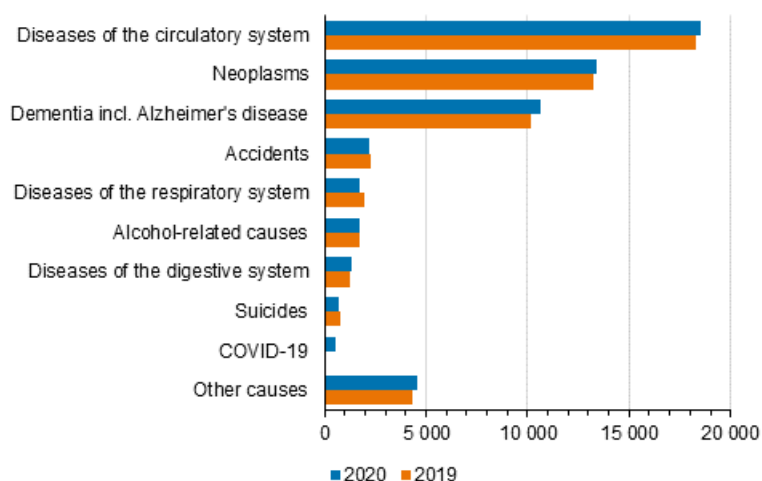


# Causes of death in 2020

## No major changes in causes of death compared to the previous year

According to Statistics Finland's statistics on causes of death, diseases of the circulatory system, neoplasms and memory diseases still caused the highest number of deaths in 2020. Three-quarters of the deceased, over 42,000 persons, died of these diseases. Nearly 4,700 Finns died of suicides, accidents and alcohol-related causes of death, which was slightly fewer than in the year before. The coronavirus disease caused the death of 558 persons, one in hundred deaths.

### Deaths by main causes of deaths in 2019 ja 2020



In 2020, altogether 55,500 persons died in Finland, which is around 1,500 more than in the year before. However, relative to the population size and age structure, total mortality did not grow in 2020 from the previous year, but remained almost unchanged for both men and women.

One in three deaths in Finland were caused by diseases of the circulatory system and one in four by neoplasms. The most common types of cancer leading to death were lung cancer and pancreatic cancer, for men also prostate cancer and for women breast cancer. A total of 10,700 people died of memory diseases, or dementia and Alzheimer's disease, which is around one fifth of all deaths.

## **Mortality from diseases of the circulatory system and neoplasms decreased from the previous year**

Nearly 400 more died of diseases of the circulatory system and neoplasms and over 500 more died of memory diseases in 2020 than in 2019. By contrast, over 200 fewer died of respiratory diseases than in the previous year. In the classification of diseases, deaths caused by Covid-19 virus infection are not classified as respiratory diseases, but in the main group containing diagnosis codes for special cases.

The increase in the number of deaths from diseases is partly explained by the ageing of the population's age structure. Relative to the population size and age structure, mortality decreased by over one per cent both from diseases of the circulatory system and from neoplasms from the previous year. In addition, mortality from respiratory diseases decreased by as much as 14 per cent. Only 58 persons died of influenza. By contrast, mortality from memory disorders grew by around two per cent from the previous year.

## **As many deaths of alcohol-related causes as in the year before**

In 2020, some 1,700 persons died of alcohol-related diseases and alcohol poisonings, 1,300 men and 400 women. There were no changes in the number of deaths from the previous year. The share of alcohol-related causes in all causes of death was three per cent, for men five per cent and for women one per cent.

In 2020, the average age of men dying of alcohol-related causes was 62 years and that of women 63 years. Men dying of alcohol-related causes were slightly younger than in the previous year. The share of persons aged under 65 among those who died from alcohol-related causes grew for men from 57 to 63 per cent.

## **Number of suicides fell**

In 2020, suicides were committed by 717 persons. This is 29 fewer than in the year before. The number of suicides committed by men decreased from the previous year's 567 to 529. By contrast, the number of suicides committed by women remained almost unchanged. The vast majority or three-quarters of those who committed suicide were still men. The average age of those who committed suicide was 44 for women and 46 for men in 2020.

## **Women's accidental deaths decreased**

In 2020, accidents caused the death of a total of 2,200 persons in Finland, which is around 30 fewer than in 2019. Two-thirds of those who died in accidents were men. Accidents caused four per cent of all deaths. Five per cent of men and three per cent of women died in accidents.

However, the number of accidental deaths among men and women developed differently from the year before. The number of accidental deaths grew slightly for men, from 1,412 to 1,457, while women had fewer fatal accidents than before (2019: 833, 2020: 756). Among women, stumbling accidents especially among persons aged over 80 decreased compared with 2019. Stumbling accidents resulting in death and accidental poisonings increased somewhat among men from the year before.

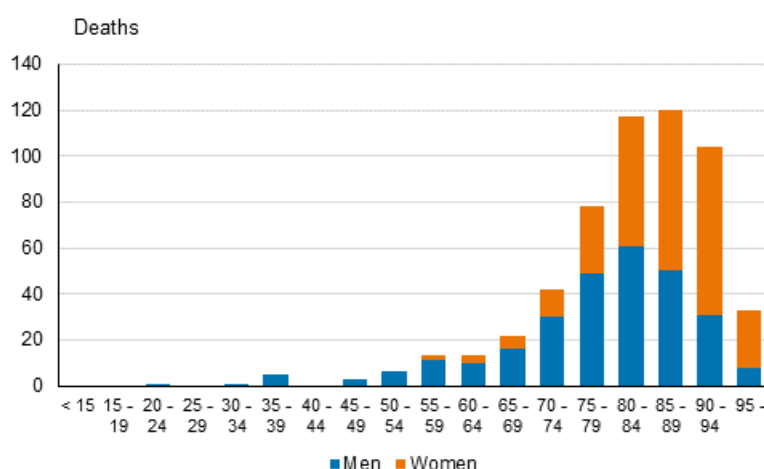
## **Altogether 558 persons died of the coronavirus disease, the average age of the deceased was 84 years**

A total of 558 persons died of Covid-19 virus infection, or the coronavirus disease, in 2020. One in one hundred deaths in Finland were caused by the coronavirus disease. The dead were mostly elderly. The average age (median) was 84 years. Nearly 90 per cent were aged 70 or over and 25 per cent had turned 90. Altogether, 42 persons aged under 65 died of this disease, which is under eight per cent of all deaths from the coronavirus disease. No persons aged under 20 died of the coronavirus disease, the youngest person who died belonged to the 20 to 24 age group and the oldest was aged over 100.

The share of men and women among those dying of the coronavirus disease was almost equal, 282 men and 276 women, but in younger age groups the share of men was clearly higher than that of women. All persons who died under the age of 55 were men and nearly nine out of ten of those who died under the age of 65 were also men. The average age of men dying of the coronavirus disease was 80 years and that of women 87 years. In the oldest age groups, the share of women was higher. There are more women than men in these age groups, because women live longer than men.

In addition, Covid-19 virus infection had an effect on the death of 72 persons other than as the primary cause of death in the statistics. Most of them had multiple diseases. Around 40 per cent had memory disease as the primary cause of death. For one in four the primary cause of death was cardio or vascular disease and for one in five cancer. Covid-19 virus infections recorded as contributing causes of death on death certificates are not included in deaths caused by the coronavirus disease in the cause of death statistics.

### Deaths due to COVID-19 by sex and age in 2020



### Causes of death 2020

| 54-group time series classification                               | 2020          |               |               | 2019   |        |         | Age-standardised mortality rate | Age-standardised mortality rate |
|---|---------------|---------------|---------------|--------|--------|---------|---------------------------------|---------------------------------|
|   | Total         | Males         | Females       | Total  | Males  | Females |                                 |                                 |
|   | Number        | Number        | Number        | Number | Number | Number  | Change 2019–2020, %             | Change 2010–2020, %             |
| <b>Deaths total</b>   | <b>55 498</b> | <b>27 971</b> | <b>27 527</b> | 53 962 | 27 088 | 26 874  | +0,3                            | -13,7                           |
| Diseases of the circulatory system                                | 18 496        | 9 541         | 8 955         | 18 267 | 9 255  | 9 012   | -1,4                            | -30,6                           |
| Neoplasms   | 13 411        | 7 154         | 6 257         | 13 267 | 7 097  | 6 170   | -1,1                            | -8,0                            |
| Dementia, Alzheimer's disease                                     | 10 673        | 3 495         | 7 178         | 10 153 | 3 401  | 6 752   | +1,7                            | +28,7                           |
| Accidents   | 2 213         | 1 457         | 756           | 2 245  | 1 412  | 833     | -2,8                            | -23,5                           |
| Disease of the respiratory system                                 | 1 749         | 1 130         | 619           | 1 969  | 1 205  | 764     | -14,0                           | -32,0                           |
| Alcohol related diseases and accidental poisoning by alcohol      | 1 716         | 1 318         | 398           | 1 718  | 1 306  | 412     | +0,3                            | -16,6                           |
| Diseases of the digestive system (excl. alcohol-related diseases) | 1 359         | 621           | 738           | 1 271  | 585    | 686     | +4,2                            | -15,2                           |
| Suicides  | 717           | 529           | 188           | 746    | 567    | 179     | -4,4                            | -27,0                           |
| COVID-19  | 558           | 282           | 276           | 0      | 0      | 0       | -                               | -                               |
| Other causes of death   | 4 606         | 2 444         | 2 162         | 4 326  | 2 260  | 2 066   | -                               | -                               |

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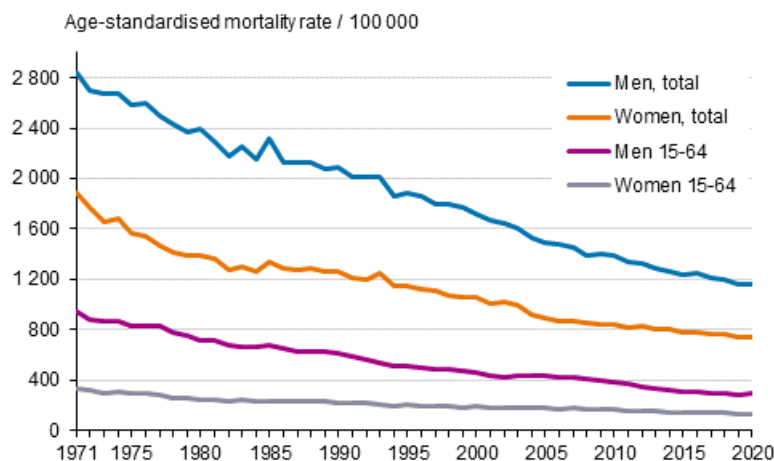
# 1. Causes of death in 2020

During 2020, around 55,500 persons with a municipality of residence in Finland died. This is around 1,500 more persons than in the year before. Based on death certificates, more than 170 of them died abroad, the rest in Finland. Excluded from the statistics are persons residing temporarily in Finland, of whom around 100 persons died in Finland.

In 2020, two out of three deceased had turned 75 and more than one third had turned 85. Around 450 of the deceased had turned 100. The average age at death (median) was 85 years for women and 77 years for men, while ten years ago the average ages were 84 for women and 75 for men. The median describes the middle value, that is, one half of all deceased persons died at a younger age and one half at an older age than the median age.

The age-standardised total mortality rate relative to the size of the population and age structure remained almost unchanged from the year before for both men and women. Men's and women's age-standardised total mortality rate has decreased relatively evenly since the 1970s and no change took place in 2020 (Figure 1). In addition to the population, the age-standardised mortality rate takes into account the changes in the population's age structure. Age standardisation is needed to illustrate those changes in causes of death that are not due to the ageing of the age structure.

**Figure 1. Age-standardised mortality in 1971 to 2020**



## Diseases of the circulatory system and neoplasms caused most deaths

Because of the age structure of deceased persons, the typical causes of death of older age groups dominate the causes of death distribution of the entire population (Table 1). In 2020, thirty-three per cent of deaths of Finns were caused by diseases of the circulatory system and 24 per cent by neoplasms. The most common disease of the circulatory system was ischaemic heart disease, which caused nearly every sixth death. The commonest cancers causing death were lung cancer and pancreatic cancer.

Over 10,000 persons died from dementia, including Alzheimer's disease, which represents 19 per cent of all deaths. The number of deaths caused by dementia has grown rapidly in the past few decades partly due to the ageing of the population. More than one in four deaths among women and one in eight deaths among men were caused by dementia. More than double the number of women die from dementia than the number of men, which is mainly because women live longer than men. There are no clear differences in age-standardised dementia mortality among sexes (Figure 6).

**Table 1. Causes of death 2020**

| 54-group time series classification                          | Total         | Males         | Females       | Total      | Males      | Females    | Age-standardised mortality rate | Age-standardised mortality rate |
|--|---------------|---------------|---------------|------------|------------|------------|---------------------------------|---------------------------------|
|  | Number        | Number        | Number        | %          | %          | %          | Change 2019–2020, %             | Change 2010–2020, %             |
| <b>Deaths total</b>  | <b>55 498</b> | <b>27 971</b> | <b>27 527</b> | <b>100</b> | <b>100</b> | <b>100</b> | +0,3                            | -13,7                           |
| Diseases of the circulatory system                           | 18 496        | 9 541         | 8 955         | 33         | 34         | 33         | -1,4                            | -30,6                           |
| Neoplasms  | 13 411        | 7 154         | 6 257         | 24         | 26         | 23         | -1,1                            | -8,0                            |
| Dementia, Alzheimer's disease                                | 10 673        | 3 495         | 7 178         | 19         | 12         | 26         | +1,7                            | +28,7                           |
| Accidents (excl. alcohol-related diseases)                   | 2 213         | 1 457         | 756           | 4          | 5          | 3          | -2,8                            | -23,5                           |
| Disease of the respiratory system                            | 1 749         | 1 130         | 619           | 3          | 4          | 2          | -14,0                           | -32,0                           |
| Alcohol related diseases and accidental poisoning by alcohol | 1 716         | 1 318         | 398           | 3          | 5          | 1          | +0,3                            | -16,6                           |
| Suicides   | 717           | 529           | 188           | 1          | 2          | 1          | -4,4                            | -27,0                           |
| COVID-19   | 558           | 282           | 276           | 1          | 1          | 1          | -                               | -                               |
| Other causes of death  | 5 965         | 3 065         | 2 900         | 11         | 11         | 11         | -                               | -                               |

## More working-age people died than in the previous year

During 2020, around 7,600 persons of working-age (15 to 64 years) died, which is 200 more than in the year before. The share of working-age people in all deaths was 14 per cent, for men 19 per cent and for women nine per cent.

In 2020, mortality among working-age people increased by close on four per cent. Despite the growth, the age-standardised mortality of working-age people has diminished in ten years by over 20 per cent. Men's mortality has diminished slightly more than women's, which has narrowed the difference in mortality between genders. However, the mortality of working-age men is still more than double that of women and the share of men among deaths of working-age people was more than two thirds.

Working-age people died most from neoplasms and from diseases of the circulatory system (Table 2). More than one-half of deceased working-age people died of these two causes. Altogether 43 per cent of women who died in working age died from neoplasms, but only 24 per cent of men. Diseases of the circulatory system and neoplasms caused nearly as large a share of deaths among working-age men. The share of diseases of the circulatory system in causes of death was 15 per cent for women and 25 per cent for men in 2020.

The most common cancer resulting in death among working-age women was breast cancer, which caused the death of over 200 women in 2020 (Appendix table 1c). Correspondingly, for working-age men, the most common cancer resulting in death was lung cancer (Appendix table 1b).

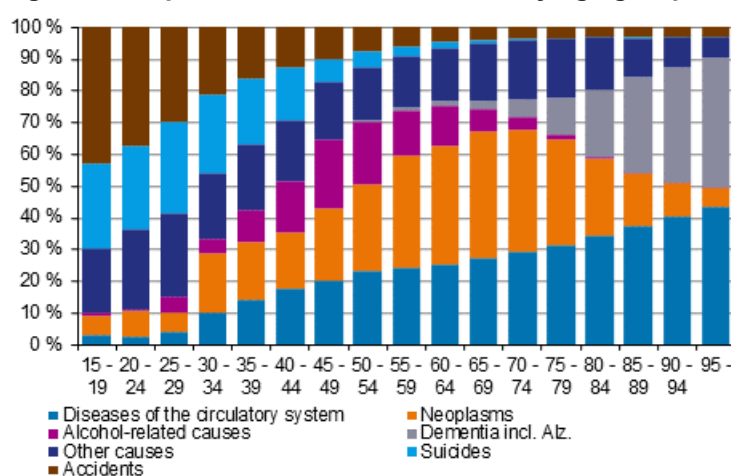
In 2020, over 1,000 working-age persons died from alcohol-related causes. The number was slightly higher than in the previous year. Mortality from alcohol for working-age men and women has declined clearly from the record level of 2007, when there were 1,800 deaths. Three and a half times more working-age men died from alcohol-related causes than women of the same age.

**Table 2. Main causes of death among working-age population (aged 15 to 64) in 2020**

| 54-group time series classification                          | Total        | Males        | Females      | Total      | Age-standardised mortality rate | Age-standardised mortality rate |
|--|--------------|--------------|--------------|------------|---------------------------------|---------------------------------|
|  | Number       | Number       | Number       | %          | Change 2019–2020, %             | Change 2010–2020, %             |
| <b>Deaths total</b>  | <b>7 604</b> | <b>5 253</b> | <b>2 351</b> | <b>100</b> | +3,8                            | -22,4                           |
| Neoplasms  | 2 246        | 1 241        | 1 005        | 30         | +2,1                            | -19,6                           |
| Diseases of the circulatory system                           | 1 646        | 1 299        | 347          | 22         | +3,1                            | -28,4                           |
| Alcohol related diseases and accidental poisoning by alcohol | 1 063        | 829          | 234          | 14         | +7,4                            | -25,4                           |
| Accidents  | 700          | 559          | 141          | 9          | +0,5                            | -31,9                           |
| Suicides   | 560          | 403          | 157          | 7          | -1,8                            | -26,5                           |
| COVID-19   | 42           | 37           | 5            | 1          | -                               | -                               |
| Other causes of death  | 1 347        | 855          | 462          | 18         | -                               | -                               |

## Dementia and Alzheimer's disease caused one in four deaths among persons aged over 75

Seventy-seven per cent of women and 57 per cent of men who died in 2020 were aged 75 or over. The causes of death structure for older age groups differs from that of the working-age population, for example, the relative share of suicides, accidents and alcohol-related causes of death is smaller than among working-age people.

**Figure 2. Proportions of causes of death by age groups in 2020**

Most persons aged over 75 died from diseases of the circulatory system, which caused 37 per cent of deaths. The share of diseases of the circulatory system in causes of death grows with age: One quarter of those aged 60 to 64 died from diseases of the circulatory system and close on one half of those aged over 95 (Figure 2). Correspondingly, the share of neoplasms in causes of death diminishes after the age of 70. The share of neoplasms for persons aged 65 to 69 was 40 per cent and for those aged over 95 it was only six per cent.

The importance of dementia, including Alzheimer's disease, as a cause of death has grown clearly in recent years. In 2020, dementia (incl. Alzheimer's disease) was clearly a more common cause of death for elderly people than neoplasms. During 2020, more than one in four deceased person aged 75 or over died from dementia and more than one third of those aged 95 or over.

In 2020, every tenth person who committed suicide was aged 75 or over. The share of suicides in causes of death for elderly people was, however, very low, under one per cent. In an international comparison, the suicide mortality of Finns aged over 65 did not differ from the average for EU countries according to preliminary data for 2019.



The share of deaths from Covid-19 virus infection among those aged 75 or over was slightly over one per cent. The share of accidental deaths among aged people was three per cent, that is, over 1,100 persons.

Additional information on the causes of death of persons of different ages can be found in Appendix tables 1a to 1c and database tables.

**Table 3. Main causes of death among persons aged 75 or over in 2020**

| 54-group time series classification                               | Total         | Males         | Females       | Total      | Males      | Females    |
|---|---------------|---------------|---------------|------------|------------|------------|
|   | Number        | Number        | Number        | %          | %          | %          |
| <b>Deaths total</b>   | <b>37 178</b> | <b>16 005</b> | <b>21 173</b> | <b>100</b> | <b>100</b> | <b>100</b> |
| Diseases of the circulatory system                                | 13 819        | 6 081         | 7 738         | 37         | 38         | 37         |
| Dementia, Alzheimer's disease                                     | 10 144        | 3 235         | 6 909         | 27         | 20         | 33         |
| Neoplasms   | 7 001         | 3 555         | 3 446         | 19         | 22         | 16         |
| Disease of the respiratory system                                 | 1 112         | 704           | 408           | 3          | 4          | 2          |
| Diseases of the digestive system (excl. alcohol-related diseases) | 859           | 313           | 546           | 2          | 2          | 3          |
| COVID-19  | 452           | 199           | 253           | 1          | 1          | 1          |
| Alcohol related diseases and accidental poisoning by alcohol      | 143           | 104           | 39            | 0          | 1          | 0          |
| Accidents (excl.alcohol-related diseases)                         | 1 121         | 611           | 510           | 3          | 4          | 2          |
| Suicides  | 69            | 55            | 14            | 0          | 0          | 0          |
| Other causes of death   | 2 458         | 1 148         | 1 310         | 7          | 7          | 6          |

## 2. Mortality from diseases of the circulatory system decreased for women, unchanged for men

During 2020, Finns most died of diseases of the circulatory system. Their share of causes of death has, however, decreased over the past ten years from 40 to 33 per cent.

Over the past ten years, mortality from diseases of the circulatory system relative to the size of the population and the standardised age structure has decreased by around one third among both men and women. In 2020, age-standardised mortality decreased further in the entire population by one per cent. Mortality among women decreased by three per cent and among men mortality remained on level with 2019 (Appendix figure 1). The average age of those dying of diseases of the circulatory system was 84 years.

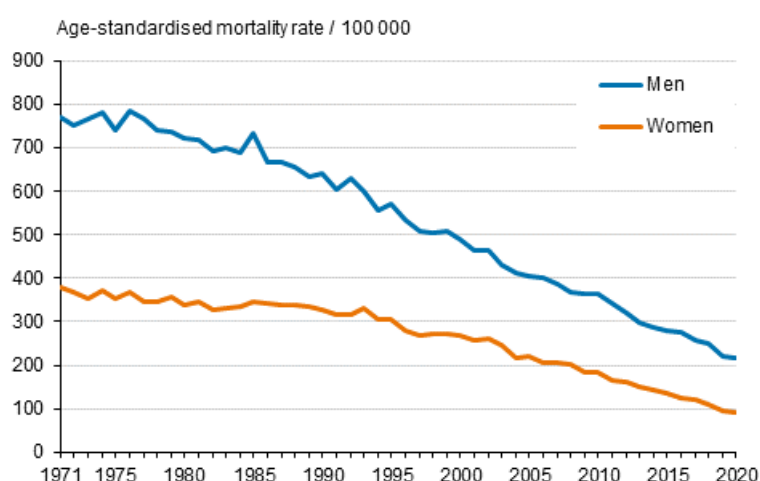
### Mortality from ischaemic heart disease decreased from the previous year

The most common disease of the circulatory system leading to death is ischaemic heart disease. It is still a significant cause of death even though mortality from it has decreased. In 2020, ischaemic heart disease caused nearly every fifth death among men and every eighth death among women. A total of 8,600 persons died of ischaemic heart disease.

In 1971, nearly one half of the men who died of ischaemic heart disease were of working age 15 to 64, while in 2020 around one in ten of them was of working age. The median average age for those dying of ischaemic heart disease was 65 years for men and 73 years for women in 1971, while the corresponding ages in 2020 were 79 and 88 years.

Figure 3 shows age-standardised ischaemic heart disease mortality. In age standardisation, the effect of the age structure of the population and its changes are eliminated. Then it is seen at which level mortality from ischaemic heart disease would be if the age structure of the population remained unchanged during the whole reference period. The new standard population of Eurostat is used as the standard population in age-standardisation (Appendix table 5). When the ageing of the population is eliminated from the figures by age standardisation, it can be seen that ischaemic heart disease mortality has fallen clearly over the last 40 years and particularly in the past 10 years. In 2020, mortality from ischaemic heart disease decreased further for both women (-6.5%) and men (-1.5%)

**Figure 3. Age-standardised mortality from ischaemic heart disease in 1971 to 2020**



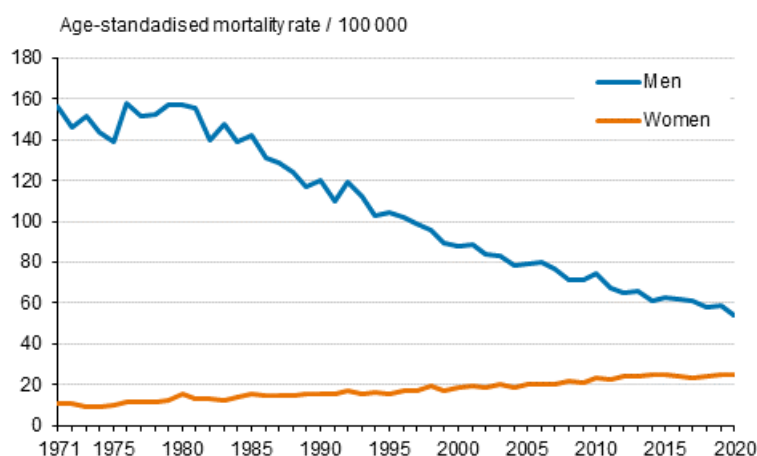
## Persons who died of neoplasms were on average almost 10 years younger than those who died of diseases of the circulatory system

Of the main cause of death categories, Finns died second most of neoplasms. In 2020, a total of 13,400 persons died from neoplasms and they caused one in four deaths in Finland. Persons who died of neoplasms were on average almost 10 years younger than those who died of diseases of the circulatory system. The average age of those dying of neoplasms was 75 years.

Over the past ten years, age-standardised neoplasm mortality has decreased by 12 per cent for men and slightly less for women, by seven per cent (Appendix figure 2). In 2020, neoplasm mortality decreased among all men (-3%) and women (-1%) compared to the previous year. In contrast, neoplasm mortality increased among working-age men aged 15 to 64 (+4%) and decreased among women (-1%) compared to the year before. The most common type of cancer resulting in death was lung cancer and prostate cancer for men and breast cancer and lung cancer for women.

In 2020, a total of 1,450 men and nearly 900 women died from carcinoma of the larynx, carcinoma of the trachea and lung cancer. The difference between men and women in lung cancer mortality has narrowed since the 1980s as men's lung cancer mortality has decreased and women's has increased at the same time. Over the past ten years, women's age-standardised lung cancer mortality has grown by nearly 10 per cent, while men's mortality has simultaneously decreased by almost 30 per cent. In 2020, age-standardised lung cancer mortality decreased by nine per cent for men and grew by one per cent for women compared to 2019 (Figure 4).

**Figure 4. Age-standardised mortality from carcinoma of larynx, trachea and lung in 1971 to 2020**



## Breast cancer mortality increased in 2020

The most common type of cancer causing death among women is breast cancer. In 2020, altogether 946 women died from breast cancer, which is 72 women more than in the year before. Breast cancer mortality was 34 deaths per 100,000 women. The average age of women who died of breast cancer was 74 years. Every fourth deceased was aged under 65.

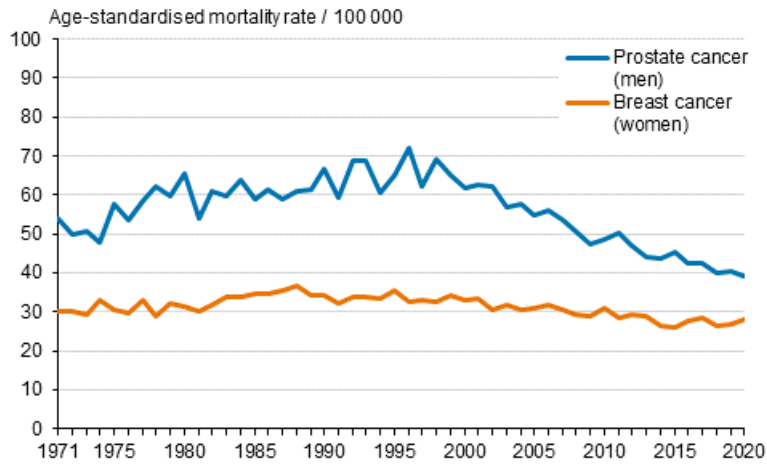
Over the past ten years, breast cancer mortality relative to the number and age structure of women has decreased in total by nearly 10 per cent, even though in 2020 breast cancer mortality increased by five per cent from the year before (Figure 5).

After lung cancer, prostate cancer is the second most common type of cancer resulting in death among men. In 2020, altogether 920 men died of prostate cancer, that is, slightly fewer than women of breast cancer. Men's non-age-standardised prostate cancer mortality was 34 deaths per 100,000 men.

Above all, prostate cancer is a common cause of death for aged men: more than nine out of ten of the deceased were over 65 and the average age of the deceased was 81. Men's age-standardised prostate cancer

mortality has decreased in the 2000s by over 20 per cent in the last ten years. In 2020, mortality from prostate cancer decreased further by four per cent from the previous year (Figure 5).

**Figure 5. Age-standardised prostate cancer mortality for men and breast cancer mortality for women 1971 to 2020**



### 3. Nearly every fifth died of dementia and Alzheimer's disease

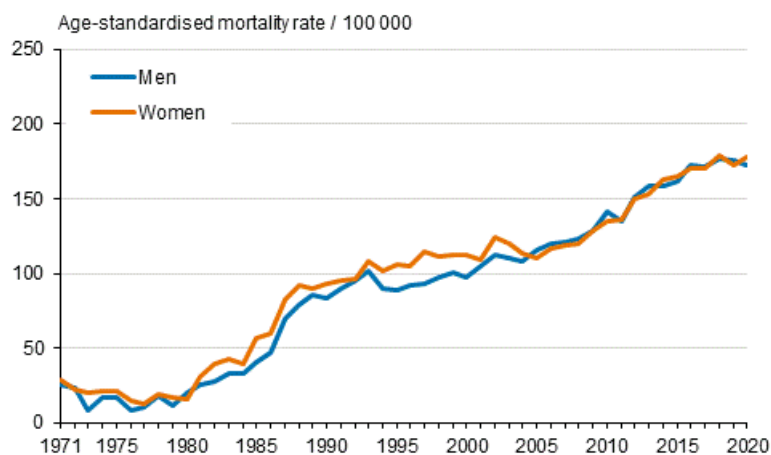
During 2020, a total of 10,700 Finns died from dementia (including Alzheimer's disease), which is over 500 more than in the year before. Dementia mortality relative to the population and age structure grew by two per cent from 2019. Those dying from this disease group accounted for 19 per cent of all deaths.

The number of deaths from dementia has nearly doubled over the past ten years. The growth is also visible in the age-standardised figures (Figure 6), where the effects of the population structure are taken into consideration. The growth is in part the result of more specific diagnostics and changes in the definitions of causes of death (WHO guidelines). From 2005, the causes of death statistics have adopted an international guideline that limits the use of pneumonia as a primary cause of death in connection with several chronic diseases. If a person, in addition to pneumonia, is suffering from, for example, dementia, dementia is selected as the primary cause of death.

Mortality from dementia and Alzheimer's disease has increased annually almost as much for men and women. A majority, or two-thirds, of those who die from this disease group are, however, women. The higher share of deaths from dementia among women than men is caused by the fact there are more women in the older age groups as women live longer than men. The average age at death of persons that died from dementia was 86 years for men and 89 years for women.

According to preliminary data for 2018, dementia mortality (incl. Alzheimer's disease) among men and women was highest in Finland relative to the population in EU countries. By contrast, pneumonia mortality was the lowest in Finland of EU countries. Pneumonia is rarer in Finland than elsewhere in the EU as the primary cause of death. Pneumonia is a common immediate cause of death in Finland.

**Figure 6. Age-standardised dementia mortality (incl. Alzheimer's disease) 1971 to 2020**



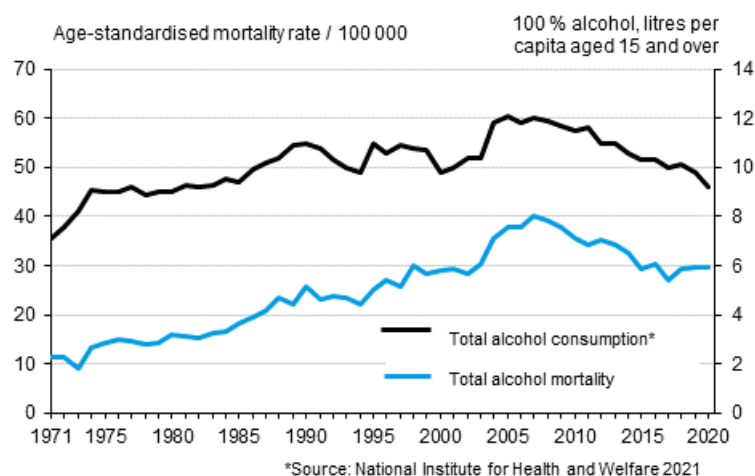
## 4. Number of deaths from alcohol on level with the year before

In 2020, some 1,700 persons died of alcohol-related diseases and alcohol poisonings, 1,300 men and 400 women. This was nearly the same as in the year before. Altogether three per cent of all deaths were due to alcohol-related causes.

Diseases related to long-term alcohol use, such as liver and heart diseases, cause a majority of deaths from alcohol-related causes. Changes in alcohol-related mortality have usually followed the development in total consumption of alcoholic beverages (Figure 7).

In 2020, over 60 per cent of deaths from alcohol-related causes stemmed from liver diseases caused by alcohol. The number of deaths caused by them increased from the year before. By contrast, the number of alcohol poisonings decreased from the year before. Alcohol poisonings accounted for 11 per cent of all alcohol-related deaths.

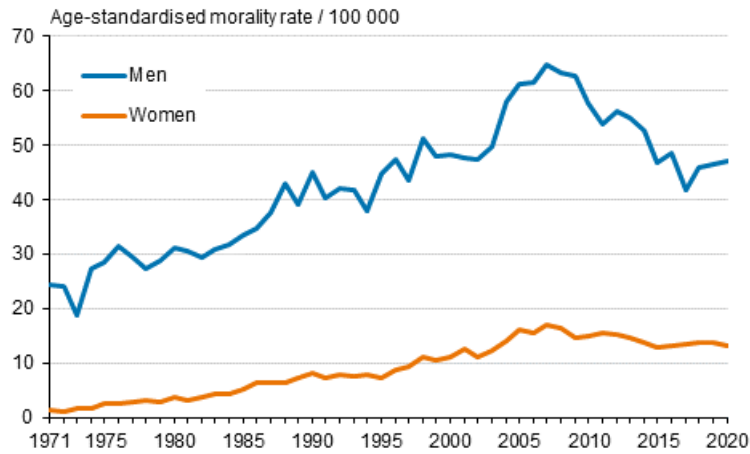
**Figure 7. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol and total consumption of alcohol in 1971 to 2020**



Men's mortality from alcohol-related causes is manifold compared to women (Figure 8). Men's mortality has also followed the changes in total consumption of alcohol more closely than women's mortality. In 2020, men's age-standardised mortality from alcohol-related causes increased by 1.5 per cent and women's, correspondingly, decreased by 4.3 per cent compared to 2019. In 2017 to 2020, age-standardised mortality caused by alcohol use increased by over 10 per cent for men and fell by one per cent for women.

In 2020, the average age of men dying of alcohol-related causes was 62 years and that of women 63 years. The tendency over the past ten years has been that the share of those aged 65 or over among deaths has increased considerably. However, the share of working-age men (aged 15 to 64) among those dying of alcohol-related causes grew clearly from the year before (from 57 to 63 per cent) in 2020.

**Figure 8. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol in 1971 to 2020**



## 5. Accident mortality decreased for women

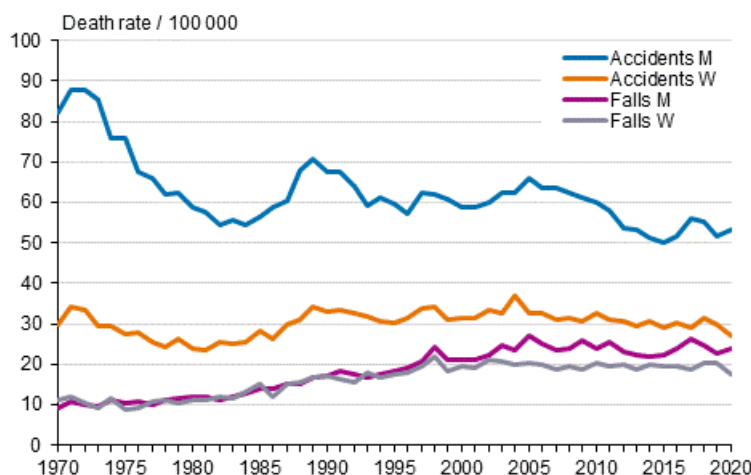
Typical accidents leading to death are fatal stumbles and falls, poisonings, transport accidents and drownings. Here all other poisonings apart from alcohol poisoning, which belongs to alcohol-related causes in the national time series classification, are considered accidents.

In 2020, accidents caused the death of a total of 2,200 persons in Finland, which is nearly the same as in the year before. Accident mortality relative to the population has been declining almost continuously since 2004. Growth was visible in the number of fatal accidents in 2016 to 2018, but the growth halted in 2019.

In 2020, accident mortality decreased by nearly two per cent from 2019. However, mortality among men and women developed in different directions over the year. Men's mortality from accidents grew by three per cent from the year before, while women's mortality decreased by over nine per cent (Figure 9). The number of deaths from accidents grew from the previous year in drownings and poisonings (excl. alcohol poisonings). Decreases occurred in stumbling accidents and deaths from hypothermia.

Two-thirds of those who died in accidents were still men. Accidents caused four per cent of all deaths, five per cent for men and three per cent for women.

**Figure 9. Accident mortality and separately deaths from accidental falls in 1970 to 2020**



### Falling accidents of aged women diminished

The most common accident leading to death was stumbling or falling. In 2020, around 1,150 persons died from stumbles or falls, which is over one-half of all fatal accidents.

Two-thirds of fatal stumbles happened to persons aged over 80. The average age at death caused by stumbling accidents was 82 years for men and 88 years for women.

In 2020, the number of stumbling accidents decreased by around three per cent from the previous year. Among women, stumbling accidents especially among women aged over 80 decreased from the previous year. By contrast, men's fatal stumbling accidents increased somewhat. Relative to the number of living people, men had more fatal stumbles than women.

### More accidental poisonings for men than in the year before

In 2020, a total of 310 persons died of accidental poisoning (excl. alcohol poisoning), of whom three-quarters were men. Compared with 2019, poisoning deaths increased by around 30 persons. The average age of those dying of accidental poisonings was 34 years for men and 48 years for women. The majority of accidental poisonings are poisonings from multiple substances, involving several different pharmaceuticals, as well as alcohol and/or drugs.



More than one half of the accidental poisoning deaths in the cause of death statistics for 2020 were drug-related deaths as defined by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The accidental poisonings that by the EMCDDA's definition were not deaths caused by drugs were mostly caused by an overdose of tranquillisers and sleeping medicine (e.g. benzodiazepines).

The second most common fatal accidents were transport accidents. There were 225 deaths in transport accidents (excl. drowning accidents in water traffic) in 2020. The number of deaths was 16 higher than in 2019. Suicides committed in traffic or persons who died from having a seizure in traffic are not included in the statistics in deaths in transport accidents.

## Number of drownings grew from 2019

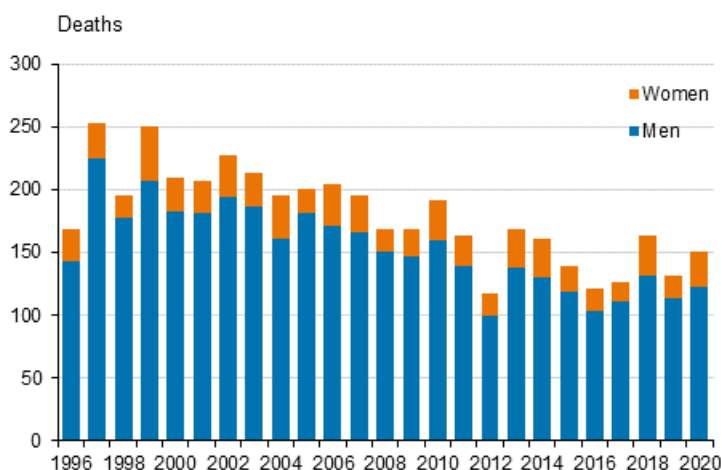
In 2020, altogether 151 persons drowned accidentally, 23 of whom in water traffic. The number of drownings grew from the previous year. In 2019, there were 132 drowning deaths. Most drowning victims, eight out of ten, were men. Over one half of drowning victims were aged 65 or over.

Among children drowning deaths decreased from the year before. There were five drownings (incl. drownings in water traffic) among children aged under 15, while the number was eight in the year before. Deaths by drowning have decreased since the beginning of the 2000s when there were around 200 drowning victims per year (Figure 10). Drowning accidents include drowning from falling into water and ice and drowning while swimming or boating. The number of pedestrians who died by falling into ice grew from the previous year's 7 to 26 persons in 2020.

In 2020, altogether 42 persons died in accidental fires while in the previous year the number of deaths was 48. The vast majority of the victims, two out of three, were men. Deaths in accidental fires do not include deaths in deliberately lit fires. In addition, 51 deaths were caused by the heat of sauna (2019:48 deaths). Deaths caused by hypothermia numbered 46, which is one half fewer than in 2019.

Accidental deaths caused by animals are rare in Finland. In 2020, five persons died in these types of accidents. The accidents were caused by an elk, a horse and a dog. In the 2000s, an average of nine persons per year have died in accidents caused by animals in the past 10 years. Most accidents resulting in death in ten years have been caused by an elk (21 deaths), a dog (20), a horse (18) and a wasp (18).

**Figure 10. Drowning accidents deaths in 1996 to 2020**



## Intoxication a contributing factor in every sixth accidental death

Intoxication was a factor in accidental deaths in around every sixth accident. The share of intoxicated persons in accidental deaths has decreased in the 2000s. In 2020, altogether 16 per cent of those who died accidentally were under the influence of intoxicants at the time of the accident, which is the same as in the year before.

In total, 312 persons who died in accidents in 2020 were under the influence of an intoxicant, of these a majority were intoxicated from alcohol, 277 persons. In addition, 35 persons were under the influence of various intoxicants (drug/pharmaceutical/alcohol) (Appendix table 2).

In 2020, intoxication at the time of the accident was most common for those that died of the heat of sauna and of fires. Nearly one half of them were under the influence of an intoxicant. At least every third of those who died by accidental drowning, suffocated from food or died of hypothermia outdoors had also been intoxicated at the time of the accident. In transport accidents, 29 per cent of those who died in accidents were intoxicated at the time of the accident, while in the previous year the share had been under one quarter. By contrast, in fatal stumbling accidents, of which a majority occurred among persons aged over 80, fewer than one in ten were under the influence of an intoxicant.

In the statistics on causes of death, intoxication is determined from the death certificate. In addition to alcohol intoxication, the figures also include intoxication from drugs and pharmaceuticals. The figures do not include accidental alcohol, pharmaceutical and drug poisonings.

## 6. Men's drug-related deaths increased in 2020

In 2020, a total of 258 persons died from drugs in Finland, which was 24 more than in the year before (Figure 11). Of the deceased, 202 were men and 56 women. The number of men's drug-related deaths grew from the previous year, while roughly as many women died from drugs. Drug-related deaths increased particularly among young men. Altogether 33 more men died under the age of 30 than in the previous year.

More than three out of four persons who died of drugs were men. Men died of drugs younger than women. Among men, most drug-related deaths were recorded in the 20 to 24 age group, among women in the 40 to 44 age group (Figure 13). The average age (median) at death caused by drugs was 30 years for men and 37 years for women.

In 2020, drug mortality per 100,000 population in Finland was 4.7, for men 7.4 and for women 2 (Appendix table 4).

Drug-related deaths can be defined in many ways. Statistics Finland uses the definition by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA's Selection B). There accidental poisonings caused by drugs, deaths related to long-term drug use or drug addiction, suicides committed with drugs and poisonings with undetermined intent caused by drugs are classified as drug-related deaths.

Drug-related deaths are classified according to the substance judged as most influential. Opioids, cannabis and cannabinoids, other hallucinogens, and stimulants suitable for abuse, such as amphetamine and its derivatives are classified as drugs. The majority of deaths were caused by the use of more than one substance. In addition to drug, used were also such as psychopharmaceuticals and/or alcohol. In 2020, altogether 70 per cent of drug-related deaths were caused by excessive use of opioids.

The majority (67%) of drug-related deaths were accidental poisonings, usually poisonings from multiple substances. The most influential substance in most cases was a synthetic pharmaceutical opioid, such as buprenorphine. In 2020, a total of 173 persons died from accidental drug overdoses, which was six more than in the year before.

In 2020, the number of deaths related to long-term drug use or drug addiction numbered 50, while the number was 40 in the previous year. Almost all of the cases concerned mixed use.

In 2020, around one in ten drug-related deaths were suicides. Twenty-seven suicides were committed with drugs, which was almost the same figure as in the year before. More than one-half of the suicides committed with drugs were committed by women, while fewer than one in four of all those dying of drugs were women.

**Figure 11. Drug-related deaths 2006–2020 (EMCDDA definition)**

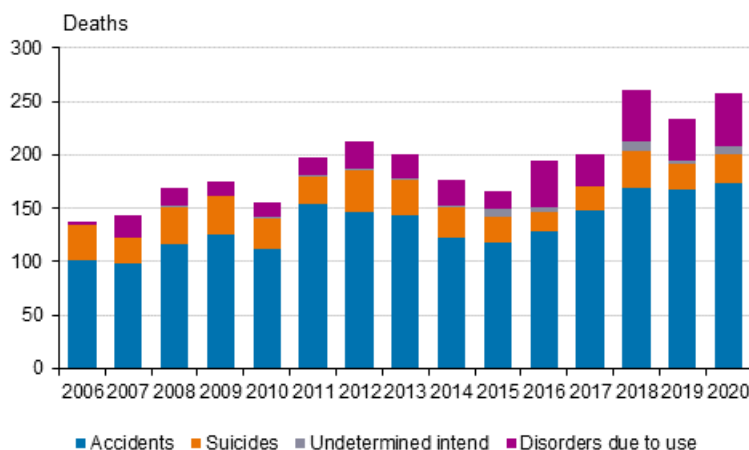


Figure 12. Drug-related deaths by age in 2019 and 2020

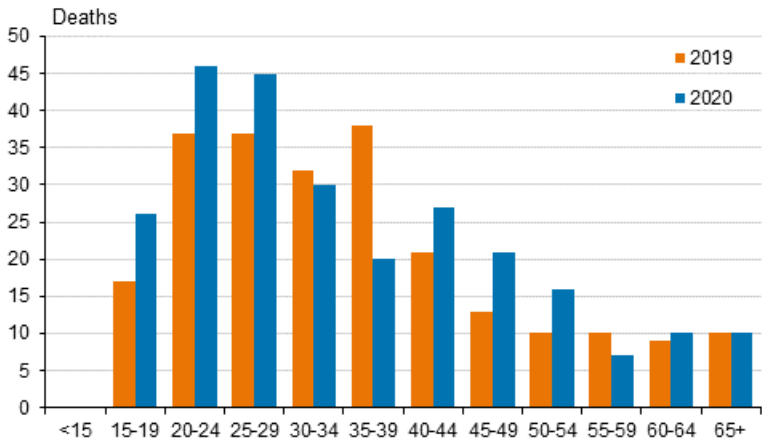
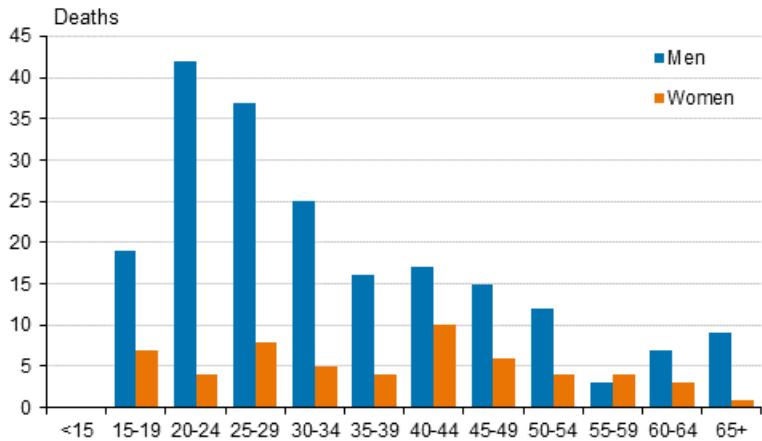


Figure 13. Drug-related deaths by sex and age in 2020



## 7. Fewer suicides than before

In 2020, a total of 717 suicides were committed, which was 29 fewer than in 2019. The number of suicides has decreased relatively evenly since 1990, when more than 1,500 suicides were committed in Finland. The number of suicides grew slightly in 2016 to 2017, after which the number of suicides has decreased again.

Men's suicide mortality is higher than women's. Men make up nearly three-quarters of suicides. In 2020, suicide mortality or the annual number of suicides per 100,000 population was 13, being 19 for men and seven for women (Figure 14).

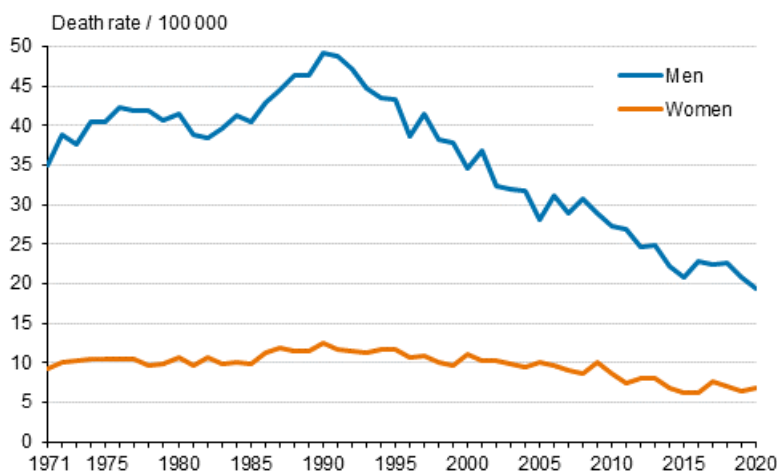
In 2020, men's suicide mortality decreased by seven per cent from the previous year. By contrast, women's suicide mortality grew by five per cent. The number of suicides committed by women grew from the previous year's 179 to 188. The average age (median) of those who committed suicide was 44 for women and 46 for men in 2020.

In all, 85 suicide victims were young people aged under 25 (2019:109), which is 12 per cent of all who committed suicide. The share of women was over one third. Suicides are a central cause of death for young people. The share of suicides in all causes of death was 26 per cent for young people aged 15 to 24. The share of suicides is higher than in other age groups partly because young people's mortality from other causes of death is low.

Young people's suicide mortality in Finland is high by European comparison. By contrast, for persons aged 65 and over, suicide mortality in Finland has not differed from the EU average in recent years. In Finland, every fifth person having committed suicide in 2020 had turned 65.

The average age (median) of those who committed suicide was 44 for women and 46 for men in 2020. The share of suicides in all causes of death was 1.3 per cent.

**Figure 14. Suicides mortality 1971 to 2020**



## 8. Fewer children died of diseases and accidents than in the previous year

The death of a child has become ever rarer in Finland. During 2020, altogether 87 children under the age of one died, while in the year before the number was 95 and ten years earlier 138. In 2020, infant mortality, that is, mortality among children aged under one, was 1.9 children per 1,000 live-born children (Figure 15). More than one half of children dying during their first year of life die during their first week of life and three quarters during the first four weeks of life.

The most common causes of death among children under the age of one are perinatal reasons and congenital malformations (Table 4). In 2020, nearly 80 per cent of children died of these causes.

In 2020, there were three cot deaths, which was nine fewer than in 2019.

Accidental and violent causes of death are very rare among under one-year-olds. In the past ten years, on average two children aged under one have died of them per year. In 2020, two children were recorded under accidental and violent causes of death.

In 2020, there were 121 stillbirths, which was five fewer than in the year before. Stillbirths have decreased clearly from the 1990s. At the beginning of the 1990s, there were over 300 stillbirths per year. Stillbirths and deaths during the first week (or perinatal mortality) numbered 3.7 children per thousand births.

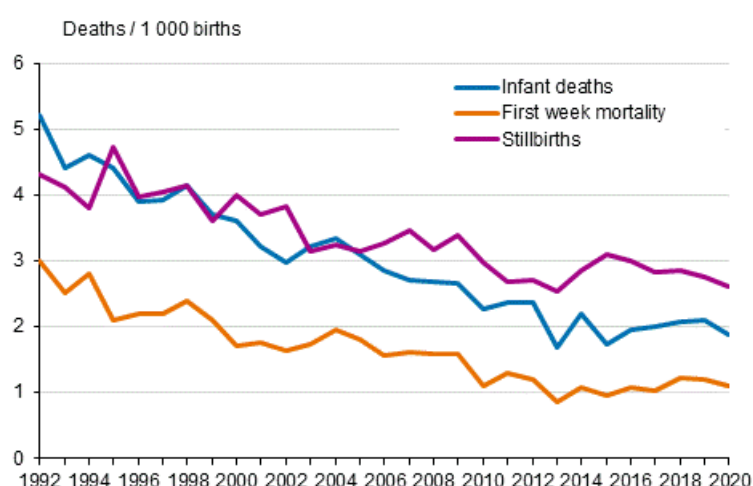
In 2020, a total of 58 children aged 1 to 14 died, which is over 10 fewer children than in the year before. Relative to the number of children, this makes around seven deaths per 100,000 children.

In 2020, the most common causes of death for children were neoplasms, various accidents, and diseases of the nervous system and sense organs. The number of children aged 1 to 14 who died accidentally and violently was 18, which is four fewer than in the year before. Over the past 20 years, total mortality among children has halved. Especially the number of deaths caused by neoplasms, congenital malformations and traffic accidents is clearly lower for children than before.

In 2020, there were two maternal deaths, i.e. maternal mortality was four deaths per 100,000 live-born children. In the past ten years, two to three women per year have died from reasons related to pregnancy or childbirth.

More information about mortality during the infant and perinatal periods can be found in Appendix table 3. More detailed information on causes of death among children aged under one and between one and 14 is available in the database tables.

**Figure 15. Mortality during infant and perinatal period in 1992 to 2020**



**Table 4. Causes of death among children under the age of one 2000, 2005, 2010, 2018, 2019 and 2020**

|  | 2000 | 2005 | 2010 | 2018 | 2019 | 2020 |
|--|------|------|------|------|------|------|
| Total deaths   | 205  | 179  | 138  | 99   | 95   | 87   |
| Certain conditions originating in the perinatal period (P00-P96)         | 84   | 77   | 58   | 46   | 36   | 40   |
| Congenital malformations and chromosomal abnormalities (Q00-Q99)         | 78   | 61   | 40   | 23   | 32   | 29   |
| Sudden infant death syndrome (R95)                                       | 18   | 19   | 17   | 6    | 12   | 3    |
| Diseases of circulatory system and respiratory system (J00-J99, I00-J99) | 4    | 5    | 5    | 3    | 2    | 2    |
| Endocrine, nutritional and metabolic diseases (E00-E90)                  | 5    | 6    | 3    | 8    | 5    | 4    |
| Other diseases and unknown   | 13   | 9    | 11   | 12   | 6    | 7    |
| Accidents and assault (V01-Y89)  | 3    | 2    | 4    | 1    | 2    | 2    |

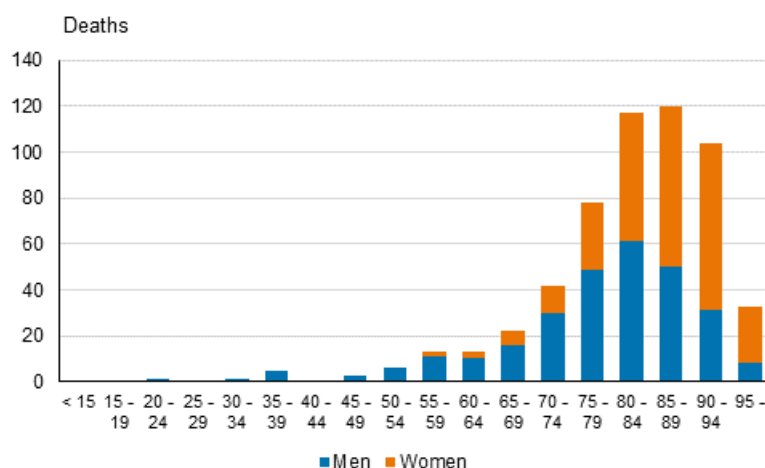
## 9. Coronavirus disease caused the death of every one hundred people

In 2020, every one hundred deaths in Finland were caused by the covid-19 virus infection, or the coronavirus disease. A total of 558 persons died of the coronavirus disease, 282 of whom were men and 276 women. In addition, Covid-19 virus infection contributed to the death of 72 persons other than as the primary cause of death in the statistics.

The majority of those dying of coronavirus disease were aged. Nearly 90 per cent were aged 70 or over and 25 per cent had turned 90. Most deaths occurred in the age group aged 85 to 89. Among those dying of Covid-19 virus infection, 42 were aged under 65 years. No persons aged under 20 died of the coronavirus disease, the youngest person who died belonged to the 20 to 24 age group and the oldest was aged over 100 (Figure 16).

Men dying of Covid-19 virus infection were younger than women. Nearly nine out of ten persons that died of coronavirus disease aged under 65 were men. By contrast, two out of three persons aged over 85 who died of the coronavirus disease were women. The median age of those dying of Covid-19 was 84 years, 80 years for men and 87 years for women.

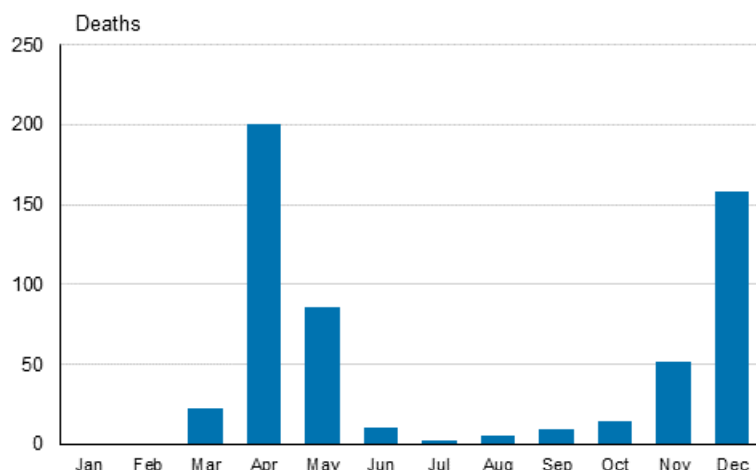
**Figure 16. Deaths due to COVID-19 by sex and age in 2020**



In Finland the first deaths caused by the Covid-19 virus infection occurred in March 2020. More than one-third of the deaths from the coronavirus disease in 2020 occurred in April, when 200 persons died from it. In May the number of deaths was 86, but in summer months only a few persons died of the coronavirus disease. The number of deaths made an upturn again towards the end of the year. December was the second darkest month of the year when 158 persons died of covid-19 virus infection (Figure 17).



**Figure 17. Deaths due to COVID-19 by month in 2020**



In absolute numbers, most deaths caused by the covid19 virus infection were recorded in 2020 in Uusimaa (372 deaths), Southwest Finland (27), Pirkanmaa (22) and Central Finland (22). Relative to 100,000 inhabitants, coronavirus disease mortality was also highest in Uusimaa (21.9). The second highest mortality from the disease caused by the coronavirus was recorded in South Savo (14.2) and the third highest in Lapland (10.7). Mortality from the coronavirus disease in the whole country was 10.1 in 2020. There were no deaths from the coronavirus disease in Central Ostrobothnia and Åland.

Statistics Finland's statistics on causes of death are based on death certificates written by physicians. The World Health Organization (WHO) instructs the physician to report Covid-19 on death certificates as the primary cause of death when the death has been directly caused by the coronavirus that causes the Covid-19 disease. Covid-19 becomes the primary cause of death for the statistics if it is recorded on death certificates as a disease resulting in death.

If a person with Covid-19 virus infection has died of some other disease or injury, Covid-19 can also be a contributing cause of death on death certificates. Covid-19 virus infections recorded as contributing causes of death on death certificates are not included in deaths caused by the coronavirus disease in the cause of death statistics.

In 2020, Covid-19 virus infection was mentioned as a contributing cause of death on 72 death certificates. Most of these 72 persons had multiple diseases. The underlying cause of death for around 40 per cent of them was memory disease. For one in four the primary cause of death was cardio or vascular disease and for one in five cancer.

A separate code for the identification of deaths caused by Covid-19 virus infection is used for laboratory-confirmed cases (ICD10 code U07.1) and for not laboratory-confirmed cases (ICD10 code U07.2). According to WHO's guidelines, both laboratory-confirmed and unconfirmed deaths are included in the statistics on deaths from Covid-19.

Most deaths recorded on death certificates caused by Covid-19 virus infection are laboratory-confirmed. In 2020, there were 32 deaths caused by not laboratory-confirmed Covid-19 infection. Nearly all of these death certificates were issued at the early stage of the epidemic, when testing was only starting. In some cases, code U07.2 has been used when a person permanently resident in Finland has died abroad and the Finnish death certificate was written on the basis of foreign documents.

# Appendix tables

**Appendix table 1a. Deaths by underlying cause of death and by age in 2020, both sexes**

| Underlying cause of death (54-group classification)  | Ages total | 0–14 | 15–64 | 65–    |
|--|------------|------|-------|--------|
| 00-54 TOTAL DEATHS (A00-Y89)   | 55 498     | 145  | 7 604 | 47 749 |
| 00-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, U07, X45)                     | 52 286     | 124  | 6 212 | 45 950 |
| 00 COVID-19 (U071, U072)   | 558        | 0    | 42    | 516    |
| 01-03 Certain infectious and parasitic diseases (A00-B99, J65)                             | 203        | 1    | 40    | 162    |
| 01 Tuberculosis (A15-A19, B90, J65)  | 21         | 1    | 3     | 17     |
| 02 Human immunodeficiency virus (HIV) disease (B20-B24)                                    | 2          | 0    | 1     | 1      |
| 03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)            | 180        | 0    | 36    | 144    |
| 04-22 Neoplasms (C00-D48)  | 13 411     | 18   | 2 246 | 11 147 |
| 04-21 Malignant neoplasms (C00-C97)  | 12 998     | 17   | 2 214 | 10 767 |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)                           | 225        | 0    | 63    | 162    |
| 05 Malignant neoplasm of oesophagus (C15)  | 356        | 0    | 87    | 269    |
| 06 Malignant neoplasm of stomach (C16)   | 412        | 0    | 91    | 321    |
| 07 Malignant neoplasm of colon (C18, C19)  | 897        | 0    | 144   | 753    |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)                             | 378        | 0    | 79    | 299    |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)                   | 563        | 1    | 97    | 465    |
| 10 Malignant neoplasm of pancreas (C25)  | 1 312      | 0    | 196   | 1 116  |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)                      | 2 322      | 0    | 388   | 1 934  |
| 12 Malignant melanoma of skin (C43)  | 228        | 0    | 50    | 178    |
| 13 Malignant neoplasm of breast (C50)  | 951        | 0    | 238   | 713    |
| 14 Malignant neoplasm of cervix uteri (C53)  | 47         | 0    | 22    | 25     |
| 15 Malignant neoplasm of uterus (C54-C55)  | 215        | 0    | 21    | 194    |
| 16 Malignant neoplasm of ovary (C56)   | 277        | 0    | 51    | 226    |
| 17 Malignant neoplasm of prostate (C61)  | 920        | 0    | 45    | 875    |
| 18 Malignant neoplasm of kidney (C64)  | 353        | 2    | 61    | 290    |
| 19 Malignant neoplasm of bladder (C67)   | 310        | 0    | 30    | 280    |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)             | 1 184      | 1    | 139   | 1 044  |
| 21 Other malignant neoplasms   | 2 048      | 13   | 412   | 1 623  |
| 22 Other neoplasms (D00-D48)   | 413        | 1    | 32    | 380    |
| 23-24 Endocrine, nutritional and metabolic diseases (E00-E90)                              | 887        | 9    | 214   | 664    |
| 23 Diabetes mellitus (E10-E14)   | 667        | 1    | 153   | 513    |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)                  | 220        | 8    | 61    | 151    |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54)                                       | 10 673     | 0    | 52    | 10 621 |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related             | 2 076      | 9    | 241   | 1 826  |
| 27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)        | 18 496     | 5    | 1 646 | 16 845 |
| 27 Ischaemic heart diseases (I20-I25)  | 8 600      | 0    | 725   | 7 875  |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)           | 1 638      | 2    | 289   | 1 347  |
| 29 Cerebrovascular diseases (I60-I69)  | 4 026      | 2    | 298   | 3 726  |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)                    | 4 232      | 1    | 334   | 3 897  |
| 31-35 Diseases of the respiratory system (J00-J64, J66-J99)                                | 1 749      | 4    | 139   | 1 606  |
| 31 Influenza (J09-J11)   | 58         | 0    | 11    | 47     |
| 32 Pneumonia (J12-J18, J849)   | 90         | 4    | 8     | 78     |
| 33 Bronchitis and emphysema (J40-J44, J47)   | 1 204      | 0    | 94    | 1 110  |
| 34 Asthma (J45-J46)  | 67         | 0    | 7     | 60     |
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 330        | 0    | 19    | 311    |
| 36 Diseases of the digestive system excl. alcohol-related diseases                         | 1 359      | 1    | 193   | 1 165  |

| Underlying cause of death (54-group classification)  | Ages total | 0–14 | 15–64 | 65–   |
|--|------------|------|-------|-------|
| 37 Diseases of the genitourinary system (N00-N99)  | 186        | 0    | 16    | 170   |
| 38 Congenital malformations (Q00-Q99)  | 171        | 31   | 90    | 50    |
| 39 Other diseases excl. alcohol-related  | 605        | 45   | 141   | 419   |
| 40 Ill-defined and unknown causes of mortality (R96-R99)                                   | 196        | 1    | 89    | 106   |
| 41 Alcohol-related diseases and accidental poisoning by alcohol                            | 1 716      | 0    | 1 063 | 653   |
| 42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)      | 3 084      | 20   | 1 373 | 1 691 |
| 42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 2 213      | 11   | 700   | 1 502 |
| 42 Land traffic accidents  | 195        | 2    | 122   | 71    |
| 43 Other land transport accidents  | 29         | 2    | 15    | 12    |
| 44 Water transport accidents (V90-V94)   | 23         | 1    | 14    | 8     |
| 45 Others and unspecified transport accidents (V95-V99)                                    | 1          | 0    | 1     | 0     |
| 46 Accidental falls (W00-W19)  | 1 151      | 0    | 103   | 1 048 |
| 47 Accidental drownings (W65-W74)  | 128        | 4    | 52    | 72    |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 310        | 0    | 274   | 36    |
| 49 Other accidents and sequelae of accidents   | 376        | 2    | 119   | 255   |
| 50 Suicides (X60-X84, Y87.0)   | 717        | 4    | 560   | 153   |
| 51 Assault (X85-Y09, Y87.1)  | 75         | 3    | 61    | 11    |
| 52 Event of undetermined intent (Y16-Y34, Y87.2)   | 74         | 2    | 51    | 21    |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)          | 5          | 0    | 1     | 4     |
| 54 NO DEATH CERTIFICATE  | 128        | 1    | 19    | 108   |

**Appendix table 1b. Deaths by underlying cause of death and by age in 2020, males**

| Underlying cause of death (54-group classification)  | Ages total | 0–14 | 15–64 | 65–    |
|--|------------|------|-------|--------|
| 00-54 TOTAL DEATHS (A00-Y89)   | 27 971     | 87   | 5 253 | 22 631 |
| 00-40 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, U07, X45)                     | 25 804     | 74   | 4 188 | 21 542 |
| 00 COVID-19 (U071, U072)   | 282        | 0    | 37    | 245    |
| 01-03 Certain infectious and parasitic diseases (A00-B99, J65)                             | 96         | 0    | 24    | 72     |
| 01 Tuberculosis (A15-A19, B90, J65)  | 9          | 0    | 3     | 6      |
| 02 Human immunodeficiency virus (HIV) disease (B20-B24)                                    | 2          | 0    | 1     | 1      |
| 03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)            | 85         | 0    | 20    | 65     |
| 04-22 Neoplasms (C00-D48)  | 7 154      | 11   | 1 241 | 5 902  |
| 04-21 Malignant neoplasms (C00-C97)  | 6 960      | 10   | 1 225 | 5 725  |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)                           | 148        | 0    | 51    | 97     |
| 05 Malignant neoplasm of oesophagus (C15)  | 246        | 0    | 68    | 178    |
| 06 Malignant neoplasm of stomach (C16)   | 235        | 0    | 53    | 182    |
| 07 Malignant neoplasm of colon (C18, C19)  | 450        | 0    | 78    | 372    |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)                             | 230        | 0    | 51    | 179    |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)                   | 389        | 0    | 73    | 316    |
| 10 Malignant neoplasm of pancreas (C25)  | 630        | 0    | 118   | 512    |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)                      | 1 450      | 0    | 248   | 1 202  |
| 12 Malignant melanoma of skin (C43)  | 146        | 0    | 31    | 115    |
| 13 Malignant neoplasm of breast (C50)  | 5          | 0    | 2     | 3      |
| 14 Malignant neoplasm of cervix uteri (C53)  | 0          | 0    | 0     | 0      |
| 15 Malignant neoplasm of uterus (C54-C55)  | 0          | 0    | 0     | 0      |
| 16 Malignant neoplasm of ovary (C56)   | 0          | 0    | 0     | 0      |
| 17 Malignant neoplasm of prostate (C61)  | 920        | 0    | 45    | 875    |
| 18 Malignant neoplasm of kidney (C64)  | 201        | 1    | 40    | 160    |
| 19 Malignant neoplasm of bladder (C67)   | 216        | 0    | 21    | 195    |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)             | 669        | 1    | 89    | 579    |
| 21 Other malignant neoplasms   | 1 025      | 8    | 257   | 760    |
| 22 Other neoplasms (D00-D48)   | 194        | 1    | 16    | 177    |
| 23-24 Endocrine, nutritional and metabolic diseases (E00-E90)                              | 487        | 4    | 147   | 336    |
| 23 Diabetes mellitus (E10-E14)   | 382        | 0    | 118   | 264    |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)                  | 105        | 4    | 29    | 72     |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54)                                       | 3 495      | 0    | 24    | 3 471  |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related             | 1 082      | 8    | 149   | 925    |
| 27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)        | 9 541      | 5    | 1299  | 8 237  |
| 27 Ischaemic heart diseases (I20-I25)  | 5 060      | 0    | 622   | 4438   |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)           | 902        | 2    | 240   | 660    |
| 29 Cerebrovascular diseases (I60-I69)  | 1 828      | 2    | 197   | 1 629  |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)                    | 1 751      | 1    | 240   | 1 510  |
| 31-35 Diseases of the respiratory system (J00-J64, J66-J99)                                | 1 130      | 2    | 99    | 1 029  |
| 31 Influenza (J09-J11)   | 37         | 0    | 7     | 30     |
| 32 Pneumonia (J12-J18, J849)   | 49         | 2    | 5     | 42     |
| 33 Bronchitis and emphysema (J40-J44, J47)   | 817        | 0    | 69    | 748    |
| 34 Asthma (J45-J46)  | 24         | 0    | 3     | 21     |
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 203        | 0    | 15    | 188    |
| 36 Diseases of the digestive system excl. alcohol-related diseases                         | 621        | 1    | 133   | 487    |
| 37 Diseases of the genitourinary system (N00-N99)  | 112        | 0    | 9     | 103    |
| 38 Congenital malformations (Q00-Q99)  | 81         | 18   | 42    | 21     |
| 39 Other diseases excl. alcohol-related  | 260        | 24   | 85    | 151    |

| Underlying cause of death (54-group classification)  | Ages total | 0–14 | 15–64 | 65–   |
|--|------------|------|-------|-------|
| 40 Ill-defined and unknown causes of mortality (R96-R99)                                   | 145        | 1    | 70    | 74    |
| 41 Alcohol-related diseases and accidental poisoning by alcohol                            | 1 318      | 0    | 829   | 489   |
| 42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)      | 2 101      | 13   | 1 051 | 1 037 |
| 42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 1 457      | 7    | 559   | 891   |
| 42 Land traffic accidents  | 155        | 1    | 99    | 55    |
| 43 Other land transport accidents  | 27         | 2    | 13    | 12    |
| 44 Water transport accidents (V90-V94)   | 21         | 0    | 13    | 8     |
| 45 Others and unspecified transport accidents (V95-V99)                                    | 1          | 0    | 1     | 0     |
| 46 Accidental falls (W00-W19)  | 655        | 0    | 78    | 577   |
| 47 Accidental drownings (W65-W74)  | 101        | 3    | 43    | 55    |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 235        | 0    | 214   | 21    |
| 49 Other accidents and sequelae of accidents   | 262        | 1    | 98    | 163   |
| 50 Suicides (X60-X84, Y87.0)   | 529        | 2    | 403   | 124   |
| 51 Assault (X85-Y09, Y87.1)  | 57         | 2    | 49    | 6     |
| 52 Event of undetermined intent (Y16-Y34, Y87.2)   | 57         | 2    | 40    | 15    |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)          | 1          | 0    | 0     | 1     |
| 54 NO DEATH CERTIFICATE  | 66         | 0    | 14    | 52    |

**Appendix table 1c. Deaths by underlying cause of death and by age in 2020, females**

| Underlying cause of death (54-group short list)  | Ages total | 0–14 | 15–64 | 65–    |
|--|------------|------|-------|--------|
| 00-54 TOTAL DEATHS (A00-Y89)   | 27 527     | 58   | 2 351 | 25 118 |
| 00-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99,U07, X45)                      | 26 482     | 50   | 2 024 | 24 408 |
| 00 COVID-19 (U071, U072)   | 276        | 0    | 5     | 271    |
| 01-03 Certain infectious and parasitic diseases (A00-B99, J65)                             | 107        | 1    | 16    | 90     |
| 01 Tuberculosis (A15-A19, B90, J65)  | 12         | 1    | 0     | 11     |
| 02 Human immunodeficiency virus (HIV) disease (B20-B24)                                    | 0          | 0    | 0     | 0      |
| 03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)            | 95         | 0    | 16    | 79     |
| 04-22 Neoplasms (C00-D48)  | 6 257      | 7    | 1 005 | 5 245  |
| 04-21 Malignant neoplasms (C00-C97)  | 6 038      | 7    | 989   | 5 042  |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)                           | 77         | 0    | 12    | 65     |
| 05 Malignant neoplasm of oesophagus (C15)  | 110        | 0    | 19    | 91     |
| 06 Malignant neoplasm of stomach (C16)   | 177        | 0    | 38    | 139    |
| 07 Malignant neoplasm of colon (C18, C19)  | 447        | 0    | 66    | 381    |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)                             | 148        | 0    | 28    | 120    |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)                   | 174        | 1    | 24    | 149    |
| 10 Malignant neoplasm of pancreas (C25)  | 682        | 0    | 78    | 604    |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)                      | 872        | 0    | 140   | 732    |
| 12 Malignant melanoma of skin (C43)  | 82         | 0    | 19    | 63     |
| 13 Malignant neoplasm of breast (C50)  | 946        | 0    | 236   | 710    |
| 14 Malignant neoplasm of cervix uteri (C53)  | 47         | 0    | 22    | 25     |
| 15 Malignant neoplasm of uterus (C54-C55)  | 215        | 0    | 21    | 194    |
| 16 Malignant neoplasm of ovary (C56)   | 277        | 0    | 51    | 226    |
| 17 Malignant neoplasm of prostate (C61)  | 0          | 0    | 0     | 0      |
| 18 Malignant neoplasm of kidney (C64)  | 152        | 1    | 21    | 130    |
| 19 Malignant neoplasm of bladder (C67)   | 94         | 0    | 9     | 85     |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)             | 515        | 0    | 50    | 465    |
| 21 Other malignant neoplasms   | 1 023      | 5    | 155   | 863    |
| 22 Other neoplasms (D00-D48)   | 219        | 0    | 16    | 203    |
| 23-24 Endocrine, nutritional and metabolic diseases (E00-E90)                              | 400        | 5    | 67    | 328    |
| 23 Diabetes mellitus (E10-E14)   | 285        | 1    | 35    | 249    |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)                  | 115        | 4    | 32    | 79     |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54)                                       | 7 178      | 0    | 28    | 7 150  |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related             | 994        | 1    | 92    | 901    |
| 27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)        | 8 955      | 0    | 347   | 8 608  |
| 27 Ischaemic heart diseases (I20-I25)  | 3 540      | 0    | 103   | 3 437  |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)           | 736        | 0    | 49    | 687    |
| 29 Cerebrovascular diseases (I60-I69)  | 2198       | 0    | 101   | 2 097  |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)                    | 2 481      | 0    | 94    | 2 387  |
| 31-35 Diseases of the respiratory system (J00-J64, J66-J99)                                | 619        | 2    | 40    | 577    |
| 31 Influenza (J09-J11)   | 21         | 0    | 4     | 17     |
| 32 Pneumonia (J12-J18, J849)   | 41         | 2    | 3     | 36     |
| 33 Bronchitis and emphysema (J40-J44, J47)   | 387        | 0    | 25    | 362    |
| 34 Asthma (J45-J46)  | 43         | 0    | 4     | 39     |
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 127        | 0    | 4     | 123    |
| 36 Diseases of the digestive system excl. alcohol-related diseases                         | 738        | 0    | 60    | 678    |
| 37 Diseases of the genitourinary system (N00-N99)  | 74         | 0    | 7     | 67     |
| 38 Congenital malformations (Q00-Q99)  | 90         | 13   | 48    | 29     |
| 39 Other diseases excl. alcohol-related  | 345        | 21   | 56    | 268    |

| Underlying cause of death (54-group short list)  | Ages total | 0–14 | 15–64 | 65– |
|--|------------|------|-------|-----|
| 40 Ill-defined and unknown causes of mortality (R96-R99)                                   | 51         | 0    | 19    | 32  |
| 41 Alcohol-related diseases and accidental poisoning by alcohol                            | 398        | 0    | 234   | 164 |
| 42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)      | 983        | 7    | 322   | 654 |
| 42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 756        | 4    | 141   | 611 |
| 42 Land traffic accidents  | 40         | 1    | 23    | 16  |
| 43 Other land transport accidents  | 2          | 0    | 2     | 0   |
| 44 Water transport accidents (V90-V94)   | 2          | 1    | 1     | 0   |
| 45 Others and unspecified transport accidents (V95-V99)                                    | 0          | 0    | 0     | 0   |
| 46 Accidental falls (W00-W19)  | 496        | 0    | 25    | 471 |
| 47 Accidental drownings (W65-W74)  | 27         | 1    | 9     | 17  |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 75         | 0    | 60    | 15  |
| 49 Other accidents and sequelae of accidents   | 114        | 1    | 21    | 92  |
| 50 Suicides (X60-X84, Y87.0)   | 188        | 2    | 157   | 29  |
| 51 Assault (X85-Y09, Y87.1)  | 18         | 1    | 12    | 5   |
| 52 Event of undetermined intent (Y16-Y34, Y87.2)   | 17         | 0    | 11    | 6   |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)          | 4          | 0    | 1     | 3   |
| 54 NO DEATH CERTIFICATE  | 62         | 1    | 5     | 56  |

**Appendix table 2. Deaths from accidents by external cause and deaths from acute intoxication 2020**

| External cause                              | Deaths from accidents | Of which under acute intoxication     |                            |  |                                    | %           |
|---|-----------------------|---------------------------------------|----------------------------|--|------------------------------------|-------------|
|   |                       | Deaths from acute intoxication, total | Acute alcohol intoxication | Acute alcohol and drug/medication intoxication | Acute drug/medication intoxication |             |
| <b>Accidental deaths (excl. poisonings)</b> | <b>1 903</b>          | <b>312</b>                            | <b>277</b>                 | <b>16</b>                                      | <b>19</b>                          | <b>16,4</b> |
| Transport accidents                         | 225                   | 65                                    | 44                         | 8  | 13                                 | 28,9        |
| Falls                                       | 1 151                 | 85                                    | 77                         | 5  | 3                                  | 7,4         |
| Drowning                                    | 151                   | 58                                    | 56                         | 1  | 1                                  | 38,4        |
| Eating, inhalation of food (W79)            | 42                    | 18                                    | 18                         | 0  | 0                                  | 42,9        |
| Heat of sauna (W92)                         | 51                    | 25                                    | 23                         | 1  | 1                                  | 49,0        |
| Fire (X00–X09)                              | 42                    | 20                                    | 19                         | 1  | 0                                  | 47,6        |
| Natural cold (X31)                          | 46                    | 15                                    | 15                         | 0  | 0                                  | 32,6        |
| Other accident                              | 195                   | 26                                    | 25                         | 0  | 1                                  | 13,3        |

**Appendix table 3. Mortality during infant and perinatal period 1987–2020**

|      | Perinatal deaths<br>(stillbirths and first week deaths) | Perinatal mortality/<br>1000 births<br>(incl. stillbirths) <sup>1)</sup> | Stillbirths | First week mortality | First week mortality/<br>1,000 births | Neonatal deaths | Neonatal mortality <sup>2)</sup> | Infant deaths | Infant mortality <sup>3)</sup> |
|------|---|--|-------------|----------------------|---------------------------------------|-----------------|----------------------------------|---------------|--------------------------------|
| 1987 | 505   | 8,4  | 311         | 194                  | 3,2                                   | 252             | 4,2                              | 370           | 6,2                            |
| 1990 | 507   | 7,7  | 307         | 200                  | 3,1                                   | 245             | 3,7                              | 368           | 5,6                            |
| 1997 | 369   | 6,2  | 240         | 129                  | 2,2                                   | 165             | 2,8                              | 233           | 3,9                            |
| 2000 | 325   | 5,7  | 228         | 97                   | 1,7                                   | 136             | 2,4                              | 205           | 3,6                            |
| 2005 | 286   | 4,9  | 182         | 104                  | 1,8                                   | 125             | 2,2                              | 179           | 3,1                            |
| 2006 | 284   | 4,8  | 193         | 91                   | 1,5                                   | 119             | 2,0                              | 168           | 2,9                            |
| 2007 | 298   | 5,1  | 204         | 94                   | 1,6                                   | 109             | 1,9                              | 159           | 2,7                            |
| 2008 | 283   | 4,7  | 189         | 94                   | 1,6                                   | 116             | 1,9                              | 159           | 2,7                            |
| 2009 | 300   | 4,9  | 205         | 95                   | 1,6                                   | 122             | 2,0                              | 160           | 2,6                            |
| 2010 | 248   | 4,1  | 181         | 67                   | 1,1                                   | 91              | 1,5                              | 138           | 2,3                            |
| 2011 | 239   | 4,0  | 161         | 78                   | 1,3                                   | 97              | 1,6                              | 142           | 2,4                            |
| 2012 | 232   | 3,9  | 161         | 71                   | 1,2                                   | 85              | 1,4                              | 141           | 2,4                            |
| 2013 | 197   | 3,4  | 147         | 50                   | 0,9                                   | 61              | 1,0                              | 98            | 1,7                            |
| 2014 | 225   | 3,9  | 163         | 62                   | 1,1                                   | 81              | 1,4                              | 125           | 2,2                            |
| 2015 | 225   | 4,0  | 172         | 53                   | 1,0                                   | 69              | 1,2                              | 96            | 1,7                            |
| 2016 | 216   | 4,1  | 159         | 57                   | 1,1                                   | 70              | 1,3                              | 103           | 2,0                            |
| 2017 | 195   | 3,9  | 143         | 52                   | 1,0                                   | 76              | 1,5                              | 101           | 2,0                            |
| 2018 | 194   | 4,1  | 136         | 58                   | 1,2                                   | 74              | 1,6                              | 99            | 2,1                            |
| 2019 | 180   | 3,9  | 126         | 54                   | 1,2                                   | 64              | 1,4                              | 95            | 2,1                            |
| 2020 | 172   | 3,7  | 121         | 51                   | 1,1                                   | 66              | 1,4                              | 87            | 1,9                            |

1) Perinatal mortality = Stillborn (the duration of the mother's pregnancy at least 22 weeks or birth weight at least 500 g) and deaths during the first week of life per thousand births (incl. stillborn).

2) Neonatal mortality = The number of deaths during the four first weeks of life per thousand live births.

3) Infant mortality = The number of deaths at under one year per thousand live births.



**Appendix table 4. Drug-related mortality 2000 to 2020<sup>1)</sup>**

|      | Total  | Males  | Females | Total                       | Males                       | Females                     |
|------|--------|--------|---------|-----------------------------|-----------------------------|-----------------------------|
|      | Number | Number | Number  | Per 100 000 mean population | Per 100 000 mean population | Per 100 000 mean population |
| 2000 | 134    | 109    | 25      | 2,6                         | 4,3                         | 0,9                         |
| 2001 | 110    | 78     | 32      | 2,1                         | 3,1                         | 1,2                         |
| 2002 | 97     | 69     | 28      | 1,9                         | 2,7                         | 1,1                         |
| 2003 | 101    | 76     | 25      | 1,9                         | 3,0                         | 0,9                         |
| 2004 | 135    | 96     | 39      | 2,6                         | 3,8                         | 1,5                         |
| 2005 | 126    | 95     | 31      | 2,4                         | 3,7                         | 1,2                         |
| 2006 | 138    | 107    | 31      | 2,6                         | 4,2                         | 1,2                         |
| 2007 | 143    | 116    | 27      | 2,7                         | 4,5                         | 1,0                         |
| 2008 | 169    | 120    | 49      | 3,2                         | 4,6                         | 1,8                         |
| 2009 | 175    | 130    | 45      | 3,3                         | 5,0                         | 1,7                         |
| 2010 | 156    | 117    | 39      | 2,9                         | 4,4                         | 1,4                         |
| 2011 | 197    | 156    | 41      | 3,7                         | 5,9                         | 1,5                         |
| 2012 | 213    | 161    | 52      | 3,9                         | 6,1                         | 1,9                         |
| 2013 | 201    | 148    | 53      | 3,7                         | 5,5                         | 1,9                         |
| 2014 | 176    | 141    | 35      | 3,2                         | 5,2                         | 1,3                         |
| 2015 | 166    | 127    | 39      | 3,0                         | 4,7                         | 1,4                         |
| 2016 | 194    | 152    | 42      | 3,5                         | 5,6                         | 1,5                         |
| 2017 | 200    | 147    | 53      | 3,6                         | 5,4                         | 1,9                         |
| 2018 | 261    | 187    | 74      | 4,7                         | 6,9                         | 2,6                         |
| 2019 | 234    | 177    | 57      | 4,2                         | 6,5                         | 2,0                         |
| 2020 | 258    | 202    | 56      | 4,7                         | 7,4                         | 2,0                         |

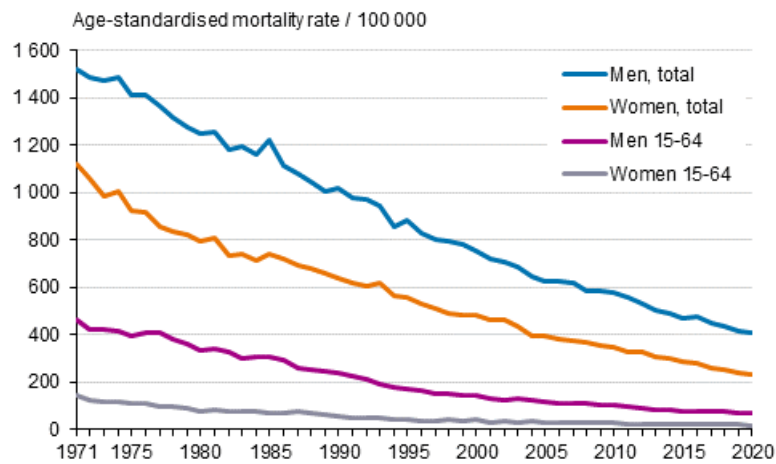
1) ICD-10:n codes F11–F12, F14–F16, F19 and X41, X42, X61, X62, Y11 and Y12 together with T codes (T40.0-9, T43–43.6)

**Appendix table 5. Standard population used in calculating age-standardised figures (Eurostat 2012)**

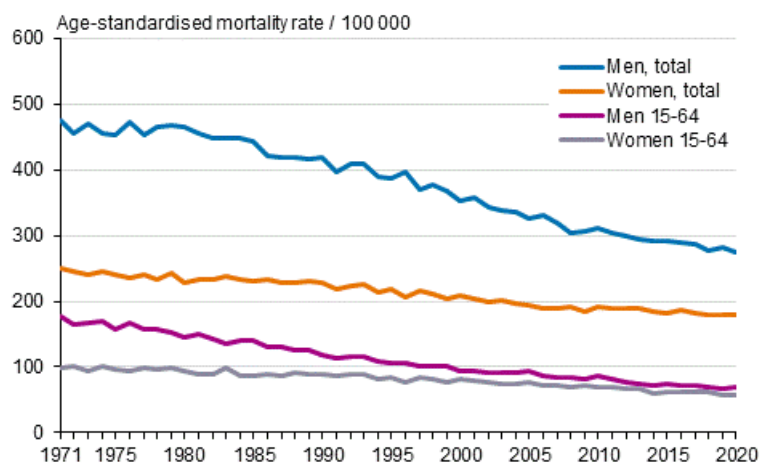
| Age   | Standard population |
|-------|---------------------|
| 0     | 1 000               |
| 1–4   | 4 000               |
| 5–9   | 5 500               |
| 10–14 | 5 500               |
| 15–19 | 5 500               |
| 20–24 | 6 000               |
| 25–29 | 6 000               |
| 30–34 | 6 500               |
| 35–39 | 7 000               |
| 40–44 | 7 000               |
| 45–49 | 7 000               |
| 50–54 | 7 000               |
| 55–59 | 6 500               |
| 60–64 | 6 000               |
| 65–69 | 5 500               |
| 70–74 | 5 000               |
| 75–79 | 4 000               |
| 80–84 | 2 500               |
| 85–89 | 1 500               |
| 90–94 | 800                 |
| 95+   | 200                 |
| Total | 100 000             |

## Appendix figures

**Appendix figure 1. Age-standardised mortality from diseases of the circulatory system in 1971 to 2020**



**Appendix figure 2. Age-standardised mortality from neoplasms in 1971 to 2020**



# Quality Description: Causes of death 2020

## 1. Relevance of statistical information

The causes of death statistics describe the causes of death of the persons permanently resident in Finland. The statistics have been produced since the year 1936. The source material of the statistics is the death certificates written by the physicians. The data are supplemented with and verified against data on deaths from the Population Information System of the Digital and Population Data Services Agency.

Cause of death data are highly significant for general information systems describing the population's state of health. Cause of death data are used in various medical surveys, and by combining the data with other Statistics Finland's data files, it is possible to study, for instance, differences in mortality between different population groups.

Investigating the cause of death and the related procedures including the production of statistics and archiving of death certificates is based on the act (1973/459) and decree (1973/948) on the investigation of the cause of death. In April 2011, Commission Regulation (EC) No 1338/2008 was passed and it confirms the variables, specifications and metadata which the EU Member States have to supply as concerns statistics on causes of death.

Statistics Finland maintains the Finnish archive of death certificates. Finnish residents' death certificates have been archived from 1936 onwards. The death certificates from 1936 to 1965 are located in the National Archive. More recent death certificates are archived at Statistics Finland.

### Concepts

**Causes of death** are obtained from death certificates. Data on underlying causes of death have been collected in database tables from 1969 onwards and from 1987, in addition to the underlying cause of death, there are also data on **immediate, intermediate and contributing causes of death**:

- **The underlying cause of death** is the disease which has initiated the series of illnesses leading directly to death. In accidental or violent deaths, the underlying cause of death is the external reason which caused the injury or poisoning leading to death. The underlying cause of death issued by the physician's death certificate is not directly applied to statistics compilation, but it is used when forming the underlying cause of death in the statistics.
- **The statistical underlying cause of death** is determined according to the selection and application rules of the International Classification of Diseases (ICD-10) compiled by the World Health Organisation (WHO). On their basis, the underlying cause of death is determined from the causes of death given by the physician in the death certificate. Annual causes of death statistics are made according to the underlying cause of death determined for the statistics. Other causes of death are mainly used in surveys.
- **The immediate cause of death** refers to the disease, failure or injury whose symptoms cause the person to die. However, the mechanisms of death, e.g. cardiac arrest, are not regarded as immediate causes of death.
- **The intermediate cause of death** refers the condition which leads from the underlying cause to the immediate cause of death.
- **The contributing cause of death** are other significant circumstances that contributed to the death recorded in the part II of the death certificate but are not related to the cause-consequence chain in part I of the death certificate.

In the case of **stillbirths and infants dying before the age of 28 days** the statistical data include the child's main cause of death, the mother's main reason contributing to the child's death, and two other reasons contributing to the child's death.

**Stillbirths** include a foetus or a newborn who shows no signs of life at the time of birth after a pregnancy lasting at least 22 weeks or the newborn weighing at least 500 grams. This concept has been used in Finnish annual tables since 1987. In the earlier used definition, stillbirths were newborns or foetuses when the duration of pregnancy had been at least 28 weeks. The changed concept also influenced the definition of

perinatal deaths for stillbirths. Terminations of pregnancy prior to the 22nd week of pregnancy are considered miscarriages. Terminations of pregnancy are not included in the cause of death statistics.

**Infant mortality** refers to the share of deaths in infancy (at under one year) per thousand live births.

**Neonatal mortality** refers to the share of deaths during the four first weeks of life per thousand live births. The figure is often given in tables as per mil. **Early neonatal mortality** refers to the number of deaths during the first week of life relative to the live births. **Late neonatal mortality** refers to the number of deaths which occur at the age of 7 to 27 days relative to the live births.

**Perinatal mortality** refers to the share of stillbirths and deaths during the first week of life among all births (incl. stillbirths). The age during the first week is calculated in hours.

**Perinatal mortality** is calculated by dividing the number of stillbirths and deaths during the first week of life by the number of all births during the statistical year. The age during the first week is calculated in hours.

More concepts of the cause of death statistics can be found at: [http://tilastokeskus.fi/til/ksyyt/kas\\_en.html](http://tilastokeskus.fi/til/ksyyt/kas_en.html)

## 2. Methodological description of survey

The cause of death statistics data are total data including all deaths in Finland or abroad of persons permanently resident in Finland at the time of their death. Statistics on stillbirths are made separately; cases of stillbirths are not included in deaths during the statistical reference year. The statistics on stillbirths are supplemented with data from the birth register of the National Institute for Health and Welfare (THL).

Death certificates are issued by the physician establishing the death. If determining the cause of death requires an autopsy, the death certificate is issued by a forensic pathologist after the information acquired from the autopsy is complete. The physician issuing the death certificate delivers the certificate to the regional unit of the National Institute for Health and Welfare (THL) where the deceased was a resident. A forensic pathologist there verifies the correctness of the certificate and the certificates are sent on to Statistics Finland. In addition, the health care unit or the physician has to report the death to the Population Information System. At Statistics Finland, the death certificate data are compared with data on the deceased obtained from the Population Information System and lists of missing death certificates are sent to THL for monitoring purposes.

Death certificates are received at Statistics Finland from THL either in paper form or electrically. About 15 % of the 2020 death certificates was received electrically. Death certificates are scanned at Statistics Finland in picture format and part of the data is read optically to the database. Diagnosis texts and cause of death codes issued by physicians are checked with the help of a dictionary. The statistical underlying cause of death is determined according to the selection and application rules of the International Classification of Diseases (ICD-10) compiled by the World Health Organization (WHO). Some of the statistical underlying causes of death are coded automatically with the application and part manually utilising the description of events written by the physician.

Since 1996, causes of death have been coded according to the international ICD-10 classification (International Statistical Classification of Diseases and Related Health Problems). The ICD-10 classification is an international classification maintained by the World Health Organization (WHO) describing causes of death, illnesses, accidents and reasons for using health care services. The classification can be found on [WHO's pages](#). Causes of death are coded mainly in the most accurate level of the classification, the 3-digit level is the publication level. In certain cases, specifying codes according to the Finnish national classification of diseases are used. THL maintains the Finnish version of the ICD-10 classification of diseases.

In the publication, the mortality rate can be measured with the general mortality rate, where the number of deaths is divided by mean population and multiplied by one thousand or one hundred thousand. The mortality rate can also be calculated by age group, when deaths in each age group are expressed as a proportion to the population of corresponding age.

**Age-standardised mortality rate** refers to mortality where the effect of age structure is eliminated by age standardisation. The standardisation used in cause of death statistics is made by using direct age

standardisation (standardised death rate, SDR), which means that mortality figures for the year in question have been used to calculate how many people would die if the age structure of the population remained the same throughout time. The formula for direct standardisation is as follows:

$$\text{SDR} = \sum (m_i P_i / P) \times 100\,000$$

$m_i$  = mortality rate in age group  $i$

$P_i$  = standard population in age group  $i$

$P$  = standard population

Mortality and the generality of causes of death are heavily dependent on age. For this reason, age standardisation is used in the statistics when comparing mortality differences of different times and areas. In the publication on cause of death statistics, the 'new' standard population of Europe has been used since 1996 as the standard population when calculating age-standardised mortality rates (Appendix 5). Different standard population has been used in the age-standardised mortality figures published by Eurostat, for which reason the figures differ from those released by Statistics Finland.

### 3. Correctness and accuracy of data

The death certificate form is confirmed by the Ministry of Social Affairs and Health. The physician records the cause of death on the death certificate as a code and as a text specifying the diagnosis. At Statistics Finland, the causes of death are coded mainly on the basis of the diagnosis text.

In case the information in the death certificate is deficient, inconsistent or difficult to classify, the information about the event recorded on the death certificate or a medical expert will be consulted or more information is requested from the issuer of the death certificate. In cases of alcohol and medicinal poisonings, the additional information used consists of the research results from the register of forensic chemistry. Around 500 cases are handled by a medical expert every year. Additional information is requested from the issuer of the death certificate in about 50 cases per year. Additional information is obtained for some 120 cases per year from the register of forensic chemistry.

In practice, the coverage of the cause of death statistics is around 100 per cent, because the data on death are verified from the Population Information System. Around 100 to 150 death certificates remain missing every year. In 2020, there were 128 missing death certificates, which was 0,2 per cent of the deaths. Of these missing death certificates, the number of deaths abroad is unknown. On the subject of the other deaths abroad (174 persons), the death certificate was obtained. Since 2013 deaths abroad without the information about the cause of death have been coded to the class R99 'Other ill-defined and unspecified causes of mortality', instead of earlier R999 (the death certificate is missing) code.

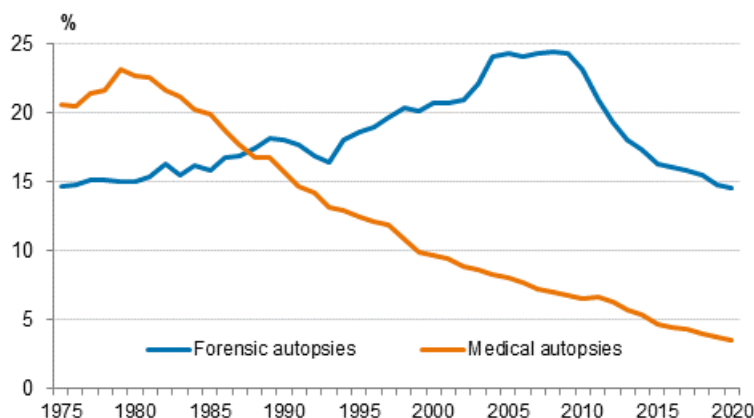
Those dead persons from whom a death certificate was not obtained before the statistics were compiled are included in the statistics with the code R999 (no death certificate). The data derived from late death certificates are combined to the survey database and death certificate archives.

### Number of death certificates missing from statistics yearly 2000–2020

| Year | Number | Proportion of all deaths, % |
|------|--------|-----------------------------|
| 2000 | 40     | 0,1                         |
| 2005 | 118    | 0,2                         |
| 2010 | 107    | 0,2                         |
| 2011 | 132    | 0,3                         |
| 2012 | 226    | 0,4                         |
| 2013 | 267    | 0,5                         |
| 2014 | 477    | 0,9                         |
| 2015 | 356    | 0,7                         |
| 2016 | 90     | 0,2                         |
| 2017 | 143    | 0,3                         |
| 2018 | 121    | 0,2                         |
| 2019 | 130    | 0,2                         |
| 2020 | 128    | 0,2                         |

Most causes of death are based on clinical data, but qualitatively better data for death certificates are derived from autopsies. The share of autopsies in all deaths were highest in Finland of all Nordic countries. The number of forensic autopsies has decreased fast in Finland since 2010, however. In 2020, a forensic autopsy was performed for 14,6 per cent and a medical autopsy for 3,6 per cent of dead persons.

### Share of forensic and medical autopsies in death cases in 1975 to 2020



## 4. Timeliness and promptness of published data

Cause of death data are produced yearly and they are completed at the end of the following year. The data are final and describe the deaths during the previous calendar year of persons permanently resident in Finland. After the data are published, death certificates are not added afterwards to the annual data of the statistics, but they are included in research data and death certificate archives.

## 5. Accessibility and transparency/clarity of data

The data of the cause of death statistics are published yearly under the topic Health on the home pages of the cause of death statistics and the tables are released in Statistics Finland's StatFin database. The tables of the cause of death statistics are made according to the underlying cause of death.

The cause of death statistics are available starting from 1936. The data for 1936 to 1968 are in table format in Statistics Finland's publications (e.g. [doria.fi](https://doria.fi)). From 1969, there are data as a time series database.

Tailored tables and research data can be made from unit-level data at Statistics Finland to customer needs. A licence is always needed for unit-level research data. The application for licence can be found on [Statistics Finland's home page](#). Cause of death data can also be combined to other datasets by means of the person number (e.g. with population census and employment statistics data).

Cause of death data are also published for international sources and databases, such as:

- The Nordic Statistical Yearbook “Health Statistics for the Nordic Countries” <http://nhwstat.org/>
- Eurostat’s database, e.g <http://ec.europa.eu/eurostat>
- WHO’s databases, e.g European Health for All database, <http://www.euro.who.int/en/data-and-evidence>

Statistics Finland also maintains Finland's death certificate archive. The archive contains Finnish residents' death certificates from 1936 onwards. The death certificates from 1936 to 1965 are located in the National Archive. More recent death certificates are archived at Statistics Finland. The death certificate data are confidential (Act on the investigation of the cause of death 459/1973). Copies of death certificates and unit-level cause of death data are released from the archive to the purposes prescribed in the act on the investigation of the cause of death (459/1973). They are mainly released to the dead person's next of kin, pension institutions and official use. In addition, death certificate data are released for scientific research and statistical surveys (Act on the Openness of Government Activities 621/1999). Instructions for applying for death certificates and on the licence procedure can be found on [Statistics Finland's web pages](#). For death certificates from 1936 to 1965, the data request should be made to the National Archive.

## 6. Comparability of statistics

The classification of causes of death used in the statistics has changed a number of times. Since 1996, causes of death have been coded according to the ICD-10 classification (International Statistical Classification of Diseases and Related Health Problems). Between 1987 and 1995, the data were coded using the national classification of diseases 1987 and from 1969 to 1986, the international classification ICD-8 was in use.

To improve the comparability of cause of death data from different years, Statistics Finland has made time series classifications. The longest comparable national time series classification (54 categories) contains data from 1969 onwards. In addition, the 86-category classification of Eurostat “European short list 2012” is available and contains data from 1998 onwards. The key between the Cause of Death Statistics' 54-group short list and Classifications of Diseases is to be found on the home page of the Causes of Death Statistics under the section Classification.

## 7. Coherence and consistency/uniformity

The cause of death statistics are the only comprehensive statistics on causes of death in Finland. Other Statistics Finland’s statistics describing the mortality rate and causes of death are vital statistics, [statistics on road traffic accidents](#) and [occupational accident statistics](#).

The data on deaths published by Statistics Finland's vital statistics are comprehensive statistics on the number of deaths. The number of deaths per year differs somewhat from the number of deaths in the cause of death statistics. The difference is mainly caused by that the vital statistics do not contain deaths registered as deaths after the compilation time of the statistics (the end of the following year's January). In the vital statistics for 2020, the number of deaths was 55,488, which was 10 deaths less than in the cause of death statistics. The number of deaths under the age of one year was 83 in the vital statistics and 87 in the cause of death statistics. When calculating infant mortality, the number of deaths under the age of one in the vital statistics is used in official connections

The statistics on road traffic accidents compile statistics on deaths in road traffic. Data are obtained from the information system of the police. The coverage of the data is checked against those of the cause of death statistics. The figures deviate from those in the cause of death statistics by some tens of cases each year. The deviation is due to the following differences in the statistical criteria:



- The statistics on road traffic accidents contain all deaths in traffic in the area of Finland, whereas the cause of death statistics include all deaths of the permanent population of Finland occurring either in Finland or abroad.
- The road traffic accidents include deaths that occurred on the day of the accidents and the most the 30 following days. The cause of death statistics are compiled on the basis of the day of the death no matter how long time ago the accidents occurred
- In the cause of death statistics suicides committed in traffic are included in suicides, in the statistics on road traffic accidents they are regarded as road traffic accidents.

Occupational accident statistics are compiled on the basis of information on insurance activities and the statistics include all those accidents at work on which insurance institutions have paid compensation. By contrast, in the cause of death statistics the information on occupational accidents is derived from death certificates. The number of deaths from occupational accidents differs yearly very little from the figures in the cause of death statistics.

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