2012 Health Report

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Contents

1. Presentation

The annual health report is published in accordance with the Ministry of Health's commitment to accountability in relation to the health of the population. Specifically, the reference point for this exercise in transparency is the health objectives of the **Health Plan for Catalonia 2011-2015**, which are in line with the recommendations of the World Health Organization Regional Office for Europe for 2020.[1]

Health is one of the main components that contribute to the well-being and quality of life of the population and the development and wealth of a nation.[2] The period analysed in this report was within the ongoing economic and financial crisis. One of the most pressing concerns is the impact that this situation might have on the health of the population and on the health services. The effects of the crisis on health are uncertain, and some may be immediate and others might manifest themselves in the mid or long term. Despite this uncertainty, the importance of the various protective factors (family, social, political, etc.) in minimising the negative effects that the economic crisis could have on the health of the population is well documented.[3,4,5] The health system, in spite of the restrictions to which it is subjected, may be one of these protective factors[6] and may decisively contribute to the preservation of social cohesion.

When compared to European countries, Catalonia presents good health indicators. Notwithstanding, attention should be paid to the results that indicate that the most vulnerable sections of the population present worse health indicators.

Given the increased life expectancy and ageing of its population, Catalonia's highest rate of morbimortality is due to the frequency and impact of chronic diseases. Work must continue to reduce premature mortality, to improve healthcare processes for the various chronic diseases, to empower patients and to deploy measures that contribute to the maintenance of personal autonomy in relation to health. Moreover, there is the conviction that in order to deal with chronicity it is necessary to reinforce the various facets of prevention and act upon the determinants of health,[7] both those that pertain to the individual sphere and to the collective sphere, and it is in this sense that the forthcoming Interministerial Public Health Plan must act as a lever of change.

The 2012 Health Report has three aims: present the most recent health indicators based on the main sources of information, monitor the level of achievement of the health objectives of the Health Plan for Catalonia 2011-2015, and present a monographic report on the results of the implementation of a specific strategic project: the Heart Attack Code.

The document consists of three parts and six appendices. **Part one** covers sixty indicators related to the socioeconomic and environmental sphere, lifestyles, the morbimortality rate and the use of health services by the population of Catalonia. Generally, the indicators are

presented by age, by sex, by health region and for Catalonia as a whole. Provided that the information source allows it, the analysis incorporates sociodemographic variables, such as social class and level of education. In this report, special attention has been placed on the development of a series of indicators chosen for their importance. **Part two** covers the actions, as determined in the Health Plan for Catalonia 2011-2015, that the health system carries out to maintain and improve the health of the population. It reports the level of general development of the 9 lines of action into which the Health Plan is structured, the updating of the indicators that are used for the monitoring of the 27 health targets and the current situation of the Interministerial Public Health Plan. **Part three**, using the specific example of the Heart Attack Code, aims to illustrate the possibility of making healthcare mechanisms more accessible, optimising the human and material resources involved, and improving results. The appendices contain more detailed information about the various aspects covered in the document.

This document is published with the hope that it will be useful for institutions, professionals and the general public. The results show the progress that has been made and also indicate the path to be followed. Finally, the work of the professionals in the various scopes must be recognised for its contribution to the maintenance and improvement of the health of the population of Catalonia.

2. Executive Summary

The economic situation is placing great strain on the health system and its sustainability, but there is room for improvement in terms of effectiveness and efficiency.

- The period analysed in this report was within the ongoing economic and financial crisis. Its effects on health are uncertain (negative and positive), and some may be immediate and others might manifest themselves in the mid or long term.

- The health system, despite the restrictions to which it is subjected, may act as a protective factor against potential negative effects on health and contribute decisively to the conservation of social cohesion.

- There is significant potential to improve health results by means of coordinated actions on the determinants of health. The Interministerial Public Health Plan (PINSAP) must become the tool for the implementation of public health actions within the framework of the policies of the various ministries of the Government of Catalonia.

- The actions and projects of the Health Plan for Catalonia 2011-2015 must maintain the quality and sustainability of the system and of all the agents, institutions, professionals and citizens involved.

Catalonia has good health indicators for the population as a whole and is in an upper intermediate position in relation to European nations.

- In 2011 life expectancy at birth (LEAB) continued its moderately increasing trend in Catalonia, with the observation that women live almost six years longer than men. However, healthy life expectancy (HALE) at birth is almost three years longer in men. Moreover, HALE in men is significantly higher with respect to the previous year (graph 1).

- Generally, people rate their own health positively. In 2012, 8 out of 10 people considered their health to be excellent, very good or good (graph 2).

- The highest rate of morbimortality is due to the frequency and impact of chronic diseases: around 80% of mortality is caused by chronic diseases, 37.2% of the general population have a chronic health problem and chronic care consumes more than 50% of the resources of the system according to the Ministry of Health budget by groups of diseases (ICD-9), 2012.

- In adults, the most frequent chronic problems are related to the musculoskeletal system (back pain in lumbar, dorsal and cervical areas and arthrosis, arthritis or rheumatism), the circulatory system (high blood pressure, cholesterol, varicose veins in the legs and poor circulation), and depression or anxiety (graph 5).

- Other chronic health problems that even though they are less prevalent have great impact are: the risk of suffering a mental health problem (10.7%), diabetes (7.8%), urinary incontinence (7.2%), chronic bronchitis (6.0%, and in people aged 65 and over it is 13.7%), myocardial infarction (2.3%) and malignant tumours (4.3%).

- Half of the population aged 18 to 74 have weight problems (overweight or obesity). Overweight and obesity are more frequent in men (graph 7). In Catalonia, in men the prevalence of overweight is close to the Spanish average and that of obesity is less than the average. In women, both overweight and obesity are below average.

- 34.4% of the population aged 6 to 12 are overweight (graph 9). In the population aged 2 to 17, in both boys and girls, Catalonia shows overweight percentages lower than the average of the autonomous regions of Spain. The prevalence of obesity in boys is less than the Spanish average and in girls it is similar.

- 9.3% of the adult population are in a dependent situation. That is, due to a health problem they need the help or company of other people for their everyday activities (graph 11).

- 5 of every 10 people over 74 depend on the help of others to carry out their everyday activities (graph 12).

- With regard to communicable diseases, the rate of tuberculosis in people living in Catalonia reduced by 5.3% with respect to 2010 (graph 13). Diagnosed cases of HIV in Catalonia reduced by 16.7% with respect to the previous year, and the incidence of AIDS is continuing its downward trend.

- Mortality in young children is due to congenital and perinatal problems; in young people it is due to malignant tumours and external causes; in the middle-aged it is due to tumours and circulatory diseases; and the elderly additionally suffer respiratory system, neurological and mental diseases (graph 15).

- Taking into account that the majority of deaths occur in people over the age of 80, the diseases that cause the most deaths and, accordingly, place a major burden on the health services are cerebrovascular diseases, dementia and ischemic heart diseases in both sexes, in addition to Alzheimer's disease in women and lung cancer in men.

- The diseases with significant social repercussions because they cause premature deaths are malignant breast, lung and large intestine tumours in women, in addition to diseases of the nervous system and sense organs and cerebrovascular diseases. In men, malignant lung tumours, ischemic heart diseases and external causes (suicides, traffic accidents and other external causes) produce many premature deaths, which globally are higher in men than in women (graph 16).

- In general, the unemployed, the disadvantaged classes and those with a lower level of education show worse results in terms of health indicators.

Improvements have been observed in behaviours related to health and there is a good level of implementation of the recommended preventive activities.

- In the population aged 18 to 74, the incidence of sedentary lifestyles is at its lowest level since 2006 (17.8%) and 7 out of 10 people aged 15 to 69 practice physical activity to a level considered to be healthy.

- The prevalence of smoking has remained the same: 28.5% of the population aged 15 and over smoke (34.2% of men and 22.9% of women) (graph 15) and exposure to smoke both at work and at home has reduced. In comparison with Spain (2011-2012 ENSE), Catalonia is below the average in the proportion of smokers (daily and occasional) in both sexes. In men the proportion of smokers is around the average and in women it is below the average.

- With respect to dietary habits, 11.8% of the population consume 5 portions of fruit and/or vegetables per day, which is the level recommended by the WHO. These results are above the state average, which is 9.7%. 44.5% of the population aged 3 and over have a healthy breakfast and three-quarters of children have good eating habits (graph 17).

- The rate of women aged 50 to 69 having preventive mammographies is 94.1% and the rate for Papanicolaou tests in women aged 25 to 65 is 80.9%. The rate for blood pressure and

cholesterol measurement is over 50% in the population aged 15 and over and increases with age (graph 18).

- The various recommended vaccines for children and adolescents show coverage rates in excess of 85%.

The population's contact with the healthcare services is high and satisfaction with them is also high.

- 25.6% of the general population have double healthcare insurance coverage.
- 9 out of 10 people have visited a healthcare professional at least once in the last year and in 70% of the cases it was in the public sphere.
- 78% of the population have visited a general practitioner or paediatrician and 23.7% have visited a consultant. 3 out of 10 people have been to an emergency department in the last 12 months and 5.9% of the general population have been hospitalised for at least one night (graph 19).
- Taking the data from 2006 as a reference, there has been a decrease in the visits/inhabitant/year to general practitioners and paediatricians from 5.6 to 3.9. There are no significant differences in frequentation with regard to hospitals and emergency departments.
- When compared to the 2011-2012 ENSE results, the percentage of people in Catalonia visiting general practitioners and paediatricians in the last four weeks and the frequency of visits to these professionals are below average, and hospitalisation and visits to the emergency department in the last 12 months are above average.
- 60.9% of the population aged 15 and over and 23.7% of children aged 0 to 14 have taken some sort of medication in the last two days.
- The medicine that people have taken the most is aspirin or a similar pain reliever or anti-inflammatory (graph 20).
- The rate of satisfaction with the health services used most frequently in the last year is 91.7% (90.2% with regard to public services and 98.0% for private services).
- Internet usage in relation to health is related to searches for information about a disease, whether the person's own or that of family member or friend (55.1%), searches for information about well-being and lifestyles (40.2%), and to request, cancel or change an appointment with a healthcare professional (20.9%), and usage rates are higher among women.

There are situations of particular vulnerability and the most disadvantaged sections of the population present worse health indicators.

- The family situation of children aged 0 to 14 changed significantly from 2006 to 2010-2012: positively, as the level of education of the population has improved and this has a favourable effect on the health of children, and in this sense the level of education of the mother is especially relevant; and negatively, as the percentage of children with at least one member of the household unemployed has increased from 9.7% to 20.7%, which could represent a health risk.
- In 2010-2012, 83.3% of children aged 3 to 14 had a healthy breakfast (before leaving the house and mid-morning, at least 4 times a week). 75.1% of the population aged 3 to 14 have

good eating habits, that is, low consumption (fewer than 3 times a week) of fast food, sugary drinks, and sugary or salty snacks (graph 21).

- With regard to the evolution of the indicators from 2006 to 2010-2012, the percentage of children aged 2 to 14 who are overweight, according to the WHO scale, decreased from 36.5% to 34.1%, which is not a statistically significant change.

- Among the population aged 3 to 14, quality of life and risk behaviour indicators (conflicts and fights with peers and the family, disobeying parents and teachers, etc.) improved from 2006 to 2010-2012. Moreover, although the most frequent leisure activities are still watching television and using the computer, the time devoted to them has reduced.

- In 2012, 9 out of 10 children visited a paediatrician or general practitioner and 4 out of 10 visited the emergency department, and there were no differences in terms of the level of education of the mother or double health insurance coverage. However, there was a significant reduction in the proportion of children who visited a consultant or an odontologist.

- With respect to sex, the analysis of the indicators presents a clearly differentiated pattern. In general, women show healthier behaviours, but they have a worse perception of their own health, they suffer from chronic diseases in a higher proportion, they are more likely to suffer mental disorders and they make more use of the health services and of medication (graph 22).

- According to social class and level of education, there is a gradation in the sense that, in general, the population belonging to the most disadvantaged classes and with a lower level of education have a worse perception of their own health and a higher proportion of unhealthy behaviours (graph 23).

The territory is tending towards greater homogeneity.

- There are territories where mortality is persistently higher than the average for Catalonia, such as the case of the Camp de Tarragona and Lleida health regions, mainly among women.

- With regard to self-perceived health, chronic morbidity, lifestyles and the use of services, territorial patterns in which certain regions systematically present better or worse results have not been observed (maps 1, 2, 3 and 4 and table 5).

- The differences between health regions diminished in many of the indicators analysed over an eighteen-year period (graph 25).

The importance of having explicit health objectives must be considered: the Health Plan for Catalonia 2011-2015 is the reference point for this.

- The monitoring of the 27 targets of the Plan shows that if the trend observed in the last year (table 6) continues:

  The following targets will be achieved:

  - The general target that proposes increasing the proportion of healthy life expectancy.
  - The reduction of the rates of mortality due to diseases of the circulatory system, cancer, mental disorders, ischemic heart diseases, strokes and breast cancer.
  - The increase of the five-year survival rate for cancer.
  - The reduction of the incidence of the femoral neck fracture and the prevalence of smoking.
  - The increase in hypertensive patients with blood pressure control and in the proportion of patients at risk with cardiovascular risk assessment.

The following targets have already been achieved:

- The targets to reduce the surgical infection rates in knee, hip and colorectal replacements and pneumonia associated with mechanical ventilation.

Work has to be intensified to achieve the following targets:

- The objective of reducing the proportion of admissions due to congestive heart failure (CHF).
- The reduction of mortality due to respiratory diseases, colorectal cancer and suicide.
- The reduction in the number of amputations in people with diabetes aged 45 to 74.
- The reduction of the prevalence of sedentary lifestyles in the population.
- The increase in the prevalence of healthy physical activity.
- The reduction of the prevalence of excess weight.
- The reduction of readmissions after 30 days for diabetes and CPOD.
- The reduction in the average rate of global nosocomial infection.

The Heart Attack Code shows that it is possible to make the services more accessible and improve results in terms of health, satisfaction and cost.

- The Heart Attack Code has changed the healthcare paradigm, placing more importance on organisational restructuring than on structural reorganisation, and its successful implementation was made possible thanks to the consensus of the agents involved. Care is structured into a network that integrates the various healthcare levels in which the mechanisms and professionals work together in a coordinated manner.

- In 2012, 97.0% of the patients treated through the Heart Attack Code received some type of reperfusion therapy. This represents a significant increase in accessibility to the treatment, given that in 2000 only 63% underwent reperfusion treatment and in 2006 the figure was 81.0%.

- Primary angioplasty, considered to be the intervention of choice, was applied to 91.0% of patients in 2012, while in 2000 and 2006 it was only carried out in 5.0% and 33.0% of cases, respectively (graph 29).

- Patients attended directly in one of the ten Heart Attack Code hospitals and those attended by the Catalan medical emergency response system (SEM) are treated with reperfusion more quickly. For Catalonia as a whole, the time interval between the first treatment and the opening of the artery in patients treated with primary angioplasty is better than the European standard recommended for this indicator.

3. Context

In the last two decades of the 20th century (1981-2000), the **population of Catalonia** grew relatively little, increasing from 5,956,414 to 6,261,999 inhabitants, and aged considerably (the population aged 65 and over increased from 11.0% to 17.4%). In the first decade of the 21st century (2000-2012) the population increased by 1,308,909 inhabitants and became younger, largely due to immigration. However, according to Idescat data from January 2013, and for the first time in many years, Catalonia is losing inhabitants due to its foreign population returning home (in 2012 it represented 15.7% of the inhabitants), due to the emigration of the indigenous population (mainly young people) to find work, and the decrease in the birth rate (which started in 2008). Furthermore, there has been a significant increase in the percentage of people aged 84 and over and the ageing population rate increased from 10.0% in 2000 to 15.0% in 2012.[8]

Other indicators also reflect Catalonia's transformation. Over the last 30 years GDP per inhabitant has increased from €2,909 to €28,270, exports from €2.073bn to €55.185bn and university students from 96 to 241 per 1,000 inhabitants.[9] Moreover, concern about the environment has taken on more importance due to its impact on the economy and on health. Protected spaces have increased from 303 to 10,658 km^2. In 2012 the air quality level of recent years was maintained. There are large expanses of the territory where there have been no incidents or only isolated ones and there are areas of urban agglomeration with nitrogen dioxide and particulate levels that, although the trend is a downward one, especially for particulates, continue to exceed certain values. The quality of the water in the various networks and supply areas for human consumption complies with the regulations in a large number of cases, both with regard to microbiological contaminants and physico-chemical parameters[10,11] (appendix 1). This period saw the creation of the **Catalan health system,** which, given its quality, has a high level of **user acceptance**[12] and is an international benchmark with results in terms of health that place Catalonia in a good position in the European context.[13]

The financial crisis has affected both macroeconomic and microeconomic indicators. The unemployment rate in Catalonia in 2011 was double that of Europe (19.4% and 9.7%, respectively) and is higher among young people aged 16 to 24 (44.1% and 21.4%). Income inequality in Catalonia is lower than in Spain and higher than in Europe.[a] The at-risk-of-poverty rate is 18.0% in men and 20.3% in women, which is lower than that of Spain and higher than that of Europe. Average annual consumer expenditure per household[b] decreased from €33,403 in 2006 to €31,729 in 2011, and spending was concentrated on primary needs

[a] Difference between the top quintile and the bottom quintile: in Catalonia, the income of the wealthiest 20% of the population is 5.3 times greater than the income of the poorest 20%. In Spain, the income of the wealthiest 20% of the population is 6.8 times greater than the income of the poorest 20%. In Europe, the income of wealthiest 20% of the population is 5.1 times greater than the income of the poorest 20%. The greater the income gaps between the extreme groups, the greater the level of socioeconomic inequality.

[b] Source: Idescat, based on the Family Budgets Survey, 2006, by the INE.

(32.8% housing, 14.0% food and 11.1% transport) and spending on communication, health, clothing and footwear, culture and home maintenance reduced.[9,14]

With regard to the health system, following a period of sustained growth, in Catalonia[a] the health budget per capita continued to decrease in 2010. Specifically, public health spending per capita in 2011 was €1,206.98 and in 2012 it was €1,150.18, representing a variation with respect to the previous year of −6.97% in 2011 and −4.71% in 2012 (appendix 2).

This difficult situation, although it places great strain on the system and its sustainability, may turn out to be an opportunity. Despite the difficulties, there is scope to increase effectiveness and efficiency and to improve the results in terms of health, satisfaction and cost. Prioritising practices and interventions with proven effectiveness and relinquishing practices that contribute little or no value are key actions to free up resources[15] and also improve the quality of care provided and the **safety of patients**. There is also significant potential to improve the results by means of coordinated intersectorial actions on the determinants of health,[16] in addition to a well-defined strategy in the Health Plan for Catalonia 2011-2015 to respond to needs that indicate the priority objectives, actions and projects in which all the agents, institutions, professionals and citizens are involved.

[a] Consolidated data of the Ministry of Health, CatSalut and the ICS in relation to the population with individual health cards.

Part One

- Life expectancy and healthy life expectancy
- How we rate our health
- Our health problems
- What we die of
- What we do for our health
- The territory
- Vulnerability situations
- Evolution over time

4. Life expectancy and healthy life expectancy

Life expectancy (LE) measures longevity, that is, the time we can expect to live to a certain age (if the risks of mortality in each of the age groups and sexes do not change) and healthy life expectancy (HALE) indicates the years we can live with a perception of good health (if the mortality and health perception conditions in accordance with age and sex are maintained).

In Catalonia, LE at birth in 2011 was 79.5 for men and 85.3 for women and is following the trend of recent years to moderately increase, which is observed in the majority of age groups. The differences between the sexes have continued. Catalonia's position is similar to the Spanish average and is above the European average.

HALE at birth in 2011 was 68.3 for men and 65.6 for women, representing 85.9% and 76.9% of the life expectancy of each sex, respectively. That is, men live less time but proportionally better than women, who live longer in poor health, both in absolute and relative terms.

With respect to 2010, HALE has increased, but despite this and the fact that the magnitude of the differences is relatively big (3.1 years in men and 2.5 years in women), taking into account the confidence intervals, the increase is statistically significant in men only.

Graph 1. Life expectancy (LE) and healthy life expectancy (HALE) according to sex and age. Catalonia, 2011

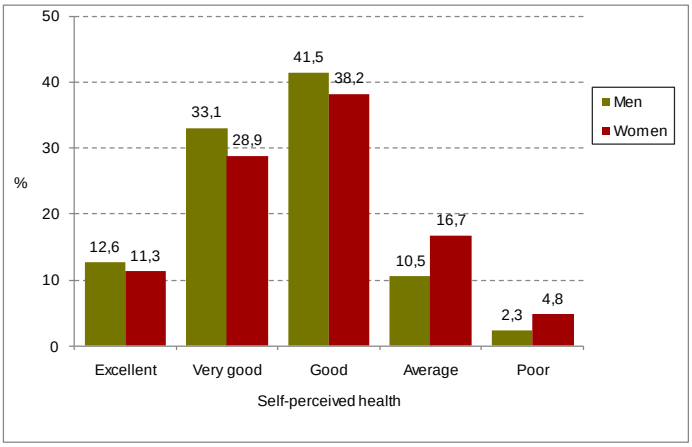
Source: 2011 Mortality Registry of Catalonia - 2012 Health Survey of Catalonia. Prepared by: Information and Studies Service

5. How we rate our health

In Catalonia, in general, people **positively assess their health**. In 2012, 8 out of 10 people considered their health to be excellent, very good or good (graph 2). People's assessment of their own health is worse in women and worsens in both sexes as they get older.

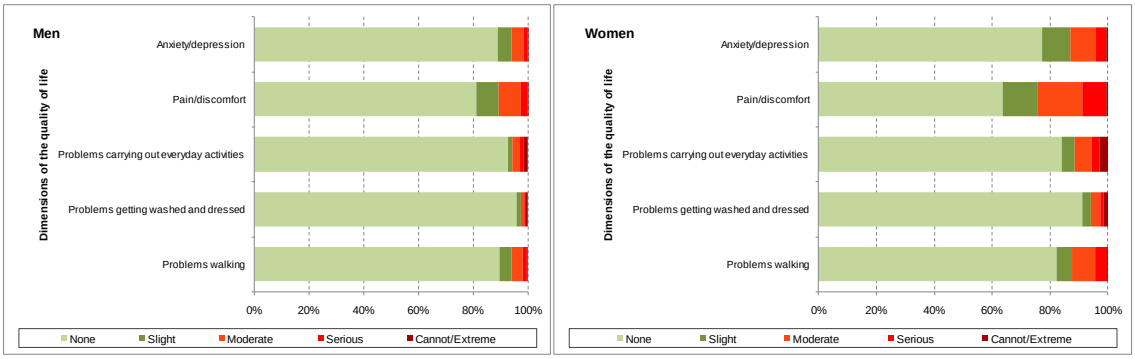
Another indicator of health is **quality of life**. Due to their impact on daily life, there are certain health conditions that adversely affect the perception of quality of life. The most frequent ones are pain, anxiety and depression and walking problems, which affect women more than men. The quality of life of 38.4% of the population is affected by at least one of these problems (graph 3).

Graph 2. Self-perceived health of the general population, by sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

Graph 3. Dimensions of the quality of life related to health in the population aged 15 and over, by sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

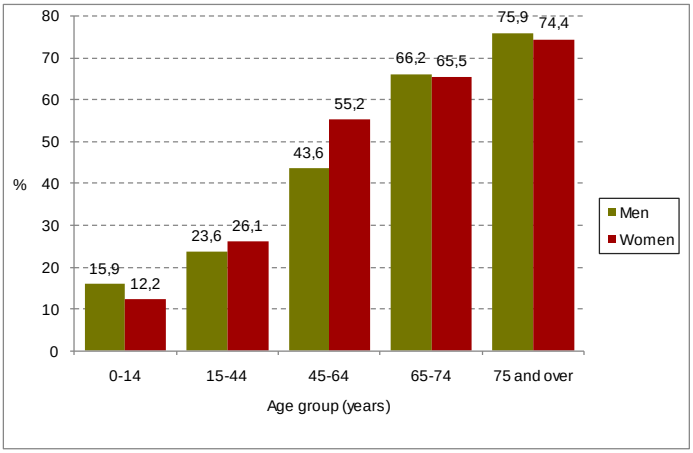
Another dimension of health is **psychological well-being**, which centres on positive aspects of mental health (affective-emotional, cognitive-evaluative and psychological). The Catalan population show a satisfactory level of psychological well-being compared with the general population of Scotland (the original instrument to assess it was developed in Scotland[17]), given that in the range of 14 to 70 possible points Catalonia presents an average of 59, whereas for the Scottish population it is 51.

6. Our health problems

6.1 Chronic disorders

37.2% of the general population (34.3% of men and 40.1% of women) have a **chronic health problem or disease**,[a,18] and this prevalence increases as the groups age (graph 4).

Graph 4. General population with a chronic health problem or disease, by age group and sex. Catalonia, 2012



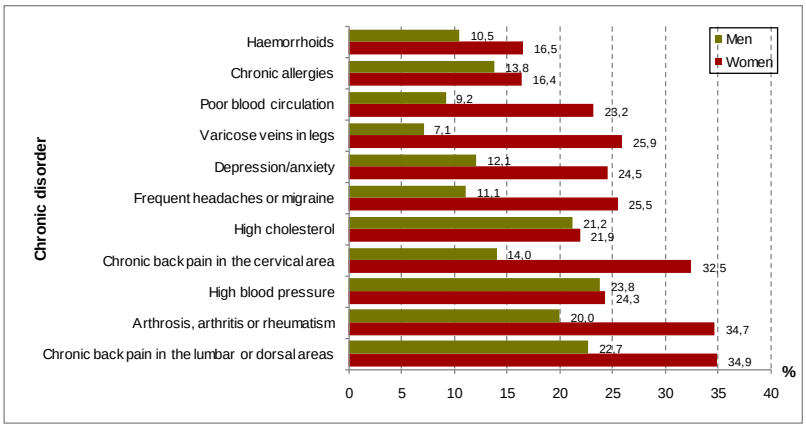
Source: 2012 Health Survey of Catalonia. Ministry of Health.

Considering the **chronic problems that the population are suffering or have suffered**,[b] the percentage is 76.7% of the population aged 15 and over (70.8% of men and 82.5% of women). The following stand out because of their frequency: diseases of the musculoskeletal system (back pain in the lumbar, dorsal and cervical areas, and arthrosis, arthritis or rheumatism), the circulatory system (high blood pressure, cholesterol, varicose veins in the legs and poor circulation), and depression or anxiety (graph 5). The distribution of these disorders differs according to age and sex (appendix 3).

Moreover, there is a series of chronic pathologies that affect the adult population which, although they are less prevalent, have a major impact on the health and quality of life of people who suffer them and in terms of the costs they generate in the health system. 10.7% of the population are at risk of suffering a **mental disorder** (6.9% of men and 14.4% of women). 7.8% of the population have **diabetes** (7.9% of men and 7.7% of women). 7.2% have **urinary incontinence** (3.7% of men and 10.6% of women). **Chronic bronchitis** affects 6.0% (5.7% of men and 6.3% of women). 2.3% have had a **stroke** (2.2% of men and 2.4% of women). 2.3% (2.8% of men and 1.8% of women) have had a **myocardial infarction** and 4.3% have had a **malignant tumour** (3.5% of men and 5% of women). 36.3% (27.2% of men and 45.0% of women) suffer or have suffered 4 **or more chronic disorders**.

[a] Chronic problems are understood to be those that have lasted or are expected to last at least 6 months (Minimum European Health Module).
[b] The ESCA asks about "suffering or having suffered a chronic disorder" from a list of 28 health problems.

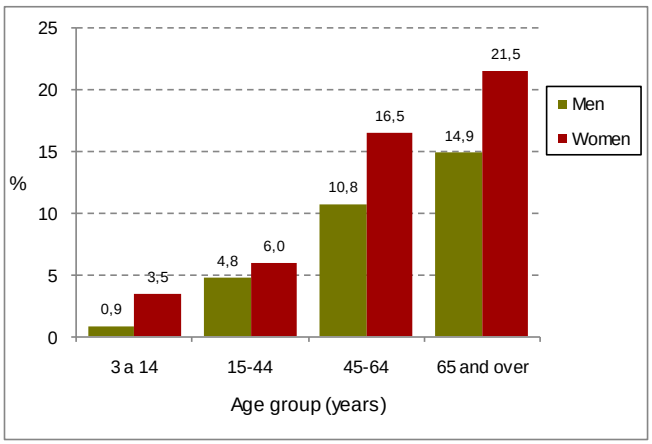
Graph 5. Main chronic disorders suffered by the population aged 15 and over, by sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

9.5% of the population aged 3 and over (7.4% of men and 11.5% of women) have had some type of impediment or difficulty to go to work, school or other educational centre, or to do housework due to a chronic health problem (graph 6). The main causes of **restricted activity** in the last year were back pain without associated symptoms, depression, and arthrosis or a similar disorder.

Graph 6. Population aged 3 and over who have restricted their usual activity in the last year due to a chronic health problem, by age group and sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

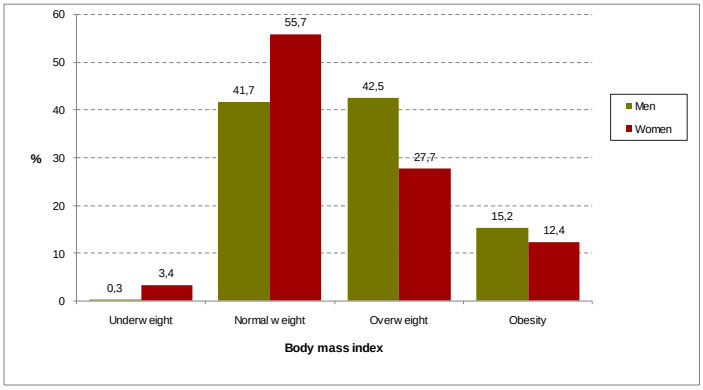
6.2 Overweight

One of the most significant problems due to its effects on health and its social dimension is **excess weight (overweight and obesity)**. Half of the population from 18 to 74 are overweight. Both overweight and obesity are more frequent in men (graph 7). As the groups age, the prevalence of overweight and obesity increases in both sexes (graph 8).

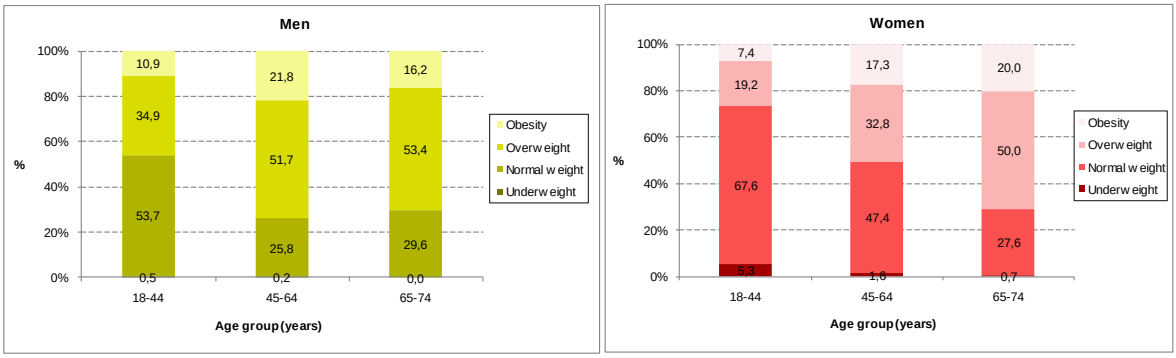
Graph 7. Body mass index (BMI)* in adults from 18 to 74, by sex. Catalonia, 2012

* BMI obtained from declared weight and height.

Source: 2012 Health Survey of Catalonia. Ministry of Health.



Graph 8. Body mass index (BMI)* in adults from 18 to 74, by age group and sex. Catalonia, 2012



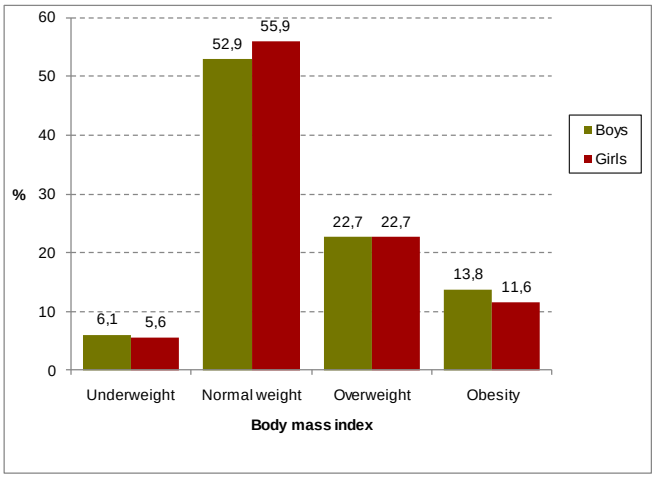
* BMI obtained from declared weight and height.
Source: 2012 Health Survey of Catalonia. Ministry of Health.

34.5% of the population aged 6 to 12 are overweight (36.5% of boys and 34.3% of girls) (graph 9).

Graph 9. Body mass index (BMI)* in the population from 6 to 12, by sex. Catalonia, 2011-2012

* BMI obtained from the declared weight and height and classification according to WHO criteria.[19,20]

Source: 2011-2012 Health Survey of Catalonia. Ministry of Health.

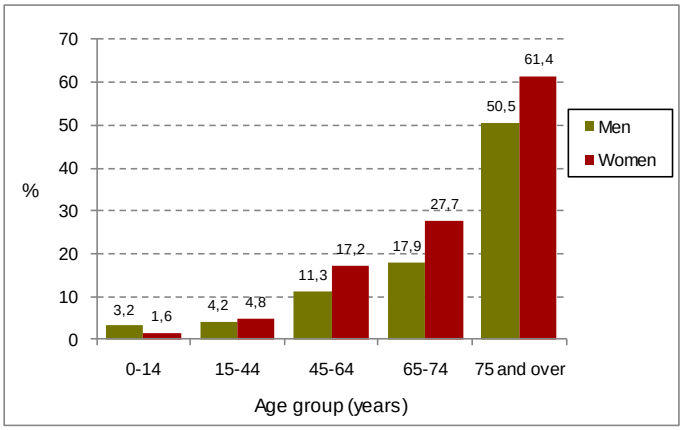


In Catalonia the population aged 2 to 17 both in boys and in girls who are overweight show percentages lower than the Spanish average. With regard to obesity, the percentage is lower in boys and is around the average for girls (**2011-2012 ENSE**).

6.3 Disabilities

14.8% of the population aged 15 and over have a serious limitation or **disability** that permanently affects the development of their everyday activities. The prevalence of disability is higher in women (18.0%) than in men (11.4%). The frequency of disability increases with age (graph 10 and table 1).

Graph 10. Population with a serious limitation or permanent disability, by age group and sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

Table 1. General population with a serious limitation or permanent disability by age group and sex. Catalonia, 2012

Age group	Prevalence (%)			Estimated population		
	Men	Women	Total	Men	Women	Total
0-14	3.2	1.6	2.4	19,133	9,055	28,188
15-44	4.2	4.8	4.5	69,316	74,978	144,295
45-64	11.3	17.2	14.2	106,978	166,089	273,067
65-74	17.9	27.7	23.1	51,771	90,699	142,471
75 and over	50.5	61.4	57.2	132,871	258,511	391,382
Total	10.1	15.6	12.9	380,069	599,332	979,403

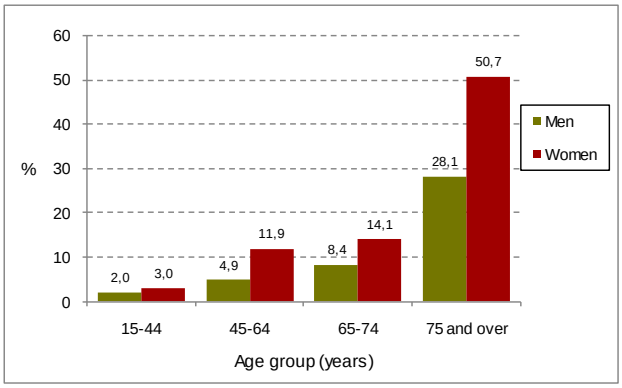
Source: 2012 Health Survey of Catalonia. Ministry of Health.

The main serious limitations or disabilities suffered by the population aged 15 and over are similar in men and women, and are related to significant movement limitations, walking problems and serious difficulties to do housework. Except with regard to serious speaking limitations, women present higher prevalences than men in all disabilities.

6.4 Dependence

9.3% of the population aged 15 and over need the help or company of other people to carry out their usual everyday activities due to a health problem. In Catalonia, more than 600,000 people are in a **dependence** situation. This situation is concentrated in women and in the elderly: 5 of every 10 people aged 75 and over need the help of others to carry out their everyday activities (graph 11 and table 2).

Graph 11. Population aged 15 and over who due to a health problem need the help or company of other people to carry out their everyday activities, by age group and sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

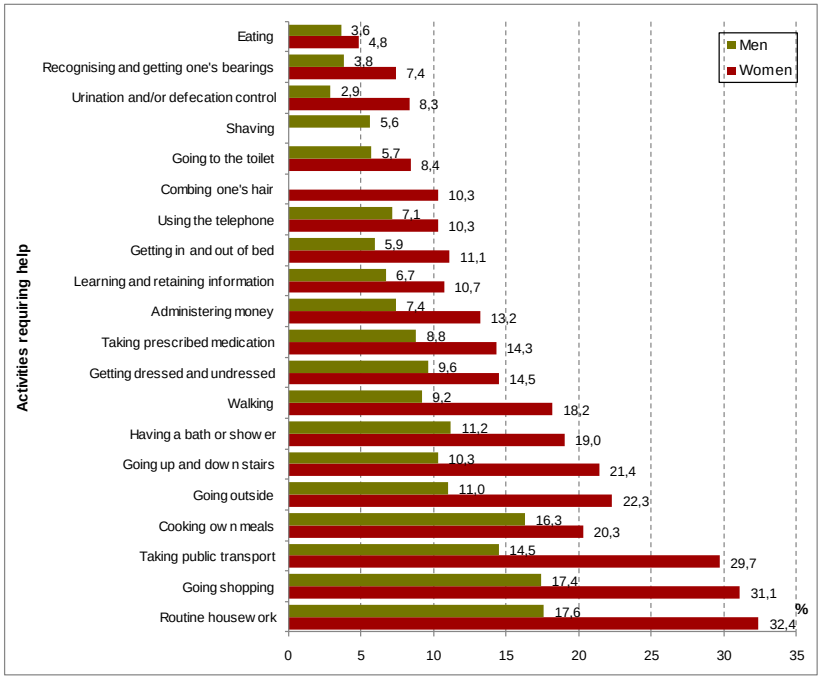
Table 2. Dependent population aged 15 and over, by age group and sex. Catalonia, 2012

Age group	Prevalence (%)			Estimated population		
	Men	Women	Total	Men	Women	Total
15-44	2.0	3.0	2.5	33,740	47,314	81,054
45-64	4.9	11.9	8.5	46,739	115,229	161,968
65 and over	17.8	34.7	27.5	98,112	259,642	357,752
75 and over	28.1	50.7	42.0	73,948	213,468	287,416
15 and over	5.7	12.9	9.3	178,591	422,185	600,776

Source: 2012 Health Survey of Catalonia. Ministry of Health.

A quarter (17.6% of men and 32.4% of women) need help with routine housework (making the bed, washing the dishes, cleaning, etc.). Other usual activities that are frequently a cause of dependence are going to the market and personal shopping. The activities that dependent people need less help with are eating and drinking (graph 12).

Graph 12. Population over 15 with loss of personal autonomy according to the activity for which they need help, by sex. Catalonia, 2012

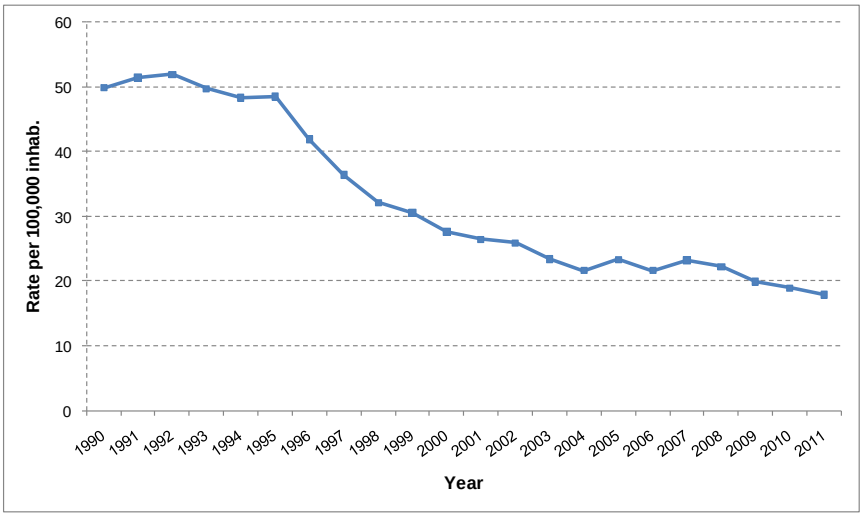


Source: 2012 Health Survey of Catalonia. Ministry of Health.

6.5 Communicable diseases

In 2011, in Catalonia 1,353 cases of **tuberculosis (TB)** in residents were declared, corresponding to 17.9 cases per 100,000 inhabitants (graph 13). The rate was 5.3% less than in the previous year. 62.1% of the cases are men and 37.9% are women, with rates of 22.5 and 13.5 cases per 100,000 inhabitants, respectively. 47.7% of the cases are people born outside Spain and 52.3% are indigenous, with rates of 53.5 and 11.4 cases per 100,000 inhabitants, respectively. The distribution of cases of TB in the territory is not homogenous: 70.8% of the cases are in the Barcelona Health Region and 29.7% in the city of Barcelona.

Graph 13. Evolution of the incidence of tuberculosis. Catalonia, 1990-2011

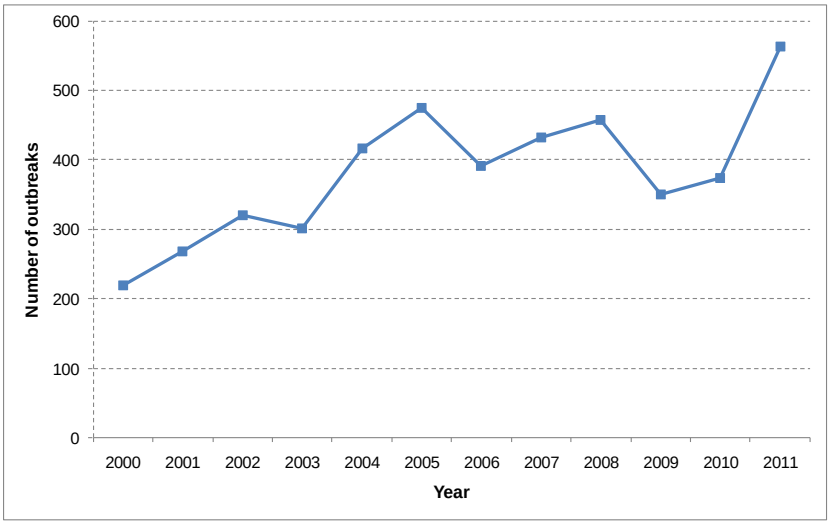


Source: Epidemiological Repository of Catalonia (REC) for tuberculosis. Catalan Public Health Agency.

Sexually transmitted diseases (STDs) continue to represent a significant public health problem in terms of morbidity and mortality due to the complications and sequelae they might cause if not diagnosed and properly treated. In 2011, there were 633 declared diagnoses of **HIV**, with a diagnosis rate of 8.8 cases per 100,000 inhabitants, representing a reduction of 16.7% with respect to the previous year. With regard to **AIDS**, the decreasing trend has been maintained, given that 119 cases were declared, with a rate of incidence of 1.7 cases per 100,000 inhabitants (2.9 in 2010). The rate of **gonorrhoea** decreased by 5.4% with respect to the previous year with 7.1 cases per 100,000 inhabitants. The STDs that have shown an increase in incidence are **infectious syphilis** (7.3 cases per 100,000 inhabitants in 2011 and 6.5 in 2010) and **lymphogranuloma venereum** (1.3 cases per 100,000 inhabitants in 2011 and 0.3 in 2010).[21]

In 2011, 565 **epidemic outbreaks** were declared, 34% more than in 2010. Outbreaks of pertussis registered very high levels, given that in recent years there has been a considerable increase. Outbreaks of foodborne diseases presented an increase, breaking the downward trend of recent years. Declared outbreaks of measles were small groups of cases within a global epidemic context that started in 2010 and affected various areas of Catalonia. In the total number of outbreaks 3,767 people were affected, of whom 320 required hospital admission and 6 died (graph 14).

Graph 14. Declared epidemic outbreaks in Catalonia, 2000-2011



Source: Sub directorate-General for Surveillance and Response to Public Health Emergencies.

In 2011, *Campylobacter* and *Salmonella* were the microorganisms most frequently involved in cases of **enteritis**, with rates of 41.8 cases per 100,000 inhabitants and 23.4 cases per 100,000 inhabitants, respectively, very similar to those observed in the previous year.

With regard to **vaccine-preventable diseases**, in 2011, 277 cases of **measles** were registered (rate of incidence of 3.6 per 100,000 inhabitants) as a result of the importation of cases from other regions of Spain and other European countries. 7 suspected cases of **rubella** were declared, of which 2 were confirmed. No cases of congenital rubella syndrome were declared or identified through active research. 11 clinical cases compatible with **flaccid paralysis** in children aged 15 and under were detected (rate of incidence of 0.95 per 100,000 inhabitants) with negative results for poliovirus. With regard to **parotitis**, 916 cases (3.1 cases per 100,000 inhabitants) were declared, a slightly lower rate than that registered in the previous two years. **Pertussis** showed epidemic behaviour and increased almost fivefold the rate of incidence of 2010. The rate of incidence in 2011 was 20.8 per 100,000 inhabitants. **Hepatitis A** continued the downward trend that started in recent years and in 2011 there was a rate of 1.6 cases per 100.000 inhabitants. **Hepatitis B** showed static behaviour, with the same incidence as in 2010. The invasive disease due to ***Haemophilus influenzae*** **type b** in 2011 showed static behaviour, with the same rate as incidence as in 2010 (0.05 per 100,000 inhabitants). **Invasive pneumococcal disease** showed a reduction in incidence in 2011 with respect to 2010 (9.2%). Monitoring of **influenza** by means of the Daily Information Plan for Acute Respiratory Infections in Catalonia (PIDIRAC) has shown that influenza activity in Catalonia in the 2011-2012 season had a high intensity.

In relation to the epidemiological surveillance of **congenital Chagas disease**, 134 pregnant women were registered positively for *Trypanosoma cruzi,* of which 92.5% were from Bolivia. 95 newborns of these mothers (70.9%) were monitored in 2011 and the first months of 2012 until they were 9 months old. 8 babies were found to have the infection, corresponding to a congenital transmission rate of 8.4%.

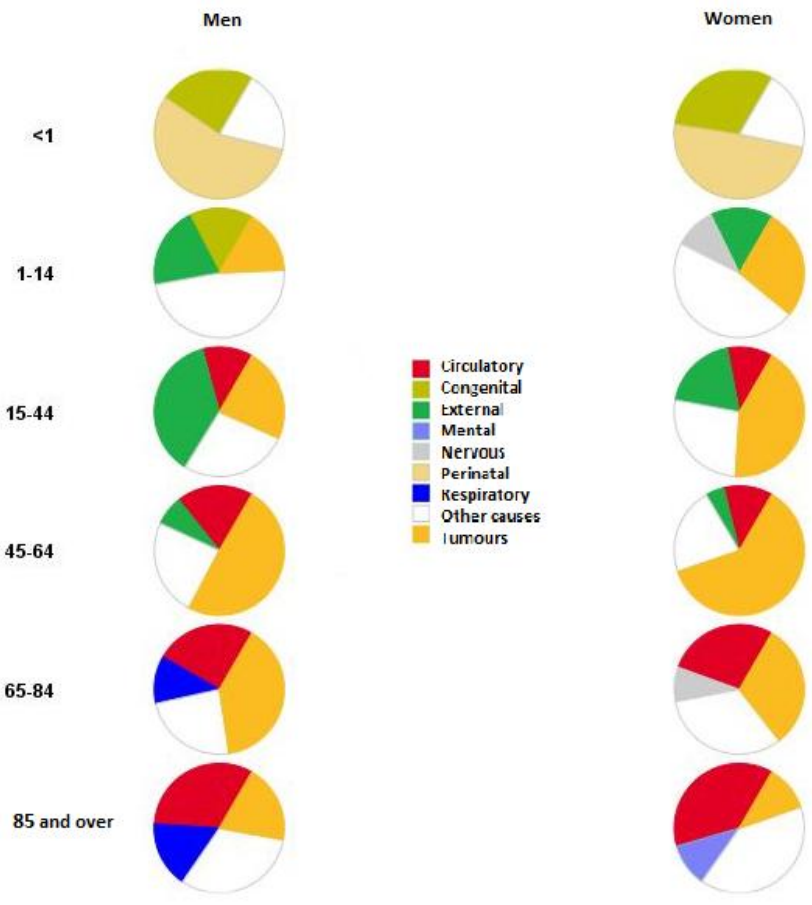
7. What we die of

Mortality is closely linked to age and causes of death present different patterns according to age and sex. For this reason, detailed analysis of the causes of death can give a good idea of the population's health and diseases.

For many years, the major groups of the **most frequent causes of death** have been tumours in men and diseases of the circulatory system in women, accounting for more than half of deaths. In 2011, for the first time, taking both sexes together, **tumours** were the group that caused the most deaths. However, using the major groups of causes of death to group more cases, the pattern of mortality by ages is not very different. Except for congenital and perinatal diseases that affect young children, the rest of the causes are distributed among external causes (accidents and violence) and tumours in the young and middle-aged, tumours and diseases of the circulatory system in the middle-aged and the elderly, in addition to, respiratory, neurological and mental diseases in the elderly (graph 15).

Graph 15. First three causes of death* according to groups of diseases, by age group and sex. Catalonia, 2011

* Distribution of frequencies over the total of each age group and sex.



Source: Mortality Registry of Catalonia. Analysis of Mortality in Catalonia 2011.

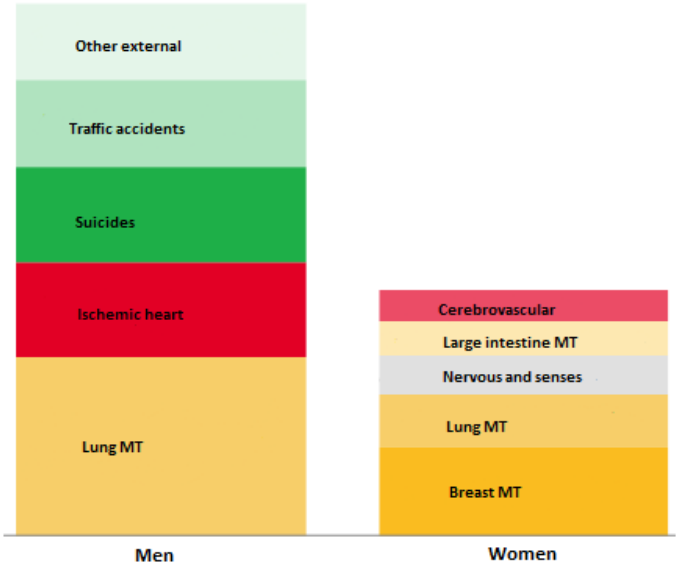
Specifying the diagnoses in greater detail, the first five **diseases that cause the most deaths** (in absolute values) and that, therefore, might place a greater burden on the services are, in women, cerebrovascular diseases, dementia, a section that includes various heart diseases,

ischemic heart diseases and Alzheimer's disease. In men this list is quite different and includes lung cancer, ischemic heart diseases, bronchitis and asthma, cerebrovascular diseases and other heart diseases. This profile is explained to a large extent due to the fact that the majority of deaths occur over the age of 80.

Moreover, there is a set of diseases that have major social repercussions because they cause **premature mortality** and are perceived by the population as major losses in the time that in theory people could live (deaths that are interpreted by the population as early deaths). According to the rates of years of potential life lost, standardised by age (with the standard population of Catalonia of 1991), graph 16 shows the first five causes in women and men in ascending order according to the magnitude of the rate. They are malignant tumours in women, and malignant tumours and external causes in men, the causes of many premature deaths, a mortality that, moreover, is much higher in men.

Graph 16. First five causes of premature death,* by sex. Catalonia, 2011

* According to the rates standardised by age for years of potential life lost (standard population: Catalonia, 1991).



Source: Mortality Registry of Catalonia. Analysis of Mortality in Catalonia 2011.

8. What we do for our health

8.1 Our lifestyles and habits

There is extensive scientific evidence about the effects that physical activity, good eating habits, stopping smoking and risk consumption of alcohol and other drugs have on the prevention of morbidity and mortality in relation to the commonest chronic diseases.

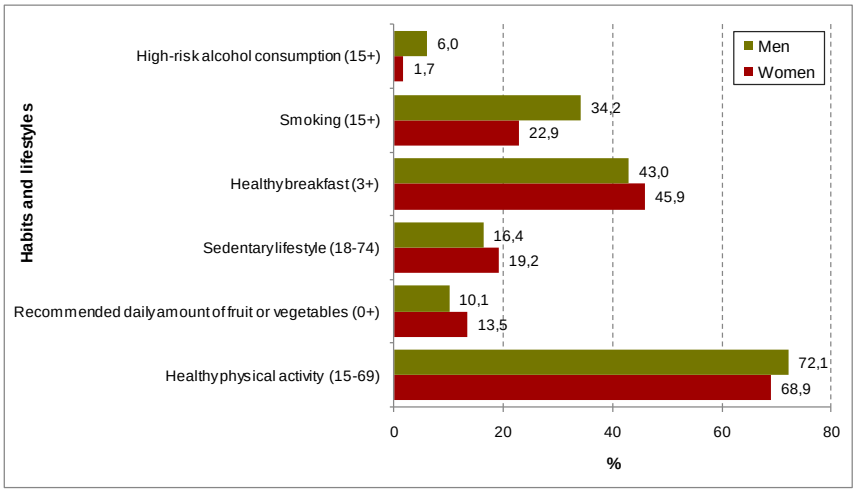
According to usual physical activity, in 2012, 17.8% of the population aged 18-74 were **sedentary**. Moreover, 70.5% of the population aged 15 to 69 have a healthy level of physical activity (moderate or high physical activity).

With respect to **dietary habits**, 11.8% of the population consume 5 portions of fruit and/or vegetables per day, which is the level recommended by the WHO. According to the results of the 2011-2012 ENSE, the percentage of adults in Catalonia who follow this recommendation is higher than the state average (9.7%). A healthy breakfast, that is, before leaving the house and mid-morning, is eaten by 44.5% of the population, although with age the frequency of this habit reduces.

Smoking has remained at the same level. Currently, 28.5% of the population aged 15 and over smoke every day or occasionally (34.2% of men and 22.9% of women) and exposure to smoke both at work and at home has considerably reduced. Although the prevalence of smokers is higher in men than in women at all ages, the percentages are very similar among young people from 15 to 24 and differ as people age. Considering the results of the 2011-2012 ENSE, Catalonia is below the average in the proportion of smokers (daily and occasional) in both sexes. In men, the proportion of smokers is around the average and in women it is below the average. In the European Union (EU-15), in 2009 the prevalence of daily smoking in Catalan men is much higher than the European average (26.7%), while among women the Catalan percentage is only slightly higher than the European average (19.9%).[22]

3.9% of the adult population's alcohol consumption is high risk (6.6% of men and 1.7% of women). The most significant risk consumption is observed in those aged 15 to 24 in women and 25 to 34 in men. According to data from **ESTUDES ("State Survey on the Use of Drugs and Secondary Education")**, in 2010, 76.8% of secondary education students aged 14 to 18 had consumed alcohol at least once, 67.2% had done so in the 12 months prior to the study and 56.4% in the last 30 days.

Graph 17. Lifestyles and habits of the population. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

Tables 3 and 4 show the evaluation of the **consumption of non-institutionalised drugs** in the population aged 15 to 64 and in students aged 14 to 18. Cannabis derivatives and cocaine are the substances in this category with the highest consumption prevalences. With respect to the proportion of people who have consumed cannabis or cocaine in the 30 days prior to the study, the increasing trend of 2006-2007 was interrupted and has consistently reduced since then.[23]

Table 3. Evolution of the prevalence of drug consumption in the last thirty days among the population aged 15 to 64 (%). Catalonia, 1997-2011

	1997	1999	2001	2003	2005	2007	2009	2011
Cannabis	4.0	4.3	8.3	11.4	13.9	9.7	8.7	8.1
Ecstasy and designer drugs	0.1	0.1	1.0	0.6	0.8	0.8	0.3	0.1
Cocaine	0.9	1.0	1.4	0.7	1.7	2.6	1.5	0.7
Amphetamines (speed)	0.2	0.4	0.6	0.1	0.6	0.6	0.4	0.0
Heroin	0.0	0.1	0.0	0.2	0.0	0.0	0.1	0.0

Table 4. Evolution of the prevalence of drug consumption in the last thirty days among secondary education students aged 14 to 18 (%). Catalonia, 1994-2010

	1994	1996	1998	2000	2002	2004	2006	2008	2010
Cannabis	17.1	21.5	22.1	22.3	26.8	30.4	25.1	23.1	21.3
Ecstasy and designer drugs	2.6	3.8	2.3	2.5	1.3	1.1	1.5	1.3	1.1
Cocaine	0.8	1.9	3.5	2.0	2.7	3.4	2.7	1.5	1.3
Amphetamines (speed)	2.7	3.5	2.1	1.1	1.5	1.8	1.6	1.2	0.8
Heroin	0.2	0.3	0.2	0.1	0.1	0.5	0.8	0.3	0.7

Source: Drug Addiction Information System. Subdirectorate-General for Drug Addiction. Catalan Public Health Agency. National Drugs Plan. Spanish Ministry of Health, Social Services and Equality.

8.2 Our preventive practices

In the population aged 15 and over, 52.6% have their **blood pressure** taken periodically (51.2% of men and 54.0% of women) and 60.0% (58.8% of men and 61.1% of women) have their blood **cholesterol** level periodically checked. These practices increase with age, especially from the age of 65.

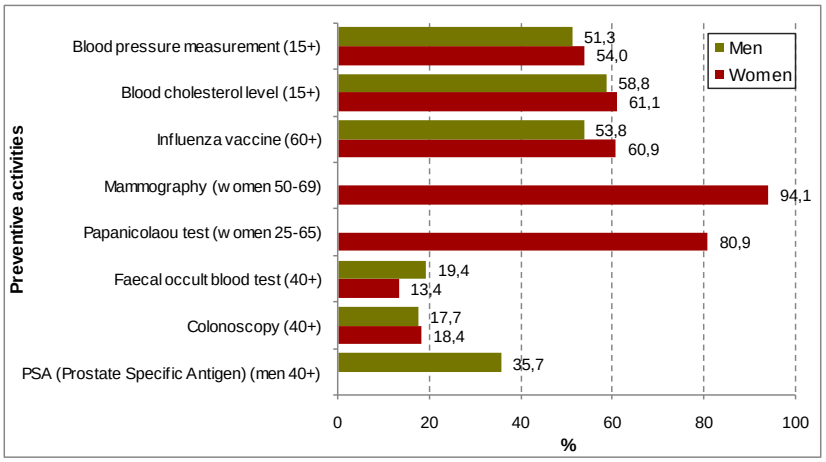
Vaccination coverage in children (2011) is 91.1%. 57.7% of the population aged 60 and over are regularly vaccinated against influenza when autumn starts (53.8% of men and 60.9% of women), reaching 64.5% of the population aged 65 and over (60.1% in men and 67.9% in women).

In women, the rate of **mammographies** in the recommended age group (50 to 69) is 94.1% and the rate of **Papanicolaou tests** in women from 25 to 65 is 80.9%.

16.3% of the population aged 40 and over have taken the **faecal occult blood test** to detect colon cancer or polyps in the intestine and 18.1% have had a **colonoscopy**.

35.7% of 40-year-old men have taken the **PSA** test to detect prostate cancer.

Graph 18. Preventive activities of the population. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

Other preventive activities are those related to the early detection of high-risk alcohol consumption in the primary care scope, such as the **'Beveu menys' ('Drink less') programme**, and specific programmes for the **reduction of damage related to drug use** for active consumers, especially when consumed intravenously: the **Specific Hepatitis Action Plan**, the **Overdose Prevention Programme** and the **Needle Exchange Programme (PIX)**. For children and young people there are programmes such as **'L'aventura de la vida' ('The Adventure of Life')**, and two web 2.0 sites, **elpep.info** and **laclara.info**, among others.

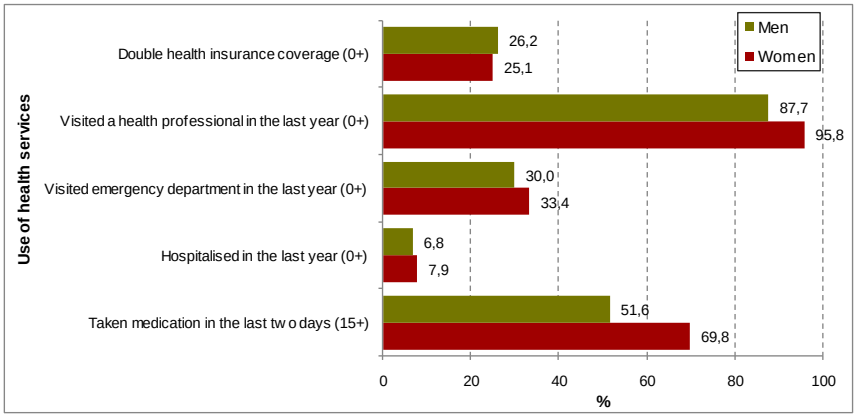
8.3 The use we make of the health services

99.3% of the population have the right to public healthcare. 25.6% have **double health insurance coverage**, that is, they have private health insurance through their company or individually. Double health insurance coverage is more frequent among the population aged 15 to 44.

91.8% of the general population (95.6% of the population from 0 to 14 and 91.1% of the population aged 15 and over) **have visited a health professional** at least once in the last year. In 70% of the cases the services were public. 78% of the population **have visited a general practitioner or paediatrician**. 23.7% **have visited a consultant**, 34.9% have visited an odontologist and 18.1% have visited a consulting optometrist or optician. 44.1% of women over 15 have visited a gynaecologist. 17.3% of the general population have been treated by a nursing professional in the last year.

In the last 12 months, 3 of every 10 adults and 4 of every 10 children **have been to the emergency department** and 5.9% of the general population **have been hospitalised** for at least one night. Of the adult population who have been to the emergency department, 52.1% visited a public hospital, 10.9% a private hospital, 33.3% a primary care centre or continuous care centre and 2.3% a private healthcare professional.

Graph 19. Use of healthcare services by the population. Catalonia, 2012



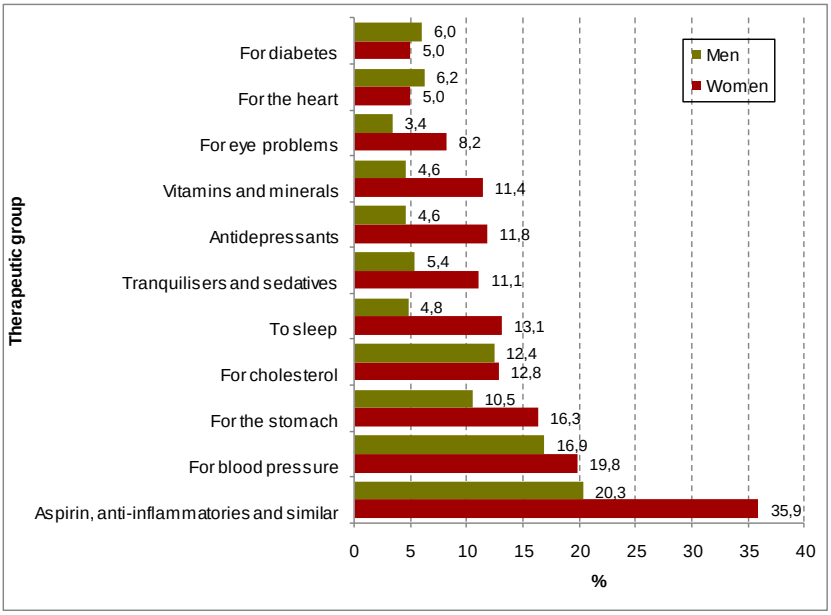
Source: 2012 Health Survey of Catalonia. Ministry of Health.

Although the percentage of the population having visited their general practitioner or paediatrician has significantly improved from 2006 to 2011-2012, it should be stated that there has been a decrease in frequentation: **visits/inhabitant/year** to general practitioners have decreased from 5.6 to 3.9. There are no significant differences with respect to hospital and emergency frequentation. In 2011-2012 the visits/inhabitant/year for hospitalisation and emergency departments were 1.38 and 1.9, respectively.

Comparatively, in accordance with the results of the 2011-2012 ENSE, the percentage of people who in Catalonia have visited their general practitioner or paediatrician in the last 4 weeks, and the frequentation to these professionals, is above average.

60.9% of the population aged 15 and over (51.6% of men and 69.8% of women) and 23.7% of children from 0 to 14 (26.6% of boys and 20.5% of girls) **had taken medicine** in the two days prior to the study. The medication most frequently consumed is aspirin or similar pain relievers and/or anti-inflammatory drugs (28.2%), followed by drugs for high blood pressure (18.4%), stomach medication (13.4%) and cholesterol drugs (12.6%) (graph 20).

Graph 20. Consumption of medication in the two days prior to the interview in the population aged 15 and over according to therapeutic group, by sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

91.7% of the general population who have used a healthcare service in the last 12 months were satisfied with it (91.4% of men and 92.0% of women). The percentages of the population satisfied with the healthcare services used get higher as people age. The satisfaction percentage is higher among the population who have used private services (98.0%) than it is for public ones (90.2%).

In general, with regard to the **use of the Internet and information and communication technology (ICT)**, age is a determining factor in the use of the internet and the reason for Internet use for subjects related to health. In relation to the adult population, social class and level of education are the two elements that explain the differences. 74.2% of the population aged 15 to 64 use the Internet (76.2% of men and 72.1% of women). Internet usage is higher among the population aged 15 to 44 (86.6%) than among the population aged 45 to 64 (53.2%), in both sexes. The percentage of the population using the Internet is lower among the most disadvantaged social classes and those with less education.

The population who **use the Internet in relation to health** do so, firstly, to search for information about their own physical diseases or those of someone they know (55.1%; 48.6% men and 62.2% women); secondly, to search for information about well-being and lifestyles (40.2%; 36.0% men and 44.7% women); and, thirdly, to request, cancel or change an appointment with a healthcare professional (20.9%; 16.8% men and 25.2% women). Usage is always higher among women.

With regard to the **willingness that those who do not use the Internet have to use it**, the first reason why the population would be willing to use it is to remotely receive medical or clinical tests (47.3%; 50.6% men and 43.7% women); the second, to use e-mail or visit a website to communicate with a healthcare professional or health centre (46.9%; 50.9% men

and 42.7% women), and, third, to consult the network by means of videoconferencing with their doctor or nurse (43.6%; 46.6% men and 40.4% women). In this case, the percentage of the population who do not use the Internet in relation to health but would be willing to do so is always higher among men.

Both for their own health and to search for information on the Internet for other people, the population **searches for health information** usually after consulting a healthcare professional and, to a lesser degree, before their visit to a health centre or healthcare professional. The population consider that the **main uses of ICT and the Internet**, considered to be very important or important, are to increase general knowledge or satisfy their curiosity (72.0%), followed by better understanding health problems or diseases (71.8%) and finding additional sources of information (71.4%).

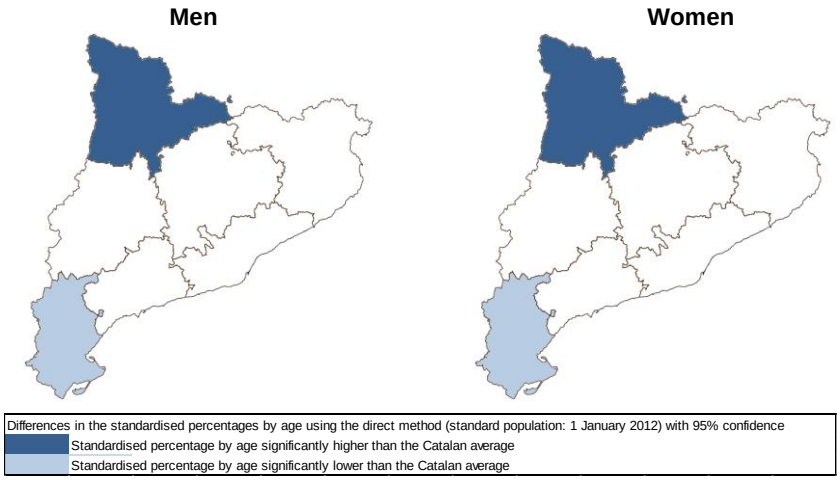
With regard to **barriers to the use of ICT for purposes related to health or well-being**, the main ones that the population perceive are the lack of security, reliability and privacy (all around 77%).

Finally, the **main sources of information** about health, diseases or well-being that the population consider to be very important or important are direct contact with a healthcare professional (approximately 98%) and pharmacies (88.8%).

9. The territory

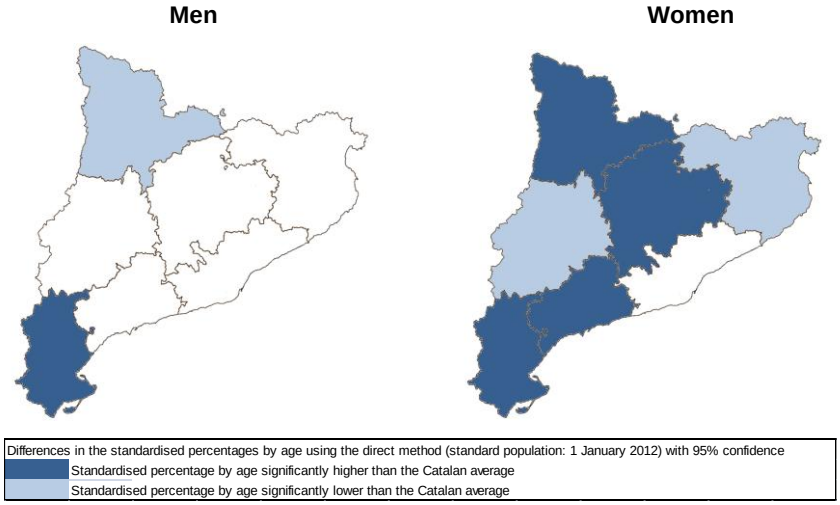
Analysis of the behaviour of the main health indicators, lifestyles and use of services, according to the various health regions, does not show that there are territorial patterns in which certain regions systematically present better or worse results (maps 1 to 4 and table 5).

Map 1. Percentage of the population with perception of good health, by health region and sex. Catalonia, 2010-2012



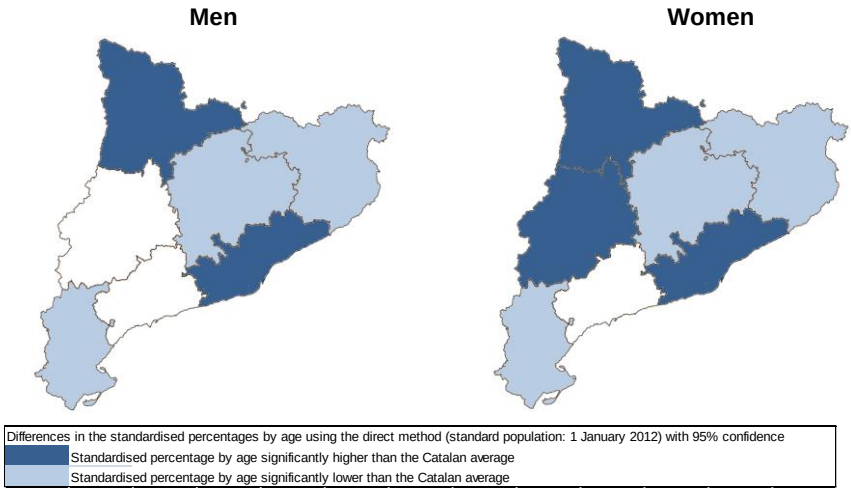
Source: Health Survey of Catalonia, 2010-2012 (second half of 2010 to first half of 2012). Ministry of Health.

Map 2. Percentage of the population aged 15 and over who smoke, by health region and sex. Catalonia, 2010-2012



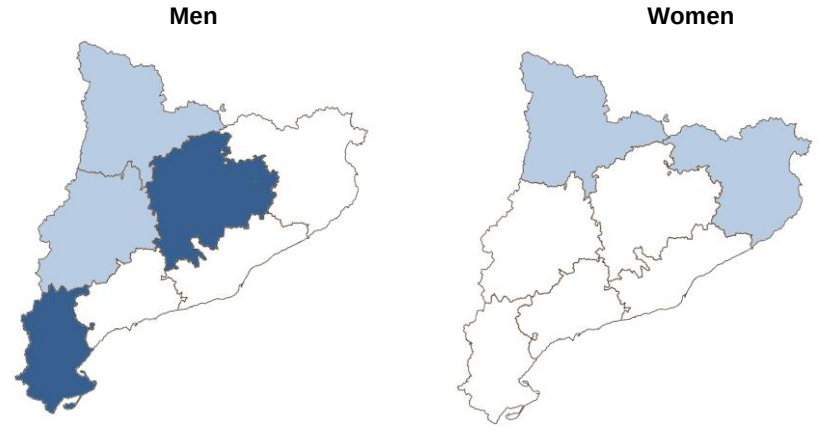
Source: Health Survey of Catalonia, 2010-2012 (second half of 2010 to first half of 2012). Ministry of Health.

Map 3. Percentage of the population aged 18 to 74 with a sedentary lifestyle, by health region and sex. Catalonia, 2010-2012



Source: Health Survey of Catalonia, 2010-2012 (second half of 2010 to first half of 2012). Ministry of Health.

Map 4. Percentage of the population who have visited a health professional in the last year, by health region and sex. Catalonia, 2010-2012



Source: Health Survey of Catalonia, 2010-2012 (second half of 2010 to first half of 2012). Ministry of Health.

Table 5. Catalonia and health regions according to the selected indicators, by sex. 2010-2012 (second half of 2010 to first half of 2012)

Indicator			CATALONIA	Health regions						
				Lleida	Camp de Tarragona	Terres de l'Ebre	Girona	Catalunya Central	Alt Pirineu y Aran	Barcelona
1	Percentage of the population with perception of good health	M	**84,4**	83,5	86,3	79,8	84,0	82,6	86,5	84,7
		W	**76,4**	77,3	79,7	68,0	78,6	76,9	81,3	75,7
		T	**80,4**	80,4	83,0	74,1	81,3	79,8	84,0	80,1
2	Percentage of the population aged 18 to 74 overweight	M	**57,5**	60,3	55,4	62,8	53,5	59,2	60,5	57,8
		W	**39,5**	41,5	35,6	36,5	41,6	43,5	34,3	39,3
		T	**48,6**	51,4	45,7	50,3	47,7	51,6	47,9	48,5
3	Percentage of the population aged 15 and over with a chronic disorder	M	**35,0**	34,1	40,1	25,7	25,7	30,2	31,1	36,7
		W	**42,5**	43,1	43,0	36,2	30,6	42,7	38,1	44,3
		T	**38,8**	38,6	41,6	30,8	28,1	36,5	34,5	40,6
4	Percentage of the population aged 15 and over with risk of suffering a mental disorder	M	**10,1**	13,1	10,7	8,3	7,1	9,2	4,7	10,5
		W	**15,5**	19,6	18,6	17,5	8,6	13,9	7,5	16,1
		T	**12,8**	16,3	14,6	12,8	7,8	11,6	6,0	13,3
5	Prevalence of smoking in the population aged 15 and over	M	**34,6**	34,0	33,4	36,4	31,9	32,0	30,2	35,5
		W	**23,3**	16,0	26,8	27,2	19,0	25,6	26,8	23,6
		T	**28,9**	25,2	30,1	31,9	25,5	28,8	28,6	29,4
6	Percentage of the population aged 18 to 74 with a sedentary lifestyle	M	**15,9**	14,0	16,2	25,8	13,8	13,2	10,8	16,2
		W	**18,2**	19,7	15,2	25,0	17,0	21,4	17,6	18,1
		T	**17,0**	16,7	15,7	25,4	15,3	17,2	14,1	17,1
7	Percentage of the population aged 15 to 69 with healthy physical activity	M	**73,6**	59,1	71,5	75,0	65,5	70,1	74,4	76,4
		W	**70,0**	64,2	70,4	64,3	64,1	65,3	66,7	72,0
		T	**71,9**	61,5	71,0	69,9	64,9	67,8	70,8	74,2
8	Percentage of the population aged 15 and over who have their blood pressure taken periodically	M	**49,4**	64,0	44,6	52,8	51,4	44,3	55,8	48,9
		W	**52,3**	68,8	51,1	58,7	52,1	46,9	62,5	51,4
		T	**50,9**	66,3	47,8	55,7	51,7	45,6	59,0	50,2
9	Percentage of the population aged 15 and over who have their cholesterol level measured periodically	M	**56,3**	62,4	57,8	52,8	56,5	50,0	60,5	56,3
		W	**60,3**	71,4	59,9	57,7	56,9	52,9	68,3	60,7
		T	**58,3**	66,8	58,9	55,2	56,7	51,5	64,3	58,5
10	Percentage of women aged 50 to 69 who periodically have a mammography	W	**92,3**	98,1	86,0	86,2	95,4	94,7	90,9	92,2
11	Percentage of women aged 25 to 69 who periodically have a Papanicolaou test	W	**77,3**	76,6	70,4	77,2	72,6	70,6	70,8	79,5
12	Percentage of the population with double health insurance coverage	M	**26,3**	24,0	21,6	18,8	20,7	18,9	29,4	28,9
		W	**25,9**	25,8	23,7	15,6	16,6	17,7	27,1	28,7
		T	**26,1**	24,8	22,6	17,2	18,7	18,3	28,3	28,8
13	Percentage of the population aged 15 and over who have taken medication in the last two days	M	**53,8**	53,7	53,0	52,7	49,4	51,8	45,5	54,9
		W	**74,7**	75,8	72,5	76,2	70,9	73,7	64,3	75,7
		T	**64,4**	64,5	62,7	64,2	60,1	62,8	54,7	65,6
14	Percentage of the population who have visited a health professional in the last 12 months	M	**89,1**	84,3	88,5	96,9	87,9	90,7	82,7	89,4
		W	**96,2**	97,4	94,9	97,5	93,3	97,6	91,8	96,5
		T	**92,7**	90,7	91,7	97,2	90,6	94,1	87,1	93,0
15	Percentage of the population who have been to the emergency department in the last 12 months	M	**32,1**	33,1	33,9	33,1	29,3	26,6	23,5	32,9
		W	**36,6**	37,8	35,5	30,3	28,7	33,3	26,5	38,5
		T	**34,4**	35,4	34,7	31,7	29,0	30,0	25,0	35,8
16	Percentage of the population 15 and over satisfied with the public services they have used	M	**87,1**	85,6	87,3	80,0	90,8	84,1	87,6	87,2
		W	**87,1**	91,1	87,2	81,6	90,7	87,9	88,6	86,3
		T	**87,0**	88,2	87,3	80,8	90,8	86,0	88,1	86,7

Significant differences with respect to the Catalan average, with 95% confidence:
Significantly higher than the Catalan average.
Significantly lower than the Catalan average.

Source: Health Survey of Catalonia, 2010-2012 (second half of 2010 to first half of 2012).

Mortality (standardised by age) in 2011 presents differences between the health regions, mainly among women, although they are minor. Given that mortality can fluctuate from one year to the next and in small territories the variations may be more marked, when comparing them the confidence interval must be considered in addition to the magnitude of the rate.

In women, the regions with the highest mortality are Lleida, Camp de Tarragona, and Alt Pirineu i Aran, with similar values, and the region with the lowest rate is Barcelona. Taking into account the confidence intervals, there are no significant differences between the regions, but there are with respect to Catalonia as a whole. With respect to men, the differences between the regions are bigger and statistically significant, with the highest rate being Camp de Tarragona and the lowest being Alt Pirineu i Aran and Terres de l'Ebre.

Also, the persistence over time of a mortality defect or excess must be taken into account. Accordingly, as the comparison of each region and year with Catalonia shows**,** mortality has been significantly higher in Camp de Tarragona and Lleida, mainly in women, in the last six years.

10. Vulnerability situations

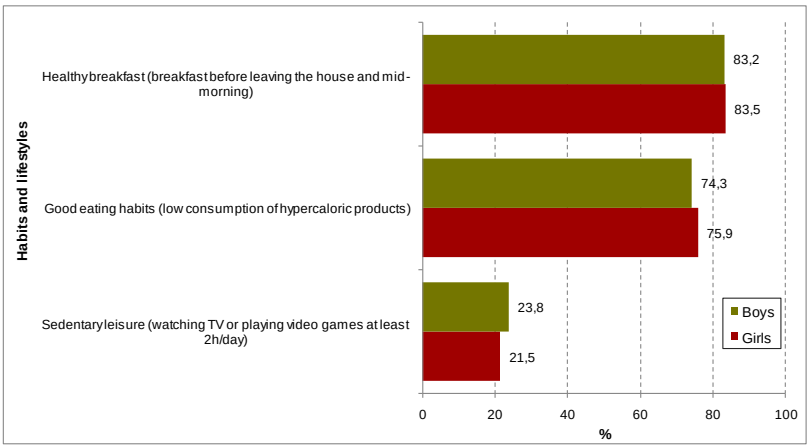
In general, although the analysis shows a rather homogenous territory there are differences related to sociodemographic and economic conditions that place certain groups in a vulnerability situation. Classically, it is accepted that sex, social class, education and territory are the main pillars of health inequality and the larger the number of inequalities, the greater the vulnerability.

10.1 Children's health

In Catalonia, the rate of infant mortality is among the lowest in the European Union (2.83 deaths per year/1,000 live births). Since 2009, the number of live births has reduced and in 2011 the number of **births registered in Catalonia** was 80,861, that is, 3.8% less than in 2010. The gross birth rate is 10.9 births per 1,000 inhabitants, which is slightly less than the value registered in the previous year.

In the population aged 3 to 14, 83.3% (83.2% of boys and 83.5% of girls) have a **healthy breakfast** (before leaving the house and mid-morning, at least 4 times a week), and this proportion reduces with age. **Sedentary leisure** in the population is 22.7% (23.8% of boys and 21.5% of girls), that is, they watch television or play computer games every day for at least 2 hours. 75.1% (74.3% of boys and 75.9% of girls) have **good eating habits** and have low consumption of fast food (at the most 3 times a week), sugary drinks, and sugary or salty snacks (graph 21).

Graph 21. Habits and lifestyles of the population aged 3 to 14, by sex. Catalonia, 2012



Source: 2012 Health Survey of Catalonia. Ministry of Health.

With regard to the **use of health services**, 90.6% of minors have visited their paediatrician or general practitioner and 44.5% have been attended by an emergency service. Almost 50% of the population aged 0 to 14 have a chronic health problem. The most frequent ones are enuresis, recurrent bronchitis, otitis and chronic allergies.

In 2012, primary vaccination in children aged 0 to 1 (3 doses) is almost 89% for **vaccination** against poliomyelitis, Tdap, Hib, hepatitis B and meningitis C. Booster vaccination in children aged 1 to 2 has a percentage of around 84% for poliomyelitis, Tdap and Hib, and 87% in the case of meningitis. The Tdap booster in children aged 4 to 6 is 89.5%. Triple virus cover (measles, rubella and parotitis) is 91.7% for the first dose (12-15 months) and 89.2% for the second dose (3-6 years). In adolescents (boys and girls), the Td vaccine covers 75.8%, the hepatitis B vaccine covers 81.6%, the human papillomavirus (HPV) vaccine (in girls) covers 84.2%, and the chickenpox vaccine in boys and girls aged 10 to 14 is 22.5%, according to the digitised medical records of the Catalan Institute of Health.

From 2006 to 2010-2012,[24] the family situation of children changed. The change was positive because the level of education of the population has improved and we know the favourable effect that it has on the health of children, with the education of the mother being especially relevant. It has also changed for the worse as the percentage of children with at least one member of the household unemployed has increased from 9.7% to 20.7%, which could represent a health risk.

In this period, the average time per day that children aged 3 to 14 **watch television or play computer games** significantly reduced from 2 to 1.4 hours. However, the number of hours spent in front of the computer is higher, the lower the education level of the mother and in children with an unemployed family member.

The indicator has improved in relation to the **consumption of high calorie products**. There has also been an improvement in relation to **risk behaviours** (conflicts and fights with peers and family, disobeying parents and teachers, etc.). In children aged 2 to 14, the prevalence of **excess weight**[19, 20] decreased from 36.5% to 34.1% from 2006 to 2010-2012, although this result is not statistically significant. There are no significant differences from 2006 to 2010-2012 in the prevalence of excess weight in children in accordance with the level of education of the mother or the employment situation of the family.

With regard to the **use of services,** there has been a significant reduction in the number of children who have seen an odontologist or consultant. The **quality of life related to health** has significantly increased. In the population aged 4 to 14 average mental health scores have improved. Comparatively, children in families in which there is no member who is unemployed and those who have mothers with secondary and university studies have better scores.

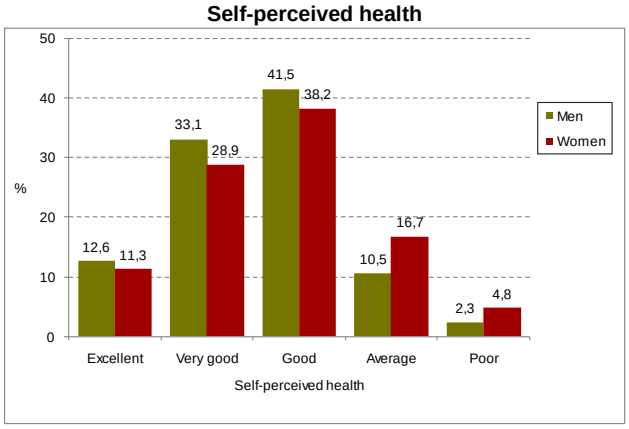
10.2 Gender

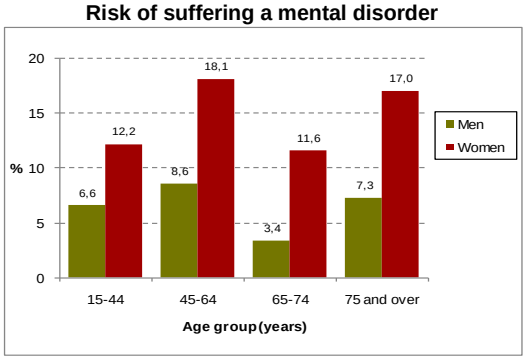
The indicators have been analysed by sex and a clear difference between men and women has been observed.

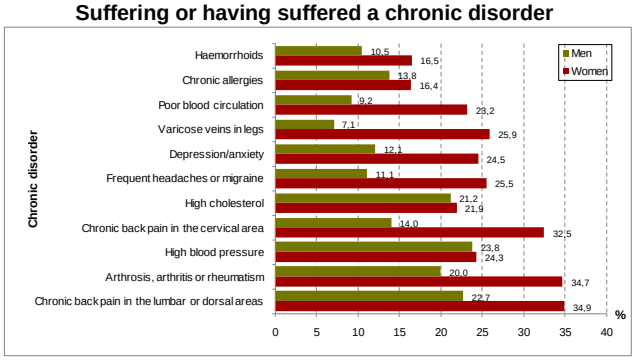
In Catalonia, there is an 8.0% rate of single-parent families (5.3% men and 10.7% women). 9.4% of the population aged 15 and over live alone (7.3% of men and 11.5% of women), and among the elderly aged 74 and over the percentage is 26.3% (13.0% are men and 34.5% are women). With regard to health indicators, except sedentary lifestyle, women show healthier behaviours (less prevalence of smoking, risk consumption of alcohol, etc.), but they have a worse perception of their health, they proportionally suffer more chronic diseases, they have a higher likelihood than men of suffering mental disorders and use the health services more and consume more medication (graph 22).

Graph 22. Differences between men and women in self-perceived health, the risk of suffering a mental disorder, and suffering or having suffered a chronic disorder

Source: 2012 Health Survey of Catalonia. Ministry of Health.







10.3 Social class and level of education

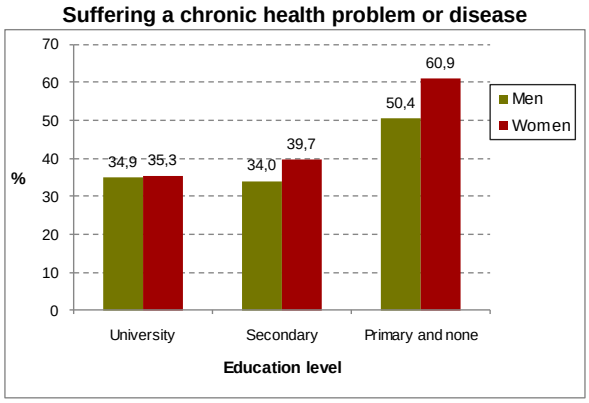
According to social class and level of education, there is a gradation in the sense that, in general, the population belonging to the most disadvantaged classes (groups IVb and V) and with a lower level of education present a worse perception of their health and a higher proportion of unhealthy behaviour. Moreover, these population groups are those that most frequently have their blood pressure and blood cholesterol level taken and are vaccinated against influenza.

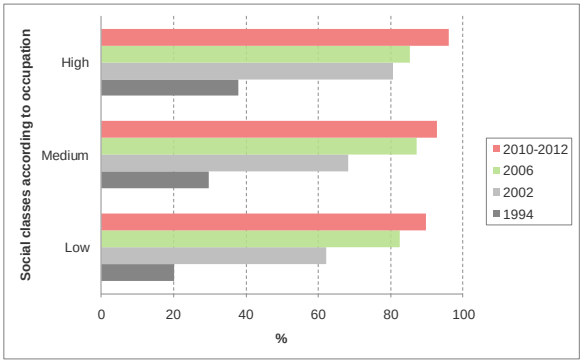
The rate of mammographies among women aged 50 to 69 does not show significant differences between social classes, while among those that have been to university the rates are slightly higher. The percentage of women aged 25 to 65 who regularly have Papanicolaou tests is higher among women in higher classes and those with a university education.

The population belonging to the most disadvantaged classes and with a low level of education use the health services more frequently in comparison with the less disadvantaged classes and those with a university education (graph 23).

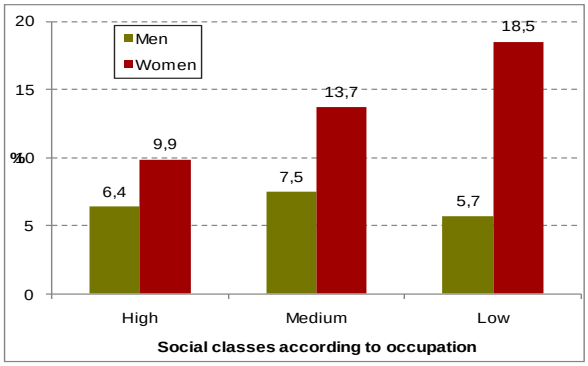
Graph 23. Differences by level of education and social class of the population suffering a chronic health problem or disease, the population at risk of a mental disorder and mammographies in women

Source: 2012 Health Survey of Catalonia. Ministry of Health.





Source: Health Survey of Catalonia (1994, 2002, 2006, and 2010-2012). Ministry of Health.

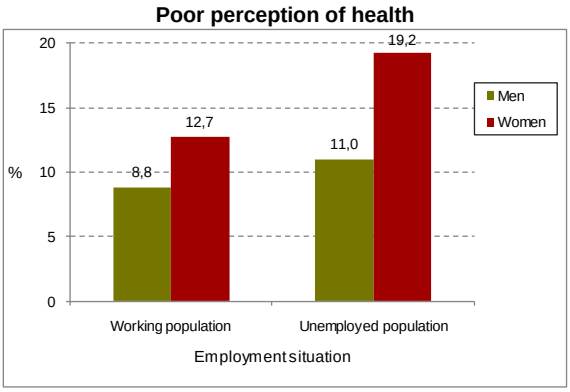


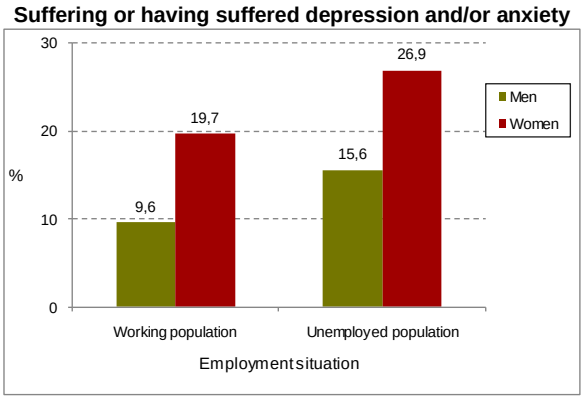
Source: 2012 Health Survey of Catalonia. Ministry of Health.

10.4 Employment situation

The unemployed present worse health indicators than the employed, with significantly higher percentages of perceived poor health and depression and/or anxiety (graph 24). Preventive practices such as measuring blood pressure and cholesterol are also significantly less frequent in the unemployed**. There are no significant differences with regard to sedentary lifestyle and the risk of alcohol consumption between the employed and the unemployed, while smoking is more frequent among the unemployed**. With regard to the use of the health services, there are no significant differences between the two groups in the frequency of the consumption of medication or in visits to a healthcare professional or in the use of emergency services and hospitalisation.

Graph 24. Differences according to the employment situation between men and women and with regard to poor perception of health or having suffered depression and/or anxiety





Source: 2011-2012 Health Survey of Catalonia. Ministry of Health.

11. Evolution over time

Many of the phenomena related to health have different prevalences according to sex and normally they become more prevalent with age. This is why, in order to avoid confusion in relation to certain phenomena studied when comparisons are made between territories or over time, it is necessary to take into account the demographic structure by sex and age of the population and standardise their estimations. During the 18 years from 1994 to 2012, despite the strong growth of the population, changes in the social composition and increased life expectancy, the percentage of the population aged 65 and over did not substantially change (16.7% in 1994 and 17.1% in 2012). The higher survival rate of women, however, means relatively higher ageing than in men: in 2012, 14.7% of men and 19.5% of women were 65 and over. The evolution over time of the various indicators selected in relation to health, lifestyles and the use of health services (graph 25 and appendix 4) is shown below.

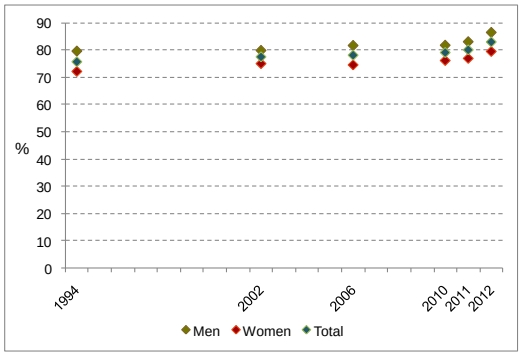
Self-perceived health improves over the period. The prevalence of excess weight (overweight, obesity) in the population from 18 to 74 does not present significant changes. The percentage of the population aged 15 and over suffering or having suffered a chronic health problem or disease has increased with respect to 1994, but it has tended to reduce since 2006. The prevalence of the population suffering or having suffered high blood pressure and hypercholesterolaemia has increased, and the prevalences of the population with serious limitation or disability and those of people whose quality of life is affected by pain and discomfort have remained the same. The population at risk of suffering a mental problem has slightly reduced.

The percentages of men and women who smoke (daily and occasionally) have tended to even out, but while smoking was less prevalent in men in 2012 than in 1994, in women it was higher. The prevalence of exposure to tobacco smoke has significantly reduced, both at home and at work. Sedentary lifestyles in the population from 18 to 74 have reduced in both sexes following the maximum in 2006 and healthy physical activity has remained at around 70% in recent years. There was a significant rise in preventive practices from 1996 to 2006, which continued until 2012. Measuring blood pressure and the blood cholesterol level in the adult population, in addition to mammographies and Papanicolaou tests in the recommended age groups in women have significantly increased.

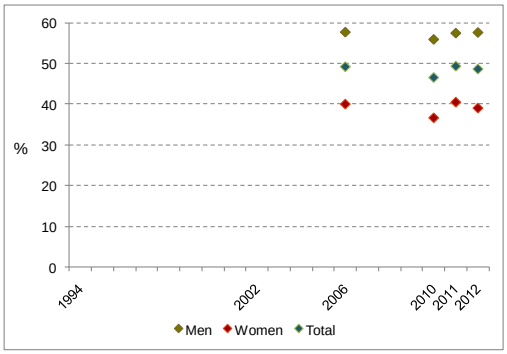
Double health insurance coverage increased to a maximum in 2010, when the percentage started to reduce. A similar time pattern is observed in the consumption of medication and in the percentage of hospitalisations in recent years. Visits to a health professional and to emergency departments have remained stable in recent years. Finally, satisfaction with public health services used in the last year increased from around 75% in 1994 to 90% in 2012, without any differences in sex.

Graph 25. Tendency of certain indicators of the ESCA, by sex (percentages standardised by age). Catalonia, 1994-2012

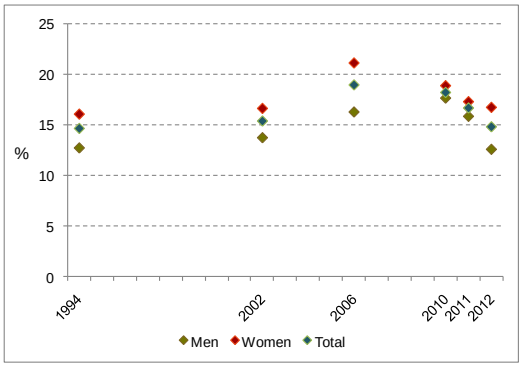
Perception of good health



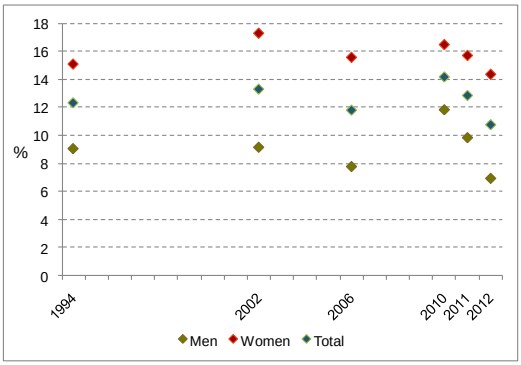
Excess weight (18-74)



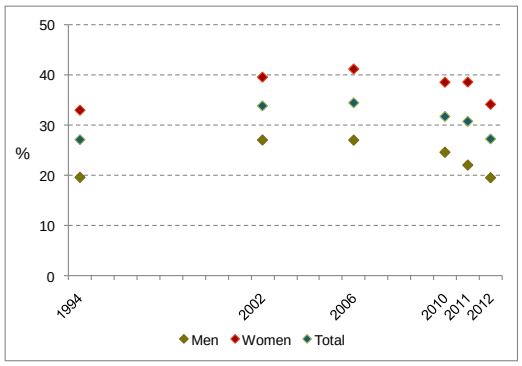
Serious limitation or disability (15 and over)



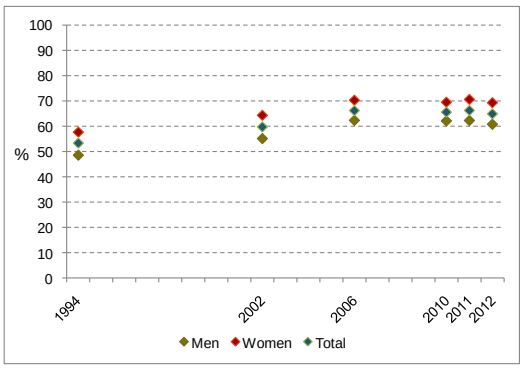
Risk of suffering a mental health problem (15 and over)



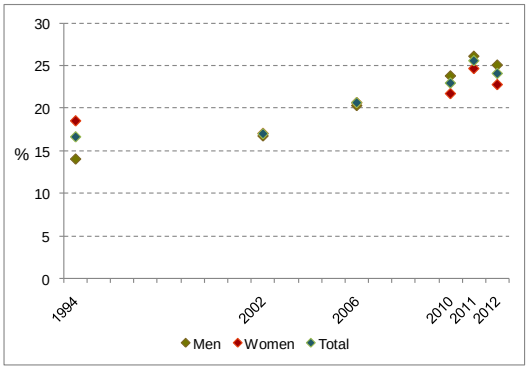
Pain or discomfort associated with a health problem (15 and over)



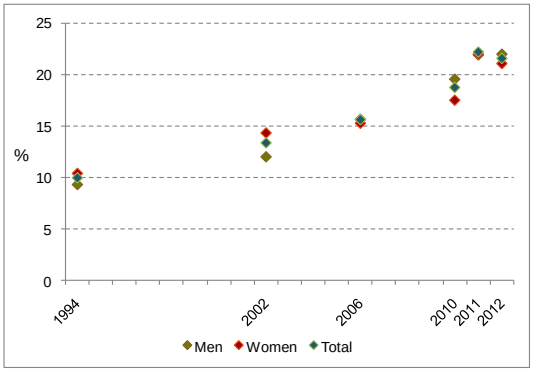
Suffering or having suffered a chronic disorder



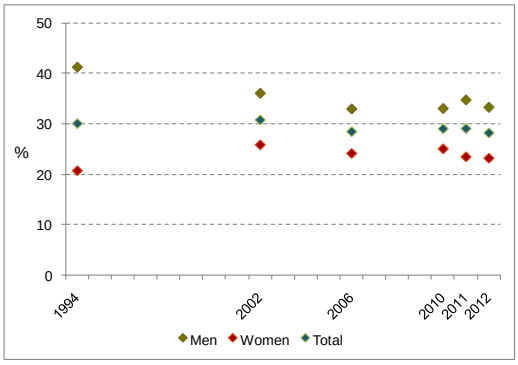
Suffering or having suffered high blood pressure (15 and over)



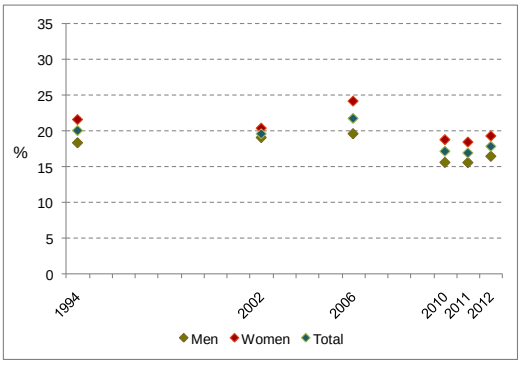
Suffering or having suffered hypercholesterolaemia (15 and over)



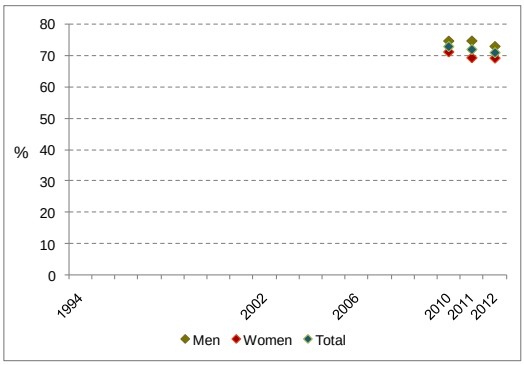
Smoking (15 and over)



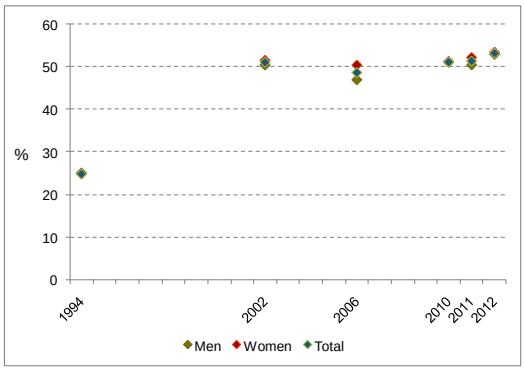
Sedentary lifestyle (18-74)



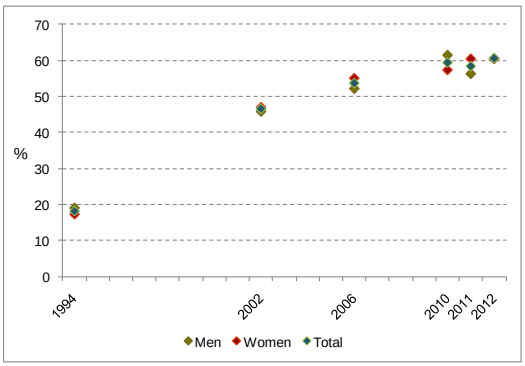
Healthy physical activity (15-69)



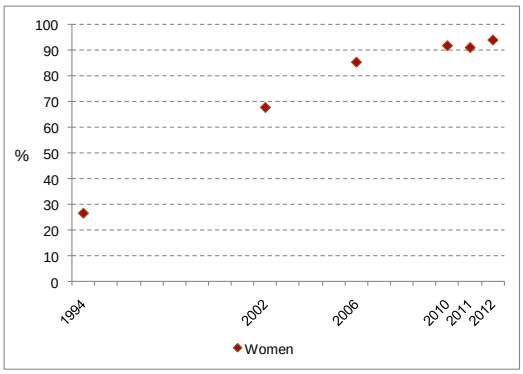
Measurement of blood pressure (15 and over)



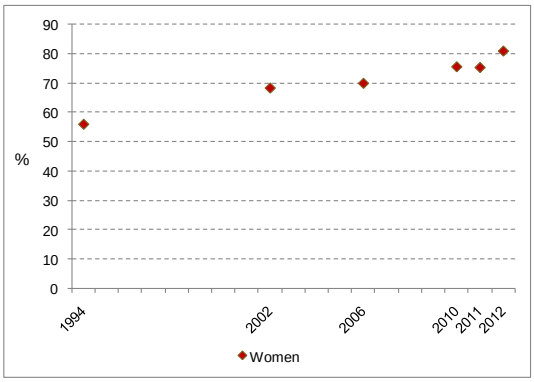
Measurement of cholesterol level (15 and over)



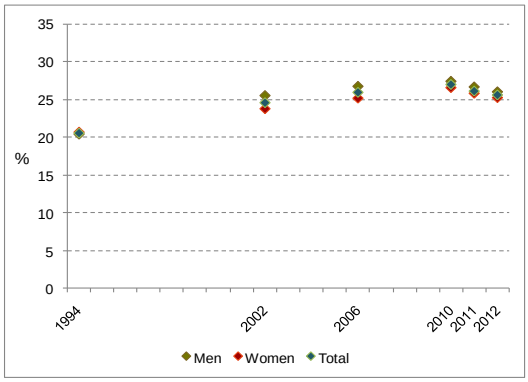
Periodic mammography* (from 50 to 69)



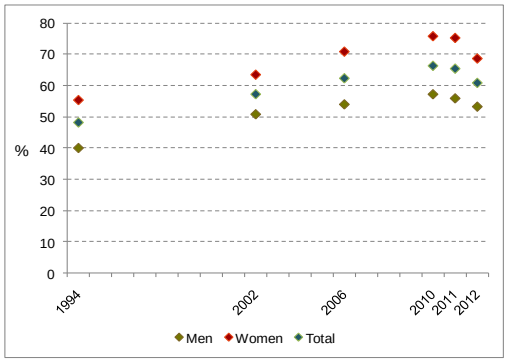
Periodic Papanicolaou test* (from 25 to 65)



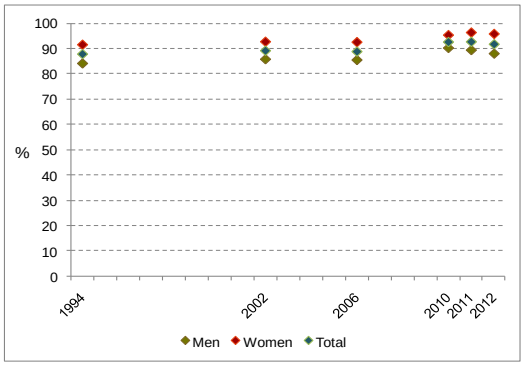
Double health insurance coverage



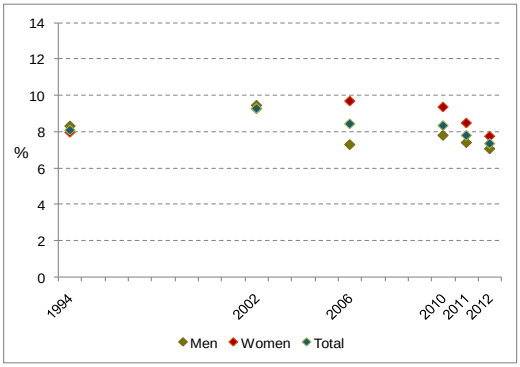
Consumption of medication in the last 2 days (15 and over)



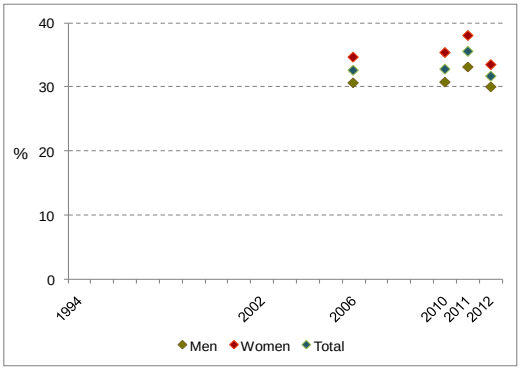
Visit to health professional in the last 12 months



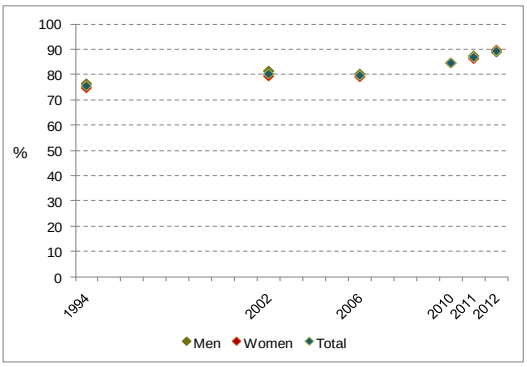
Hospitalisations in the last 12 months



Visit to emergency department in the last 12 months



Satisfaction with public services (15 and over)

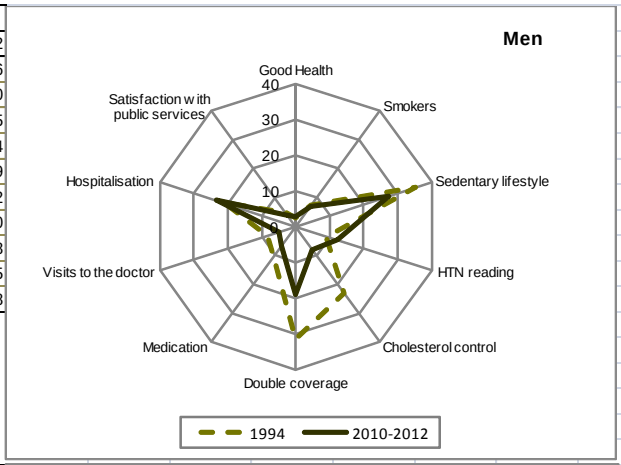


Standardisation by age according to the direct method. Standard population as of 1 January 2012, according to the Idescat population register.
* Non-standardised proportions, specific to the 50 to 69 age group.
Source: Health Survey of Catalonia (1994, 2002, 2006, 2010, and 2012). Ministry of Health.

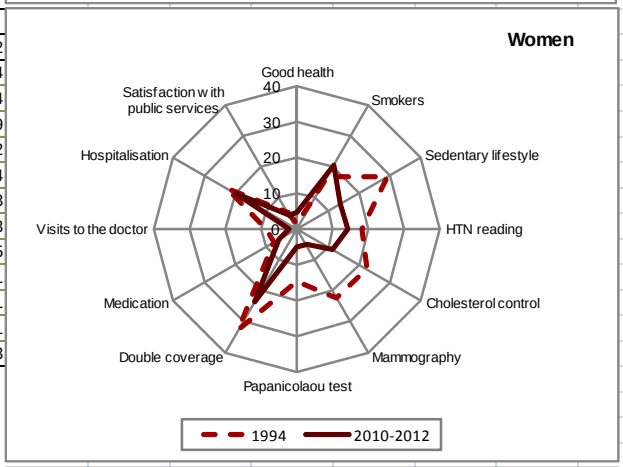
With regard to the evolution over time of the **territorial differences** of the selected indicators, by health regions and sex, in this 18-year period the analysis of the coefficient of variation (%) of the rates standardised by health regions shows that in the majority of the indicators the differences have reduced and, therefore, there is more homogeneity between the regions (graph 26).

Graph 26. Evolution of the territorial differences (between health regions) of the selected indicators, by sex, 1994 and 2010-2012 (second half of 2010 to first half of 2012)

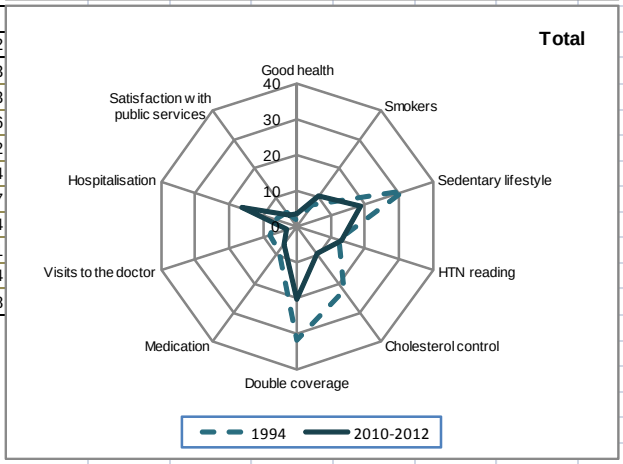
Dimensions	Variables	Men	
		1994	2010-2012
Health status	Good Health	2,3	2,6
Lifestyles	Smokers	7,4	7,0
	Sedentary lifestyle	35,4	27,5
Preventive activities	HTN reading	9,1	12,4
	Cholesterol control	23,2	7,9
Use of services	Double coverage	31,6	19,2
	Medication	10,6	7,0
	Visits to the doctor	8,3	4,8
	Hospitalisation	21,2	23,5
	Satisfaction with public se	4,6	3,8



Dimensions	Variables	Women	
		1994	2010-2012
Health status	Good health	1,3	4,4
Lifestyles	Smokers	16,9	20,4
	Sedentary lifestyle	29,3	13,9
Preventive activities	HTN reading	18,0	14,2
	Cholesterol control	22,5	11,4
	Mammography	22,2	5,3
	Papanicolaou test	14,8	5,3
Use of services	Double coverage	32,8	23,5
	Medication	7,7	6,1
	Visits to the doctor	8,8	2,1
	Hospitalisation	22,6	20,1
	Satisfaction with public se	5,1	4,3



Dimensions	Variables	Total	
		1994	2010-2012
Health status	Good health	1,5	3,3
Lifestyles	Smokers	7,4	10,3
	Sedentary lifestyle	31,6	18,6
Preventive activities	HTN reading	12,4	13,2
	Cholesterol control	22,2	9,4
Use of services	Double coverage	31,9	20,7
	Medication	8,5	6,4
	Visits to the doctor	8,0	3,1
	Hospitalisation	6,0	16,4
	Satisfaction with public se	4,8	3,8



Increase in the relative variability between health regions.
Decrease in the relative variability between health regions.
Source: Health Survey of Catalonia, 1994 and 2010-2012 (second half of 2010 to first half of 2012). Ministry of Health.

Part Two

- **What does the health system do**

12. What does the health system do

The Catalan health system has to attend to the health needs of more than 7.5 million inhabitants. Practically all the population, 99.3%, in 2012, have the right to public healthcare.

Like in other countries around the world, the Catalan health system is suffering the effects of the economic crisis and the impact of the constant increase in demand and in costs arising mainly from the ageing of the population, the significant and growing weight of chronic pathologies and technological advances with new diagnostic and treatment tools. These circumstances have placed great strain on the health system and the situation is forcing the introduction of changes that are essential to guarantee the sustainability of a public, universal, accessible, fair and quality health system with the capacity to respond to new health needs. The Health Plan for Catalonia 2011-2015 is the response that forms the backbone of public health actions in Catalonia, the roadmap and the explicit commitment of the Government of Catalonia to achieve the necessary transformation of the health system. The plan is structured into three pillars.

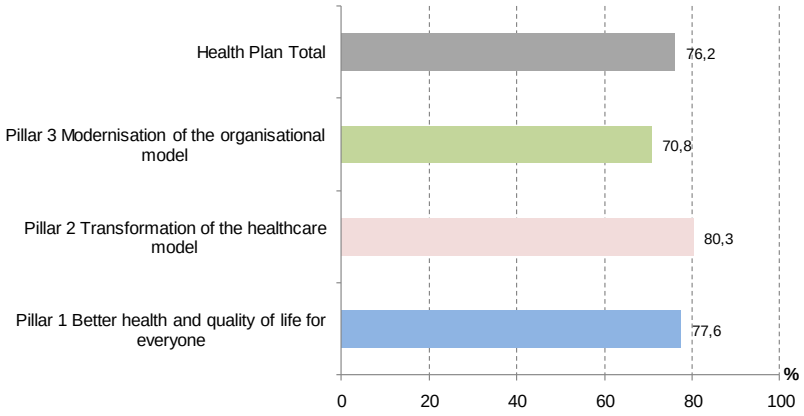
The **first pillar** proposes 27 health targets to deal with priority health problems, and includes strategic projects such as the master plans (cardiovascular, cancer, respiratory, mental health, musculoskeletal and social health) and the clinical safety of the patients attended in the health centres as priority measures for health improvement. It also proposes that Catalonia will have an interministerial public health plan to reinforce the intersectorial response to the main health problems to be faced.

The **second pillar** is aimed at a deep and decisive transformation of the healthcare model. It represents a paradigm shift in terms of chronicity prevention and care, the resolution of the most frequent problems in the first care levels and the concentration of high specialisation to achieve even better levels of quality and excellence.

The **third pillar** proposes the modernisation of the organisational model with a system more oriented to the patient and families, the introduction of changes in the contracting of healthcare services, the incorporation of professional knowledge and the improvement of governance, transparency and evaluation.

These pillars are organised into 9 lines of action and 33 projects (appendix 5). Graph 27 summarises the percentage of achievement of the actions planned for 2012, which is 76.22% for the lines of action of the Health Plan for Catalonia 2011-2015.

Graph 27. Percentage of achievement of the actions planned for 2012



Source: Health Plan for Catalonia 2011-2015. Ministry of Health.

12.1 Monitoring of the objectives of the Health Plan for Catalonia 2011-2015

The Health Plan for Catalonia 2011-2015 establishes the commitment to annually monitor the evolution of the assessment indicators of the 27 fixed health targets. It is essential to understand whether progress is being made and made with the intensity required to achieve the level committed to in the timescale. It is necessary to assess the importance of specifying aspirations in relation to results in the form of explicit and measurable objectives. First because it makes it possible to see whether progress is being made in the right direction and second because it adds more transparency to evaluation and accountability. The document ***Marcant fites*** ("Setting Objectives")[13] indicates the starting point of the indicators for each health objective established in the plan and the level to be achieved, while introducing elements of comparison with Spain and the European Union. The timescale varies in accordance with the nature of the target and is, in general, 2015 for the risk reduction targets and 2020 for those that are evaluated in terms of mortality and morbidity.

The updating of the values of the indicators set for each target is presented.[a] It has been evaluated whether progress is being made and made with the required change intensity based on the difference between the value of the indicator observed in 2013 and its value estimated by means of a linear trend between the reference point (2012 baseline) and the value to be achieved, depending on the nature of the target, in 2015 or 2020 (graph 28 and table 6). Accordingly if the trend is maintained:

[a] The reference years of the monitoring values of each indicator are the latest available as of May 2013. Accordingly, they correspond to January 2013 when the information source is the SISAP-ICS; 2012 for the ESCA, the CMBDHA and some VINCat indicators; 2011 for other VINCat indicators and the RMC; and the monitoring of the 2000-2004 cancer survival subject group.

The following targets will be achieved:

The general objective that proposes increasing the proportion of healthy life expectancy (target 1).

The reduction of the rates of mortality due to diseases of the circulatory system, cancer, mental disorders, ischemic heart diseases, strokes and breast cancer (targets 2, 3, 6, 7, 8, and 9).

The increase in the five-year survival for cancer (target 4).

The reduction of the incidence of the femoral neck fracture and the prevalence of smoking (targets 12 and 14).

The increase in hypertensive patients with blood pressure control and in the proportion of patients at risk with cardiovascular risk assessment (targets 18 and 19).

The following targets have been already achieved:

The targets to reduce the surgical infection rates in knee, hip and colorectal replacements and pneumonia associated with mechanical ventilation (targets 24 to 27).

Work has to be intensified to achieve the following targets:

The objective of reducing the proportion of admissions due to congestive heart failure (CHF) (objective 22).

The reduction of mortality due to respiratory diseases, colorectal cancer and suicide (objectives 5, 10 and 11).

The reduction in the number of amputations in people with diabetes aged 45 to 74 (target 13).

The reduction of the prevalence of sedentary lifestyles in the population (target 15).

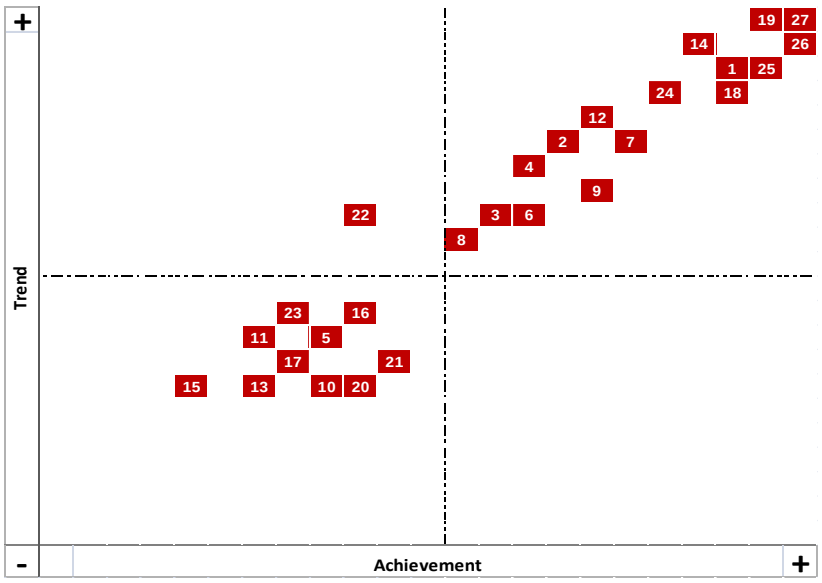
The increase in the prevalence of healthy physical activity (target 16).

The reduction of the prevalence of excess weight (target 17).

The reduction of readmissions after 30 days for diabetes and CPOD (targets 20 and 21).

The reduction in the average rate of global nosocomial infection (target 23).

Graph 28. Annual monitoring of the targets. 2013



Source: Health Plan Service. Prepared by the authors. Ministry of Health.

Table 6. 2013 monitoring of the targets of the Health Plan for Catalonia 2011-2015

No.	Target *Indicator*		Reference point	2012	Target 2020	Assessment
From now to 2020 it is necessary to...						
1	Increase by 5% the proportion of healthy life expectancy in men and in women *Quotient between healthy life expectancy and life expectancy by sex (%)*	Men	82,3	85,9	86,4	+++
		Women	74,1	76,8	77,8	+++
		Total	78,0	81,1	81,9	+++
2	Quotient between healthy life expectancy and life expectancy by sex (%) *Mortality rate per 100,000 inhab. standardised by age of diseases of the circulatory system*	Men	202,4	189,6	161,9	+++
		Women	124,4	115,5	99,5	+++
		Total	158,6	147,7	126,8	+++
3	Reduce by 10% the mortality rate of cancer *Mortality rate per 100,000 inhab. standardised by age of cancer*	Men	275,3	270,1	247,8	+++
		Women	125,6	123,2	113,0	+++
		Total	189,5	186,3	170,6	+++
4	Increase by 15% the five-year survival rate for cancer *Relative five-year survival rate for cancer (%)*	Men	46,0	50,3	52,9	+++
		Women	56,4	60,9	64,9	+++
		Total	50,2	*ND*	57,7	*ND*
5	Reduce by 10% the mortality rate of respiratory diseases *Mortality rate per 100,000 inhab. standardised by age of diseases of the respiratory system*	Men	87,6	86,6	78,8	-----
		Women	31,2	32,1	28,1	-----
		Total	53,3	53,5	48,0	-----
6	Reduce by 10% the mortality rate of mental illnesses *Mortality rate per 100,000 inhab. standardised by age of mental illnesses*	Men	24,7	24,0	22,2	+++
		Women	24,0	23,3	21,6	+++
		Total	24,6	24,0	22,1	+++
7	Reduce the mortality rate of ischemic heart diseases by 15% *Mortality rate per 100,000 inhab. standardised by age of ischemic heart diseases*	Men	71,3	63,5	60,6	+++
		Women	26,8	24,2	22,8	+++
		Total	45,8	40,7	38,9	+++
8	Reduce the mortality rate of strokes by 15% *Mortality rate per 100,000 inhab. standardised by age of cerebrovascular diseases*	Men	41,6	40,8	35,3	+
		Women	30,6	29,5	26,0	+
		Total	35,4	34,3	30,1	+
9	Reduce the mortality rate of breast cancer by 10% *Mortality rate per 100,000 inhab. standardised by age of malignant breast tumour*	Men	0,3	0,3	0,3	+
		Women	21,4	19,5	19,2	+++
		Total	11,9	10,9	10,7	+++
10	Reduce the mortality rate of colorectal cancer by 5% *Mortality rate per 100,000 inhab. standardised by age of malignant colorectal tumour*	Men	36,5	36,5	34,7	-----
		Women	17,1	17,3	16,2	-----
		Total	25,3	25,4	24,1	-----
11	Keep the suicide rate under the current level *Mortality rate per 100,000 inhab. standardised by age of suicides and self-harm*	Men	8,5	8,9	< 8,5	-----
		Women	2,4	2,9	< 2,4	-----
		Total	5,3	5,7	< 5,3	-----
12	Reduce the incidence of femoral neck fracture in people over 65 *Rate of hospital admission per 10,000 inhab. standardised by age for femoral neck fracture in the population over 65*	Men	48,7	43,9	43,9	+++
		Women	83,2	79,8	74,9	+++
		Total	70,5	66,2	63,4	+++
13	Reduce by 10% amputations in people with diabetes aged 45 to 74 *Rate of amputations per 10,000 inhab. in people with diabetes aged 45 to 74*	Men	39,5	43,3	35,6	-----
		Women	10,8	11,0	9,7	-----
		Total	27,4	29,0	24,7	-----

+++: correct change intensity and trend.
+: correct trend but low change intensity.
---: trend contrary to that desired.

NA: not available.
N/A: not applicable.

No.	Target *Indicator*		Reference point	2012	Target 2015	Assessment
From now to 2015 it is necessary to...						
14	Reduce the prevalence of smoking to under 28% *Prevalence of smoking in the population aged 15 and over (%)*	Men	35,8	34,2	*NP*	*NP*
		Women	23,4	22,9	*NP*	*NP*
		Total	29,5	28,5	< 28,0	+++
15	Reduce the prevalence of sedentary lifestyles to under the 2010 level *Prevalence of sedentary lifestyle in population aged 18 to 74 (%)*	Men	15,4	16,4	< 15,5	-----
		Women	18,3	19,2	< 18,7	-----
		Total	16,8	17,8	< 17,1	-----
16	Increase by 10% the proportion of adults who follow the healthy physical activity recommendations per week *Prevalence of healthy physical activity (moderate and high in the IPAQ) in the population aged 15 to 69 (%)*	Men	74,1	72,1	81,5	-----
		Women	69,0	68,9	75,9	-----
		Total	71,6	70,5	78,8	-----
17	Reduce the prevalence of excess weight (overweight or obesity) in the population to under the 2010 levels *Prevalence of excess weight declared in the population aged 18 to 74 (%)*	Men	57,4	57,7	< 56,6	-----
		Women	41,5	40,1	< 38,2	+++
		Total	49,5	49,0	< 47,4	-----
18	Increase by 15% the proportion of high blood pressure patients in primary care with BP values <140/90mmHg *Percentage of high-blood pressure patients attended in primary care with BP values <140/90 mmHg (%)*	Total	63,3	68,3	72,8	+++
19	Increase by 15% the proportion of patients aged 35 to 74 attended in primary care with cholesterolaemia figures >200 mg/dl with cardiovascular risk assessment *Percentage of patients aged 35 to 74 attended in primary care with cholesterolaemia figures >200 mg/dl with cardiovascular risk assessment (%)*	Total	84,0	88,3	96,6	+++
20	Reduce by 15% the proportion of readmissions after 30 days in patients with diabetes *Percentage of patients with diabetes with readmission after 30 days (%)*	Total	5,5	5,9	4,7	-----
21	Reduce by 15% the proportion of readmissions after 30 days in patients with chronic pulmonary obstructive disease (CPOD) *Percentage of patients with CPOD with readmission after 30 days (%)*	Total	17,1	18,1	14,5	-----
22	Reduce by 15% the proportion of readmissions after 30 days in patients with congestive cardiac insufficiency (CCI) *Percentage of patients with CCI with readmission after 30 days (%)*	Total	15,5	15,4	13,2	+
23	Reduce the average rate of prevalence of global nosocomial infection to under 7% *Prevalence of global nosocomial infection (%)*	Total	7,0	7,5	< 7,0	-----
24	Reduce the rate of surgical infection in knee prosthesis to under 3.5% *Global rate of surgical site infection (SSI) in scheduled knee prosthesis surgery (%)*	Total	3,0	2,5	< 3,5	+++
25	Reduce the rate of surgical infection in hip prosthesis to under 3% *Global rate of surgical site infection (SSI) in scheduled hip prosthesis surgery (%)*	Total	2,8	2,5	< 3,0	+++
26	Reduce the rate of surgical infection in colorectal surgery to under 21% *Global rate of surgical site infection (SSI) in scheduled colon and rectal surgery (%)*	Total	20,6	19,1	< 21,0	+++
27	Reduce the average rate of incidence of pneumonia associated with mechanical ventilation to under 12 episodes per 1,000 days of ventilation *Density of incidence of pneumonia associated with mechanical ventilation*	Total	5,6	5,0	< 12	+++

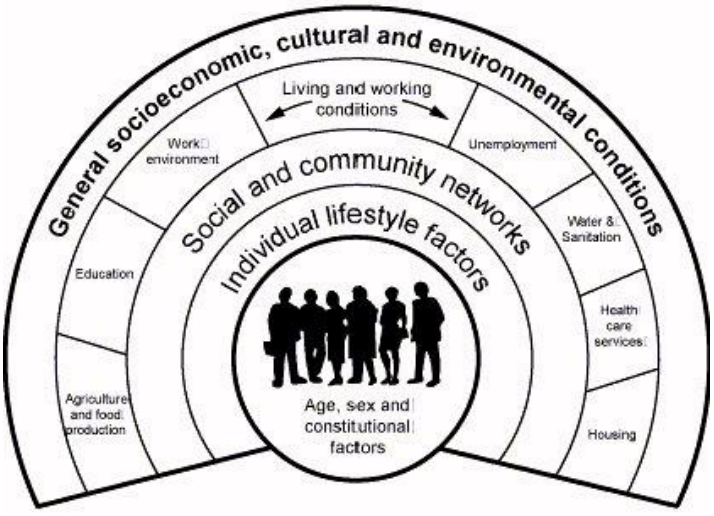
+++: correct change intensity and trend.
+: correct trend but low change intensity.
---: trend contrary to that desired.

NA: not available.
N/A: not applicable.

12.2 The Interministerial Public Health Plan

The Interministerial Public Health Plan (PINSAP) is the governance tool for public health actions within the framework of the policies of the various ministries of the Government of Catalonia. The main aim is to mobilise and hold accountable the various scopes and structures of the Catalan public administration to improve the health of the population by means of intervention in the main determinants, both structural and individual. This focus takes as one of its references the theory that states that health is determined by a wide range of social and economic factors and lifestyles, in addition to heredity and the health services.

Figure 1. Dahlgren and Whitehead Model



The formulation of the PINSAP is the main task to be developed by the Interministerial Health Commission, approved by the Government Agreement of 20 November 2012, taking as a model the directives of the health strategy for all policies, driven by the World Health Organization from 2004.

In this sense, the initial priority line of intervention proposed by the PINSAP has the objective of improving living conditions and reducing health inequalities, based on intervention in a series of selected social and economic determinants, which means fostering and implementing intersectorial activities with effects on community and individual health.

This proposal of actions on the prioritised determinants of health is accompanied by the corresponding system of indicators to monitor and evaluate them. In 2013, the PINSAP will be prepared and approved for the period to 2015 and the prioritised interministerial policies will be started.

Part Three

- **Towards a more accessible healthcare network that optimises resources and improves results**

13. Towards a more accessible healthcare network that optimises resources and improves results

13.1 The case of the Heart Attack Code

The Heart Attack Code is an emergency action protocol that consists of the activation of a series of healthcare mechanisms that enable preferential care in the acute phase of the disease when a patient is suspected of having a heart attack and is a candidate for immediate reperfusion. In the case of coordinated care in ST elevation myocardial infarction, the object of the Heart Attack Code, the treatment that is preferentially indicated by the clinical practical guide is primary angioplasty.

The Heart Attack Code has meant a change in the organisation of highly specialised heart attack care thanks to the consensus of the agents involved. Through this protocol care is structured into a network that integrates various care levels in which mechanisms and professionals work together in a coordinated manner to offer the best results. Thanks to the Heart Attack Code, the services and treatments are closer to the public and their access to the health system is improved. Network operation enables the available resources to cover the entire territory.

The three defining elements of the Heart Attack Code are mainly based on organisational changes rather than structural ones. To carry them out, it was necessary to create a network of physical and human resources to reorganise the flows and the relationships between the agents and establish the corresponding responsibilities and commitments. Three organisational structures formed by healthcare professionals and the administration have been created to equip the network with control and monitoring mechanisms and forums for debate and consensus between the parties involved, with significant participation of the professionals. These spaces have been used to improve the response to the sensitivities and needs of the professionals around the territory and to find the most effective communication methods in this scope. With the aim of determining the health of the public attended by the health system and improving treatment results, telephone monitoring surveys have been carried out by means of the 061 CatSalut Respon service on people who have had a heart attack and have received hospital care in accordance with the data provided by the Heart Attack Code Registry.

The formalisation of this consensus within a regulatory framework has materialised by means of a CatSalut regulation (Instruction 04/2009) aimed at providers and the Catalan medical emergency response system (SEM). This instruction regulates the sectorisation of care for patients who are candidates for primary angioplasty in accordance with the Heart Attack Code. The most relevant aspects are:

- Achievement of a formal agreement for the creation of an ordered and coordinated action protocol among the various healthcare agents and levels. The concerted action represented by the implementation of the Heart Attack Code has contributed to the

improvement of cooperation with the parties involved and has required the cooperation and consensus of the healthcare administration represented by the Ministry of Health and CatSalut, the providers both in the scope of hospital care and primary care, the SEM and the scientific associations that represent the professionals involved in patient care.

- Change in the decision centre, moving from the cardiology specialist or another medical professional making the first medical contact to the medical professional of the SEM, who takes on a central role in the decision making process by coordinating the entire healthcare process.
- Sectorisation of the territory, which univocally defines a predetermined destination for each patient, depending on the place and time where and when the heart attack has happened. This structuring enables the reduction of the time in which each healthcare agent intervenes and their decisions are not questioned.
- Design of a functional plan by the reference heart attack hospitals that clearly establishes the circuits to be followed so that the patient for whom the Heart Attack Code has been activated is not admitted to the hospital emergency department and is immediately treated in the haemodynamic room in the cases in which the patient is attended in the first instance by the SEM. If the patient goes to the centre under his own steam, it is necessary to have an agile chest pain circuit that enables the screening of the patient, the activation of the Code and the immediate referral to the haemodynamic unit of the hospital.
- Obligatory acceptance of the Heart Attack Code by the heart attack reference hospital.
- Obligatory return of the treated and stabilised patient to the source centre or the intensive care or intermediate treatment unit closest to their home, to prevent the heart attack hospital from being overloaded. The party responsible for the coordination of this process is the SEM.
- Creation of an on-line record of the clinical and epidemiological variables of all the patients who have been attended through the Heart Attack Code. The results are regularly and periodically shared with the declaring providers within the Monitoring Committee.
- Obligation to declare cases of activation of the Heart Attack Code by the 10 hospitals in the network.

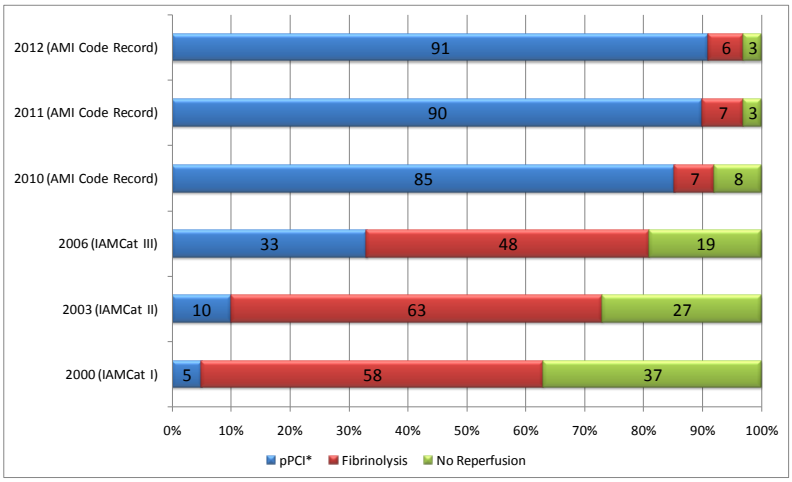
The Heart Attack Code is a programme subjected to a continuous evaluation process based on the data provided by the information and monitoring system. The results show in the qualitative aspect an improvement in all the indicators of the Code in the three years following its launch.

The proportion of heart attack patients who receive some type of reperfusion thanks the establishment of protocolised and coordinated treatment for ST elevation myocardial infarction (STEMI) based on the Heart Attack Code has increased. Among those treated with reperfusion, primary angioplasty is the main treatment, in accordance with the instructions established in the regulations of the programme (graph 29).

Improvement in the Heart Attack Code treatment time indicators since its establishment on 1 June 2009 is another of the initiative's remarkable results. As a result of the monitoring of the results of the 10 participating hospitals in the network, there has been a notable improvement in the reduction of the reaction time especially with regard to the health system, that is, since the first medical treatment in 2010 and 2011. Thanks to this evaluation it has been possible to optimise the results in all the sections of this healthcare process, even though the indicators are still variable in relation to the effectiveness of the various healthcare agents in terms of speed, and there is a tendency towards stabilisation with regard to the administration of the treatment (mainly with regard to primary angioplasty in the haemodynamic laboratories of the Heart Attack Code hospitals) (graphs 30 and 31).

Once again, the importance of the protocolisation of the healthcare process in ST elevation myocardial infarction should be highlighted, which means a univocal assignment of the roles of the healthcare agents at each point and at each moment of this process. Accordingly, the results of the Heart Attack Code from 2010 and 2011 show an increase in the percentage of patients who are attended within the recommended healthcare standards, which establish that between the first treatment or first medical contact and the opening of the artery no more than 120 minutes should have elapsed. The indicators show that the SEM and the Heart Attack Code hospitals are those that offer the shortest time indicators when they are the first responders. This means that the percentage of patients who currently meet this time criterion is higher with respect to the percentage of patients treated in the first instance by the regional hospitals and primary care centres (graphs 32 and 33).

Graph 29. Evolution of reperfusion in patients with STEMI. Catalonia, 2000-2012

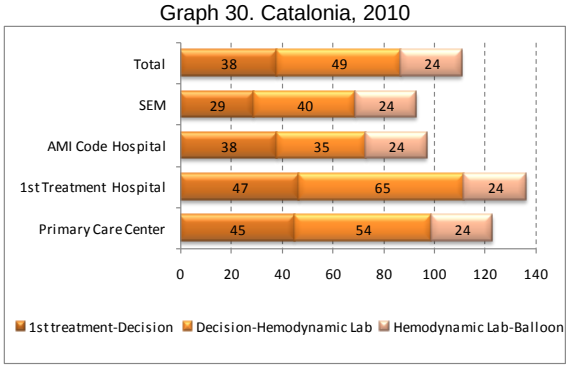


*pPCI: Primary Percutaneous Coronary Intervention.

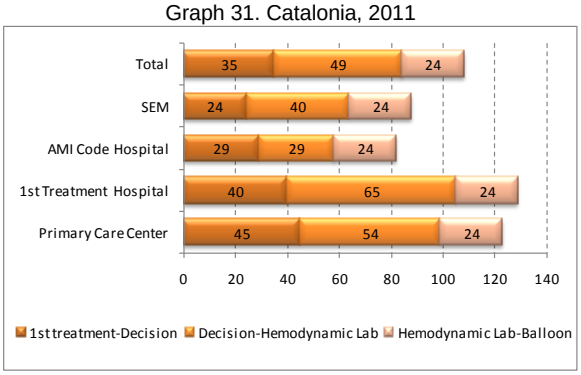
Source: Heart Attack Record of Catalonia, 2000-2012. Ministry of Health.

Graphs 30 and 31. Evolution of treatment time in the Heart Attack Code. Catalonia, 2010-2011

Graph 30. Catalonia, 2010



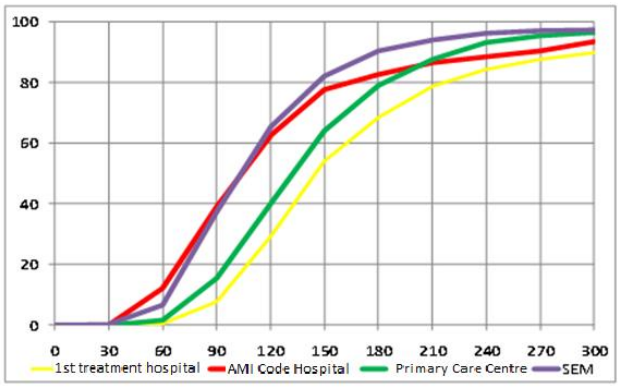
Graph 31. Catalonia, 2011



Source: Heart Attack Record of Catalonia, 2010-2011. Ministry of Health.

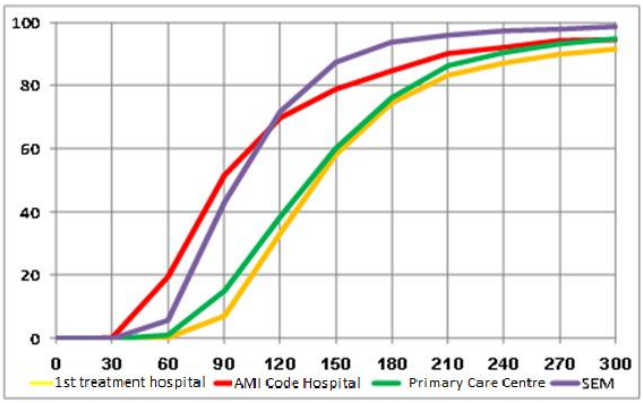
Graphs 32 and 33. Percentage of time accumulated (in minutes) between the first treatment and the opening of the artery depending on the place of first treatment in the Heart Attack Code. Catalonia, 2010-2011

Graph 32. Catalonia, 2010



Source: Heart Attack Code Record of Catalonia, 2010. Ministry of Health.

Graph 33. Catalonia, 2011



Source: Heart Attack Code Record of Catalonia, 2011. Ministry of Health.

In light of these results, the importance of the protocolisation of the healthcare processes that require urgent and effective action is highlighted. This lies mainly in the weight of the organisational changes and the establishment of alliances and agreements between the health agents, as the engines of the achieved goals, rather than structural reforms or investments. This is one of the added values of the programme with a view to the

extrapolation of the model to other emergency services that require the ordered, coordinated and standardised action of the health services and their professionals to make them accessible to the public. It seems reasonable, then, that in terms of efficiency and savings and within the context of restricted resources, the organisation, optimisation and rationalisation of the existing resources may be an innovative solution, and so far, an effective one, to improve healthcare processes and to make these health services accessible to the public.

Appendices

- **Appendix 1. Environmental indicators**
- **Appendix 2. Evolution of the annual budget per capita, 2003-2012. Ministry of Health, CatSalut and ICS**
- **Appendix 3. Main chronic disorders suffered by the population aged 15 and over, by age group and sex. Catalonia, 2012**
- **Appendix 4. Indicators of the ESCA, by sex. Catalonia, 2006 and 2011-2012**
- **Appendix 5. Monitoring of the execution of the Health Plan: percentage of achievement by line of action and by project**
- **Appendix 6. Index of figures, graphs and tables**

Appendix 1. Environmental indicators

Air quality

- The concentration of particulates with a diameter of less than 10 microns (PM10) shows a tendency towards the reduction of the levels in Catalonia. In 2012 the annual limit was not exceeded but the number of permitted excesses of the daily limit was exceeded at 9 points in the territory. These points are in air quality zones 1 (Àrea de Barcelona), 2 (Vallès - Baix Llobregat), 6 (Plana de Vic), 8 (Girona) and 15 (Terres de l'Ebre).

- With regard to tropospheric ozone, throughout 2012, 71 hours in excess of the public information threshold were registered. These values are slightly higher than the average of recent years. The excesses were produced at 13 of the 49 measuring points. The air quality zones where the threshold of having to inform the population was exceeded are Àrea de Barcelona, Camp de Tarragona, Plana de Vic, Comarques de Girona, L'Alt Llobregat and Preprineu. The alert threshold was not exceeded in 2012.

- With respect to nitrogen dioxide, in 2012, the annual limit was exceeded in air quality zones 1 and 2. In air quality zone 1 it was exceeded at 33% of the measuring points, and in air quality zone 2 at 58% of the measuring points. The trend in the last 10 years of the annual average concentrations is stable, with a slight tendency towards reduction.

Source: Report on the air quality in Catalonia, 2012. Directorate-General for Environmental Quality of the Ministry of Territory and Sustainability.

Water for human consumption

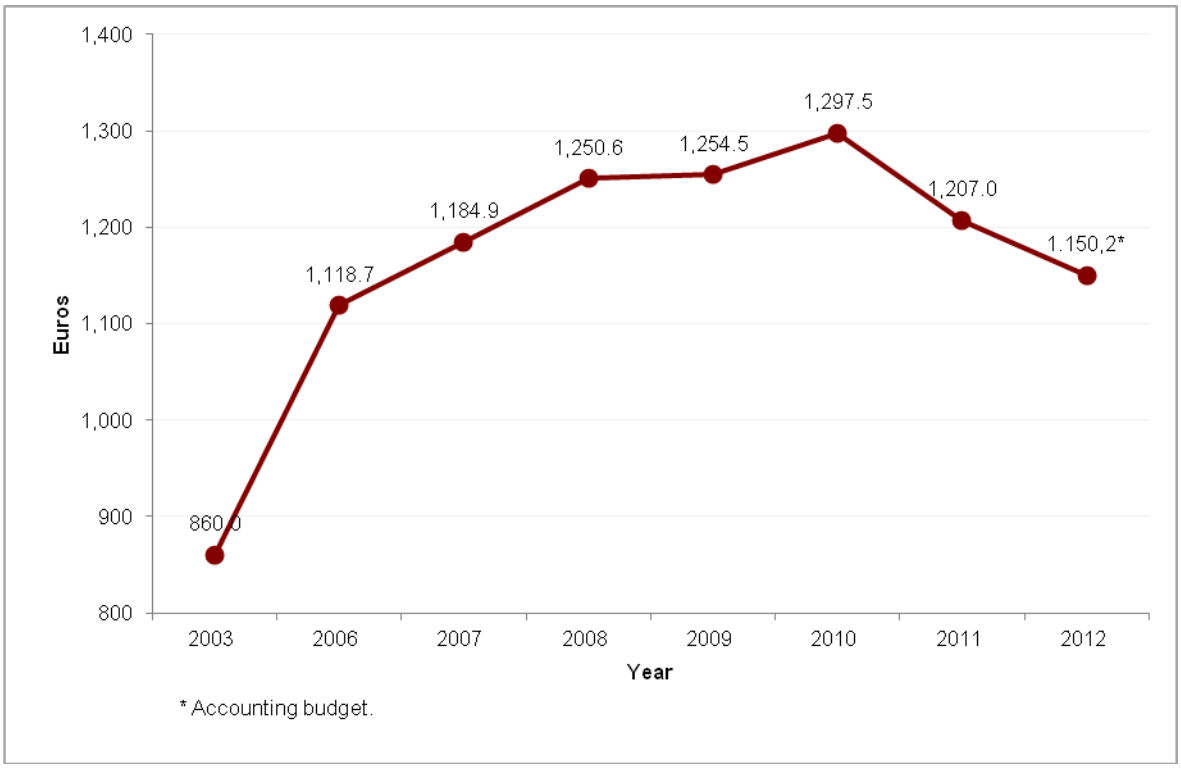
- The results of the analyses performed show a high level of regulatory compliance in terms of the quality of water for human consumption in the various networks and supply zones in Catalonia.

- In relation to microbiological contaminants, excesses of certain parameters were only detected at isolated points and mainly in small population centres.

- With regard to physical-chemical parameters, 86.07% of the zones sampled comply with the parametric values established in the regulations for the parameters determining the fitness for purpose of the water. The parameters that have shown the most excesses are nitrates, fluoride and arsenic.

Source: Catalan Public Health Agency, 2011. Ministry of Health.

Appendix 2. Evolution of the annual budget per capita, 2003-2012. Ministry of Health, CatSalut and ICS



2012 Ministry of Health/CatSalut/ICS Budget: €8,756,205,900.65
2011 population with individual health card (2011 official census): 7,612,890 people

Source: Catalan Health Service, 2013. Ministry of Health.

Appendix 3. Main chronic disorders suffered by the population aged 15 and over, by age group and sex. Catalonia, 2012

Men							
15 to 44		45 to 64		65 to 74		75 and over	
Chronic back pain in the lumbar or dorsal areas	15,6%	High blood pressure	34,8%	High blood pressure	53,4%	High blood pressure	55,2%
Chronic allergies	14,9%	High cholesterol	30,8%	Arthrosis, arthritis or rheumatism	41,7%	Prostate problems	54,0%
Frequent headaches or migraine	10,4%	Chronic back pain in the lumbar or dorsal areas	28,2%	High cholesterol	37,8%	Arthrosis, arthritis or rheumatism	53,0%
Arthrosis, arthritis or rheumatism	9,7%	Arthrosis, arthritis or rheumatism	22,2%	Chronic back pain in the lumbar or dorsal areas	33,0%	Cataracts	47,2%
High cholesterol	9,4%	Chronic back pain in the cervical area	16,3%	Prostate problems	29,2%	High cholesterol	42,0%
Chronic back pain in the cervical area	9,4%	Depression/anxiety	15,3%	Cataracts	23,4%	Chronic back pain in the lumbar or dorsal areas	36,3%
Depression/anxiety	8,8%	Haemorrhoids	15,1%	Chronic back pain in the cervical area	19,3%	Diabetes	34,3%
High blood pressure	7,4%	Poor blood circulation	11,4%	Poor blood circulation	18,7%	Poor blood circulation	31,2%
Asthma	6,6%	Chronic allergies	11,2%	Haemorrhoids	17,0%	Chronic back pain in the cervical area	28,1%
Haemorrhoids	6,3%	Diabetes	10,2%	Chronic allergies	14,8%	Other heart diseases	26,1%
Chronic skin diseases	5,0%	Frequent headaches or migraine	10,0%	Depression/anxiety	14,3%	Urinary incontinence	21,3%
Women							
15 to 44		45 to 64		65 to 74		75 and over	
Frequent headaches or migraine	23,1%	Arthrosis, arthritis or rheumatism	45,7%	Arthrosis, arthritis or rheumatism	58,4%	Arthrosis, arthritis or rheumatism	73,3%
Chronic back pain in the lumbar or dorsal areas	19,6%	Chronic back pain in the lumbar or dorsal areas	41,5%	Chronic back pain in the lumbar or dorsal areas	57,5%	High blood pressure	68,2%
Anaemia	19,2%	Chronic back pain in the cervical area	41,4%	High blood pressure	51,8%	Chronic back pain in the lumbar or dorsal areas	58,4%
Chronic back pain in the cervical area	19,1%	Varicose veins in legs	35,5%	Chronic back pain in the cervical area	50,3%	Cataracts	55,0%
Chronic allergies	16,3%	Depression/anxiety	33,8%	High cholesterol	47,7%	Poor blood circulation	48,8%
Depression/anxiety	13,3%	Frequent headaches or migraine	31,2%	Varicose veins in legs	40,6%	Chronic back pain in the cervical area	47,2%
Poor blood circulation	13,2%	High cholesterol	29,1%	Depression/anxiety	34,8%	Varicose veins in legs	45,4%
Arthrosis, arthritis or rheumatism	12,4%	High blood pressure	26,5%	Poor blood circulation	32,9%	Urinary incontinence	39,1%
Varicose veins in legs	11,7%	Poor blood circulation	25,1%	Osteoporosis	29,4%	High cholesterol	38,8%
Haemorrhoids	8,3%	Anaemia	24,0%	Chronic allergies	24,2%	Depression/anxiety	36,3%
High cholesterol	7,4%	Haemorrhoids	23,5%	Haemorrhoids	23,7%	Chronic constipation	34,1%

Source: 2012 Health Survey of Catalonia. Ministry of Health.

Appendix 4. Indicators of the ESCA, by sex. Catalonia, 2006 and 2011-2012

			ESCA 2006	IC95%	ESCA 2011-2012	IC95%	
Health status	Population with perception of good health (excellent, very good or good) (0+)	M	83,4%	(82,6-84,2)	85,6%	(84,6-86,6)	▲
		W	73,8%	(72,9-74,7)	77,2%	(76,0-78,4)	▲
		T	78,6%	(78,0-79,2)	81,3%	(80,5-82,1)	▲
	Population aged 18-74 with excess weight	M	43,9%	(42,7-45,1)	42,8%	(41,1-44,5)	
		W	28,0%	(26,9-29,1)	28,0%	(26,4-29,6)	
		T	36,0%	(35,2-36,8)	35,5%	(34,3-36,7)	
	Population aged 18-74 with obesity	M	13,0%	(12,2-13,8)	14,8%	(13,6-16,0)	
		W	12,3%	(11,5-13,1)	12,8%	(11,6-14,0)	
		T	12,7%	(12,1-13,3)	13,8%	(13,0-14,6)	
	Population aged 18-74 with overweight	M	56,9%	(55,7-58,1)	57,6%	(55,9-59,3)	
		W	40,3%	(39,1-41,5)	40,8%	(39,1-42,5)	
		T	48,7%	(47,9-49,5)	49,3%	(48,1-50,5)	
	Population at the time of the interview with a risk of suffering a mental disorder (Goldberg) (15+)	M	7,6%	(7,0-8,1)	8,4%	(7,5-9,3)	
		W	15,5%	(14,7-16,3)	15,0%	(13,9-16,1)	
		T	11,6%	(11,1-12,1)	11,7%	(11,0-12,4)	
	Population declaring they suffer or have suffered chronic disorder from the list of 28 (15+)	M	71,6%	(70,6-72,6)	71,6%	(70,2-73,0)	
		W	83,0%	(82,2-83,8)	83,1%	(81,9-84,3)	
		T	77,4%	(76,8-78,0)	77,5%	(76,6-78,4)	
	Suffering or having suffered 4 chronic disorders (15+)	M	24,4%	(23,5-25,3)	32,0%	(30,5-33,5)	
		W	45,9%	(44,8-47,0)	50,6%	(49,0-52,2)	
		T	35,3%	(34,6-36,0)	41,5%	(40,4-42,6)	
	Population who have restricted their usual activities in the last year (15+)	M	13,7%	(12,9-14,5)	12,1%	(11,1-13,1)	
		W	20,5%	(19,6-21,4)	18,3%	(17,1-19,5)	▼
		T	17,1%	(16,5-17,7)	15,2%	(14,4-16,0)	▼
	Population with a serious limitation or disability that affects them permanently in their everyday activities (15+)	M	14,0%	(13,2-14,8)	12,9%	(11,9-13,9)	
		W	21,7%	(20,8-22,6)	18,4%	(17,2-19,6)	▼
		T	17,9%	(17,3-18,5)	15,7%	(14,9-16,5)	▼
	Population with problems walking (EuroQol) (15+)*	M	11,1%	(10,4-11,8)	10,3%	(9,3-11,3)	
		W	20,1%	(19,2-21,0)	17,4%	(16,2-18,6)	▼
		T	15,7%	(15,1-16,3)	13,9%	(13,1-14,7)	▼
	Population with problems washing or getting dressed alone (EuroQol) (15+)*	M	3,7%	(3,3-4,1)	3,5%	(2,9-4,1)	
		W	7,9%	(7,3-8,5)	7,3%	(6,5-8,1)	
		T	5,9%	(5,5-6,3)	5,5%	(5,0-6,0)	
	Population with problems to carry out their daily activities (EuroQol) (15+)*	M	8,2%	(7,6-8,8)	7,0%	(6,2-7,8)	
		W	16,8%	(16,0-17,6)	13,6%	(12,5-14,7)	▼
		T	12,6%	(12,1-13,1)	10,4%	(9,7-11,1)	▼
	Population with pain or discomfort (EuroQol) (15+)*	M	24,9%	(23,9-25,9)	19,9%	(18,7-21,1)	▼
		W	41,5%	(40,4-42,6)	37,4%	(35,9-38,9)	▼
		T	33,3%	(32,6-34,0)	28,8%	(27,8-29,8)	▼
	Population with anxiety or depression (EuroQol) (15+)*	M	14,1%	(13,3-14,9)	12,1%	(11,1-13,1)	▼
		W	28,3%	(27,3-29,3)	22,2%	(20,9-23,5)	▼
		T	21,3%	(20,7-21,9)	17,2%	(16,4-18,0)	▼
Preventive activities	Population who have their blood pressure taken periodically (15+)	M	43,4%	(42,3-44,5)	50,0%	(48,4-51,6)	▲
		W	49,8%	(48,7-50,9)	53,4%	(51,8-55,0)	▲
		T	46,6%	(45,8-47,4)	51,7%	(50,6-52,8)	▲
	Population who have their blood cholesterol measured periodically (15+)	M	49,4%	(48,3-50,5)	56,8%	(55,3-58,3)	▲
		W	54,6%	(53,5-55,7)	61,0%	(59,5-62,5)	▲
		T	52,0%	(51,2-52,8)	58,9%	(57,8-60,0)	▲
	Women aged 50 to 69 who periodically have a mammography	M	--	--	--	--	
		W	85,5%	(84,0-87,0)	92,7%	(91,1-94,3)	▲
		T	--	--	--	--	
	Women aged 50 to 65 who periodically have a Papanicolaou test	M	--	--	--	--	
		W	69,9%	(68,7-71,1)	78,2%	(76,6-79,8)	▲
		T	--	--	--	--	
	Population vaccinated against influenza regularly when autumn starts (60+)	M	64,7%	(62,6-66,8)	57,1%	(54,1-60,1)	▼
		W	65,6%	(63,7-67,5)	61,1%	(58,3-63,9)	
		T	65,2%	(63,8-66,6)	59,3%	(57,3-61,3)	▼
Lifestyles	Smoking: smoker (daily+occasional) (15+)	M	34,5%	(33,5-35,5)	34,8%	(33,3-36,3)	
		W	24,3%	(23,4-25,2)	23,0%	(21,7-24,3)	
		T	29,4%	(28,7-30,1)	28,8%	(27,8-29,8)	
	Population exposed to tobacco smoke at work (15+)	M	7,8%	(7,2-8,4)	5,0%	(4,3-5,7)	▼
		W	3,5%	(3,1-3,9)	3,6%	(3,0-4,2)	
		T	5,6%	(5,2-6,0)	4,3%	(3,9-4,7)	▼
	Population exposed to tobacco smoke at home (15+)	M	12,7%	(12,0-13,4)	9,2%	(8,3-10,1)	▼
		W	19,8%	(18,9-20,7)	13,6%	(12,5-14,7)	▼
		T	16,3%	(15,7-16,9)	11,4%	(10,7-12,1)	▼
	High-risk alcohol consumption (15+)	M	7,6%	(7,0-8,2)	6,5%	(5,7-7,3)	
		W	1,8%	(1,5-2,1)	2,0%	(1,6-2,4)	
		T	4,7%	(4,3-5,0)	4,2%	(3,8-4,6)	
	Population aged 18 to 74 with sedentary lifestyle	M	19,2%	(18,3-20,1)	16,1%	(14,9-17,3)	▼
		W	24,3%	(23,3-25,3)	18,8%	(17,4-20,2)	▼
		T	21,7%	(21,0-22,4)	17,4%	(16,5-18,3)	▼
Use of services	Percentage of population who have visited a general practitioner/ paediatrician in the last year (0+)	M	71,8%	(70,9-72,7)	74,2%	(73,0-75,4)	▲
		W	78,0%	(77,1-78,9)	82,9%	(81,8-84,0)	▲
		T	74,9%	(74,3-75,5)	78,6%	(77,8-79,4)	▲
	Average times the population have visited their general practitioner in the last year (0+)	M	4,82		3,11		
		W	5,64		3,82		
		T	5,26		3,49		
	Percentage of the population who have visited a consultant in the last year (0+)	M	54,2%	(53,2-55,2)	61,8%	(60,4-63,2)	▲
		W	72,8%	(71,9-73,7)	77,6%	(76,4-78,8)	▲
		T	63,6%	(62,9-64,3)	69,8%	(68,9-70,7)	▲
	Percentage of the population who have visited a health professional in the last year (0+)	M	84,8%	(84,1-85,5)	88,4%	(87,5-89,3)	▲
		W	92,3%	(91,8-92,8)	96,1%	(95,6-96,6)	▲
		T	88,6%	(88,1-89,1)	92,3%	(91,8-92,8)	▲
	Percentage of the population hospitalised in the last year (0+)	M	6,7%	(6,2-7,2)	6,9%	(6,2-7,6)	
		W	9,9%	(9,3-10,5)	8,2%	(7,4-9,0)	▼
		T	8,3%	(7,9-8,7)	7,6%	(7,1-8,1)	
	Average times the population have been hospitalised in the last year (0+)	M	1,48		1,59		
		W	1,38		1,29		
		T	1,42		1,43		
	Percentage of the population who have been to the emergency department in the last year (0+)	M	30,6%	(29,6-31,6)	31,5%	(30,2-32,8)	
		W	34,7%	(33,7-35,7)	35,6%	(34,2-37,0)	
		T	32,7%	(32,0-33,4)	33,6%	(32,7-34,5)	
	Average times the population have visited the emergency department in the last year (0+)	M	1,67		1,59		
		W	1,82		1,82		
		T	1,75		1,71		
	Population who have taken one or more medications in the last two days (15+)	M	51,2%	(50,1-52,3)	52,9%	(50,8-55,0)	
		W	71,1%	(70,1-72,1)	72,9%	(71,3-74,5)	
		T	61,3%	(60,5-62,1)	63,1%	(61,8-64,4)	
	Population with double health insurance coverage (0+)	M	27,2%	(26,3-28,1)	26,5%	(25,3-27,7)	
		W	25,2%	(24,3-26,1)	25,3%	(24,1-26,5)	
		T	26,2%	(25,6-26,8)	25,9%	(25,0-26,8)	

Source: 2006 and 2011-2012 Health Survey of Catalonia. Ministry of Health.
* EuroQol: assesses health today.
▲ Significant difference between 2006 and 2011-2012 (increase).
▼ Significant difference between 2006 and 2011-2012 (decrease).

Appendix 5. Monitoring of the execution of the Health Plan: percentage of achievement by line of action and by project

	Line of action	% achievement
1	Health programmes and objectives	77.6%
2	A system more oriented towards chronic patients	88.9%
3	A system more capable of resolution from the first levels and in the territory	65.6%
4	A system with more quality and equity in high specialisation	87.5%
5	Greater focus on patients and families	74.8%
6	New healthcare contracting model more focussed on health results	86.5%
7	Systematic incorporation of professional and clinical knowledge	50.0%
8	Improvement in governance and participation in the system	80.7%
9	Shared information, transparency and evaluation	62.5%
	Health Plan total average	**76.2%**

Monitoring of the execution of the Health Plan (% achievement by project)		2012
Pillar 1	Better health and quality of life for everyone	77.6%
LA1	Health programmes and objectives	77.6%
1.1	Develop and implement the master plans	100.0%
1.2	Strengthen the Interministerial Public Health Plan	50.0%
1.3	Foster clinical quality and safety	60.3%
1.4	Evaluate the health objectives of the Health Plan	100.0%
Pillar 2	Transformation of the care model	80.3%
LA2	A system more oriented towards chronic patients	88.9%
2.1	Implement integrated clinical processes	85.0%
2.2	Promote the protection, promotion and prevention programmes	89.6%
2.3	Help the patient take responsibility and promoting self-care	84.1%
2.4	Develop care alternatives within the framework of an integrated system	100.0%
2.5	Deploy care programs for complex chronic patients (CCP) throughout Catalonia	100.0%
	Implement programs for the rational use of medicines	75.0%
LA3	A system more capable of resolution from the first levels and in the territory	65.6%
3.1	Improve resolution in the most frequent relationship scopes between primary care and specialist care	69.8%
3.2	Transform the care model in emergencies	79.9%
3.3	Territorially order the portfolio of services in accordance with the levels of complexity	37.5%
3.4	Integrate public and community health into the new care model	75.2%
LA4	A system with more quality and equity in high specialisation	87.5%
4.1	Reorder the high specialisation procedures	87.5%
4.2	Harmonise the high complexity pharmacological treatments	87.5%
PILLAR 3	Modernisation of the organisational model	70.8%
LA5	Greater focus on patients and families	74.8%
5.1	Improve the public's knowledge of the Integrated Public Use System and the services that CatSalut covers as an insurer	62.2%
5.2	Manage the risk of the insured	90.6%
5.3	Guarantee the quality of the service and the satisfaction of the patients	69.4%
LA6	New healthcare contracting model more focussed on health results	86.5%
6.1	Implement the new population-based territorial assignment model and its effect on the provider level	100.0%
6.2	Implement the new contracting and results-based incentives model	75.0%
6.3	Implement the new purchasing model for high specialisation procedures	100.0%
6.4	Incorporate the funding of medication taking clinical results as the base	70.8%
LA7	Systematic incorporation of professional and clinical knowledge	50.0%
7.1	Foster the creation of clinical committees	66.7%
7.2	Prepare a code of principles for health professionals in the exercise of their public function in the healthcare system	50.0%
7.3	Assure the effective participation of the professionals in CatSalut and the Ministry of Health	33.3%
LA8	Improve governance and participation in the system	80.7%
8.1	Review the management and participation model of CatSalut	96.3%
8.2	Relationship model with the SISCAT providers network	65.0%
LA9	Shared information, transparency and evaluation	62.5%
9.1	Transform the clinical history of Catalonia into a network of information and shared services	66.2%
9.2	Deploy a multichannel communication and care network for the public	58.8%
9.3	Consolidate the Observatory of the Health System of Catalonia	66.7%
9.4	Foster systematic clinical evaluation in the scopes of technologies, quality and research	58.3%
Health Plan Total		76.2%

Source: Scorecard of the Health Plan for Catalonia 2011-2015. Ministry of Health.

Appendix 6. Index of figures, graphs and tables

Bibliographic References

[1] World Health Organization. Health 2020: a European policy framework supporting action across government and society for health and well-being. Copenhagen: World Health Organization Regional Office for Europe, 2012.

[2] Stiglitz JE, Sen A, Fitouse JP. Report by the Commission on the measurement of Economic Performance and Social Progress. Available at: http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

[3] Stuckler D, Basu S, Suhrcke M, McKee M. The health implications of financial crisis: a review of the evidence. Ulster Med J. 2009 Sep;78(3):142-5.

[4] Dávila Quintana CD, González López-Valcárcel B. Crisis económica y salud. Gac Sanit. 2009 Jul-Aug;23(4):261-5.

[5] Kentikelenis A, Karanikolos M, Papanicolas I, Basu S, McKee M, Stuckler D. Health effects of financial crisis: omens of a Greek tragedy. Lancet 2011 Oct;378(9801):1457-8. Available at: http://www.sciencedirect.com/science/article/pii/S0140673611615560#

[6] Karanikolos M, Mladovsky P, Cylus J, Thomson S, Basu S, Stuckler D, et al. Financial crisis, austerity, and health in Europe. Lancet 2013 Apr;381(9874):1323-31. Available at: http://download.thelancet.com/pdfs/journals/lancet/PIIS0140673613616633.pdf

[7] Marmot M, Allen J, Bell R, Bloomer E, Goldblatt P; Consortium for the European Review of Social Determinants of Health and the Health Divide. WHO European review of social determinants of health and the health divide. Lancet 2012 Sep;380(9846):1011-29.

[8] Idescat. Annuari estadístic de Catalunya. Evolució de la població [Internet]. Barcelona: Generalitat de Catalunya. Available at: http://www.idescat.cat/pub/?id=aec&n=26

[9] Idescat. Xifres de Catalunya 2013. Barcelona: Generalitat de Catalunya, 2012. Available at: http://www.idescat.cat/cataleg/?tc=c&idp=9

[10] Departament de Territori i Sostenibilitat. La qualitat de l'aire a Catalunya. 2012. Barcelona: Generalitat de Catalunya, 2013. Available at: http://www20.gencat.cat/docs/dmah/Home/Ambits%20dactuacio/Atmosfera/Qualitat%20de%20laire/Avaluacio/Balancos%20i%20informes/documentos/La%20qualitat%20de%20l'aire%20a%20Catalunya%20any%202012.pdf

[11] Canal Salut [Internet]. Ozó troposfèric. Barcelona: Departament de Salut. Generalitat de Catalunya. Available at: http://www20.gencat.cat/portal/site/canalsalut/menuitem.af261f715269a25d48af8968b0c0e1a0/?vgnextoid=e848eb393db5f310VgnVCM2000009b0c1e0aRCRD&vgnextchannel=e848eb393db5f310VgnVCM2000009b0c1e0aRCRD&vgnextfmt=default

[12] Servei Català de la Salut [Internet]. Pla d'enquestes de satisfacció (PLAENSA). Barcelona: Generalitat de Catalunya. Available at: http://www20.gencat.cat/portal/site/salut/menuitem.6c4bc79d438cb6ec3bfd8a10b0c0e1a0/?vgnextoid=4e5f9230731da310VgnVCM2000009b0c1e0aRCRD&vgnextchannel=4e5f9230731da310VgnVCM2000009b0c1e0aRCRD&vgnextfmt=default

[13] Generalitat de Catalunya. Departament de Salut. Marcant fites. Seguiment anual dels objectius de Pla de salut. Direcció General de Regulació, Planificació i Recursos Sanitaris. Departament de Salut, 2012. Available at: http://www20.gencat.cat/docs/salut/Home/El%20Departament/Pla_de_Salut/documents/arxius/marcant_fites.pdf

[14] Instituto Nacional de Estadística. Encuesta de condiciones de vida de 2011 [Internet]. Madrid: INE, 2012. Available at: http://www.ine.es/jaxi/menu.do?type=pcaxis&path=/t25/p453&file=inebase

[15] Canal Salut [Internet]. Projecte essencial: afegint valor a la pràctica clínica. Barcelona: Departament de Salut. Generalitat de Catalunya. Available at:

http://www20.gencat.cat/portal/site/canalsalut/menuitem.0f6d9feb5e076b7d48af8968b0c0e1a0/?vgnextoid=e06eccaef0828310VgnVCM2000009b0c1e0aRCRD&vgnextchannel=e06eccaef0828310VgnVCM2000009b0c1e0aRCRD&vgnextfmt=default

[16] Llei 18/2009, del 22 d'octubre, de salut pública. Diari Oficial de la Generalitat de Catalunya (DOGC): núm. 5495, de 30/10/2009, 81070-81116. Available at: http://www20.gencat.cat/portal/site/portaldogc/menuitem.c973d2fc58aa0083e4492d92b0c0e1a0/?vgnextoid=485946a6e5dfe210VgnVCM1000000b0c1e0aRCRD&appInstanceName=default&action=fitxa&documentId=532871

[17] Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, Stewart-Brown S. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. Health Qual Life Outcomes 2007 Nov 27;5:63.

[18] European Commission Eurostat. European Health Interview Survey (EHIS) Questionnaire. Eurostat, 22 November 2006.

[19] Organización Mundial de la Salud [Internet]. Sobrepeso y obesidad infantiles. Ginebra: OMS. Available at: http://www.who.int/dietphysicalactivity/childhood/es/

[20] World Health Organization. Geneve; WHO. Growth reference data for 5-19 years. Available at: http://www.who.int/growthref/en/

[21] Centre d'Estudis Epidemiològics sobre les Infeccions de Transmissió Sexual i Sida de Catalunya (CEEISCAT). SIVES 2012. Sistema Integrat de Vigilància Epidemiològica de la Sida/VIH/ITS a Catalunya. Informe Epidemiològic. Document tècnic 21. Barcelona: Generalitat de Catalunya. Agència de Salut Pública de Catalunya, 2013.

[22] Barr B, Taylor-Robinson D, Scott-Samuel A, Mckee M, Stuckler D. Suicides associated with the 2008-10 economic recession in England: time trend analysis. BMJ 2012 Aug 13;345:e5142.

[23] Observatorio Español sobre Drogas (OED) [Internet]. Madrid: Plan Nacional sobre Drogas. Available at: http://www.pnsd.msc.es/Categoria2/observa/home.htm

[24] Rajmil L, Mompart-Penina A, Medina-Bustos A. Impacte de la crisi econòmica en la salut infantil: estudi de l'Enquesta de salut de Catalunya (ESCA). Barcelona: Agència de Qualitat i Avaluació en Salut (AQuAS). Servei Català de la Salut. Departament de Salut. Generalitat de Catalunya; 2013.