 million packages, 5.9% of all medicines), although its consumption has decreased by 2.5% compared to 2014; its daily dose per inhabitant is 97.4 and its daily cost of treatment is 0.1 Euros.

Of the medicines with the highest consumption in terms of the amount invoiced through medical prescriptions dispensed at dispensing pharmacies, the subgroup hypolipidemic agents (HMG CoA reductase inhibitors) occupies first position at 535.9 million Euros and 4.9% of the total. Ranked second is the subgroup adrenergic agents in combination with corticosteroids or other agents, excluding anticholinergics, for treating asthma and COPD, with the amount invoiced being 531.6 million Euros, although this group has fallen by 1% with respect to 2014.

The hypolipidemic agent Atorvastatin is the active ingredient with the highest amount invoiced, 277.5 million Euros, which represents 2.4% of the total amount invoiced to the SNS in medicines.

In 2015 it increased by 7.4% with respect to 2014.

In 2015 generic medicines account for 48.1% of the total number of medicine packages invoiced to the SNS and 22.7% of their retail value. Between 2010 and 2015 consumption of generics in terms of number of packages increased by 80.0%, with the amount invoiced increasing by 114%.

The active ingredients with most packages invoiced coincide very closely with those of total consumption. Omeprazole is the active ingredient most consumed in packages of generic presentations (48.2 million packages), followed by Paracetamol (32.3 million packages) and Simvastatin (25.9 million packages).

As for health products, urinary incontinence pads are the most consumed in terms of packages (7.5 million) and also in terms of retail value (288.9 million Euros). The group *high compression stockings* shows significant increases with respect to 2014, both in consumption in terms of packages (12.4%) and in retail value (11.3%).

## Pharmaceutical benefits provided in hospitals

In the public hospital network, the 15 pharmacological subgroups with highest consumption in terms of manufacturer's selling price (PVL) generated over 67% of the total expenditure in medicines in the year 2015. The subgroup *other anti-virals*, which includes the active ingredients for the treatment of Hepatitis C, occupies top position, with 18.3% of the total consumption and a sharp increase in 2015.

Tumour necrosis factor-alpha inhibitors occupy second position, with 9.7% of hospital pharmaceutical expenditure.

The active ingredients for treating hepatitis C, which were included in public financing in 2014 and 2015, occupy the highest positions in terms of consumption.

## Orphan medicinal products

The SNS pharmaceutical benefits basket includes, as of 31 December 2015, 59 authorised active ingredients - in 107 presentations - of orphan medicinal products, without regard to their marketing. Of them, 48 active ingredients (80 presentations) are for hospital use and 11 active ingredients (27 presentations) are dispensed by hospital pharmacy services. Of these 11 only 5 (10 presentations) can be obtained at dispensing pharmacies; for the rest a system of specific exceptions has been established for their financing by the SNS and they can only be dispensed in hospitals.

The expenditure in orphan medicinal products at the hospital level in 2015 was 550.4 million Euros, which represents 7.4% of the total hospital expenditure. In 2015 the expenditure in these medicines was 17.5% greater than in 2014.

Lenalidomide, for the treatment of patients with multiple myeloma and myelodysplastic syndrome, is the active ingredient with highest cost to the health system. In second place is Bosentan for pulmonary hypertension and third is the immunosuppressant Eculizumab, with an increase of 26.2% in the expenditure, due to it being the only medicine with specific approved studies for the indications of paroxysmal nocturnal hemoglobinuria and atypical haemolytic-uremic syndrome.

## Health expenditure

The total expenditure by the Spanish health system in 2014 was 95,722 million Euros (66,826 million by the public sector and 28,895 million by the private sector), which represents 9.2% of the GNP (of this share, 6.4% is public expenditure and 2.8% is private expenditure). The per capita expenditure is 2,058 Euros per inhabitant.

The expenditure in curative and rehabilitative care services was 55,393 million Euros; these services thus absorbed over half of the total health expenditure.

Looking at type of health care provider, it is the expenditure of hospitals, which totals 39,930 million Euros, that accounts for the highest percentage of the total health care expenditure.

The governments of the autonomous communities bear the greatest burden in the public funding of health care, paying for 91.6% of the expenditure. With respect to private health care expenditure, it is households that make the greatest contribution to the funding, with a share of 80.7%.

The total health expenditure of the autonomous communities increased by 0.7% in 2014.

## e-Health

The Individual Health Card and the SNS Protected Population Database (BDPP-SNS) comprise the system created to standardize the identification of SNS users and permit access to the clinical and administrative data of each person. Every person covered by the SNS has a personal identification code unique to him or her that lasts a lifetime and is valid in the entire system.

The BDPP-SNS is one of the strategic tools used by the SNS, both for patient identification and for the implementation of projects related to interoperability and electronic traceability of clinical information, which is especially useful for people who receive health care in an autonomous community different from the one in which they usually reside.

Patient health records are generally in electronic format (EHR) and can be used throughout the Health Service of the autonomous community. The EHR-SNS interoperability system intends to give citizens and authorised health personnel anywhere in the country access to relevant clinical information generated at any Health Service in the SNS. At this time (September 2016) the

clinical information of 35,751,172 persons is available in the form of EHR-SNS, which represents coverage of 77.69% of the population with an Individual Health Card.

The implantation of electronic prescribing in the autonomous communities is practically total in Primary Care Centres, while it is at 66% in Local Primary Care Centres and 72.5% in specialised care.

The level of use of electronic prescribing relative to the total number of prescriptions dispensed in the SNS is 85.9%.

The e-Prescribing interoperability project is intended to allow medicines to be dispensed anywhere in Spain, regardless of the autonomous community in which the prescription was made.

## Citizen opinions and perception

A total of 63.7% of citizens express a favourable opinion of Spain's health care system, believing either that it "works quite well" or that it "works well but *some changes* are needed".

The score given by citizens to their degree of satisfaction with how the public health care system in Spain works is 6.4 points out of 10. Primary Care continues to be the most highly valued care level, with a score of 7.3 points out of 10.

Regarding participation in health decisions, 77.1% of patients feel they have been able to participate sufficiently in decision-making about their health in their visits with the general practitioner; 70.4% have been able to participate sufficiently in their visits with specialists and 60.0% have been able to participate sufficiently during hospitalisation.

The majority think that the public health care system provides the same care services to all people regardless of their sex (87.0%), their socioeconomic level (70.4%), their age (69.6%) or their nationality (58.0%). However, 42.5% believe that differences do exist when it comes to having or not having legal residence in Spain, and 40.7% think that there are differences depending on whether the patient lives in an urban or a rural area.

As regards co-pay, 25.0% of citizens think that the co-pay system introduced in 2012 is good. The rest either believe that there should be more income brackets so that patient contributions to the cost of medicines better reflect the patient's income level (30.4%) or they believe that the previous system in which retirees did not make any contribution to the cost of their medicines and all other citizens did should be reinstated (36.3%). To this question 8.3% responded DK/NA.