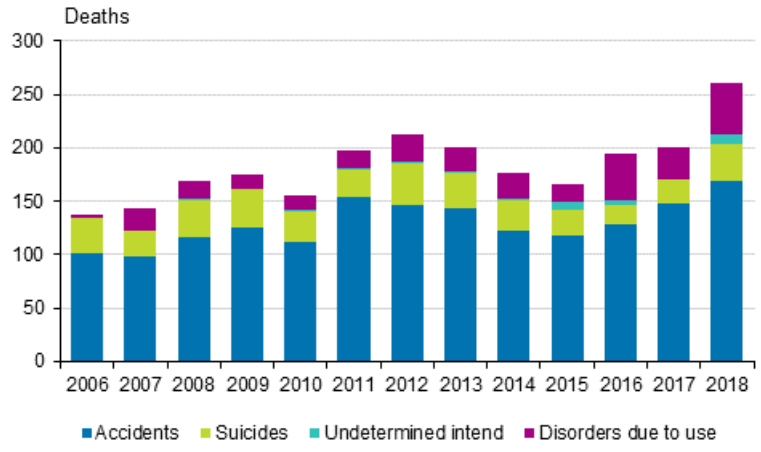
Causes of death in 2018

More people died from drugs and alcohol than before

According to Statistics Finland's statistics on causes of death, 261 persons died from drugs in Finland in 2018, which was 61 persons more than in 2017. The number of deaths caused by drugs have increased three years in a row. Deaths increased most in the age group 20 to 29. A majority of drug-related deaths were accidental poisonings from multiple substances where the effect from drugs was dominant.

Drug-related deaths 2006–2018 (EMCDDA definition)



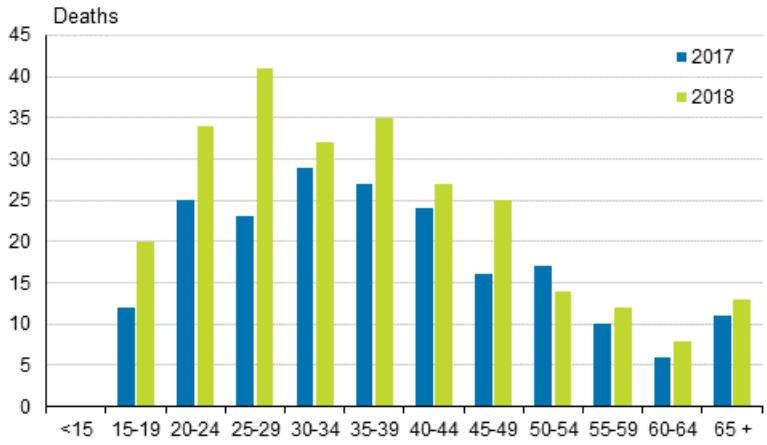
Deaths caused by long-term drug use increased most in relative terms. In 2018, altogether 49 such deaths that are usually caused by drug addiction occurred, while in 2017 the number was 29. A majority (65%) of drug-related deaths were, however, accidental poisonings, which in 2018 numbered 169. The number is higher than in previous years. In 2018, additionally 35 suicides were committed with drugs, which was 13 more than in the previous year.

A majority of drug-related deaths are poisonings from multiple substances where the person has, in addition to drugs, used, for example, psychopharmacons and/or alcohol. The most common form is combined use of drugs and pharmaceuticals. Three out of four drug-related deaths were associated with overdoses of opioids. To a large part, the most effective substance was synthetic pharmaceutical opioids.

In 2018, there were 4.7 drug-related deaths per 100,000 inhabitants. Mortality from drugs is higher in Finland and also in other Nordic countries than elsewhere in Europe. Over 70 per cent of those who died from drugs were men, but women committed most suicides with drugs.

In Finland, drug-related deaths focus on younger age groups than on average in Europe. The average age at death caused by drugs was 33 years for men and 39 years for women. Growth occurred in nearly all age groups, but deaths increased most in the age group 20 to 29. The biggest group of drug-related deaths was men aged 25 to 29.

Drug-related deaths by age in 2017 and 2018



Drug-related deaths can be defined in many ways. In the definition by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA's Selection B classification), opioids, cannabis and its derivatives, and other hallucinogens and psychostimulants suitable for abuse, such as amphetamine and its derivatives are defined as drugs.

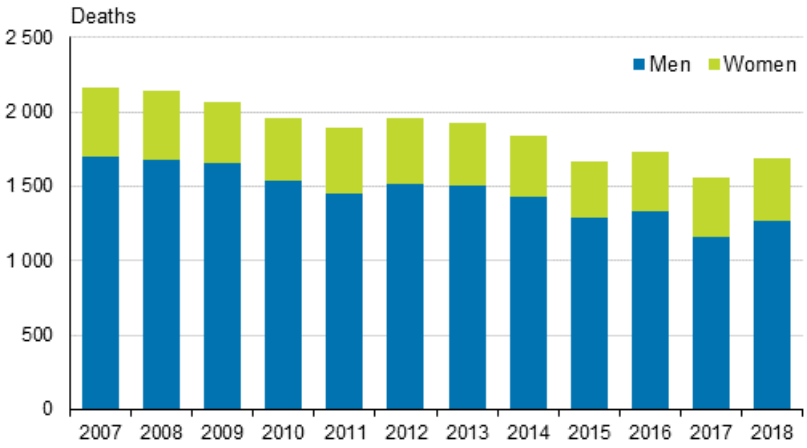
Number of deaths from alcohol-related causes increased in 2018

Deaths from alcohol-related causes increased in 2018 from 2017 but were still clearly below the top years 2007 to 2009 when more than 2,000 persons died from alcohol-related causes. In total 1,683 persons died from alcohol-related diseases and alcohol poisonings. Of them, 1,269 were men and 414 women. An increase of 100 persons from the year before. Three out of four persons dying from alcohol-related causes were aged 55 or over. The share of alcohol-related causes in all deaths was three per cent.

Deaths from alcohol-related causes include alcohol-related diseases and accidental alcohol poisonings. More than one-half of deaths from alcohol-related causes stemmed from liver diseases caused by alcohol. Heart and liver diseases caused by alcohol, as well as alcohol poisonings increased from last year.

In 2018, the number of deaths from alcohol poisonings increased for the first time since 2006. A total of 255 persons died from alcohol poisonings, which was good 40 persons more than in the year before. More than one-half of those who died were men aged between 45 and 64. The share of alcohol poisonings in all deaths from alcohol-related causes has decreased from 26 to 15 per cent over a ten-year period.

Alcohol-related deaths in 2007 to 2018



Causes of death 2018

54-group time series classification	Total	Males	Females	Total	Age-standardised mortality rate	Age-standandardised mortality rate
	Number	Number	Number	%	Change 2017–2018, %	Change 2008–2018, %
Deaths total	**54 523**	**27 182**	**27 341**	**100**	–0,4	–12,1
Diseases of the circulatory system	18 827	9 547	9 280	35	–3,5	–28,4
Neoplasms	12 902	6 883	6 019	24	–2,1	–6,5
Dementia, Alzheimer's disease	10 120	3 273	6 847	19	+5,0	+47,1
Accidents	2 387	1 506	881	4	+1,0	–18,2
Disease of the respiratory system	2 234	1 303	931	4	+5,8	–11,9
Alcohol related diseases and accidental poisoning by alcohol	1 683	1 269	414	3	+7,7	–25,3
Suicides	810	618	192	1	–2,7	–25,5
Other causes of death	5 560	2 783	2 777	10	-	-

Contents

Tables

Figures

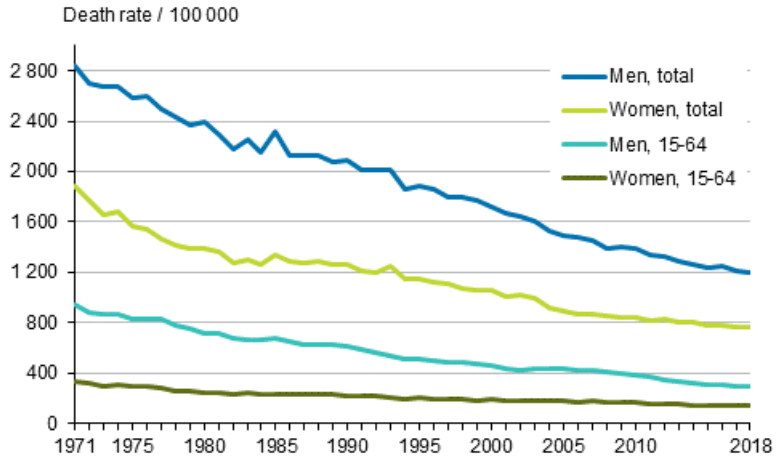
Appendix figures

1. Causes of death in 2018

In 2018, altogether 54,523 persons died, which is over 800 more than the year before. The shares of men and women were almost equal.

Age-standardised mortality decreased in 2018 by 0.4 per cent from the previous year. Men's age-standardised mortality decreased more than that of women. Men's and women's age-standardised mortality has decreased relatively evenly since the 1970s and the favourable development continued also in 2018 (Figure 1). In addition to the population, the age-standardised mortality rate takes into account the changes in the population's age structure. The standardisation is necessary so that changes in mortality not due to the ageing of the population structure can be highlighted.

Figure 1. Age-standardised mortality in 1971 to 2018



In 2018, two out of three dead persons had turned 75 and more than one third had turned 85. More than 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 83 for women and 74 for men. The median describes the middle value, that is, one-half of all persons that died, died at a younger or older age than the median age at death.

Diseases of the circulatory system and neoplasms caused most deaths

Due to the age structure of persons who died, the typical causes of death of older age groups dominate the causes of death distribution of the entire population (Table 1). In 2018, thirty-five per cent of deaths of Finns were caused by diseases of the circulatory system and 24 per cent by neoplasms. The commonest disease of the circulatory system was ischaemic heart disease, which caused nearly one-fifth of all deaths. The commonest cancers causing death were lung cancer and pancreatic cancer. The commonest types of cancer resulting in death were still lung cancer and prostate cancer for men and breast cancer and lung cancer for women.

Over 10,000 persons died from dementia, including Alzheimer's disease, which represented 19 per cent of all deaths. The number of deaths caused by dementia has grown rapidly in the past decade partly due to the ageing of the population. One in four deaths among women and one in ten 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).

More deaths of alcohol-related causes than in the year before

Nearly 1,700 persons died of alcohol-related diseases and alcohol poisonings in 2018, which was good 100 more than in the previous year. The share of alcohol-related causes in all causes of death was three

per cent. In the past five years, age-standardised mortality from alcohol-related causes has decreased by over 10 per cent. At the same time, mortality from alcohol among both women aged 65 or over and men aged 75 or over has grown while, correspondingly in younger age groups mortality from alcohol has decreased.

In 2018, suicides were committed by 810 persons, which is 14 fewer than in the year before. The number of suicides was at its highest in 1990, when there were over 1,500 suicides in Finland. Since then, suicide mortality has decreased clearly (Figure 12). Over the past five years, suicide mortality has decreased by around 10 per cent, slightly more among women than men. Three out of four of the persons who committed suicide were men, and their average age was 48 years. The average age of women when committing suicide was 50 years.

In 2018, close on 2,400 persons died in accidents, being four per cent of all deaths, when alcohol poisonings are included in alcohol-related deaths in the time series classification. The number of fatalities from accidents has grown three years in a row. The number of fatalities from accidents was over 200 higher in 2018 than in 2015. Accident mortality in 2018 was clearly lower than ten years ago but nearly at the same level as five years earlier.

Table 1. Causes of death 2018

54-group time series classification	Total	Males	Females	Total	Males	Females	Age-standardised mortality rate	Age-standandardised mortality rate
	Number	Number	Number	%	%	%	Change 2017–2018, %	Change 2008–2018, %
Deaths total	**54 523**	**27 182**	**27 341**	**100**	**100**	**100**	–0,4	–12,1
Diseases of the circulatory system	18 827	9 547	9 280	35	35	34	–3,5	–28,4
Neoplasms	12 902	6 883	6 019	24	25	22	–2,1	–6,5
Dementia, Alzheimer's disease	10 120	3 273	6 847	19	12	25	+5,0	+47,1
Accidents	2 387	1 506	881	4	6	3	+1,0	–18,2
Disease of the respiratory system	2 234	1 303	931	4	5	3	+5,8	–11,9
Alcohol related diseases and accidental poisoning by alcohol	1 683	1 269	414	3	5	2	+7,7	–25,3
Suicides	810	618	192	1	2	1	–2,7	–25,5
Other causes of death	5 560	2 783	2 777	10	10	10	-	-

Over 1,000 working-age persons died from alcohol-related causes

Of all persons that died during 2018, close on 8,000 were of working-age (aged 15 to 64), which was 14 per cent of all deaths. Two-thirds of them were men. The number of deaths among people of working-age had decreased clearly. Ten years ago, 3,000 more persons of working-age died annually.

The age-standardised mortality of working-age people in all causes of death has diminished in ten years by over one-quarter. The mortality of working-age men is still more than double compared to women, even though the mortality of men has diminished faster than that of women, which has decreased the difference in mortality between sexes.

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. Forty-four per cent of women who died in working-age died from neoplasms. The share of diseases of the circulatory system of deaths was 14 per cent for women in 2018, while twenty years ago the share was still one-fifth. By contrast, diseases of the circulatory system and neoplasms caused nearly as large a share of deaths among working-age men.

The most common cancer resulting in death for working-age women was breast cancer, which caused the death of nearly 300 women in 2018 (Appendix table 1c). Correspondingly, for working-age men, the most common cancer resulting in death was lung cancer (Appendix table 1b).

In 2018, over 1,000 working-age persons died from alcohol-related causes. This was 44 persons more than in the year before. The 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 times more working-age men died from alcohol-related causes than women of the same age.

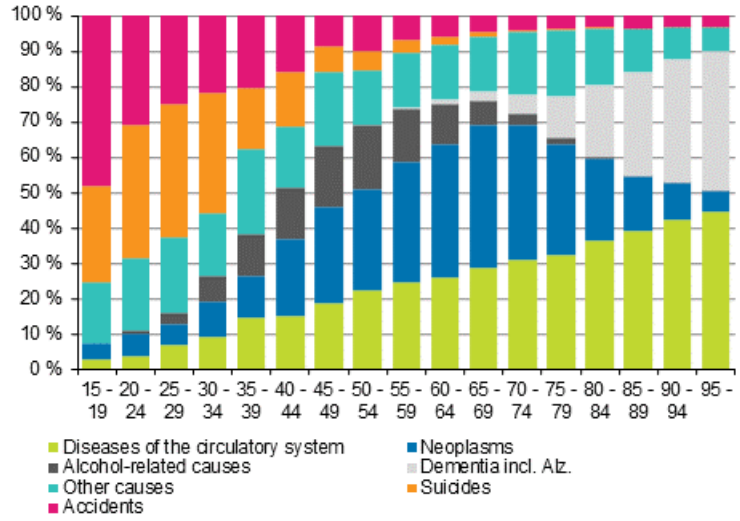
Table 2. Main causes of death among working-age population (aged 15 to 64) in 2018

54-group time series classification	Total	Males	Females	Total	Males	Females
	Number	Number	Number	%	%	%
Deaths total	**7 827**	**5 274**	**2 553**	**100**	**100**	**100**
Neoplasms	2 369	1 257	1 112	30	24	44
Diseases of the circulatory system	1 708	1 338	370	22	25	14
Disease of the respiratory system	176	109	67	2	2	3
Alcohol related diseases and accidental poisoning by alcohol	1 032	790	242	13	15	9
Accidents	777	600	177	10	11	7
Suicides	601	454	147	8	9	6
Other causes of death	1 164	726	438	15	14	17

More than every fifth person aged over 65 died from dementia and Alzheimer's disease

Ninety per cent of women that died in 2018 were aged 65 or over and 80 per cent of men. 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 2018



Persons aged over 65 died most from diseases of the circulatory system that 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 nearly 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 considerably in recent years. In 2018, dementia (incl. Alzheimer’s disease) was almost as common a cause of death for elderly people as neoplasms. During 2018, more than one in five deceased persons aged 65 or over died from dementia and more than one-third of those aged 95 or over.

In 2018, one in four of the persons who committed a suicide were aged 65 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 in 2016.

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 65 or over in 2018

54-group time series classification	Total	Males	Females	Total	Males	Females
	Number	Number	Number	%	%	%
Deaths total	**46 529**	**21 821**	**24 708**	**100**	**100**	**100**
Diseases of the circulatory system	17 117	8 208	8 909	37	38	36
Neoplasms	10 514	5 618	4 896	23	26	20
Dementia, Alzheimer's disease	10 085	3 258	6 827	22	15	28
Disease of the respiratory system	2 053	1 193	860	4	5	3
Diseases of the digestive system (excl. alcohol-related diseases)	1 046	439	607	2	2	2
Alcohol related diseases and accidental poisoning by alcohol	651	479	172	1	2	1
Accidents	1 602	899	703	3	4	3
Suicides	203	160	43	0	1	0
Other causes of death	3 258	1 567	1 691	7	7	7

2. Mortality from diseases of the circulatory system and neoplasms decreased further

Most Finns died of diseases of the circulatory system in 2018. Their importance as a cause of death has, however, decreased over the past ten years from 41 to 35 per cent. At the same time, age-standardised mortality from diseases of the circulatory system has decreased by 25 per cent for men and 32 per cent for women. In 2018, the mortality from diseases of the circulatory system relative to the population and standardised age structure decreased further both for women (5%) and men (2%) compared to 2017 (Appendix figure 1).

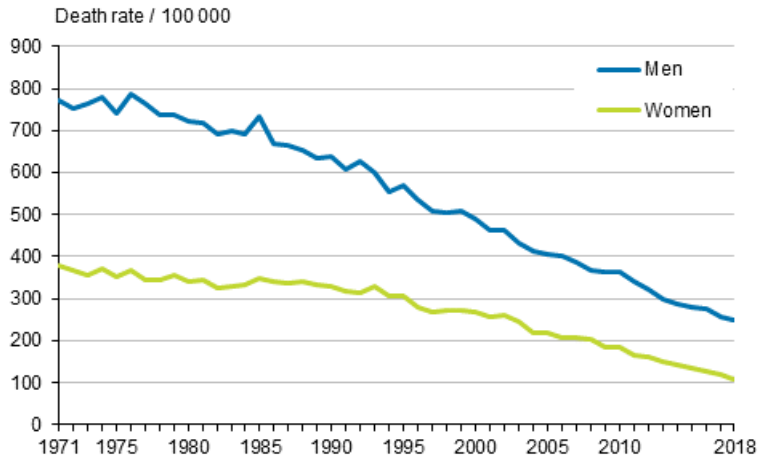
Among diseases of the circulatory system, ischaemic heart disease is still one of the most common causes of death for Finns, even though mortality from ischaemic heart disease has decreased clearly in Finland. Ischaemic heart disease still caused every fifth death for men and every sixth death for women in 2018. Almost 9,500 persons died of ischaemic heart disease.

Persons dying of ischaemic heart disease ever older

When nearly one-half of men that died of ischaemic heart disease were of working-age in 1971, in 2018 only one-tenth of them were aged under 65. The median average age for those dying of ischaemic heart disease in 1971 was 65 years for men and 73 years for women, while the corresponding figures in 2018 were 80 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. 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 2018, ischaemic heart disease mortality decreased further for both men and women.

Figure 3. Age-standardised mortality from ischaemic heart disease in 1971 to 2018



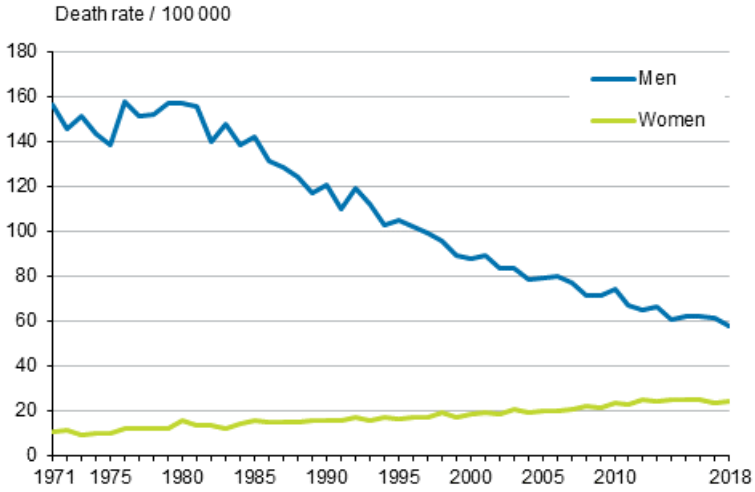
Women's mortality from lung cancer grew from 2017

Of the main cause of death categories, second most Finns died of neoplasms. In 2018, they caused one in four deaths. Persons who died of neoplasms were on average almost 10 years younger than those who died of diseases of the circulatory system. Over the past ten years, age-standardised neoplasm mortality has decreased by nine per cent for men and less for women, that is, by seven per cent (Appendix figure 2). In 2018, neoplasm mortality decreased further for both men and women from 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 2018, a total of 1,500 men and 800 women died from malignant neoplasm of larynx, trachea, bronchus and lung. The difference between men and women in lung cancer mortality has narrowed since the 1980s as men's lung cancer mortality has decreased while it has grown among women. Over the past ten years, women's age-standardised lung cancer mortality has grown by 11 per cent, while men's mortality has simultaneously decreased by nearly 20 per cent. In 2018, age-standardised lung cancer mortality decreased by five per cent for men and increased by three per cent for women compared to the year before (Figure 4).

Figure 4. Age-standardised mortality from carcinoma of larynx, trachea and lung in 1971 to 2018



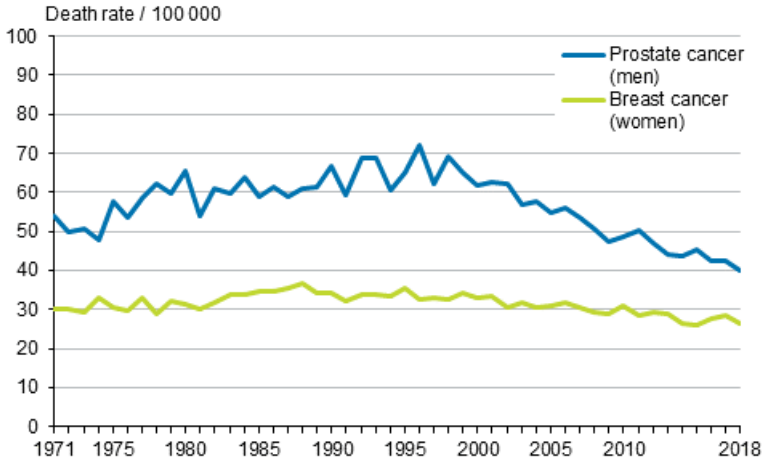
Mortality caused by breast cancer and prostate cancer decreased further

The most common type of cancer causing death among women is breast cancer. In 2018, around 850 women died from breast cancer, which was some 50 fewer than in the year before. Breast cancer mortality was 31 deaths per 100,000 women. The average age of women that died of breast cancer was 72 and almost one-third were aged under 65. In the past ten years the number of women that died of breast cancer has remained almost unchanged but age-standardised mortality caused by breast cancer relative to the number and age structure of women decreased by over 10 per cent over ten years (Figure 5).

After lung cancer, prostate cancer is the second most common type of cancer resulting in death among men. In 2018, around 900 men died of prostate cancer, i.e. nearly as many as women of breast cancer. Men's non-age-standardised prostate cancer mortality was 33 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 80. Men's age-standardised prostate cancer mortality has decreased clearly in the 2000s, it has decreased by over 20 per cent in ten years (Figure 5).

Figure 5. Age-standardised prostate cancer mortality for men and breast cancer mortality for women 1971 to 2018



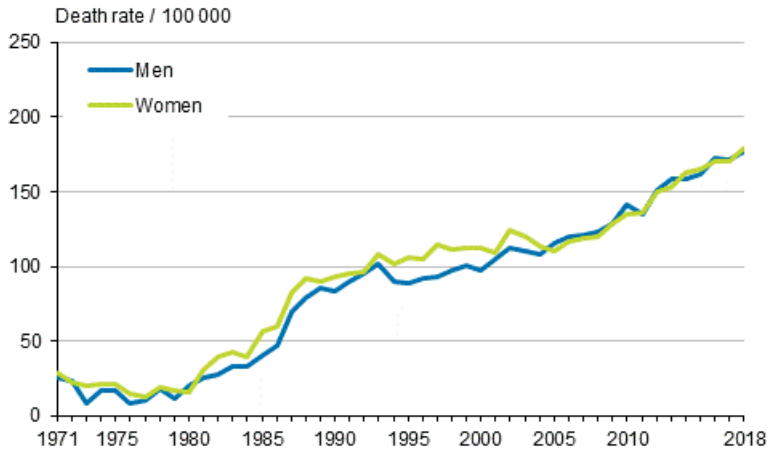
3. One in three persons aged 85 or over died of dementia and Alzheimer's disease

In 2018, over 10,000 Finns died of dementia including Alzheimer's disease, which is 700 persons more than in 2017. The number of deaths from dementia has 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, 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 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 women living longer than men. The average age at death of persons that died from dementia was 86 years for men and 89 years for women.

Dementia mortality of Finnish men and women (incl. Alzheimer's disease) was the highest in EU countries relative to the population in 2016. By contrast, pneumonia mortality was the lowest in EU countries in Finland. Pneumonia is a common immediate cause of death but a rarer primary cause of death in Finland than in other EU countries.

Figure 6. Age-standardised dementia mortality (incl. Alzheimer's disease) 1971 to 2018



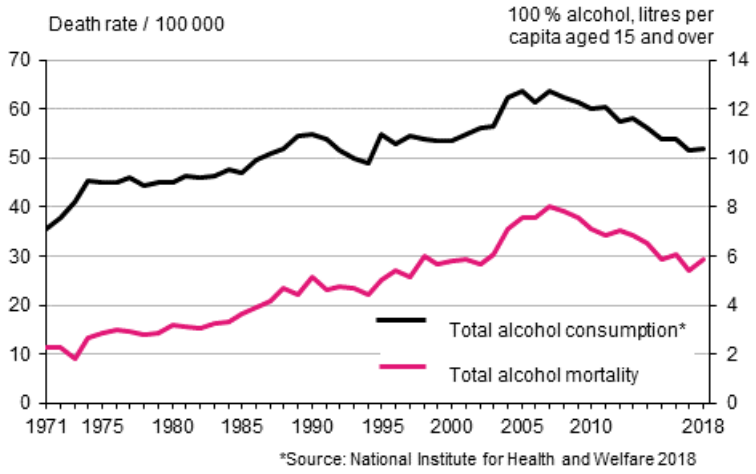
4. Deaths from alcohol-related causes increased in 2018

Mortality from alcohol-related causes made a slight upturn in 2018 compared to 2017. In 2018, altogether 1,683 persons died from alcohol-related diseases and alcohol poisonings. Of them, 1,269 were men and 414 women. The number increased by 125 from the year before. Diseases related to long-term alcohol use, such as liver and heart diseases, cause a majority of deaths from alcohol-related causes. Despite this, changes in alcohol-related mortality has consistently followed the development in total consumption of alcoholic beverages (Figure 7).

Heart and liver diseases caused by alcohol, as well as alcohol poisonings increased from last year. The share of alcohol poisonings in deaths from alcohol-related causes has decreased from 26 to 15 per cent over a ten-year period. In 2018, the number of deaths from alcohol poisonings, however, increased for the first time since 2006. A total of 255 persons died from these, which was good 40 persons more than in the year before. More than one-half of those who died were men aged between 45 and 64.

The share of alcohol-related causes in all deaths was three per cent.

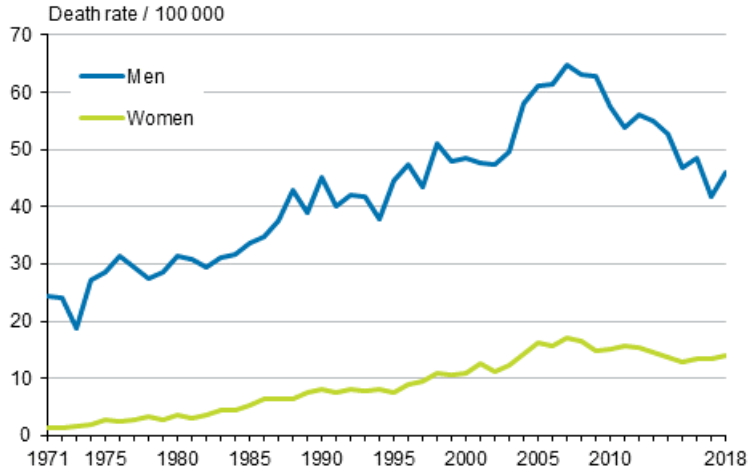
Figure 7. Age-standardised mortality from alcohol–related diseases and accidental poisonings by alcohol and total consumption of alcohol in 1971 to 2018



Men die of alcohol-related causes is considerably more often than women (Figure 8). Men’s mortality has also followed the changes in total consumption of alcohol more closely than women's mortality. During 2018, men’s alcohol-related mortality increased more than women’s mortality.

Nearly two-thirds of persons that died from alcohol-related causes were of working-age. Over the past ten years, the share of women aged 65 or over and men aged 70 or over among the deaths has increased considerably. The share of persons aged 65 or over among those that died from alcohol-related causes has increased from 21 to 39 per cent in ten years. In younger age groups, deaths from alcohol-related causes have, in turn, decreased by one-third. In 2018, the average age of men dying of alcohol-related causes was 61 years and that of women 62 years.

Figure 8. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol in 1971 to 2018



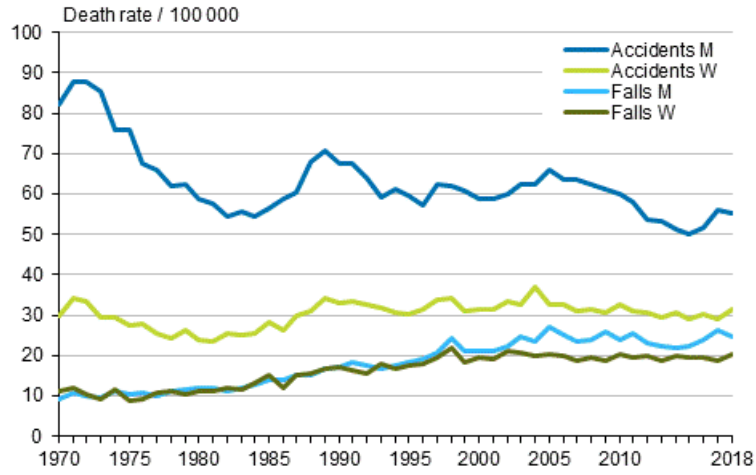
5. Accidents caused the death of 2,400 persons in 2018

In addition to stumbling and falling, other typical fatal accidents were poisonings, traffic, drownings, asphyxiations and fires. Here, all poisonings apart from alcohol poisonings that belong to alcohol-related causes in the national time series classification are considered accidents.

In 2018, accidents caused the death of nearly 2,400 persons, 1,500 men and 900 women. Accidents caused four per cent of all deaths. Six per cent of men and three per cent of women died in accidents.

Starting from 2004, the number of accidental deaths relative to the population decreased almost continuously for ten years. In particular, fatal traffic accidents have decreased. However, since 2016 the number of fatal accidents has slowly increased for three years in a row. The number of fatalities from accidents was over 200 higher in 2018 than in 2015. In 2016 to 2018, drowning and poisoning accidents resulting in death increased.

Figure 9. Accident mortality and separately deaths from accidental falls in 1970 to 2018



The commonest accident leading to death is stumbling or falling. In 2018, more than 1,200 persons died from stumbles or fall, which is one-half of all fatal accidents. A majority of fatal falls, nine out of ten, happened to persons aged over 65. The average age at death caused by stumbles was 80 years for men and 87 years for women. Relative to the number of living people, elderly men had more fatal stumbles than women.

In total, 305 person died from accidental poisoning (excl. alcohol poisonings) in 2018 of whom 214 were men and 91 women. Compared with 2016, poisoning deaths increased by around 60 cases. The number of poisoning deaths is only slightly lower than ten years ago. The average age of those dying of accidental poisonings was 38 years for men and 53 years for women. The majority of accidental poisonings are poisonings from multiple substances, involving several different pharmaceuticals, as well as alcohol and/or drugs.

One-half of accidental poisoning deaths were drug-related deaths as defined by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), where, in most cases, the primary substance was an opioid (e.g. buprenorphine, tramadol, codeine, fentanyl). The accidental poisonings that by definition were not deaths caused by an overdose of drugs were often caused by an overdose of tranquillisers and sleeping medicine (e.g. benzodiazepines).

The second most common fatal accidents were transport accidents. There were 243 deaths in transport accidents (excl. drowning accidents in water traffic) in 2018. The number of deaths was one-third less than one year earlier. Suicides committed in traffic or persons who died from having a seizure in traffic are not in the statistics included in deaths in transport accidents.

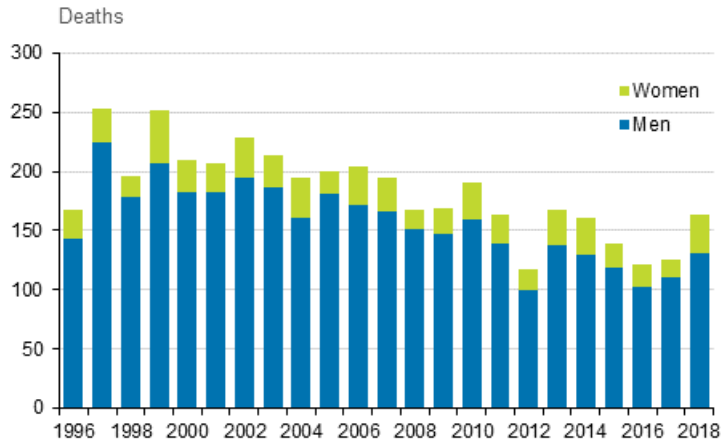
In 2018, altogether 164 persons drowned, 42 of whom in water traffic. The number of drownings grew clearly from 2017. In 2017, there were 126 drowning deaths. Most drowning victims, eight out of ten,

were men. Nearly one in six drowning victims were aged 65 or over. Deaths by drowning increased from 2017, in particular among elderly people. Only one drowning victim was aged under 15. Despite the growth in deaths by drowning, they have decreased since the beginning of the 2000s when there were some 200 drowning victims per year (Figure 10). Drowning accidents include drowning from falling into water and drowning while swimming or boating.

In 2018, altogether 46 persons died in accidental fires while in 2014 the number of deaths was 54. The majority, or three out of four, of the victims were men. Deaths in accidental fires do not include deaths in deliberately lit fires. There were eight persons that committed suicide with fire or smoke. There were 51 deaths caused by the heat of sauna and 70 deaths caused by hypothermia.

Accidental deaths caused by animals are rare in Finland. In 2018, nine persons died in these types of accidents. Most, or four deaths, were caused by wasp stings. In the 2000s, an average of 11 persons per year have died in accidents caused by animals. The number has decreased slightly in recent years. Most accidents resulting in death have in the 2000s been caused by an elk (88 deaths), a horse (44) and a dog (28).

Figure 10. Drowning accidents deaths in 2006 to 2018



Intoxication commonest among victims of accidental fires

Intoxication was a factor in accidental deaths in around one in six accidents. The share of intoxicated persons among the deceased has decreased in recent decades. In 2018, sixteen per cent of those who died in fatal accidents were intoxicated, while ten years ago the corresponding share was 24 per cent.

In 2018, intoxication at the time of the accident was most common for those that died in fires. One-half of them were under the influence of an intoxicant. Nearly one-half of those who died by accidental drowning, in the sauna or of hypothermia outdoors had also been intoxicated at the time of the accident. In traffic deaths, nearly one in five were intoxicated. By contrast, in stumbling accidents, of which a majority occurred among persons aged over 70, less than one in ten were under the influence of an intoxicant.

In total, 331 persons that died in accidents were under the influence of an intoxicant, of whom a majority were intoxicated from alcohol, 290 persons. In addition, 41 persons were under the influence of various intoxicants (drug/pharmaceutical/alcohol) (Appendix table 2). 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. Number of suicides fell slightly from the previous year

The number of suicides has decreased relatively evenly since 1990, when more than 1,500 suicides were committed in Finland. Suicides increased slightly in 2016 to 2017, but in 2018 the growth in the number of suicides halted. During 2018, a total of 810 suicides were committed, which was 14 fewer than in 2017.

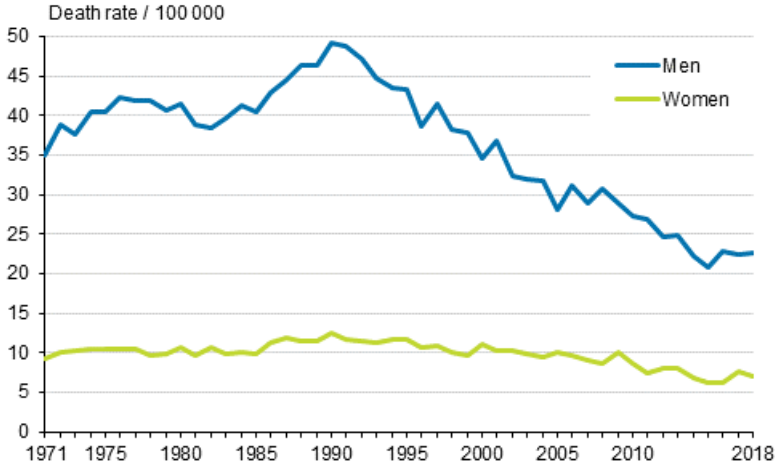
Suicide mortality has decreased by over 20 per cent in ten years, more for men than women. However, men still committed clearly more suicides than women. Three out of four of the persons who committed suicide were men. In 2018, suicide mortality or the annual number of suicides per 100,000 population was 15, being 23 for men and 7 for women (Figure 11).

During the last ten years, the decrease in suicide mortality is most clearly visible among middle-aged persons. In contrast, the suicide mortality among persons aged under 25 and aged 65 or over has not decreased in a similar way. The average age of those who committed suicide was 50 for women and 48 for men.

Suicides are a central cause of death for young people. Among the causes of death for young people aged 15 to 24, the share of suicides is over one-third. Among young people, the share of suicides in all causes of death is high because young people’s mortality from other causes is low. Last year, there were 99 suicide victims aged under 25, which is 12 per cent of all who committed suicide.

Young people's suicide mortality in Finland is high by European comparison. According to Eurostat's statistics for 2016, suicide mortality among young people aged 15 to 24 was higher in Finland than in the EU countries on average. By contrast, for persons aged 65 and over, suicide mortality in Finland did not differ much from the EU average.

Figure 11. Suicides mortality 1971 to 2018



7. Number of children dying in fatal accidents has decreased

In 2018, altogether 99 children died under the age of one, while twenty years ago the figure was over 200. In 2018, the infant mortality was 2.1 per 1,000 live-born children (Figure 12). The main causes of death among children under the age of one were perinatal causes and congenital malformations (Table 4). By contrast, infectious diseases, accidents and violence were rare causes of death for infants.

There were 136 stillbirths in 2018. Stillbirths have decreased clearly from the 1990s (1998: 237). Perinatal mortality (deaths during the first week and stillborn) was 4.1 per thousand births. More than one-half of children dying during their first year of life die during their first week of life and three out of four in the neonatal period or during the first four weeks of life. The main causes of death after the neonatal period are cot deaths and congenital malformations. The number of cot deaths has decreased in the 2000s. In 2018, there were six cot deaths, while in 2000 the number was 18. Cot deaths mostly occur to children over the age of one month.

Over the past 20 years, the number of children dying at the age of one to fourteen has halved. In 2018, altogether 68 children died, which was clearly fewer than in the year before when 81 children died. This corresponds with approximately 10 deaths per 100,000 children. Fatal accidents, like traffic accidents and drownings, in particular, occur to children clearly less often than before. There were seven children aged one to fourteen that died in accidents, while 20 years ago the number was 37. The most common causes of death among children were cancers and congenital malformations.

In the past ten years, two to three women per year have died from reasons related to pregnancy or childbirth. In 2018, there were two maternal deaths, i.e. maternal mortality was 4.2 deaths per 100,000 live-born children.

More information about mortality during the infant and perinatal periods can be found in Appendix table 3.

Figure 12. Mortality during infant and perinatal period in 1992 to 2018

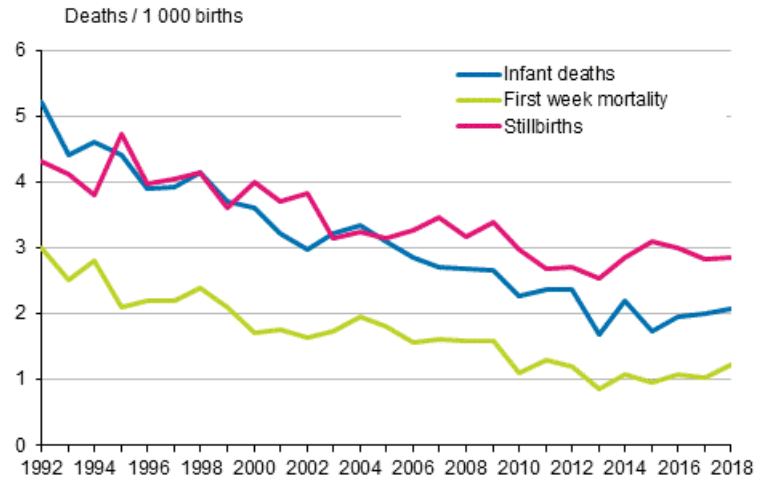


Table 4. Causes of death among children under the age of one 2000, 2005, 2010, 2017 and 2018

	2000	2005	2010	2017	2018
Total deaths	205	179	138	101	99
Certain conditions originating in the perinatal period (P00-P96)	84	77	58	47	46
Congenital malformations and chromosomal abnormalities (Q00-Q99)	78	61	40	30	23
Sudden infant death syndrome (R95)	18	19	17	5	6
Diseases of circulatory system and respiratory system (J00-J99, I00-J99)	4	5	5	1	3
Endocrine, nutritional and metabolic diseases (E00-E90)	5	6	3	7	8
Other diseases and unknown	13	9	11	9	12
Accidents and assault (V01-Y89)	3	2	4	2	1

Appendix tables

Appendix table 1a. Deaths by underlying cause of death and by age in 2018, both sexes

Underlying cause of death (54-group classification)	Ages total	0-14	15-64	65-
01-54 TOTAL DEATHS (A00-Y89)	54 523	167	7 827	46 529
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	51 061	150	6 319	44 592
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	244	6	40	198
01 Tuberculosis (A15-A19, B90, J65)	31	0	1	30
02 Human immunodeficiency virus (HIV) disease (B20-B24)	3	0	2	1
03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)	210	6	37	167
04-22 Neoplasms (C00-D48)	12 902	19	2 369	10 514
04-21 Malignant neoplasms (C00-C97)	12 558	17	2 349	10 192
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	198	0	64	134
05 Malignant neoplasm of oesophagus (C15)	317	0	79	238
06 Malignant neoplasm of stomach (C16)	377	0	84	293
07 Malignant neoplasm of colon (C18, C19)	869	0	178	691
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	425	0	72	353
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	533	0	77	456
10 Malignant neoplasm of pancreas (C25)	1 298	0	248	1 050
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	2 318	0	413	1 905
12 Malignant melanoma of skin (C43)	242	0	62	180
13 Malignant neoplasm of breast (C50)	859	0	269	590
14 Malignant neoplasm of cervix uteri (C53)	55	0	24	31
15 Malignant neoplasm of uterus (C54-C55)	216	0	25	191
16 Malignant neoplasm of ovary (C56)	310	0	83	227
17 Malignant neoplasm of prostate (C61)	895	0	64	831
18 Malignant neoplasm of kidney (C64)	353	0	57	296
19 Malignant neoplasm of bladder (C67)	291	0	27	264
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	1 119	5	145	969
21 Other malignant neoplasms	1 883	12	378	1 493
22 Other neoplasms (D00-D48)	344	2	20	322
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	742	12	189	541
23 Diabetes mellitus (E10-E14)	541	0	132	409
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	201	12	57	132
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	10 120	0	35	10 085
26 Other diseases of the nervous system and sense organs excl. alcohol-related	1 872	8	245	1 619
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	18 827	2	1 708	17 117
27 Ischaemic heart diseases (I20-I25)	9 453	1	837	8 615
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	1 766	0	283	1 483
29 Cerebrovascular diseases (I60-I69)	4 043	1	313	3 729
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	3 565	0	275	3 290
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	2 234	5	176	2 053
31 Influenza (J09-J11)	436	2	19	415
32 Pneumonia (J12-J18, J849)	106	0	18	88
33 Bronchitis and emphysema (J40-J44, J47)	1 238	0	109	1 129
34 Asthma (J45-J46)	74	0	9	65
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	380	3	21	356
36 Diseases of the digestive system excl. alcohol-related diseases	1 205	0	159	1 046
37 Diseases of the genitourinary system (N00-N99)	232	0	16	216

Underlying cause of death (54-group classification)	Ages total	0-14	15-64	65-
38 Congenital malformations (Q00-Q99)	175	39	93	43
39 Other diseases excl. alcohol-related	630	58	155	417
40 Ill-defined and unknown causes of mortality (R96-R99)	195	1	102	92
41 Alcohol-related diseases and accidental poisoning by alcohol	1 683	0	1 032	651
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	3 341	16	1 489	1 836
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	2 387	8	777	1 602
42 Land traffic accidents	199	3	113	83
43 Other land transport accidents	35	1	25	9
44 Water transport accidents (V90-V94)	46	0	19	27
45 Others and unspecified transport accidents (V95-V99)	5	0	5	0
46 Accidental falls (W00-W19)	1 237	0	123	1 114
47 Accidental drownings (W65-W74)	122	1	50	71
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	305	0	264	41
49 Other accidents and sequelae of accidents	438	3	178	257
50 Suicides (X60-X84, Y87.0)	810	6	601	203
51 Assault (X85-Y09, Y87.1)	68	2	61	5
52 Event of undetermined intent (Y16-Y34, Y87.2)	70	0	48	22
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	6	0	2	4
54 NO DEATH CERTIFICATE	121	1	19	101

Appendix table 1b. Deaths by underlying cause of death and by age in 2018, males

Underlying cause of death (54-group classification)	Ages total	0-14	15-64	65-
01-54 TOTAL DEATHS (A00-Y89)	27 182	87	5 274	21 821
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	24 899	74	4 120	20 705
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	122	1	29	92
01 Tuberculosis (A15-A19, B90, J65)	19	0	1	18
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)	101	1	27	73
04-22 Neoplasms (C00-D48)	6 883	8	1 257	5 618
04-21 Malignant neoplasms (C00-C97)	6 717	8	1 244	5 465
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	128	0	47	81
05 Malignant neoplasm of oesophagus (C15)	232	0	68	164
06 Malignant neoplasm of stomach (C16)	221	0	48	173
07 Malignant neoplasm of colon (C18, C19)	444	0	108	336
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	241	0	38	203
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	352	0	51	301
10 Malignant neoplasm of pancreas (C25)	647	0	152	495
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	1 507	0	261	1 246
12 Malignant melanoma of skin (C43)	154	0	42	112
13 Malignant neoplasm of breast (C50)	5	0	1	4
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)	895	0	64	831
18 Malignant neoplasm of kidney (C64)	212	0	47	165
19 Malignant neoplasm of bladder (C67)	201	0	19	182
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	609	1	84	524
21 Other malignant neoplasms	869	7	214	648
22 Other neoplasms (D00-D48)	166	0	13	153
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	399	7	115	277
23 Diabetes mellitus (E10-E14)	309	0	93	216
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	90	7	22	61
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	3 273	0	15	3 258
26 Other diseases of the nervous system and sense organs excl. alcohol-related	932	4	130	798
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	9 547	1	1 338	8 208
27 Ischaemic heart diseases (I20-I25)	5 401	0	712	4 689
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	889	0	223	666
29 Cerebrovascular diseases (I60-I69)	1 783	1	193	1 589
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	1 474	0	210	1 264
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	1 303	1	109	1 193
31 Influenza (J09-J11)	175	0	10	165
32 Pneumonia (J12-J18, J849)	57	0	11	46
33 Bronchitis and emphysema (J40-J44, J47)	828	0	73	755
34 Asthma (J45-J46)	17	0	1	16
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	226	1	14	211
36 Diseases of the digestive system excl. alcohol-related diseases	543	0	104	439
37 Diseases of the genitourinary system (N00-N99)	115	0	13	102
38 Congenital malformations (Q00-Q99)	93	20	48	25
39 Other diseases excl. alcohol-related	287	31	100	156
40 Ill-defined and unknown causes of mortality (R96-R99)	133	1	72	60

Underlying cause of death (54-group classification)	Ages total	0-14	15-64	65-
41 Alcohol-related diseases and accidental poisoning by alcohol	1 269	0	790	479
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	2 230	12	1 140	1 078
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	1 506	7	600	899
42 Land traffic accidents	143	2	86	55
43 Other land transport accidents	31	1	23	7
44 Water transport accidents (V90-V94)	42	0	17	25
45 Others and unspecified transport accidents (V95-V99)	5	0	5	0
46 Accidental falls (W00-W19)	668	0	101	567
47 Accidental drownings (W65-W74)	93	1	42	50
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	214	0	193	21
49 Other accidents and sequelae of accidents	310	3	133	174
50 Suicides (X60-X84, Y87.0)	618	4	454	160
51 Assault (X85-Y09, Y87.1)	51	1	46	4
52 Event of undetermined intent (Y16-Y34, Y87.2)	53	0	39	14
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	2	0	1	1
54 NO DEATH CERTIFICATE	53	1	14	38

Appendix table 1c. Deaths by underlying cause of death and by age in 2018, females

Underlying cause of death (54-group short list)	Ages total	0-14	15-64	65-
01-54 TOTAL DEATHS (A00-Y89)	27 341	80	2 553	24 708
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	26 162	76	2 199	23 887
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	122	5	11	106
01 Tuberculosis (A15-A19, B90, J65)	12	0	0	12
02 Human immunodeficiency virus (HIV) disease (B20-B24)	1	0	1	0
03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)	109	5	10	94
04-22 Neoplasms (C00-D48)	6 019	11	1 112	4 896
04-21 Malignant neoplasms (C00-C97)	5 841	9	1 105	4 727
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	70	0	17	53
05 Malignant neoplasm of oesophagus (C15)	85	0	11	74
06 Malignant neoplasm of stomach (C16)	156	0	36	120
07 Malignant neoplasm of colon (C18, C19)	425	0	70	355
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	184	0	34	150
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	181	0	26	155
10 Malignant neoplasm of pancreas (C25)	651	0	96	555
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	811	0	152	659
12 Malignant melanoma of skin (C43)	88	0	20	68
13 Malignant neoplasm of breast (C50)	854	0	268	586
14 Malignant neoplasm of cervix uteri (C53)	55	0	24	31
15 Malignant neoplasm of uterus (C54-C55)	216	0	25	191
16 Malignant neoplasm of ovary (C56)	310	0	83	227
17 Malignant neoplasm of prostate (C61)	0	0	0	0
18 Malignant neoplasm of kidney (C64)	141	0	10	131
19 Malignant neoplasm of bladder (C67)	90	0	8	82
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	510	4	61	445
21 Other malignant neoplasms	1 014	5	164	845
22 Other neoplasms (D00-D48)	178	2	7	169
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	343	5	74	264
23 Diabetes mellitus (E10-E14)	232	0	39	193
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	111	5	35	71
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	6 847	0	20	6 827
26 Other diseases of the nervous system and sense organs excl. alcohol-related	940	4	115	821
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	9 280	1	370	8 909
27 Ischaemic heart diseases (I20-I25)	4 052	1	125	3 926
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	877	0	60	817
29 Cerebrovascular diseases (I60-I69)	2 260	0	120	2 140
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	2 091	0	65	2 026
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	931	4	67	860
31 Influenza (J09-J11)	261	2	9	250
32 Pneumonia (J12-J18, J849)	49	0	7	42
33 Bronchitis and emphysema (J40-J44, J47)	410	0	36	374
34 Asthma (J45-J46)	57	0	8	49
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	154	2	7	145
36 Diseases of the digestive system excl. alcohol-related diseases	662	0	55	607
37 Diseases of the genitourinary system (N00-N99)	117	0	3	114
38 Congenital malformations (Q00-Q99)	82	19	45	18
39 Other diseases excl. alcohol-related	343	27	55	261
40 Ill-defined and unknown causes of mortality (R96-R99)	62	0	30	32

Underlying cause of death (54-group short list)	Ages total	0-14	15-64	65-
41 Alcohol-related diseases and accidental poisoning by alcohol	414	0	242	172
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	1 111	4	349	758
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	881	1	177	703
42 Land traffic accidents	56	1	27	28
43 Other land transport accidents	4	0	2	2
44 Water transport accidents (V90-V94)	4	0	2	2
45 Others and unspecified transport accidents (V95-V99)	0	0	0	0
46 Accidental falls (W00-W19)	569	0	22	547
47 Accidental drownings (W65-W74)	29	0	8	21
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	91	0	71	20
49 Other accidents and sequelae of accidents	128	0	45	83
50 Suicides (X60-X84, Y87.0)	192	2	147	43
51 Assault (X85-Y09, Y87.1)	17	1	15	1
52 Event of undetermined intent (Y16-Y34, Y87.2)	17	0	9	8
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	4	0	1	3
54 NO DEATH CERTIFICATE	68	0	5	63

Appendix table 2. Deaths from accidents by external cause and deaths from acute intoxication 2018

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	
Accidental deaths (excl. poisonings)	**2 082**	**331**	**290**	**19**	**22**	**15,9**
Transport accidents	243	46	36	2	8	18,9
Falls	1 237	88	82	2	4	7,1
Drowning	164	74	66	5	3	45,1
Eating, inhalation of food (W79)	65	25	21	3	1	38,5
Heat of sauna (W92)	51	24	24	0	0	47,1
Fire (X00–X09)	46	23	19	4	0	50,0
Natural cold (X31)	70	29	25	2	2	41,4
Other accident	206	22	17	1	4	10,7

Appendix table 3. Mortality during infant and perinatal period 1987–2018

	Perinatal deaths (stillbirths and first week deaths)	Perinatal mortality/ 1000 births (incl. stillbirths)[1)]	Stillbirths	First week mortality	First week mortality/ 1,000 births	Neonatal deaths	Neonatal mortality[2)]	Infant deaths	Infant mortality[3)]
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
2001	306	5,4	208	98	1,7	122	2,2	181	3,2
2002	304	5,5	213	91	1,6	117	2,1	165	3,0
2003	276	4,9	178	98	1,7	120	2,1	182	3,2
2004	300	5,2	187	113	2,0	142	2,5	193	3,3
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

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 2018[1)]

	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

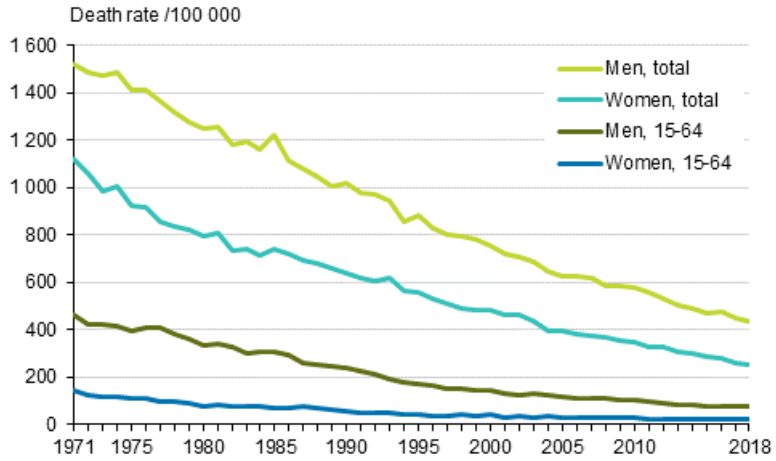
1) ICD-10:n codes F11–F12, F14–F16, F19 and X41, X42, X61, X62, Y11 and Y12 together with T codes (T40.0-9, T43–43.6)

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

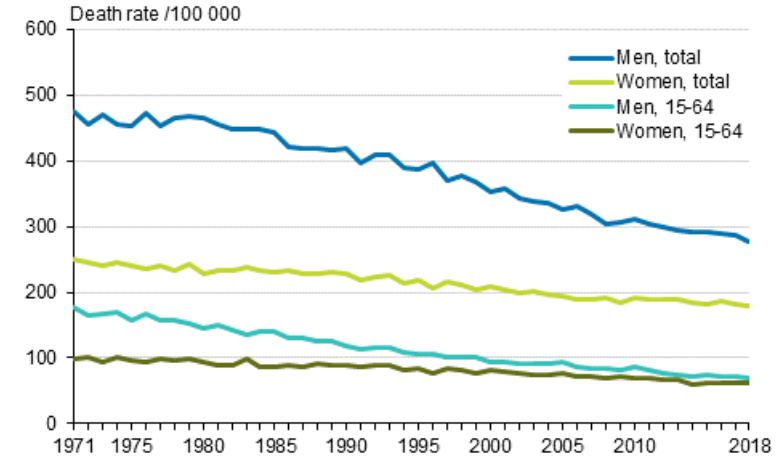
Age	Standard population
0	1 000
1–4	4 000
5–9	5 500
10–14	5 500
15–19	5 500
20–24	6 000
25–29	6 000
30–34	6 500
35–39	7 000
40–44	7 000
45–49	7 000
50–54	7 000
55–59	6 500
60–64	6 000
65–69	5 500
70–74	5 000
75–79	4 000
80–84	2 500
85–89	1 500
90–94	800
95+	200
Total	100 000

Appendix figures

Appendix figure 1. Age-standardised mortality from diseases of the circulatory system in 1971 to 2018



Appendix figure 2. Age-standardised mortality from neoplasms in 1971 to 2018



Quality Description: Causes of death 2018

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 Population Register Centre.

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.

Consepts

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

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 16 % of the 2018 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:

$SDR = \sum (mi\ Pi / P) \times 100\ 000$

mi = mortality rate in age group i

Pi = 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 2018, there were 121 missing death certificates, which was 0,2 per cent of the deaths. Of them, at least 12 were deaths abroad. On the subject of the other deaths abroad (241 persons), the death certificate was issued by a forensic pathologist. 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.

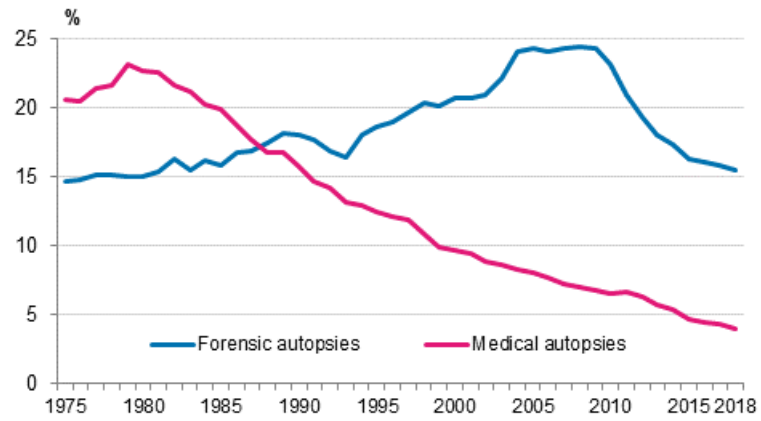
Those 121 dead persons from whom a death certificate was not obtained before the statistics were compiled (28 Oct 2019) are included in the statistics with the code R999 (no death certificate). The data derived from late death certificates are combined to the survey database and death certificate archives.

Number of death certificates missing from statistics yearly 2000–2018

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

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 2018, a forensic autopsy was performed for 15 per cent and a medical autopsy for 4 per cent of dead persons.

Share of forensic and medical autopsies in death cases in 1975 to 2018



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). 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://nowbase.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 2018, the number of deaths was 54,527, which was 4 deaths more than in the cause of death statistics. The number of deaths under the age of one year was 101 in the vital statistics and 99 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.

Statistics Finland

Suomen virallinen tilasto
Finlands officiella statistik
Official Statistics of Finland

Health 2019

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