

Deaths according to Cause of Death. Year 2012

The gross mortality rate increases to 861.6 deaths per 100,000 inhabitants in 2012, that is, 3.8% more as compared with the previous year

Deaths due to respiratory diseases increase 53.6% in February and March

Deaths in traffic accidents decrease 9.5%, whereas suicides increase 11.3%

402,950 deaths were recorded in Spain in 2012, that is, 15,039 more than those registered in 2011 (3.9% more). This increase was concentrated in the months of February and March, a period that registered 21.0% more deaths, as compared with the same period of the previous year.

By sex, 197,030 women (4.8% more) and 205,920 men (3.0% more) died.

The gross mortality rate reached 861.6 deaths per 100,000 inhabitants, (3.8% more than in 2011)¹, standing at its highest value since 2005.

The female rate stood at 831.0 deaths per 100,000 women, whereas the male rate was 893.1 deaths per 100,000 men.

Causes of death, by groups of illnesses²

The group of *diseases of the circulatory tract* remained the first cause of death (responsible for 30.3 out of every 100 deaths) followed by *tumours* (27.5) and *respiratory diseases* (11.7). The group of *diseases of the nervous system*, which includes Alzheimer, was the fourth cause of deaths.

By sex, *tumours* were the first cause of death in males (with a rate of 296.3 deaths per 100,000) and the second in females (180.0). In turn, *diseases of the circulatory tract* were the first cause of death in females (282.2 deaths per 100,000 inhabitants) and the second in males (239.4).

¹ Gross mortality rates in 2011 have been recalculated with the 2001-2011 intercensal population revised by the INE in 2013. Therefore, they differ from the rates published until now, in which the population data previous to the review was used.

² Chapters of the International Classification of Diseases (ICD-10), tenth revision of the WHO.

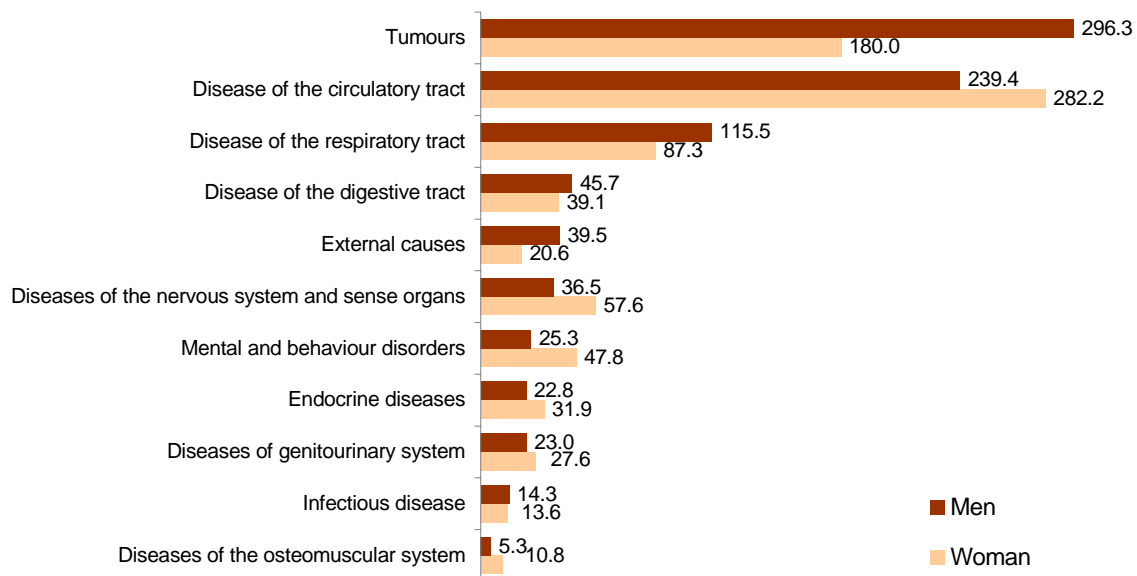
Number of deaths by most frequent causes of death

Year 2012

	Total	Men	Women
Total deaths	402,950	205,920	197,030
Ischaemic heart diseases	34,751	19,973	14,778
Cerebrovascular diseases	29,520	12,436	17,084
Bronchial and lung cancer	21,487	17,661	3,826
Cardiac failure	18,453	6,412	12,041
Chronic diseases of the lower respiratory tracts	16,964	12,557	4,407
Dementia	16,361	5,314	11,047
Alzheimer's disease	13,015	3,830	9,185
Colon cancer	11,768	6,937	4,831
Hypertensive diseases	10,273	3,354	6,919
Diabetes mellitus	9,987	4,207	5,780
Pneumonia	9,289	4,699	4,590
Renal failure	7,067	3,282	3,785
Breast cancer	6,375	93	6,282
Prostate cancer	6,045	6,045	-
Pancreatic cancer	5,976	3,121	2,855

(1) Causes whose relative weight is greater than 1.5%

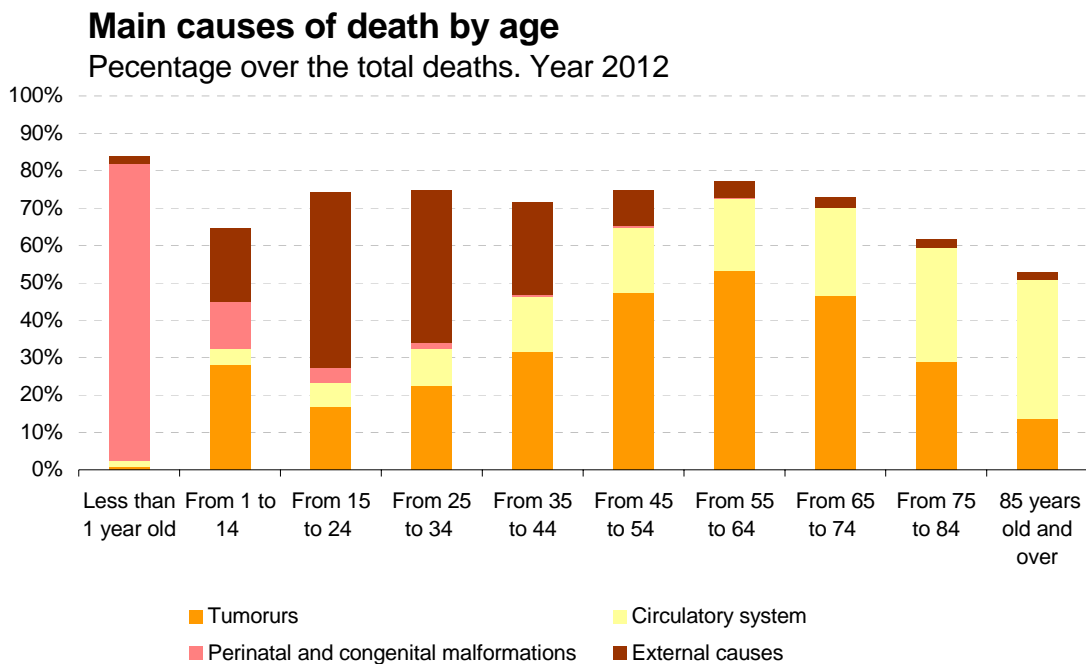
Gross rates per 100,000 inhabitants by cause of death by chapters of the ICD and sex. Year 2012



By age, the main cause of death in persons aged 1 to 14 and 40 to 79 years old were *tumours* (with rates of 3.2 and 314.8 per 100,000 persons of these age groups, respectively).

Among the persons aged 15 to 39 years the main cause of death was the *external causes* group (15.4 per 100,000 persons) and for the group of persons older than 79 years old the main cause was the group of *diseases of the circulatory tract* (3,391.2 deaths per 100,000 persons).

The main cause of death among children aged less than one year were *affections originating in the perinatal period*, with a rate of 176.4 per 100,000 children born alive.



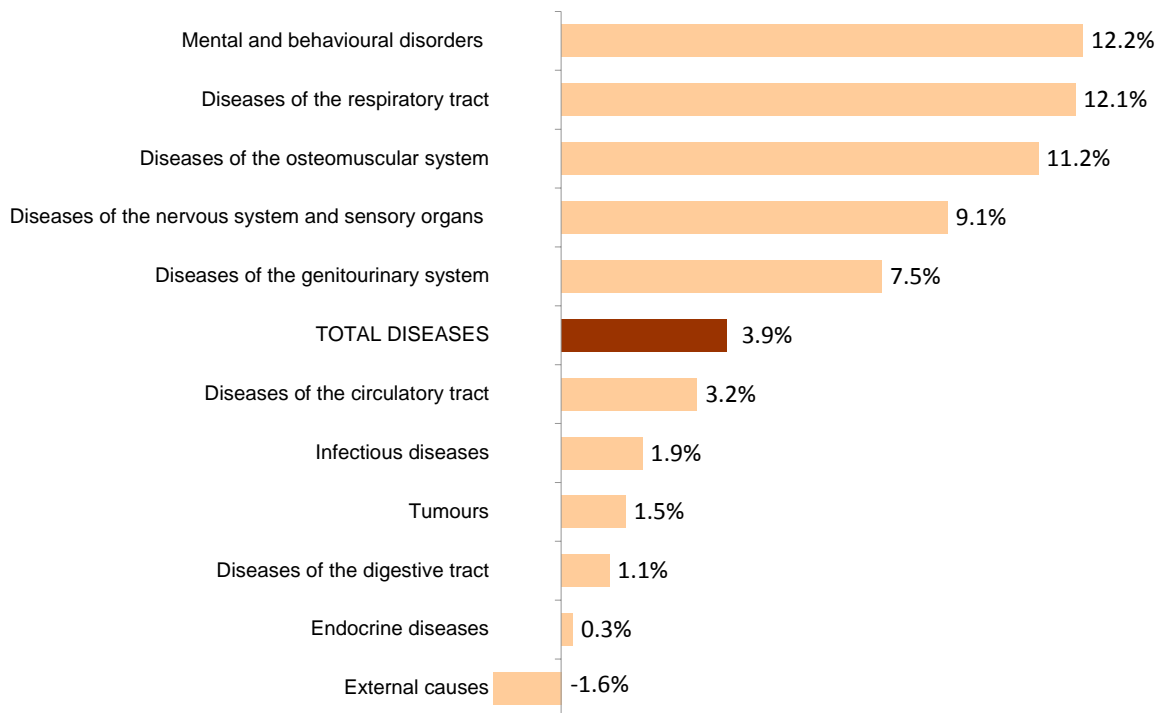
Mortality increase in 2012

In 2012, the number of deaths increased in almost every chapter of diseases.

The two groups that registered a greatest increase were *mental and behavioural disorders*, with an increase of 12.2% as compared with 2011 (within this group vascular and senile dementia, as well as other types of dementia other than Alzheimer are included), and *respiratory diseases*, with an increase of 12.1%.

It is worth mentioning the upturn in mortality caused by those two groups in the months of February and March, as compared with the same period of the previous year: 53.6% more in the case of *respiratory diseases* and 41.2% in *mental and behavioural disorders*.

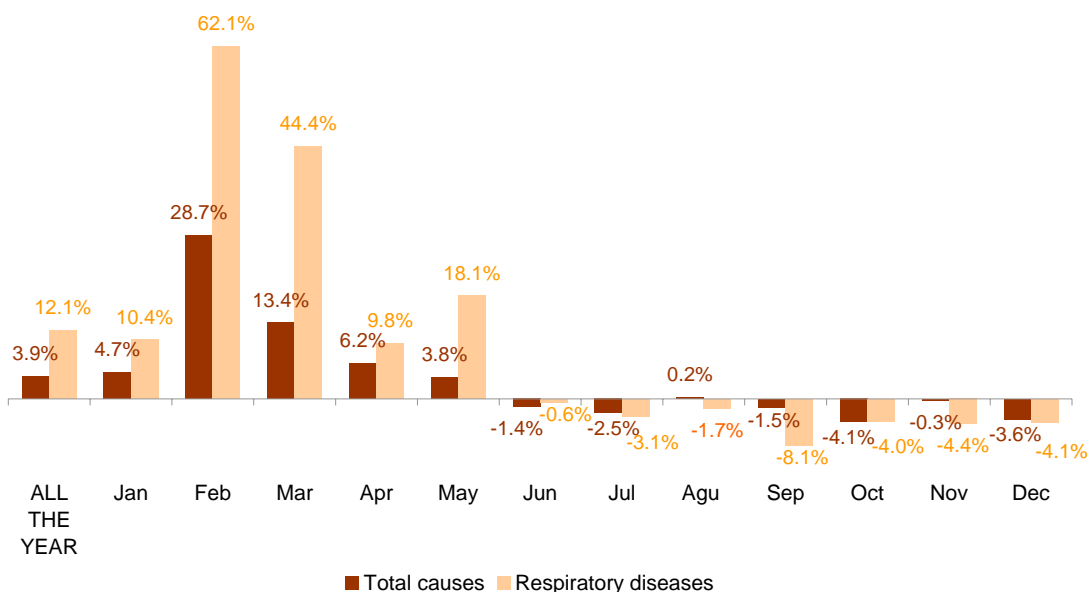
Interannual variation in the number of deaths by groups of diseases of the ICD . Years 2012-2011



Among the causes that explain the increase in deaths at the beginning of the year, it is worth noting the flu epidemic, which began later during the 2011-12 season, as compared with the previous seasonal epidemics of this disease. The peak of maximum flu incidence was registered in February 2012.

Deaths caused by the flu had a greater impact in the age group of 75 years old and over, up to double the number of deaths, as compared with the previous year (175 cases).

Interannual variation in the number of deaths by months. Years 2012-2011



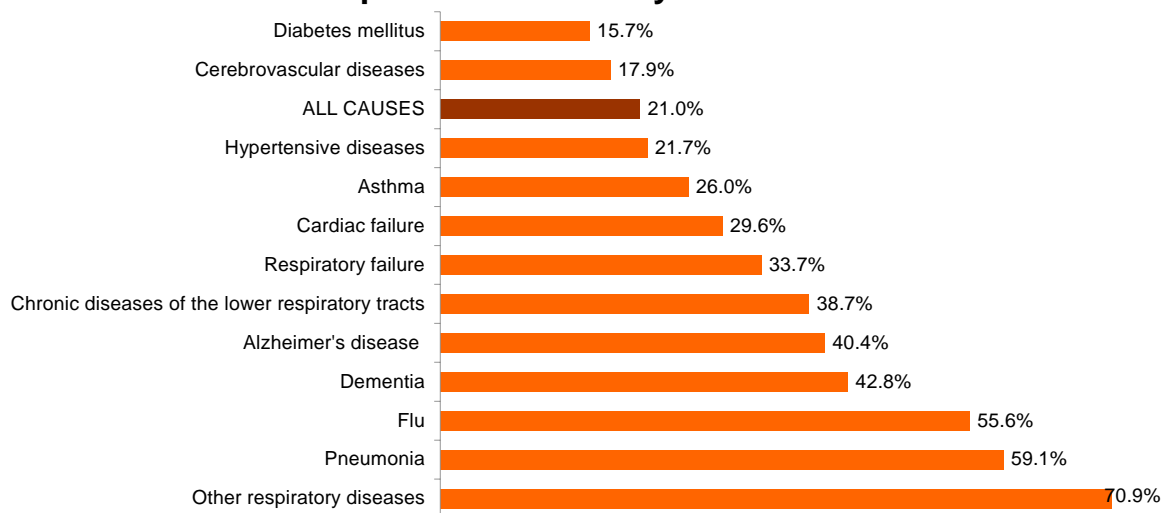
Although the flu is not the direct cause of a large number of deaths, it can contribute to the aggravation of other diseases. In that sense, in February and March a great increase in mortality due to almost all *respiratory diseases* was registered. Thus, deaths due to *pneumonia* increased by 59.1%, as compared with the same period of the previous year, whereas those due to *chronic lower respiratory diseases* (bronchitis, emphysema...) increased by 38.7%.

In those two months, mortality due to *diseases of the circulatory tract*, such as *heart failure* (29.6% more) also registered an increase.

In turn, the number of deaths due to *diseases of the nervous system* (including Alzheimer) increased 36.5% in February and March. Throughout the year, the increase in the number of deaths due to these diseases was 9.1%.

It is also worth mentioning the increase in deaths due to *dementias* in the months of February and March (42.8% more than in the same period of the previous year).

Increase in mortality in the months of February and March 2012 as compared with 2011 by diseases



Most common diseases causing deaths

On a more detailed level, within the group of *circulatory diseases*, *ischaemic heart diseases* (heart attack, angina pectoris etc.) occupied the first place in the number of deaths, although they registered a decrease of 0.2% as compared with the previous year. Followed by *cerebrovascular diseases*, which registered an increase of 2.3%.

By sex, *ischaemic heart diseases* were the leading cause of death in men and *cerebrovascular diseases* were the main cause in women.

Among *tumours*, those causing the greatest mortality were *bronchial and lung cancer* and *colon cancer* (which increased by 2.0% and 0.7%, respectively). The first was the cancer causing the largest number of deaths among men. In women it was *breast cancer* (although the total number of deaths decreased 0.4% as compared with 2011).

*Dementias*³ caused 16,361 deaths and occupied the seventh place in terms of most frequent causes of death in Spain. The increase in mortality due to this disease (12.2%) was the second highest among the main diseases, after *pneumonia* (13.7%).

Alzheimer caused 13,015 deaths, that is, 9.3% more than in 2011 (and 40.4% more in the period between February and March).

In both *dementias* and *Alzheimer*, worth noting is the excess mortality registered among women. In fact, out of 10 deaths due to these two causes, seven were women.

Number of deaths by most frequent causes of death

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(1) Causes whose relative weight is greater than 1.5%

External causes

Deaths due to *external causes* registered a 1.6% decrease in 2012, as compared with the overall increase of the rest of the causes.

Deaths due to *traffic accidents* continued their downward trend. Specifically, there were 1,915 deaths, 9.5% less as compared with 2011.

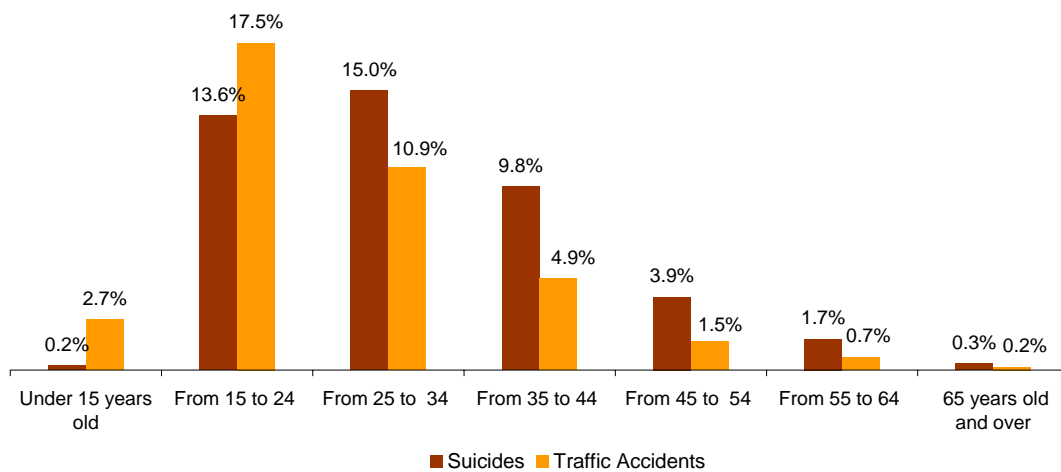
Suicide was, once again, the main *external cause* of mortality. In 2012, 3,539 persons died (2,724 men and 815 women), that is, 11.3% more than in the previous year. The suicide rate

³ It includes vascular dementia and others, such as senile dementia. However, it does not include Alzheimer dementia, which is considered within the group of diseases of the nervous system.

stood at 7.6 per 100,000 inhabitants (11.8 in men and 3.4 in women). This was the highest rate registered since 2005.

Among the persons aged 25 to 34 years old, suicide was the second cause of death, being the first one *tumours*, with 15.0% of the total deaths. Among men of said age group, suicide was the main cause of death (17.8% of the total).

Percentage of deaths due to suicide and traffic accidents over the total deaths by age. Year 2012



Mortality rates by Autonomous Community

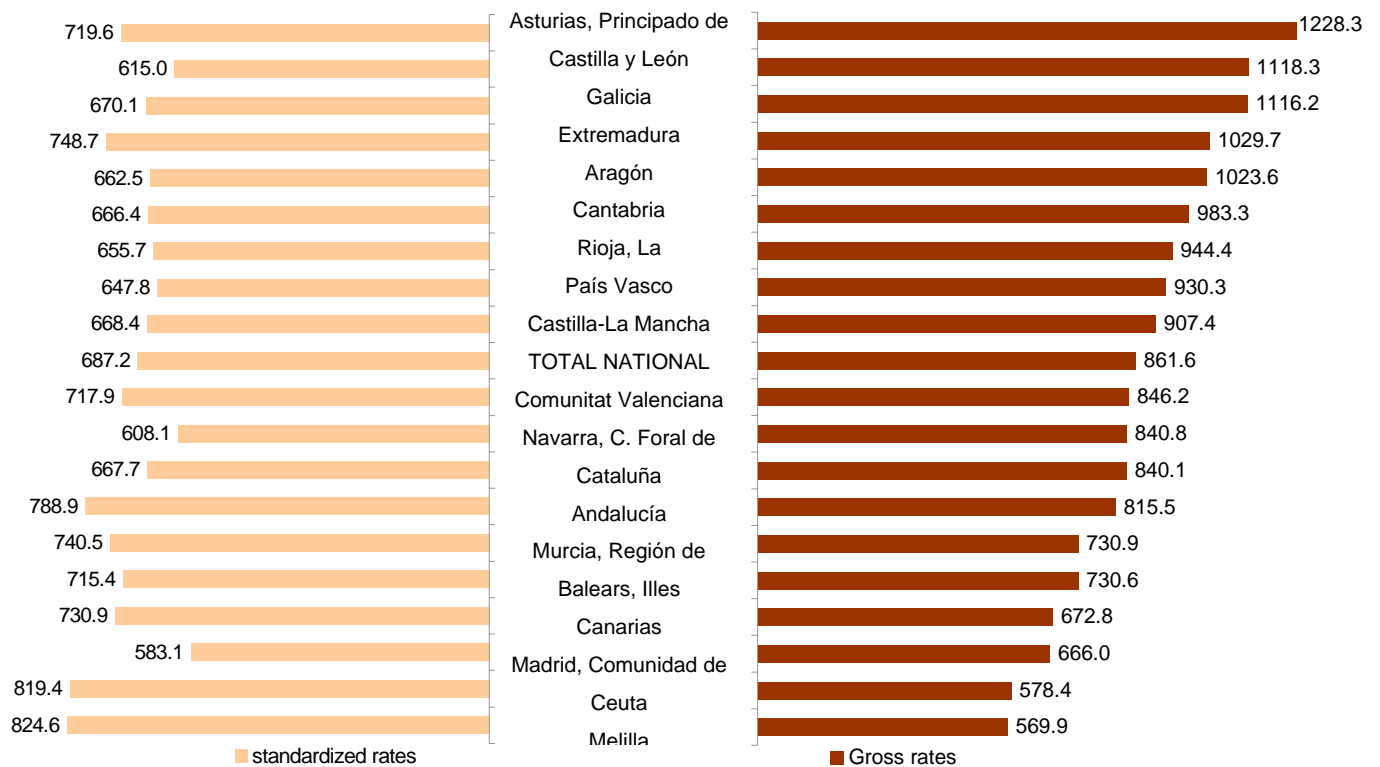
The highest gross death rates per 100,000 inhabitants in 2012 corresponded to Principado de Asturias, Castilla y León and Galicia.

In turn, the lowest mortality rates were recorded in the Autonomous Cities of Melilla and Ceuta and in the Autonomous Communities of Canarias and Comunidad de Madrid.

Gross death rates were higher in ageing territories, as there were more deaths due to the age structure. In order to adjust the results, standardised rates representing mortality in Autonomous Communities if all of them had the same age composition are calculated.

After conducting this adjustment, the regions with the highest standardised rates were the Autonomous Cities of Melilla and Ceuta, and the Autonomous Communities of Andalucía and Extremadura.

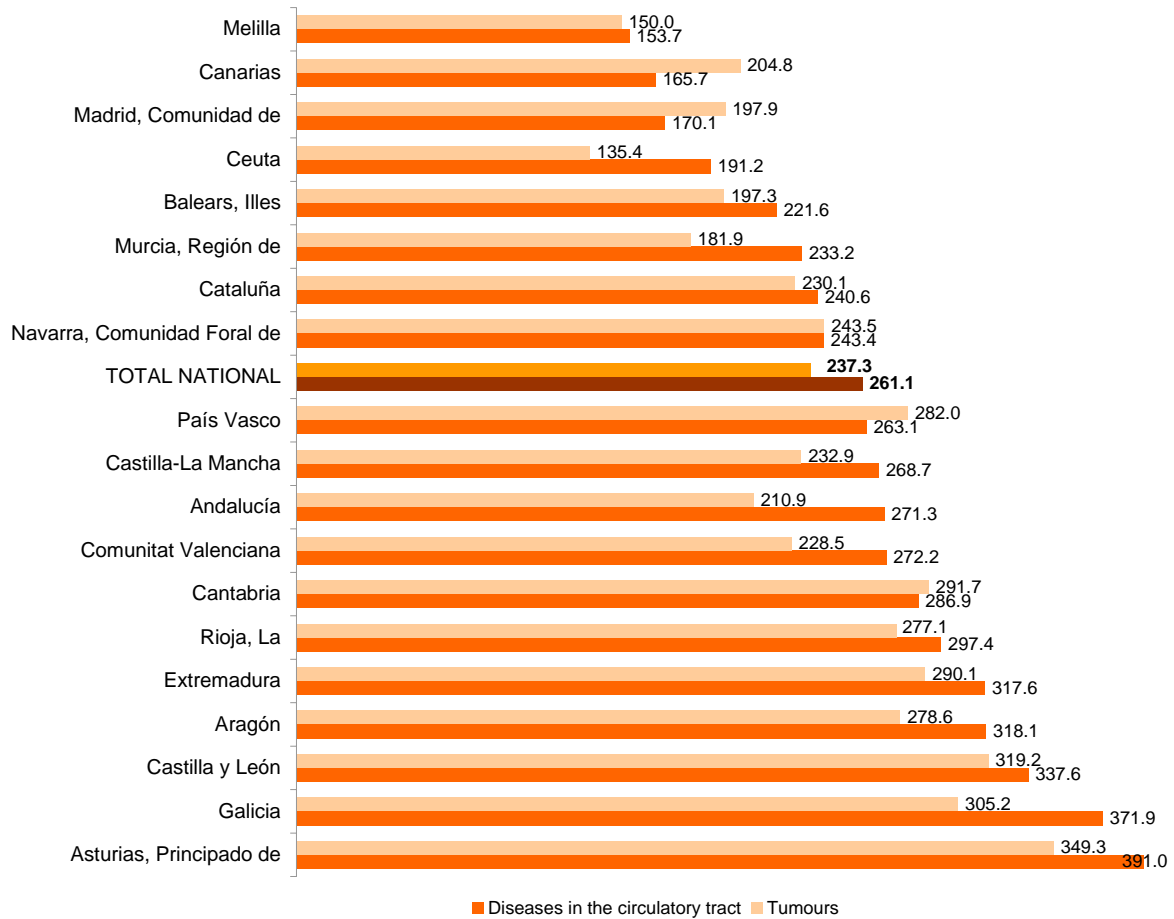
Mortality rates by AACC(*). Year 2012



(*) Autonomous community of residence

The main cause of death in all Autonomous Communities were *diseases of the circulatory tract*, except for Canarias, Cantabria, Comunidad de Madrid, Comunidad Foral de Navarra and País Vasco, where the main cause of death were *tumours*.

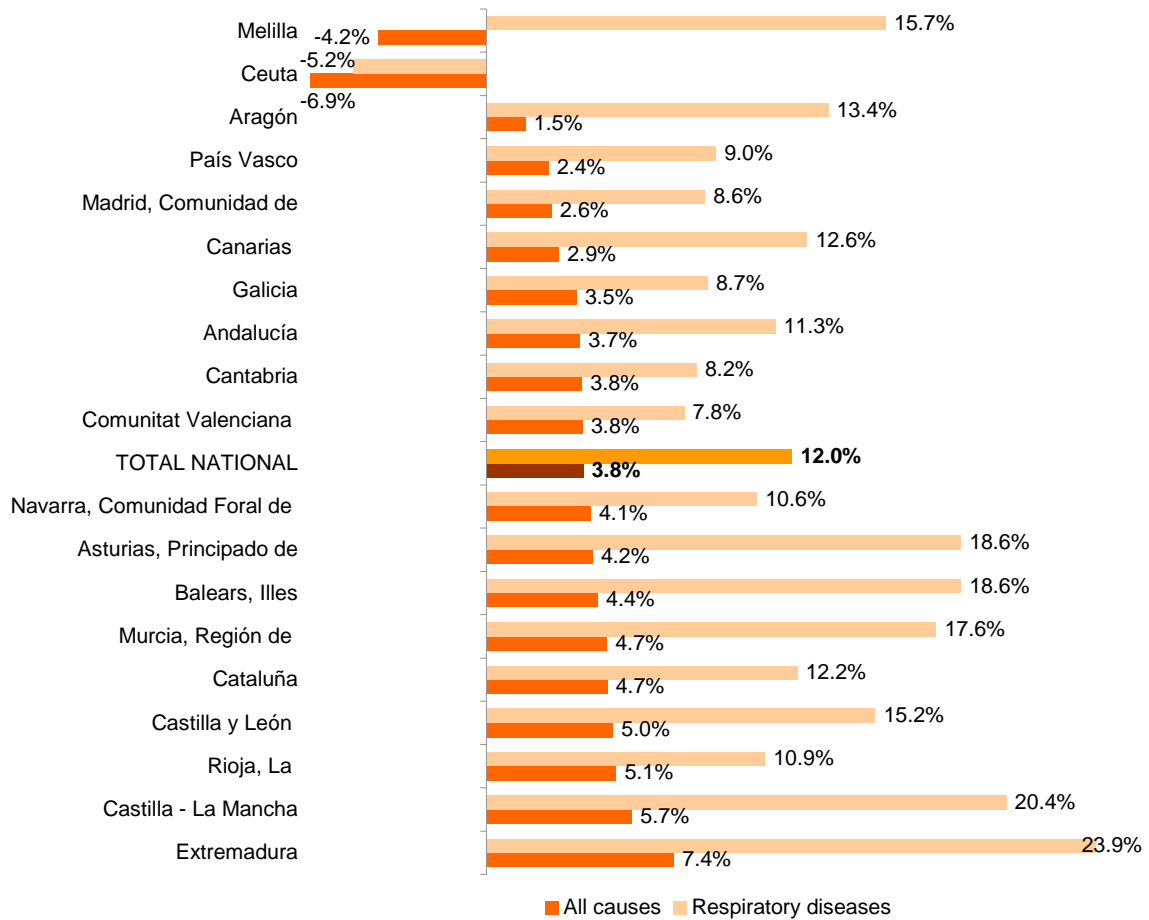
Gross mortality rates per 100,000 inhabitants of the two leading causes of death(*). Year 2012



The evolution in mortality between 2011 and 2012 was marked in all Autonomous Communities to a greater or a lesser extent by an increase in deaths in the months of February and March, especially due to *respiratory diseases*.

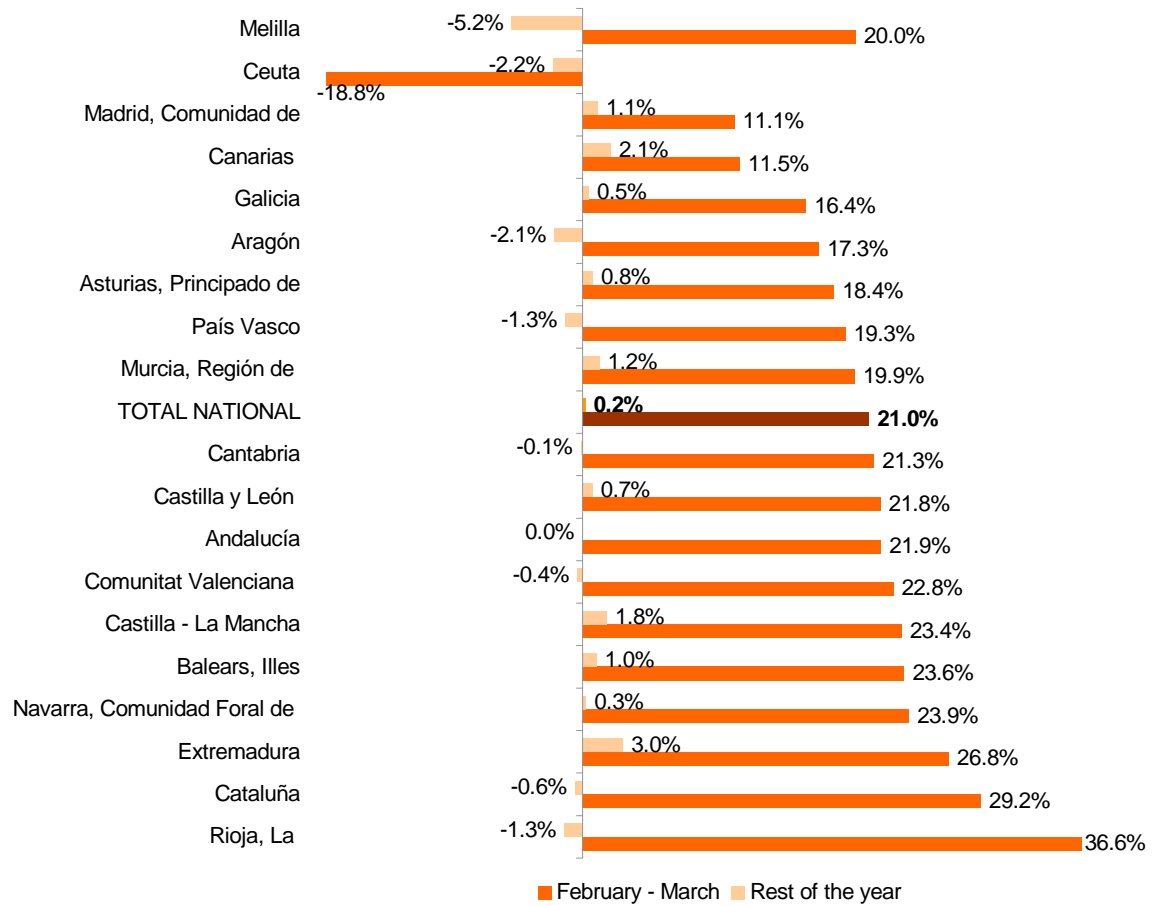
Evolution of the gross death rate by AACC(*)

Year-on-year variation 2012-2011



(*) Autonomous Community of residence

Evolution of the number of deaths by month of death and AACC (*). Year-on-year variation 2012-2011



(*) Autonomous Community of residence

International data: standardized rates by chapters of illnesses for some countries of the OECD

The OECD published the data of Death by Cause of Death according to how it links the chapters of the ICD-10. Among the data it provided, the standardized rates are included. These allow the comparison of mortality data between countries with different population structure⁴. The following table shows the standardized rates for some of the countries and the most significant causes of death.

Standardized rates per 100,000 inhabitants by cause of death⁵. Year 2011⁵

Countries	All causes	Circulatory tract	Tumours	Respiratory tract	Nervous system	Transport accident	Suicides
Germany	786.8	310.2	211.1	54.3	21.1	5.1	10.8
Australia	673.3	208.2	202.5	57.7	31.1	6.8	10.1
Spain	687.1	204.9	200.1	72.7	35.1	4.9	6.2
United States	822.8	261.2	198.7	80.2	47.0	12.4	12.5
Italy	699.2	256.0	216.4	44.6	26.5	7.3	5.8
Korea	753.9	182.2	188.2	68.9	21.6	13.8	33.3
Japan	632.8	170.7	189.3	93.5	11.2	4.5	20.9
Mexico	1.019.5	292.1	128.4	103.4	15.5	17.5	4.8
The Netherlands	768.8	217.2	244.3	76.0	29.0	4.3	9.5
Poland	1.020.3	476.2	248.8	55.1	14.2	12.2	15.1
Portugal	778.4	233.2	199.3	87.7	23.2	8.7	8.5
United Kingdom	790.6	248.7	231.4	104.9	29.4	3.6	6.7

⁴ The gross mortality rates are highly affected by the population structure of the country. In order to compare the data between countries or in time intervals in which there are significant changes in the population structures by age, it is required to calculate the standardized rates from a certain population group. The interpretation of the data obtained this way is the mortality rate that would be obtained if all countries had the same population. These rates are calculated with the standard population recommended by the World Health Organisation.

⁵The rates of the United States, Italy, Mexico and the United Kingdom correspond to the year 2010

Methodological note

The Death Statistics according to Cause of Death provides annual information on deaths which have occurred in the country dealing, by basic cause of death, in accordance with the International Classification of Diseases (ICD) of the World Health Organisation (WHO). The 10th revision of this classification has been used since 1999.

This harmonised European Statistics is conducted in accordance with the Commission Regulation (EU) No 328/2011 of 5 April 2011 on Statistics according to Cause of Death.

In accordance with the recommendations of the WHO, the classification of causes of death is investigated and tabulated depending of the **basic cause of death**. This is defined as the *illness or injury which started the chain of pathological events which directly led to death. When the cause is a traumatic injury, the basic cause is considered to be the circumstances of the accident or violence which produced the fatal injury.* To be exact, this set or chain of illnesses is what the doctor certifying the death must provide in the statistical bulletin. Starting with these causes, named by the WHO as *immediate, intermediate, initial or fundamental and other processes*, and in accordance with the international regulations established in the ICD for selecting the basic cause, the latter is reached.

Data on causes of death is collected in three statistical questionnaire models: Medical Death Certificate/Statistical Death Register (CMD/BED), Judicial Statistical Death Register (BEDJ) and the Statistical Bulletin of Infants who died within 24 hours (BEP). The first one collects data on deaths due to natural causes, without requiring the intervention of a judge, whereas the second is directed at obtaining information on deaths due to causes requiring judicial intervention, since there are signs of a possible accidental or violent cause; both contain data on deaths among those who have lived more than 24 hours. Deaths occurring within 24 hours of life are collected in the BEP.

The sections in the bulletins containing the causes of death are different in both models. In the CMD/BED, 4 causes are described, which form the chain of illnesses which led to death, in the BEP only two are shown, one relating to the mother and another to the foetus, and in the BEDJ the external circumstances that caused the death are shown.

These statistics provide information on mortality by dealing with the basic cause of death, its distribution by sex, age, residence and month of death. It also offers indicators that enable the drawing of comparisons on an Autonomous Community level and large groups of causes of death.