

## 1. Health<sup>1</sup>

In a framework characterized by a generalized improvement compared to 2010 (10 out of 12 indicators with a positive evolution), most recent data show a widespread stability compared to the previous year, with positive signals for 5 of the 13 domain indicators. The progress concerns Life expectancy without activity limitations at 65 years of age, mortality rate for cancer, and mortality rate for dementia and nervous system diseases in the elderly. Improvements in infant mortality rates and sedentariness are also reported. No relevant changes were found for life expectancy at birth and healthy life expectancy at birth, for the mental health index, for road accident mortality rate among young people and for 4 of the 5 indicators analyzing the lifestyles (Table 1).

**Table 1. Health indicators: value for the latest available year. Percentage variations on previous year and on 2010**

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Life expectancy at birth ( <i>years, 2018</i> )	83.0	■	■
2. Healthy life expectancy at birth ( <i>years, 2018</i> )	58.5	■	■
3. Mental health index (SF36) (MH) ( <i>mean scores, 2018</i> )	67.8	■	—
4. Infant mortality rate ( <i>per 1,000, 2016</i> )	2.8	■	■
5. Road accidents mortality rate (15-34 years old) ( <i>per 10,000, 2018</i> )	0.7	■	■
6. Age-standardised cancer mortality rate (20-64 years old) ( <i>per 10,000, 2016</i> )	8.7	■	■
7. Age-standardised mortality rate for dementia and nervous system diseases (65 years and over) ( <i>per 10,000, 2016</i> )	31.2	■	■
8. Life expectancy without activity limitations at 65 years of age ( <i>years, 2018</i> )	9.9	■	■
9. Overweight or obesity ( <i>%, 2018</i> )	44.8	■	■
10. Smoking ( <i>%, 2018</i> )	19.4	■	■
11. Alcohol consumption ( <i>%, 2018</i> )	16.7	■	■
12. Sedentariness ( <i>%, 2018</i> )	35.7	■	■
13. Adequate nutrition ( <i>%, 2018</i> )	19.6	■	■

— Comparison not available   ■ Improvement   ■ Stability   ■ Deterioration

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

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The indicators of the health domain show a remarkable heterogeneity by region in the deviations from the Italian average value (Figure 1).

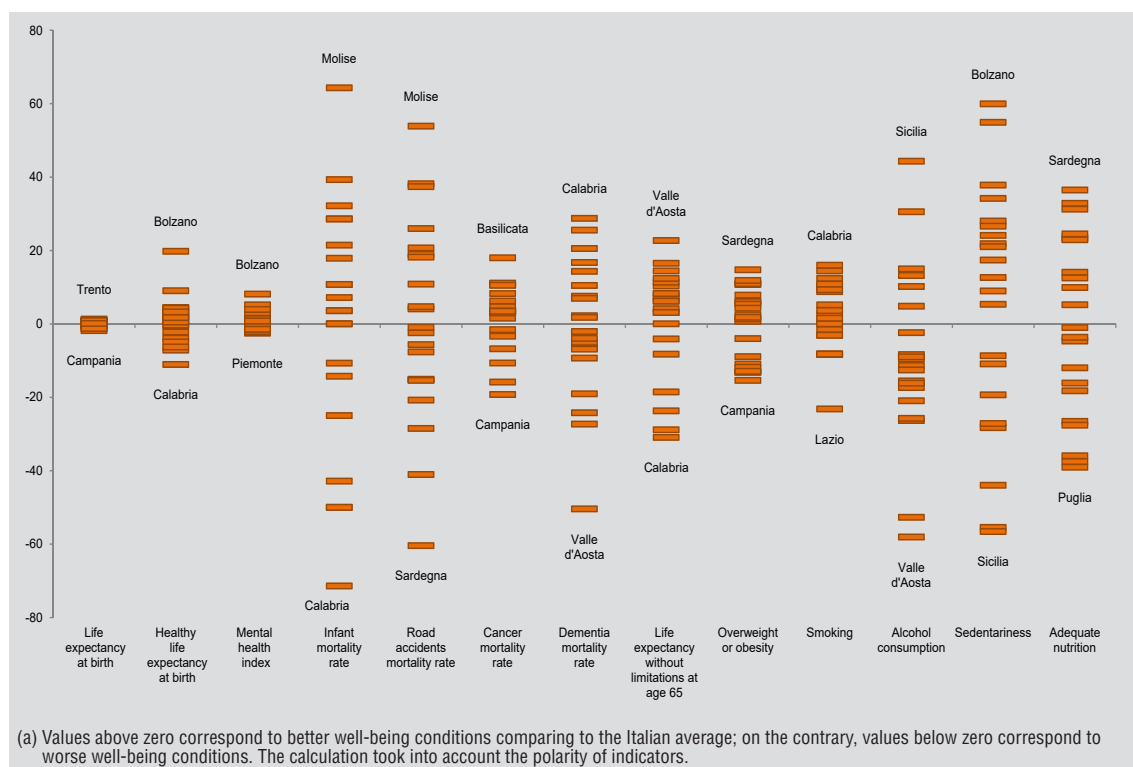
The Province of Bolzano often ranks among the most virtuous regions - in 3 indicators out of 13 it shows the maximum values - while Campania ranks the minimum values in at least 4 indicators out of 13.

Among indicators with greater territorial variability than the national average there are infant mortality rate and road accidents mortality rate. Concerning the lifestyles, regional heterogeneity is higher for sedentariness, alcohol consumption and adequate nutrition, while it is less marked for smoking and overweight.

For the indicator on sedentariness, Sicilia records a value almost 60% higher than the Italian average (55.9% vs. the Italian average of 35.7%), while the minimum value is found in the province of Bolzano, where only 14.3% of people aged 14 years and over do not practice any physical activity. The highest proportion of people who consume adequate quantities of fruit and vegetables daily is observed in Sardegna (+36.4% compared to the Italian average) and the lowest in Puglia (-39% from the average).

Life expectancy at birth, the mental health index and healthy life expectancy at birth are indicators whose level is more homogeneous among regions. The provinces of Trento and Bolzano reach the highest values for all three indicators compared to the Italian average value, while for life expectancy at birth and the mental health index the lowest values are observed in Campania (-2.4% from the Italian average) and for life expectancy in good health at birth in Calabria (-11.1% from the average).

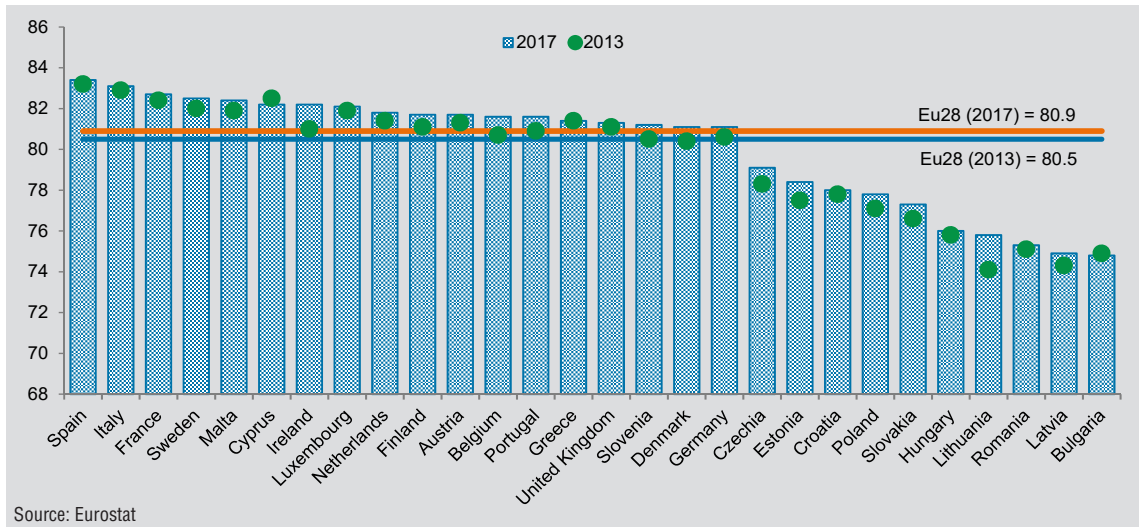
Figure 1. Percentage variation for Health indicators comparing to the value for Italy by region. Latest available year (a)



International comparison

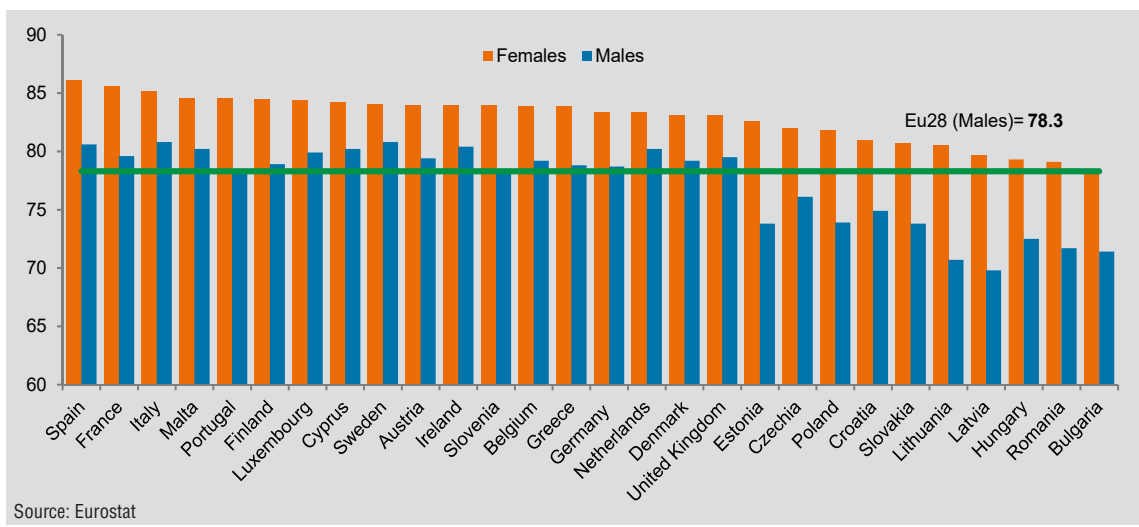
In 2017<sup>2</sup>, with 83.1 years, Italy confirmed its second place for life expectancy at birth in the ranking of the 28 Member States of the European Union (80.9 years the average value), after Spain (83.4 years) (Figure 2).

Figure 2. Life expectancy at birth in Eu28 countries. Years 2013 and 2017. In years



The situation changes if we analyze data by gender: in 2017 a man born in Italy, as well as in Sweden, has the highest life expectancy compared to all EU countries, i.e. 80.8 years. An Italian woman can expect to live up to 85.2 years, less only than in France (85.6 years) and Spain (86.1) (the EU average is 83.5 years) (Figure 3).

Figure 3. Life expectancy at birth by gender in Eu28 countries. In descending order for males life expectancy. Year 2017. In years



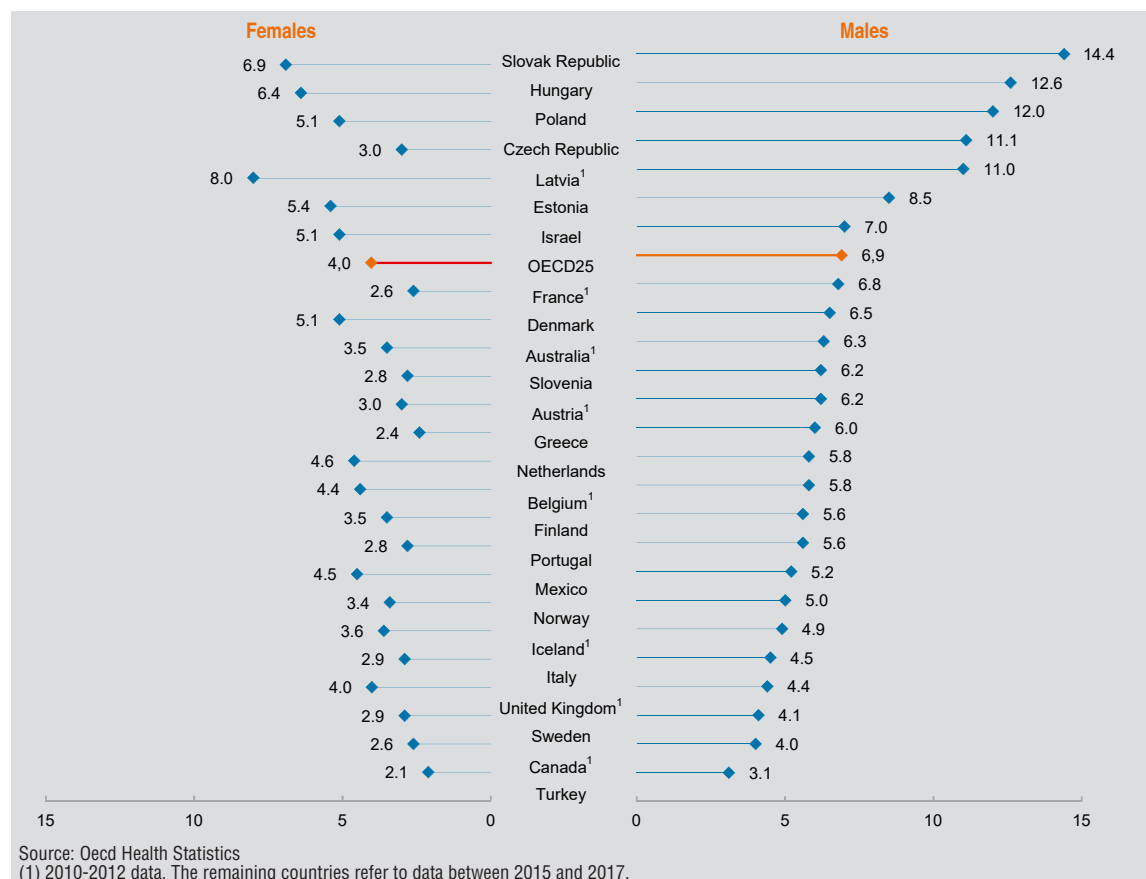
<sup>2</sup> For reasons of international comparability, the latest available data from Eurostat's database is commented in this paragraph, year 2017. It should be noted that the calculation method used by Eurostat differs from that used by ISTAT for the adoption of a different model of estimates of survival in senile age (85 years and over). The figure is updated on 06/06/2019 and extracted from the Eurostat database on 11/10/2019. ([https://ec.europa.eu/eurostat/statistics-explained/index.php/Quality\\_of\\_life\\_indicators](https://ec.europa.eu/eurostat/statistics-explained/index.php/Quality_of_life_indicators)).

The evolution of life expectancy at 30 years shows marked differences according to the level of education: in some of the OECD Countries the most educated can expect to live on average about 5.5 years longer than the least educated<sup>3</sup>.

These differences are more pronounced among men: the most educated can live 6.9 years longer than the least educated, while for women the differential by level of education is 4 years. In Eastern European Countries, the differentials by educational attainment are very high in Slovakia, where the average life expectancy for a 30-year-old man with a high educational attainment is 14.4 years longer than that of a less educated man, and in Latvia, where a more educated woman lives 8 years longer than a less educated woman.

The lowest levels of inequality are recorded for women in Greece (2.4 years) and France (2.6 years) and for men in the UK (4.4 years) and Italy (4.5 years) (Figure 4).

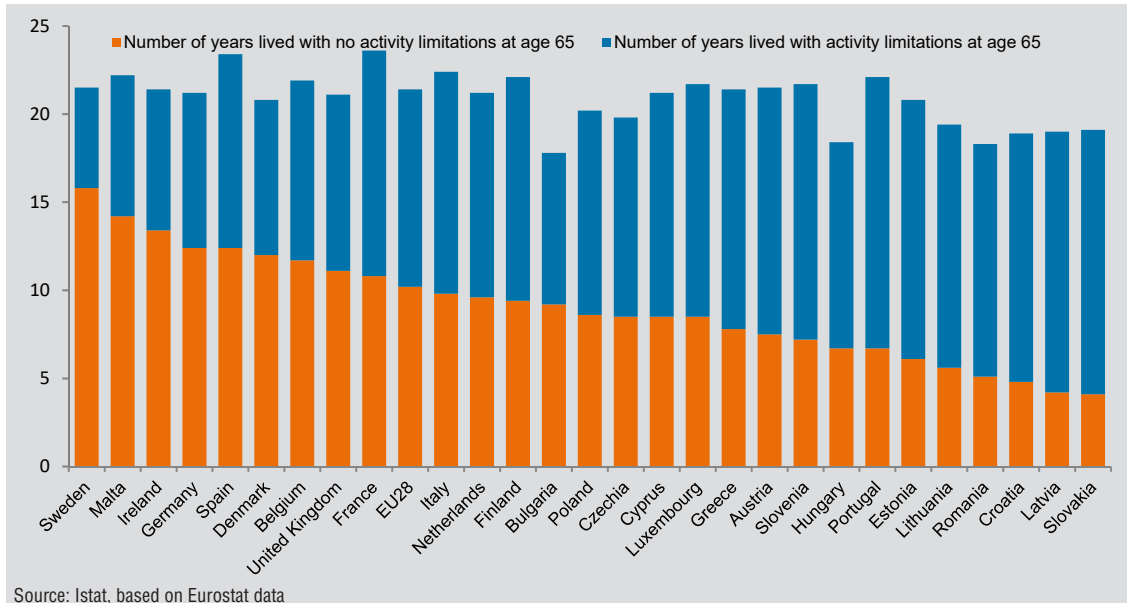
Figure 4. Gap in life expectancy at age 30 between people with highest and lowest level of education by gender in selected Oecd countries



The increase in life expectancy is accompanied, especially in the elderly population, by the spread of chronic diseases. In Italy, life expectancy without activity limitations at 65 years of age (9.8 years) is slightly lower than the EU average (10.2), but much lower than in Sweden (15.8 years) (Figure 5).

3 <https://www.oecd-ilibrary.org/sites/6303de6b-en/index.html?itemId=/content/component/6303de6ben&mimeType=text/html.#>

Figure 5. Life expectancy at age 65 with and without activity limitations. Year 2017



Source: Istat, based on Eurostat data

The latest available data indicate that both overall and infant mortality have returned to decline in Italy, which remains the country with the lowest values together with France, Spain and Switzerland.

Analysis of road traffic accident mortality data for the general population in 2018 continues to show, albeit to a limited extent compared to 2017, a decline for most EU countries<sup>4</sup>.

## Analysis of national data

### Life expectancy increases, but the years to live in good health are stable

In 2018, life expectancy at birth reaches its highest value to date, 82.3 years. Compared to 2017, life expectancy is 0.3 years longer on average. For men the average number of years of life expectancy at birth reaches 80.9 years and for women 85.2 years. In 2018 the gender gap (4.3 years) remains at the level of the previous year.

Healthy life expectancy at birth, on the other hand, remains substantially stable (58.5 years in 2018).

<sup>4</sup> Data are decreasing for all countries except Denmark, Finland, Germany, Hungary, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Sweden and the Czech Republic. Between 2010 and 2018, the average annual reduction in the number of road deaths among the general population was 2.8% in the EU28 and 2.6% in Italy, which is still lower than estimated in order to reach the European target of halving the number of road deaths by 2020. In order to meet the target set, the number of deaths in the EU and Italy should fall by about 20% each year until 2020 over the period 2019-2020. (European Transport Safety Council, Annual PIN report. Year 2019 - <https://etsc.eu/13th-annual-road-safety-performance-index-pin-report/> - European Commission CARE (Community Data Base on Road Accidents) - Brussels 4/4/2019 [http://europa.eu/rapid/press-release MEMO-19-1990\\_en.htm](http://europa.eu/rapid/press-release_MEMO-19-1990_en.htm).

### The disadvantage of women and residents in the South is constant for the main health indicators

Healthy life expectancy at birth in 2018 is 57.6 for women and 59.4 for men, with a constant gender differential over the last year.

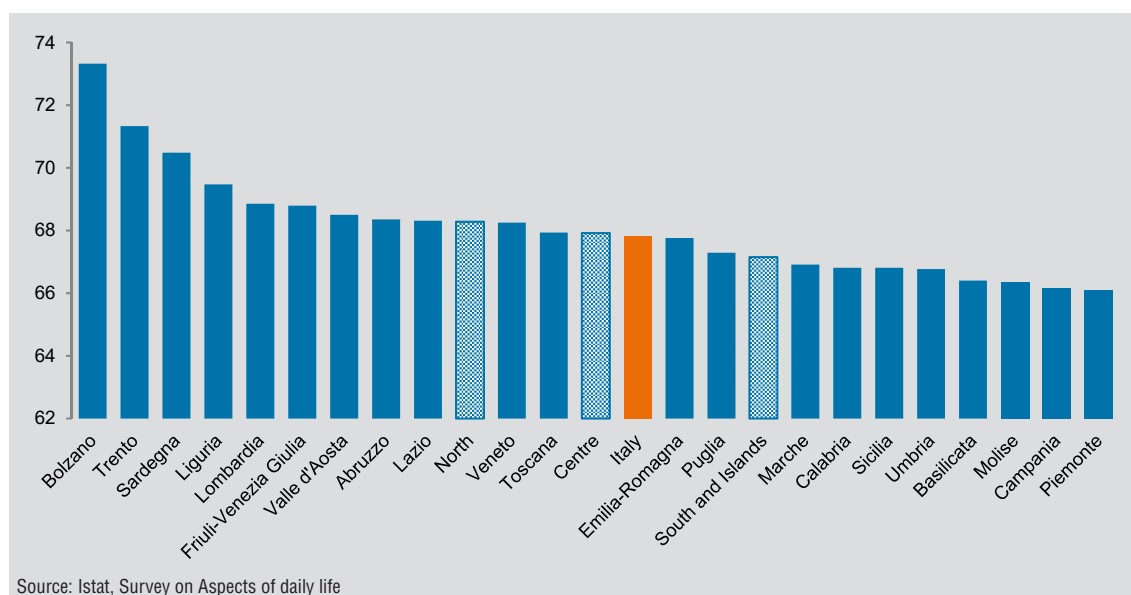
In 2018, a 65-year-old woman can expect to live an average of 22.5 years, but of these 12.7 years will be lived with limitations in activities; a peer of her age will live an average of 19.3 years, of which 9.3 with limitations.

In 2018, life expectancy at birth in the North is 1 year longer than in the South, while for healthy life expectancy at birth the extent of territorial differences between North and South is about 3 years. The gap has narrowed by 1 year compared to 2017 due to the decrease in the value of the indicator in the North, while it has remained stable in the South. All regions in the South of Italy show values below the national average, both for healthy life expectancy at birth and for life expectancy with limitations in activities at 65.

In 2018 the mental health index<sup>5</sup> remains stable compared to 2017 (67.8%); stable also the gender differentials, with a disadvantage for women (65.9% for women vs. 69.2% for men), for all age groups, but the differences are particularly marked in older age.

In southern Italy mental health index records the lowest values. However, among the regions of the North, Piemonte has values close to those of the majority of the regions of the South (66.1%), while Sardinia is the only region in the South and Islands having levels similar to those of the regions of the North, with a value that exceeds 70 percentage points (Figure 6).

**Figure 6. Mental health index for people aged 14 years and older by region and geographic area. Year 2018. Standardised mean values**



5 Among the psychometric tools developed at international level, the Mental Health Index is considered here (MH) of the SF-36, based on the aggregation of the scores totalized by each individual by answering 5 specifications questions, which provides a measure of the psychological distress of individuals, and includes states related to anxiety, and to depression. The scores can vary between 0 and 100 and are to be compared in relative terms: as the score improves the assessment of mental health conditions (Keller SD, Ware JE, Bentler PM, et al. Use of structural equation modelling to test the construct validity of the SF-36 Health Survey in ten countries: Results from the IQOLA Project. J Clin Epidemiol. 1998;51:1179-88).

### Continued reduction in infant mortality and cancer mortality

Infant mortality rates in 2016 are slightly lower than in 2015 (2.9 per thousand live births in 2015 compared to 2.8 in 2016). For boys, infant mortality rates are higher than for girls (3.0 per thousand live births for boys, 2.6 for girls).

The greatest contribution to the decrease is linked to the improvement of the indicator in the Centre, where the rate goes from 2.9 to 2.6 per 1,000 live births in 2016. In the North and South and Islands the rates remain stable for the third consecutive year (2.5 and 3.4 per 1,000 respectively). In adulthood (20-64 years of age) the mortality rate from malignant tumors is considered premature and, at least in part, avoidable if contrasted with adequate prevention and early diagnosis. In 2016, the mortality rate for this condition is 8.7 per 10,000 residents and has decreased compared to 2015 (8.9 per 10,000 inhabitants).

In 2016 the rate of malignant tumors for women is 7.7 per 10,000, lower than both 2015 and 2014 (8 and 7.9 per 10,000, respectively). In men the mortality rate is higher: the value in 2016 is 9.6 per 10,000 inhabitants.

At the territorial level, the disadvantage of South of Italy is confirmed and tends to increase. The highest value of the indicator, both for men and women, is recorded in Campania (respectively 11.7 and 9.0 per 10,000 inhabitants).

### Mortality from dementia and nervous system diseases is slightly decreasing

In a population like the Italian one, characterized by a very high life expectancy and therefore by a considerable percentage of elderly people, diseases such as dementia and diseases of the nervous system are widespread (the mortality rate is 31.2 per 10,000 inhabitants). Women have a mortality rate of 32.2 per 10,000 inhabitants, men have a mortality rate of 30.

### Stable mortality rate from road accidents among young people

In 2018, the death rate from road accidents among young people remained at the previous year's levels (0.7 deaths per 10,000 residents aged 15-34). The road death rate for the total population, on the other hand, shows a slight decrease compared to 2017 (-1%).

### Improving sedentariness, other lifestyles remain stable

In 2018 the indicator measuring sedentariness in the Italian population improved from 37.9% in 2017 to 35.7% in 2018. The decrease mainly concerns women (-2.7 percentage points, comparing to -1.7 for men).

Between 2016 and 2018, the percentage of adult population who are overweight remained the same after the increase observed in 2015. In 2018, the regions of southern of Italy continue to have the highest values. However, the gap comparing to the Centre is narrowing, due to the increase in the percentage of overweight or obese people in the central regions (from 41.9% to 43.3%). For 13 out of 21 regions, the share of overweight adults increased in 2018, with the highest values in Liguria and Molise (about 4 percentage points). Also the greater prevalence of overweight among men is confirmed in 2018 (54.3% compared to 35.8% for women).

In 2018, the share of the smokers remain broadly the same (19.4%), with the highest rate observed in the Centre, which is also increasing (22.4% in 2018 compared to 20.3% in 2017).

Values relating to the percentage of people with risky habits in alcohol consumption and, in terms of healthy lifestyles, the share of people who consume adequate quantities of fruit and vegetables on a daily basis remain stable over the last year. The North pursues a less healthy lifestyle than the other areas in terms of excessive alcohol consumption (19.5% in the North, 16.7% in the Centre and 12.9% in the South).

The highest proportion of people who consume adequate quantities of fruit and vegetables is observed in the Centre (22.2% compared to 21.8% in the North and 15.1% in the South).

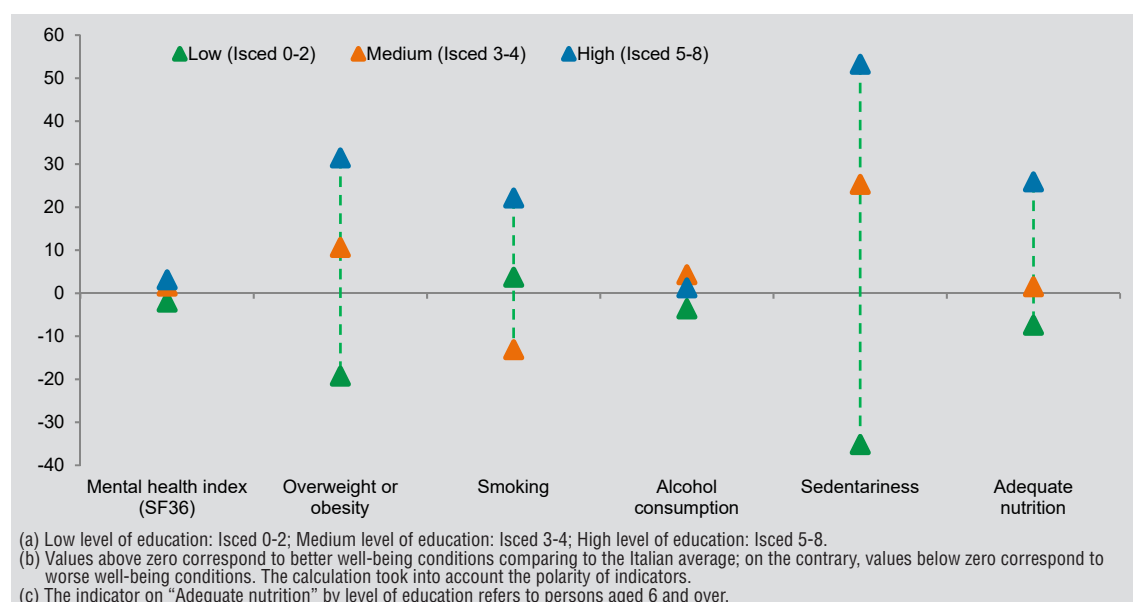
### Significant differentials by level of education

The health indicators for which data is available are significantly related with the level of education achieved by people<sup>6</sup>.

The indicator of life expectancy at birth varies significantly according to the level of education. Average life expectancy at birth is 82.3 years for highly educated men and falls to 79.2 years for the least educated (-3.1 years)<sup>7</sup>. For women the gap is smaller, with a life expectancy at birth ranging from 86 among the highly educated to 84.5 years among the least educated (-1.5 years).

The protective role of the educational qualification is also confirmed for health risk factors, with greater attention to healthy behaviours among the most educated. An exception to this is the inappropriate consumption of alcohol, on which the educational qualification does not seem to have any statistical effect (Figure 7)<sup>8</sup>. The educational qualification has a positive influence also on mental health conditions, although with less marked differences.

**Figure 7. Percentage variation for some Health indicators comparing to the value for Italy by level of education. Latest available year (a) (b) (c)**



6 A more detailed analysis of the report is available in the OECD report (2019), Health for Everyone?: Social Inequalities in Health and Health Systems, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/3c8385d0-en>.

7 It should be noted that the estimates reconstructed at national level, refer to annuities (2012-2014) and that the qualification (low, medium, high) has been calculated also taking into account age (to consider the effects of the Italian school reform on the classification variable of education). All further methodological details are available on the ISTAT website (Istat, 2018, Tavole di dati Diseguaglianze regionali nella speranza di vita per livello di istruzione <https://www.istat.it/it/archivio/212512>).

8 For more information: Istat. Il consumo di alcol in Italia: <https://www.istat.it/it/archivio/215088>.



## Indicators

1. **Healthy life expectancy at birth:** It expresses the average number of years that a child born in a given calendar year can expect to live in good health on the assumption that the risks of death and perceived health conditions remain constant. It is built using the prevalence of individuals who respond positively (“good” or “very good”) to the question on perceived health.  
Source: Istat - Life tables of Italian population and Survey on Aspects of daily life.
2. **Mental health index (SF36):** The mental health index is a measure of psychological distress obtained from the synthesis of the scores obtained by each individual of 14 years and over to 5 questions from the SF36 questionnaire (36-Item Short Form Survey). It includes one or more items from each of the four major mental health dimensions (anxiety, depression, loss of behavioral or emotional control, and psychological well-being). The final score varies from 0 to 100, with better psychological well-being corresponding to higher scores.  
Source: Istat - Survey on Aspects of daily life.
3. **Infant mortality rate:** Deaths during the first year of life per 10.000 born alive.  
Source: Istat - For deaths: Survey on deaths and causes of death. For live births: Migration and calculation of yearly resident population.
4. **Road accidents mortality rate (15-34 years):** Age-standardised\* mortality rate in road accidents by five year age groups for people aged 15-34 years.  
Source: Istat - For deaths: Survey on road accidents resulting in death or injury. For population: Survey on the municipal resident population by sex, year of birth and marital status.
5. **Age-standardised\* cancer mortality rate (20-64 years):** Mortality rate for cancer (initial cause) by five year age groups for people aged 20-64 years.  
Source: Istat - For deaths: Istat, Survey on deaths and causes of death. For population: Survey on the municipal resident population.
6. **Age-standardised\* mortality rate for dementia and nervous system diseases (65 years and over):** Mortality rate for nervous system diseases and psychological and behavioral disorders (initial cause) by five year age groups for people aged 65 years and over.  
Source: Istat - For deaths: Istat, Survey on deaths and causes of death. For population: Survey on the municipal resident population.
7. **Life expectancy without activity limitations at 65 years of age:** It expresses the average number of years that a person aged 65 can expect to live without suffering limitations in activities due to health problems. It is based on the prevalence of individuals who answer to be limited, for at least the past 6 months, because of a health problem in activities people usually do.  
Source: Istat - Life tables of Italian population and Survey on Aspects of daily life.
8. **Overweight or obesity:** Standardised\* rate of people aged 18 and over who are overweight or obese. The indicator refers to the Body Mass Index (BMI), which classifies people as overweight ( $25 \leq \text{BMI} < 30$ ) or obese ( $\text{BMI} > 30$ ) as classified by the World Health Organization (WHO).  
Source: Istat - Survey on Aspects of daily life.
9. **Smoking:** Standardised\* rate of people aged 14 and over who report current smoking.  
Source: Istat - Survey on Aspects of daily life.
10. **Alcohol consumption:** Standardised\* rate of people aged 14 and over who are at-risk consumers of alcohol. Taking into account the definitions adopted by the WHO and the recommendations from INRAN, in agreement with the National Institute of Health, are identified as “at-risk consumers” all those individuals who have at least one risk behaviour, exceeding the daily consumption of alcohol (according to specific thresholds for sex and age) or concentrating on a single occasion of consumption the intake of 6 or more units of any alcoholic drink (binge drinking).  
Source: Istat - Survey on Aspects of daily life.
11. **Sedentariness:** Standardised\* rate of people aged 14 and over referring not to play sports neither continuously nor intermittently during their spare time, and people aged 14 and over referring not to perform any physical activity, such as walking at least 2 km, cycling, swimming, etc.  
Source: Istat - Survey on Aspects of daily life.
12. **Adequate nutrition:** Standardised\* rate of people aged 3 years and over who say they take every day at least 4 portions of fruit and vegetables.  
Source: Istat - Survey on Aspects of daily life.

(\*) The indicator is standardized using the 2013 European standard population.

## Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Life expectancy at birth (a)	Healthy life expectancy at birth (a)	Mental health index (SF36) (b)	Infant mortality rate (c)	Road accidents mortality rate (15-34 years) (d) (e)	Age-standardised cancer mortality rate (20-64 years) (f)
	2018	2018	2018	2016	2018	2016
Piemonte	82.6	59.2	66.1	2.2	0.6	8.8
Valle d'Aosta/Vallée d'Aoste	81.9	61.1	68.5	4.2	0.4	9.6
Liguria	82.7	58.5	69.5	2.5	1.2	8.5
Lombardia	83.4	58.8	68.9	2.8	0.5	8.4
Trentino-Alto Adige/Südtirol	84.0	67.7	72.3	3.3	0.5	7.8
<i>Bolzano/Bozen</i>	<i>83.8</i>	<i>70.0</i>	<i>73.3</i>	<i>3.1</i>	<i>0.4</i>	<i>7.9</i>
<i>Trento</i>	<i>84.0</i>	<i>65.4</i>	<i>71.3</i>	<i>3.5</i>	<i>0.5</i>	<i>7.7</i>
Veneto	83.6	59.0	68.3	2.3	0.8	7.7
Friuli-Venezia Giulia	83.1	60.0	68.8	2.0	0.6	8.3
Emilia-Romagna	83.5	59.2	67.8	2.0	0.9	8.4
Toscana	83.6	61.7	67.9	2.7	0.7	8.2
Umbria	83.8	58.2	66.8	1.7	0.7	7.7
Marche	83.7	60.1	66.9	1.9	0.5	7.7
Lazio	83.0	59.3	68.3	2.8	0.8	9.2
Abruzzo	83.0	57.2	68.4	2.5	0.7	8.1
Molise	82.7	57.6	66.4	1.0	0.3	8.4
Campania	81.4	56.0	66.2	3.2	0.5	10.3
Puglia	83.0	57.5	67.3	2.7	0.8	8.3
Basilicata	82.6	55.9	66.4	4.2	0.9	7.1
Calabria	82.5	52.9	66.8	4.8	0.7	8.4
Sicilia	81.9	56.0	66.8	4.0	0.6	8.9
Sardegna	83.1	57.6	70.5	2.6	1.1	10.0
North	83.3	59.3	68.3	2.5	0.6	8.3
Centre	83.4	60.1	67.9	2.6	0.7	8.6
South and Islands	82.3	56.3	67.2	3.4	0.7	9.1
<b>Italy</b>	<b>83.0</b>	<b>58.5</b>	<b>67.8</b>	<b>2.8</b>	<b>0.7</b>	<b>8.7</b>

(a) Average number of years;

(b) Standardised mean values;

(c) Standardised rates per 1,000 resident live births;

(d) Standardised rates per 10,000 residents aged 15-34;

(e) 43 victims for the municipality of Genova died on the A10 Genova-Ventimiglia, in occasion of the accident on Morandi Bridge (14th of august 2018), among them 17 in the 15-34 age-group;

(f) Standardised rates per 10,000 residents aged 20-64;

(g) Standardised rates per 10,000 residents aged 65 and over;

(h) Standardised rates per 100 persons aged 18 and over;

(i) Standardised rates per 100 persons aged 14 and over;

(l) Standardised rates per 100 persons aged 3 and over.

## 1. Health

Age-standardised mortality rate for dementia and nervous system diseases (65 years and over) (g)	Life expectancy without activity limitations at 65 years of age (a)	Overweight or obesity (h)	Smoking (i)	Alcohol consumption (i)	Sedentariness (i)	Adequate nutrition (l)
2016	2018	2018	2018	2018	2018	2018
34.1	10.8	42.1	21.0	19.3	25.7	22.9
46.9	10.6	42.1	18.4	26.4	27.9	25.6
33.1	11.2	42.4	20.0	18.2	31.2	20.8
33.2	10.7	40.0	19.3	18.6	27.1	21.8
34.7	11.0	39.7	18.1	23.3	15.2	20.6
39.7	10.7	39.9	18.9	25.5	14.3	13.4
30.5	11.3	39.5	17.4	21.1	16.1	27.7
38.7	10.7	43.7	17.0	21.0	22.2	19.5
28.8	10.2	42.9	16.6	20.2	23.5	22.9
32.7	10.0	44.5	17.7	19.6	26.2	22.9
30.6	10.5	41.3	21.0	19.4	28.2	24.0
32.4	8.7	46.6	21.0	18.3	29.5	25.9
33.3	10.3	44.2	21.0	18.1	32.5	20.5
26.7	10.4	44.0	23.9	14.2	39.6	21.0
31.8	10.5	48.8	19.7	15.9	38.8	16.9
24.8	10.1	50.7	17.3	18.8	42.6	15.0
23.2	8.1	51.7	18.7	11.6	55.5	13.9
29.0	9.0	49.7	17.6	14.5	45.8	11.3
26.0	7.9	50.7	19.4	17.1	45.4	11.0
22.2	7.9	50.1	16.3	15.0	51.4	14.9
27.9	8.3	50.6	19.1	9.3	55.9	16.6
37.1	9.0	38.2	20.0	18.2	33.8	24.8
34.1	10.6	41.9	18.8	19.5	25.6	21.8
29.6	10.3	43.3	22.4	16.7	34.4	22.2
27.5	8.6	49.6	18.4	12.9	50.0	15.1
<b>31.2</b>	<b>9.9</b>	<b>44.8</b>	<b>19.4</b>	<b>16.7</b>	<b>35.7</b>	<b>19.6</b>