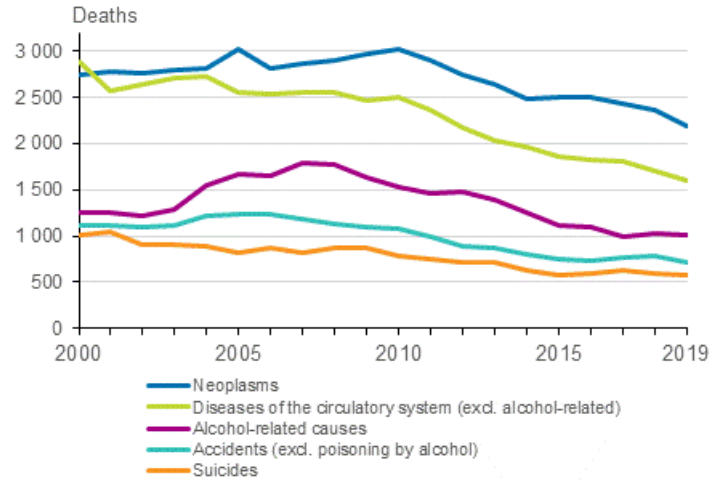
Causes of death in 2019

Neoplasms the most common cause of death for working-age people in 2019

According to Statistics Finland's statistics on causes of death, nearly 7,400 persons of working age, i.e. aged 15 to 64, died in 2019. The vast majority of them, two-thirds, were men. More than one half of deceased working-age people died of neoplasms and diseases of the circulatory system. Every tenth, or 700 persons, died in accidents and nearly 600 persons committed suicide.

Causes of death for deaths at working age (aged 15 to 64) in 2000 to 2019



In Finland, ever fewer people of working age die. While still at the beginning of the 2000s an average of more than 10,000 persons of working age, i.e. aged 15 to 64, died each year, 7,400 persons of working-age died in 2019. During 2019, a total of 54,000 persons died, so the share of working-age people in all deaths was 14 per cent.

The age-standardised mortality of working-age people relative to the population's age structure and number has decreased by over one quarter over the past ten years. The decrease in mortality has been mostly due to lower mortality from diseases of the circulatory system and neoplasms, but positive development has occurred in all most common cause of death groups. During 2019, mortality among working-age people decreased further for both men and women, by five per cent from the year before.

Nearly every third working-age person died from neoplasms

Since 2001, more persons of working age have died of neoplasms than of diseases of the circulatory system. In 2019, neoplasms caused 2,200 deaths among working age people. There were almost as many men (1,200) and women (1,000) among the deceased. The most common cancer resulting in death for working-age women was breast cancer, which caused the death of over 200 women (Appendix table 1c). The most typical cancer among working-age men, in turn, was lung cancer (Appendix Table 1b).

Neoplasm mortality of working-age people has decreased for both men and women by 20 per cent in ten years. The lower mortality is particularly due to the positive development of lung cancer mortality among working-age people.

Cardiovascular diseases caused only one fifth of deaths among working-age people

At the beginning of the 1970s, diseases of the circulatory system caused nearly one half of deaths among working-age people. The share was only one-fifth of deaths in 2019. In 2019, around 1,600 persons aged 15 to 64 died of diseases of the circulatory system, while at the beginning of the 1970s over 6,000 persons died from these diseases every year. Men's share of deaths from diseases of the circulatory system has remained high, at over 70 per cent, in different decades.

The age-standardised mortality of working-age people from diseases of the circulatory system has decreased by nearly one third over the past ten years. In 2019, the positive development continued further and mortality from diseases of the circulatory system decreased for both men and women.

Altogether 1,000 working-age persons died of alcohol-related causes in 2019

The number of deaths among working-age men and women from alcohol-related causes has declined clearly from the record level of 2007, when there were almost 1,800 deaths. However, in 2019, still around 1,000 working-age persons died from alcohol-related diseases and alcohol poisonings. Most of them were men. The number of deaths was almost the same as in the previous year.

Poisoning most common cause of accidental deaths among working-age people

In 2019, altogether 700 working-age people died in accidents. The accident mortality among working-age people had decreased by one third compared with the situation ten years ago. The most typical cause of accident deaths among working-age people was poisoning. Around 250 working-age people died from it.

Positive development has also taken place in suicide mortality. During 2019, altogether 570 working-age persons committed suicide, which is one third fewer than ten years earlier. However, the number of suicides has not decreased in the past five years. Seventy-five per cent of working-age people having committed suicide were men.

Main causes of death among working-age population (aged 15 to 64) in 2019

54-group time series classification	Total 15–64	Males	Females	Total	Age-standardised mortality rate 15–64	Age-standandardised mortality rate 15–64
	Number	Number	Number	%	Change 2018–2019, %	Change 2009–2019, %
Deaths total	**7 368**	**4 960**	**2 408**	**100**	–5,1	–26,9
Neoplasms	2 200	1 187	1 013	30	–6,0	–20,3
Diseases of the circulatory system	1 609	1 254	355	22	–5,1	–30,5
Alcohol related diseases and accidental poisoning by alcohol	1 002	748	254	14	–2,4	–36,0
Accidents	709	564	145	10	–9,0	–32,9
Suicides	573	431	142	8	–4,0	–31,6
Other causes of death	1 275	776	499	17	-	-

Contents

Tables

Figures

Appendix figures

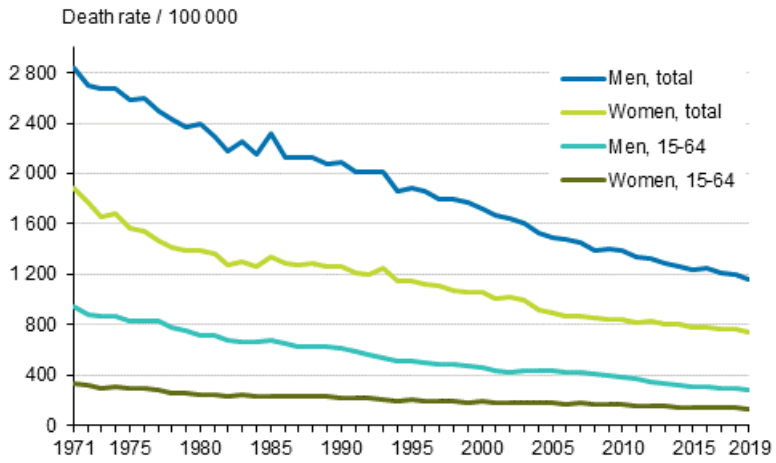
1. Causes of death in 2019

During 2019, around 54,000 persons with a municipality of residence in Finland died. This is more than 500 fewer persons than in the year before. Based on death certificates, around 250 of them died abroad, the rest died in Finland. Excluded from the statistics are persons residing temporarily in Finland, of whom around 150 persons died in Finland.

In 2019, two out of three deceased had turned 75 and more than one third had turned 85. More than 400 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 deceased persons died at a younger age and one half at an older age than the median age.

The age-standardised total mortality relative to the population size and age structure decreased by over three per cent from the year before. Women's mortality decreased slightly more than men's. Men's and women's age-standardised total mortality has decreased relatively evenly since the 1970s and the favourable development also continued in 2019 (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 2019



Diseases of the circulatory system and neoplasms caused most deaths

Due to 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 2019, thirty-four per cent of deaths of Finns were caused by diseases of the circulatory system and 25 per cent by neoplasms. The most common disease of the circulatory system was ischaemic heart disease, which caused nearly every sixth death. The most common cancers causing death were lung cancer and cancer of the lymphatic and blood-forming tissues.

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 eight deaths among men were caused by dementia. Almost double the number of women died from dementia compared to men, which is mainly because women live longer than men. There are no clear differences in age-standardised dementia mortality between genders (Figure 6).

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

Around 1,700 persons died of alcohol-related diseases and alcohol poisonings in 2019, which is nearly as many as 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 around 10 per cent. At the same time, mortality related to alcohol among men aged 65 or over and women aged 75 or over has grown, while, correspondingly, mortality from alcohol especially among younger men has decreased.

In 2019, suicides were committed by 746 persons, which is 64 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 six per cent, slightly more among men than women. Three out of four of those who committed suicide were men. The average age of both men and women when committing suicide was 47 years.

In 2019, over 2,200 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 had grown for three years in a row in 2016 to 2018. However, the number of fatalities from accidents was 142 lower in 2019 than in 2018. Accident mortality in 2019 was clearly lower than ten years ago but at the same level as five years earlier.

Table 1. Causes of death 2019

54-group time series classification	Total	Males	Females	Total	Males	Females	Age-standardised mortality rate	Age-standandardised mortality rate
	Number	Number	Number	%	%	%	Change 2018–2019, %	Change 2009–2019, %
Deaths total	**53 962**	**27 088**	**26 874**	**100**	**100**	**100**	-3,3	-14,3
Diseases of the circulatory system	18 267	9 255	9 012	34	34	34	-5,5	-30,6
Neoplasms	13 267	7 097	6 170	25	26	23	+0,9	-4,3
Dementia, Alzheimer's disease	10 153	3 401	6 752	19	13	25	-2,7	+34,7
Accidents	2 245	1 412	833	4	5	3	-7,4	-21,1
Disease of the respiratory system	1 969	1 205	764	4	4	3	-14,3	-30,6
Alcohol related diseases and accidental poisoning by alcohol	1 718	1 306	412	3	5	2	+1,0	-22,1
Suicides	746	567	179	1	2	1	-6,8	–29,9
Other causes of death	5 597	2 845	2 752	10	11	10	-	-

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

Of all persons that died during 2019, close on 7,400 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. Still ten years ago, almost 3,300 more persons of working age died every year.

The age-standardised mortality of working-age people 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 narrowed the difference in mortality between gender.

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 42 per cent of women who died in working age died from neoplasms, but only 24 per cent of men. The share of diseases of the circulatory system of causes of death was 15 per cent for women in 2019, 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 among working-age women was breast cancer, which caused the death of over 200 women in 2019 (Appendix table 1c). Correspondingly, for working-age men, the most common cancer resulting in death was lung cancer (Appendix table 1b).

In 2019, around 1,000 working-age persons died from alcohol-related causes. The number was almost the same as in the previous year. 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. Nearly three times more working-age men died from alcohol-related causes than women of the same age.

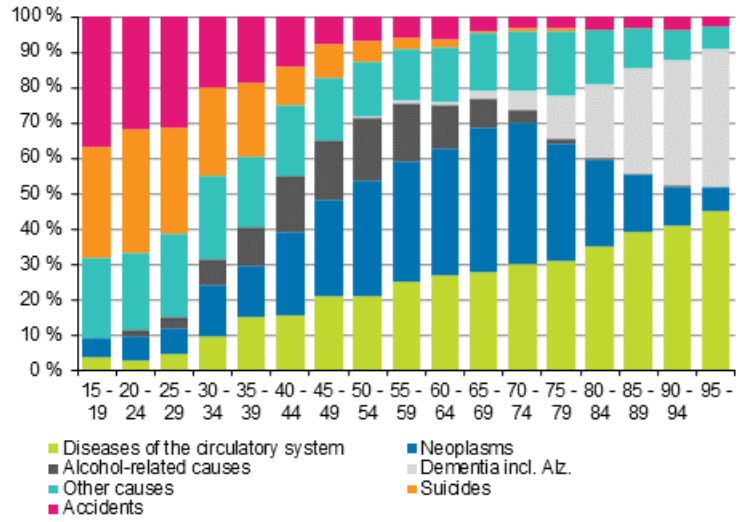
Table 2. Main causes of death among working-age population (aged 15 to 64) in 2019

54-group time series classification	Total	Males	Females	Total	Age-standardised mortality rate	Age-standandardised mortality rate
	Number	Number	Number	%	Change 2018–2019, %	Change 2009–2019, %
Deaths total	**7 368**	**4 960**	**2 408**	**100**	–5,1	–26,9
Neoplasms	2 200	1 187	1 013	30	–6,0	–20,3
Diseases of the circulatory system	1 609	1 254	355	22	–5,1	–30,5
Alcohol related diseases and accidental poisoning by alcohol	1 002	748	254	14	–2,4	–36,0
Accidents	709	564	145	10	–9,0	–32,9
Suicides	573	431	142	8	–4,0	–31,6
Other causes of death	1 275	776	499	17	-	-

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 2019 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 2019



Most persons aged over 75 died from diseases of the circulatory system, which caused 38 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 deceased aged 65 to 69 was over 40 per cent and for those aged over 95 it was only seven per cent.

The importance of dementia, including Alzheimer's disease, as a cause of death has grown clearly in recent years. In 2019, dementia (incl. Alzheimer's disease) was a more common cause of death for elderly people than neoplasms. During 2019, 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 2019, 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, clearly below 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 75 or over in 2019

54-group time series classification	Total	Males	Females	Total	Males	Females
	Number	Number	Number	%	%	%
Deaths total	**36 095**	**15 460**	**20 635**	**100**	**100**	**100**
Diseases of the circulatory system	13 633	5 860	7 773	38	38	38
Dementia, Alzheimer's disease	9 674	3 146	6 528	27	20	32
Neoplasms	6 883	3 498	3 385	19	23	16
Disease of the respiratory system	1 306	780	526	4	5	3
Diseases of the digestive system (excl. alcohol-related diseases)	854	339	515	2	2	2
Alcohol related diseases and accidental poisoning by alcohol	160	117	43	0	1	0
Accidents	1 161	570	591	3	4	3
Suicides	87	69	18	0	0	0
Other causes of death	2 337	1 081	1 256	6	7	6

2. Mortality from diseases of the circulatory system decreased further in 2019

Most Finns died of diseases of the circulatory system in 2019. Their share of causes of death has, however, decreased over the past ten years from 41 to 34 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 30 per cent among men and by 32 per cent among women. In 2019, the age-standardised mortality contracted further both for women (-5%) and men (-6%) compared to the previous year (Appendix figure 1).

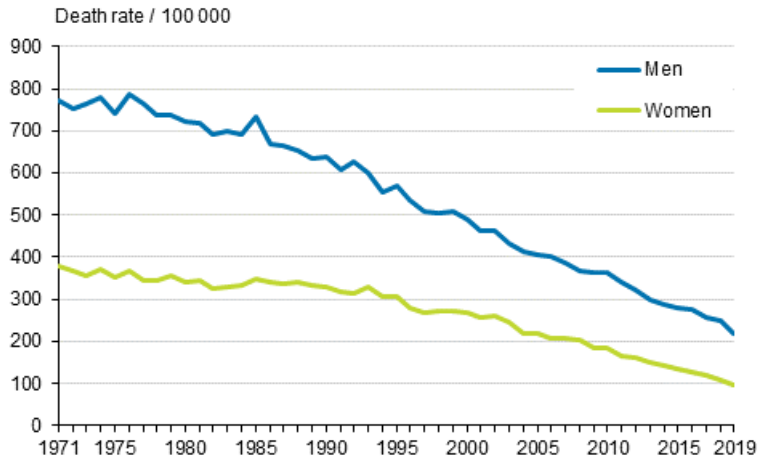
Persons dying of ischaemic heart disease ever older

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 2019, ischaemic heart disease caused nearly every fifth death among men and nearly every seventh death for 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, while in 2019 only 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 2019 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 2019, ischaemic heart disease mortality decreased further for both men and women.

Figure 3. Age-standardised mortality from ischaemic heart disease in 1971 to 2019



More than 13,000 Finns died of neoplasms in 2019

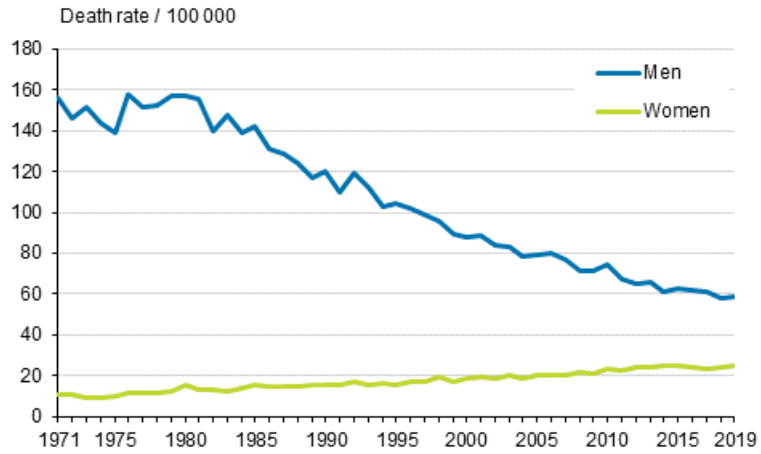
Of the main cause of death categories, second most Finns died of neoplasms. In 2019, nearly 13,300 persons died from neoplasms and they caused one in four deaths in Finland. Persons who died of neoplasms were on average almost 10 years younger than those who died of diseases of the circulatory system. The

average age of those dying of neoplasms has shifted eight years up from the 1970s, while the average age of those dying of diseases of the circulatory system had moved 10 years up.

Over the past ten years, age-standardised neoplasm mortality has decreased by eight per cent for men and slightly less for women, or by three per cent (Appendix figure 2). However, in 2019, neoplasm mortality increased among all men (+1.7%) and women (+0.8%) compared with the previous year. By contrast, neoplasm mortality among working-age people decreased clearly (-6%) 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 2019, a total of over 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 and women's has increased at the same time. Over the past ten years, women's age-standardised lung cancer mortality has grown by 20 per cent, while men's mortality has simultaneously decreased by nearly 20 per cent. In 2019, age-standardised lung cancer mortality increased by one per cent for men and by two per cent for women compared with 2018 (Figure 4).

Figure 4. Age-standardised mortality from carcinoma of larynx, trachea and lung in 1971 to 2019



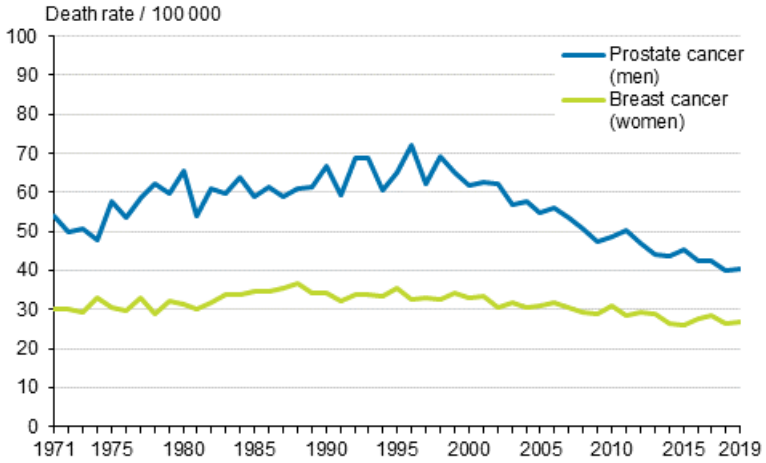
Mortality from breast cancer and prostate cancer did not decrease in 2019

The most common type of cancer causing death among women is breast cancer. In 2019, altogether 874 women died from breast cancer, which was 20 women more than in the year before. Breast cancer mortality was 31 deaths per 100,000 women. The average age of women who died of breast cancer was 73 years. Nearly every fourth deceased was aged under 65. In the past ten years the number of women who died of breast cancer has remained almost unchanged but breast cancer mortality relative to the number and age structure of women has decreased by seven 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 2019, altogether 922 men died of prostate cancer, that is, slightly more 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 80. Men's age-standardised prostate cancer mortality has decreased in the 2000s by over 10 per cent in ten years. By contrast, mortality from both breast cancer and prostate cancer increased by one per cent in 2019 from the year before (Figure 5).

Figure 5. Age-standardised prostate cancer mortality for men and breast cancer mortality for women 1971 to 2019



3. Number of deaths from dementia and Alzheimer's disease did not grow from the year before

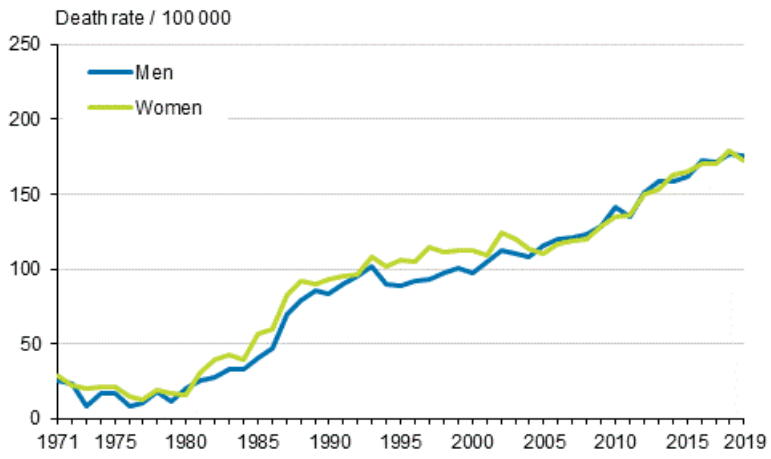
During 2019, still more than 10,000 Finns died from dementia (including Alzheimer's disease), which is almost the same as in the year before. Dementia mortality relative to the population and age structure decreased by three per cent from 2018.

The number of deaths from dementia has nearly doubled over the past ten years. The growth is 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 highest in EU countries relative to the population in 2017 according to preliminary data. By contrast, pneumonia mortality was the lowest in Finland of EU countries. 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 2019



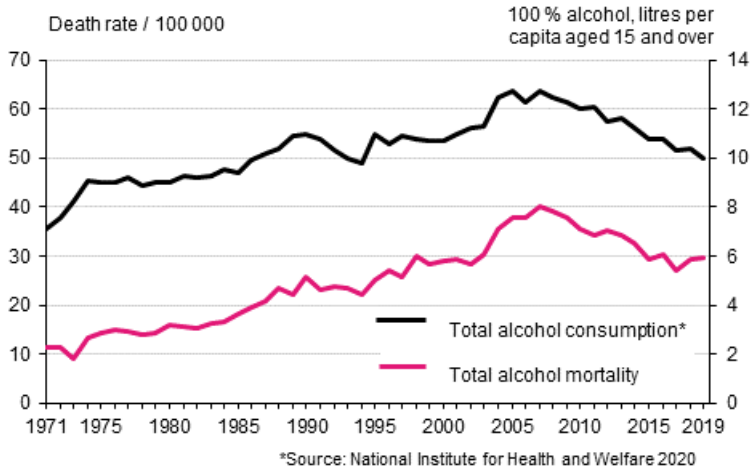
4. Deaths caused by alcohol use almost on level with the previous year

Deaths caused by alcohol use made a slight upturn in 2018. By contrast, the number of deaths in 2019 remained almost on level with the previous year. In 2019, altogether 1,718 persons died from alcohol-related diseases and alcohol poisonings. Of them, 1,306 were men and 412 women. The number increased by 35 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. Changes in alcohol-related mortality has followed the development in total consumption of alcoholic beverages (Figure 7).

Altogether three per cent of all deaths were due to alcohol-related causes. In 2019, more than one half 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 12 per cent of all alcohol-related deaths.

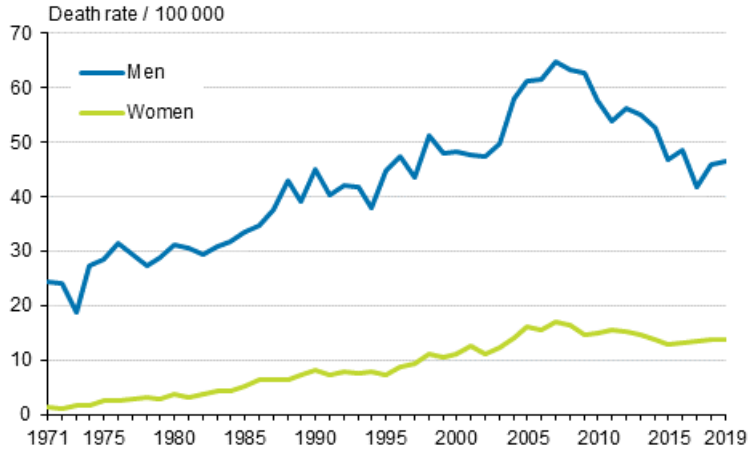
Figure 7. Age-standardised mortality from alcohol–related diseases and accidental poisonings by alcohol and total consumption of alcohol in 1971 to 2019



Men die of alcohol-related causes 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. In 2019, men's age-standardised mortality from alcohol-related causes increased by one per cent and women's, correspondingly, decreased by one per cent compared to 2018. In 2017 to 2019, age-standardised mortality caused by alcohol use increased by a total of nine per cent, for men by 11 per cent and for women by three per cent.

Only slightly over one half of the persons who died from alcohol-related causes were of working age. Over the past ten years, the share of those aged 65 or over among the deceased has increased considerably. Their share of those that died from alcohol-related causes has increased from 21 to 42 per cent in ten years. In 2018, the average age of men dying of alcohol-related causes was 63 years and that of women 62 years.

Figure 8. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol in 1971 to 2019

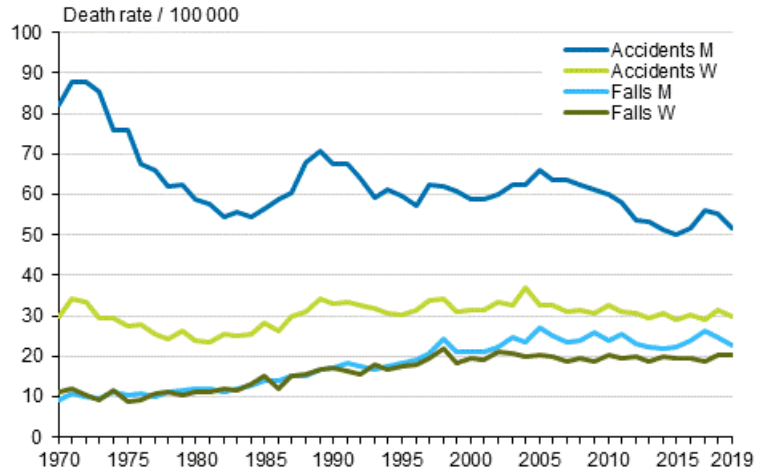


5. Growth in number of accidental deaths halted in 2019

In Finland accidents caused the death of more than 2,200 persons in total in 2019. Of them, 1,400 were men and 800 women. Accidents caused four per cent of all deaths. Five per cent of men and three per cent of women died in accidents.

Starting from 2004, the accident mortality relative to the population decreased almost continuously for ten years. The number of fatal accidents grew in 2016 to 2018, but the growth halted in 2019. In 2019, over 140 persons less died in accidents than in the previous year.

Figure 9. Accident mortality and separately deaths from accidental falls in 1970 to 2019



Stumbling the most common reason for fatal accidents

The most common accident leading to death is stumbling or falling. In 2019, altogether 1,200 persons died from stumbles or fall, which is over one half of all fatal accidents. A majority of fatal stumbles, nine out of ten, happened to persons aged over 65. The average age at death caused by stumbling was 81 years for men and 88 years for women. Relative to the number of living people, elderly men stumbled fatally slightly more often than women.

In 2019, a total of 278 persons died of accidental poisoning (excl. alcohol poisoning). Of them, over 70 per cent were men. Compared with 2018, poisoning deaths decreased by around 30 persons. The average age of those dying of accidental poisonings was 37 years for men and 43 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 2019 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 209 deaths in transport accidents (excl. drowning accidents in water traffic) in 2019. The number of deaths was one third lower than ten years earlier. 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 decreased but more children drowned than in the year before

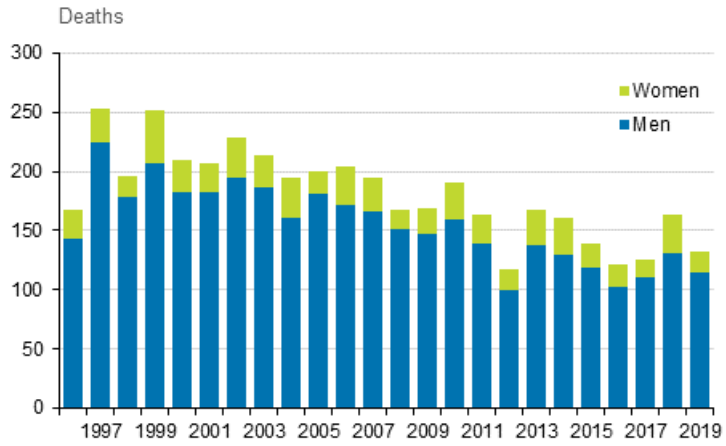
In 2019, altogether 132 persons drowned accidentally, 31 of whom in water traffic. The number of drownings decreased from the previous year. In 2018, there were 164 drowning deaths. The majority of

drowning victims, almost nine out of ten, were men. Over one half of drowning victims were aged 65 or over. Among children drowning deaths increased from the year before. There were eight drownings (incl. drownings in water traffic) among children aged under 15, while there was one 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 drowning while swimming or boating.

In 2019, altogether 48 persons died in accidental fires while in the previous year the number of deaths was 46. The vast majority of the victims, two out of three, were men. Deaths in accidental fires do not include deaths in deliberately lit fires. There were 48 deaths caused by the heat of sauna and 92 deaths caused by hypothermia.

Accidental deaths caused by animals are rare in Finland. In 2019, five persons died in these types of accidents. The accidents were caused by elk, horse and dog. In the 2010s, an average of nine persons per year have died in accidents caused by animals. Most accidents resulting in death have in the last ten years been caused by an elk (23 deaths), a wasp (20) and a dog (19).

Figure 10. Drowning accidents deaths in 2006 to 2019



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 2019, sixteen per cent of those who died in fatal accidents were intoxicated at the time, while ten years ago the corresponding share was 23 per cent.

In total, 314 persons who died in accidents in 2019 were under the influence of an intoxicant, of these a majority were intoxicated from alcohol, 275 persons. In addition, 39 persons were under the influence of various intoxicants (drug/pharmaceutical/alcohol) (Appendix table 2).

In 2019, intoxication at the time of the accident was most common for those that died of the heat of sauna and of fires. One half of them were under the influence of an intoxicant. Nearly one half of those who died by accidental drowning and of hypothermia outdoors had also been intoxicated at the time of the accident. Nearly every fourth person who died in transport accidents was intoxicated. By contrast, in fatal stumbling accidents, of which a majority occurred among persons aged over 70, 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. Number of deaths from drugs decreased in 2019

The growth in the number of deaths caused by drugs, which had continued for three consecutive years, halted in 2019, when 234 persons died from drugs in Finland. The number of deaths caused by drugs was 27 lower than in the previous year, but nearly 60 more than ten years earlier. .

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 classification1)). In it opioids, cannabis and cannabinoids, other hallucinogens, and stimulants suitable for abuse, such as amphetamine and its derivatives are classified as drugs.

The majority of drug-related deaths were poisonings from multiple substances where the effect from drugs was dominant. In addition to drugs, the person had also used, for example, psychopharmacons and/or alcohol. Drug-related deaths are classified according to the substance judged as most influential. Most commonly, in 60 per cent of the deaths, the most influential substance was some opioid, usually a synthetic pharmaceutical opioid, such as buprenorphine.

In ten years, drug mortality, or the number of deaths from drugs per 100,000 population, has grown by 27 per cent. Men's drug mortality is considerably higher than women's. Three out of four of those who died from drugs were men. In 2019, the drug mortality was 4.2, for men 6.5 and for women 2 (Appendix table 4).

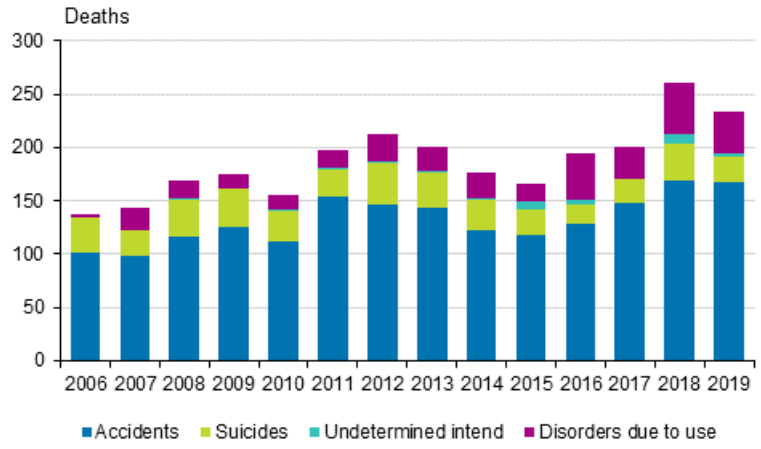
Nearly 70 per cent of those who died of drugs died under the age of 40. Most deaths occurred in the age group aged 35 to 39. Among women, deaths from drugs were focused on younger age groups than among men. Women's drug mortality was highest among those aged under 25. The average age (median) at death caused by drugs was 31 years for women and 33 years for men.

The majority (over 70%) of drug-related deaths were accidental poisonings, which in 2019 numbered 167. The number was almost the same as in the previous year.

In 2019, the number of deaths related to long-term drug use or drug addiction numbered 40, while the number was 49 in the previous year. The median age of persons dying of drug-related addiction syndromes was slightly higher (34 years) than that of persons dying of accidental drug poisonings (30 years).

In 2019, around one in ten drug-related deaths were suicides. Twenty-five suicides were committed with drugs, which was 10 fewer than in the year before. More than one half of the suicides committed with drugs were committed by women, while only one in four of all those dying of drugs were women.

Figure 11. Drug-related deaths 2006–2019 (EMCDDA definition)



7. Fewer suicides than in the previous year

In 2019, a total of 746 suicides were committed, which was 64 fewer than in 2018. 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. Three out of four of the persons who committed suicide were men. In 2019, suicide mortality or the annual number of suicides per 100,000 population was 14, being 21 for men and 6 for women (Figure 12).

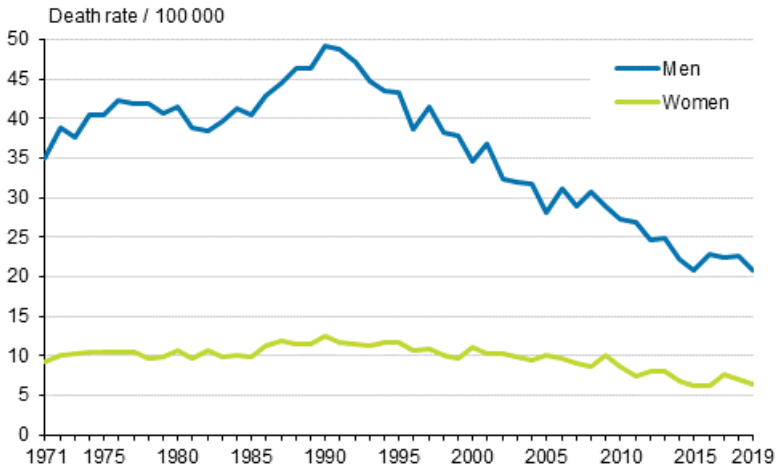
Suicide mortality has decreased by 30 per cent in ten years, in relative terms more for women than for men. The decrease in suicide mortality has been most clearly visible among middle-aged persons and least visible in younger age groups. Suicide mortality among young women aged under 25 has even increased in ten years.

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 was over one third in 2019. Among young people, the share of suicides in all causes of death is high because young people’s mortality from other causes is low. In 2019, there were 109 suicide victims aged under 25, which is 15 per cent of all who committed suicide.

Young people's suicide mortality in Finland is high by European comparison. According to Eurostat's preliminary statistics for 2017, suicide mortality among young people aged 15 to 24 was higher in Finland than in other EU countries. By contrast, for persons aged 65 and over, suicide mortality in Finland has not differed from the EU average in recent years. In Finland, nearly every fourth person having committed suicide in 2019 had turned 65.

In 2019, the average age (median) of persons who committed suicide was 47 years for both women and men.

Figure 12. Suicides mortality 1971 to 2019



8. Accidents a significant cause of death among those aged 1 to 14 in 2019

During 2019, altogether 95 children under the age of one died, while in the year before the number was 99 and ten years earlier 160. In 2019, infant mortality, that is, mortality among children aged under one, was 2.1 children per 1,000 live-born children (Figure 13). More than one half of children dying during their first year of life die during their first week of life and two thirds during the first four weeks of life.

The main causes of death among children under the age of one were perinatal reasons and congenial malformations (Table 4), while among children aged one to 11 months cot death was a significant cause of death in addition to congenial malformations. In 2019, there were 12 cot deaths, which was six more than in 2018. By contrast, accidental and violent causes of death are rare. In the past ten years, on average three children aged under one have died of them per year.

In 2019, there were 126 stillbirths, which was ten less than in the year before. Stillbirths have decreased clearly from the 1990s. At the beginning of the 1990s, there were still over 300 stillbirths per year. Stillbirths and deaths during the first week (or perinatal mortality) numbered 3.9 children per thousand births.

In 2019, a total of 70 children aged one to 14 died, which is almost the same as in the year before. The number corresponds to approximately eight deaths per 100,000 children. Over the past 20 years, the number of children dying has halved. Especially the number of deaths caused by neoplasms, congenial malformations and traffic accidents is clearly lower for children than twenty years ago. However, the positive development seems to have slowed down over the past ten years. In 2019, there were 16 accidental deaths among children aged one to 14, which was nine more than in the year before, but almost the same number as five years ago. In 2019, the most common causes of death for children were accidents (especially drownings) and cancers.

In 2019, there were five maternal deaths, i.e. maternal mortality was 11 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 13. Mortality during infant and perinatal period in 1992 to 2019

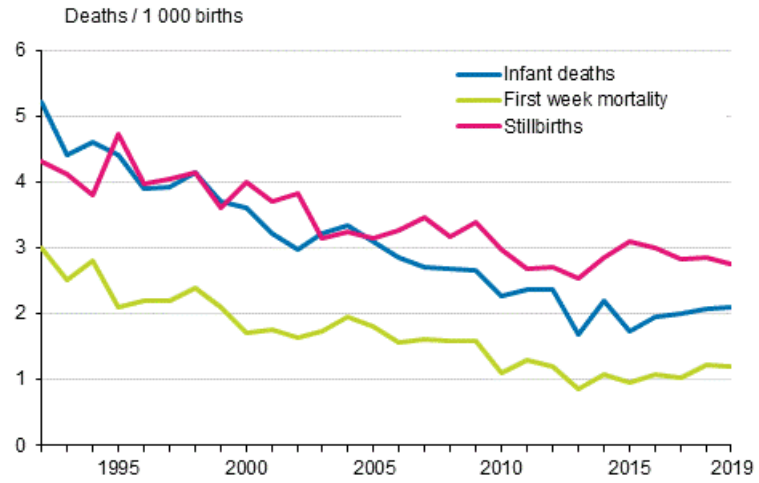


Table 4. Causes of death among children under the age of one 2000, 2005, 2010, 2018 and 2019

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

Appendix tables

Appendix table 1a. Deaths by underlying cause of death and by age in 2019, both sexes

Underlying cause of death (54-group classification)	Ages total	0–14	15–64	65-
01-54 TOTAL DEATHS (A00-Y89)	53 962	165	7 368	46 429
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	50 715	139	5 976	44 600
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	210	3	37	170
01 Tuberculosis (A15-A19, B90, J65)	29	0	0	29
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)	178	3	35	140
04-22 Neoplasms (C00-D48)	13 267	16	2 200	11 051
04-21 Malignant neoplasms (C00-C97)	12 899	15	2 176	10 708
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	219	0	51	168
05 Malignant neoplasm of oesophagus (C15)	315	0	83	232
06 Malignant neoplasm of stomach (C16)	416	0	85	331
07 Malignant neoplasm of colon (C18, C19)	919	0	139	780
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	453	0	82	371
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	572	0	89	483
10 Malignant neoplasm of pancreas (C25)	1 199	0	224	975
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	2 383	0	368	2 015
12 Malignant melanoma of skin (C43)	217	1	66	150
13 Malignant neoplasm of breast (C50)	881	0	229	652
14 Malignant neoplasm of cervix uteri (C53)	45	0	27	18
15 Malignant neoplasm of uterus (C54-C55)	221	0	36	185
16 Malignant neoplasm of ovary (C56)	321	0	45	276
17 Malignant neoplasm of prostate (C61)	922	0	53	869
18 Malignant neoplasm of kidney (C64)	341	0	56	285
19 Malignant neoplasm of bladder (C67)	317	0	26	291
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	1 227	5	134	1 088
21 Other malignant neoplasms	1 931	9	383	1 539
22 Other neoplasms (D00-D48)	368	1	24	343
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	803	11	170	622
23 Diabetes mellitus (E10-E14)	595	1	122	472
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	208	10	48	150
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	10 153	0	43	10 110
26 Other diseases of the nervous system and sense organs excl. alcohol-related	1 933	9	270	1 654
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	18 267	7	1 609	16 651
27 Ischaemic heart diseases (I20-I25)	8 630	0	717	7 913
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	1 689	3	289	1 397
29 Cerebrovascular diseases (I60-I69)	3 991	4	284	3 703
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	3 957	0	319	3 638
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	1 969	3	171	1 795
31 Influenza (J09-J11)	185	1	18	166
32 Pneumonia (J12-J18, J849)	86	2	16	68
33 Bronchitis and emphysema (J40-J44, J47)	1 221	0	111	1 110
34 Asthma (J45-J46)	63	0	5	58
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	414	0	21	393
36 Diseases of the digestive system excl. alcohol-related diseases	1 271	1	151	1 119
37 Diseases of the genitourinary system (N00-N99)	198	0	15	183

Underlying cause of death (54-group classification)	Ages total	0–14	15–64	65-
38 Congenital malformations (Q00-Q99)	171	39	78	54
39 Other diseases excl. alcohol-related	569	50	135	384
40 Ill-defined and unknown causes of mortality (R96-R99)	186	0	95	91
41 Alcohol-related diseases and accidental poisoning by alcohol	1 718	0	1 002	716
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	3 117	24	1 370	1 723
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	2 245	17	709	1 519
42 Land traffic accidents	174	2	120	52
43 Other land transport accidents	30	0	13	17
44 Water transport accidents (V90-V94)	34	1	17	16
45 Others and unspecified transport accidents (V95-V99)	2	0	1	1
46 Accidental falls (W00-W19)	1 190	0	111	1 079
47 Accidental drownings (W65-W74)	101	7	34	60
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	278	0	246	32
49 Other accidents and sequelae of accidents	436	7	167	262
50 Suicides (X60-X84, Y87.0)	746	4	573	169
51 Assault (X85-Y09, Y87.1)	65	2	51	12
52 Event of undetermined intent (Y16-Y34, Y87.2)	53	0	36	17
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	8	1	1	6
54 NO DEATH CERTIFICATE	130	2	22	106

Appendix table 1b. Deaths by underlying cause of death and by age in 2019, males

Underlying cause of death (54-group classification)	Ages total	0–14	15–64	65-
01-54 TOTAL DEATHS (A00-Y89)	27 088	92	4 960	22 036
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	24 960	77	3881	21 002
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	98	2	24	72
01 Tuberculosis (A15-A19, B90, J65)	13	0	0	13
02 Human immunodeficiency virus (HIV) disease (B20-B24)	2	0	2	0
03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)	83	2	22	59
04-22 Neoplasms (C00-D48)	7 097	8	1 187	5 902
04-21 Malignant neoplasms (C00-C97)	6 924	8	1 174	5 742
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	142	0	40	102
05 Malignant neoplasm of oesophagus (C15)	229	0	66	163
06 Malignant neoplasm of stomach (C16)	237	0	48	189
07 Malignant neoplasm of colon (C18, C19)	490	0	76	414
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	284	0	51	233
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	385	0	70	315
10 Malignant neoplasm of pancreas (C25)	578	0	130	448
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	1 537	0	239	1 298
12 Malignant melanoma of skin (C43)	136	1	41	94
13 Malignant neoplasm of breast (C50)	7	0	2	5
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)	922	0	53	869
18 Malignant neoplasm of kidney (C64)	194	0	37	157
19 Malignant neoplasm of bladder (C67)	231	0	22	209
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	657	2	85	570
21 Other malignant neoplasms	895	5	214	676
22 Other neoplasms (D00-D48)	173	0	13	160
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	432	7	103	322
23 Diabetes mellitus (E10-E14)	316	1	73	242
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	116	6	30	80
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	3 401	0	18	3 383
26 Other diseases of the nervous system and sense organs excl. alcohol-related	1 030	5	150	875
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	9 255	5	1 254	7 996
27 Ischaemic heart diseases (I20-I25)	4 944	0	607	4 337
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	912	2	237	673
29 Cerebrovascular diseases (I60-I69)	1 788	3	185	1 600
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	1 611	0	225	1 386
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	1 205	2	115	1 088
31 Influenza (J09-J11)	85	0	10	75
32 Pneumonia (J12-J18, J849)	47	2	13	32
33 Bronchitis and emphysema (J40-J44, J47)	787	0	77	710
34 Asthma (J45-J46)	20	0	0	20
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	266	0	15	251
36 Diseases of the digestive system excl. alcohol-related diseases	585	1	97	487
37 Diseases of the genitourinary system (N00-N99)	91	0	9	82
38 Congenital malformations (Q00-Q99)	81	17	35	29
39 Other diseases excl. alcohol-related	261	30	79	152
40 Ill-defined and unknown causes of mortality (R96-R99)	118	0	62	56

Underlying cause of death (54-group classification)	Ages total	0–14	15–64	65-
41 Alcohol-related diseases and accidental poisoning by alcohol	1 306	0	748	558
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	2 064	15	1 061	988
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	1 412	11	564	837
42 Land traffic accidents	131	1	96	34
43 Other land transport accidents	29	0	13	16
44 Water transport accidents (V90-V94)	34	1	17	16
45 Others and unspecified transport accidents (V95-V99)	1	0	0	1
46 Accidental falls (W00-W19)	622	0	87	535
47 Accidental drownings (W65-W74)	83	6	29	48
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	201	0	186	15
49 Other accidents and sequelae of accidents	311	3	136	172
50 Suicides (X60-X84, Y87.0)	567	2	431	134
51 Assault (X85-Y09, Y87.1)	43	2	34	7
52 Event of undetermined intent (Y16-Y34, Y87.2)	40	0	31	9
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	2	0	1	1
54 NO DEATH CERTIFICATE	64	0	18	46

Appendix table 1c. Deaths by underlying cause of death and by age in 2019, females

Underlying cause of death (54-group short list)	Ages total	0–14	15–64	65-
01-54 TOTAL DEATHS (A00-Y89)	26 874	73	2 408	24 393
01-41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45)	25 755	62	2 095	23 598
01-03 Certain infectious and parasitic diseases (A00-B99, J65)	112	1	13	98
01 Tuberculosis (A15-A19, B90, J65)	16	0	0	16
02 Human immunodeficiency virus (HIV) disease (B20-B24)	1	0	0	1
03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99)	95	1	13	81
04-22 Neoplasms (C00-D48)	6 170	8	1 013	5 149
04-21 Malignant neoplasms (C00-C97)	5 975	7	1 002	4 966
04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	77	0	11	66
05 Malignant neoplasm of oesophagus (C15)	86	0	17	69
06 Malignant neoplasm of stomach (C16)	179	0	37	142
07 Malignant neoplasm of colon (C18, C19)	429	0	63	366
08 Malignant neoplasm of rectum, anus and anal canal (C20-C21)	169	0	31	138
09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22)	187	0	19	168
10 Malignant neoplasm of pancreas (C25)	621	0	94	527
11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34)	846	0	129	717
12 Malignant melanoma of skin (C43)	81	0	25	56
13 Malignant neoplasm of breast (C50)	874	0	227	647
14 Malignant neoplasm of cervix uteri (C53)	45	0	27	18
15 Malignant neoplasm of uterus (C54-C55)	221	0	36	185
16 Malignant neoplasm of ovary (C56)	321	0	45	276
17 Malignant neoplasm of prostate (C61)	0	0	0	0
18 Malignant neoplasm of kidney (C64)	147	0	19	128
19 Malignant neoplasm of bladder (C67)	86	0	4	82
20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96)	570	3	49	518
21 Other malignant neoplasms	1 036	4	169	863
22 Other neoplasms (D00-D48)	195	1	11	183
23-24 Endocrine, nutritional and metabolic diseases (E00-E90)	371	4	67	300
23 Diabetes mellitus (E10-E14)	279	0	49	230
24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90)	92	4	18	70
25 Dementia, Alzheimers disease (F01, F03, G30, R54)	6 752	0	25	6 727
26 Other diseases of the nervous system and sense organs excl. alcohol-related	903	4	120	779
27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99)	9 012	2	355	8 655
27 Ischaemic heart diseases (I20-I25)	3 686	0	110	3 576
28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52)	777	1	52	724
29 Cerebrovascular diseases (I60-I69)	2 203	1	99	2 103
30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99)	2 346	0	94	2 252
31-35 Diseases of the respiratory system (J00-J64, J66-J99)	764	1	56	707
31 Influenza (J09-J11)	100	1	8	91
32 Pneumonia (J12-J18, J849)	39	0	3	36
33 Bronchitis and emphysema (J40-J44, J47)	434	0	34	400
34 Asthma (J45-J46)	43	0	5	38
35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99)	148	0	6	142
36 Diseases of the digestive system excl. alcohol-related diseases	686	0	54	632
37 Diseases of the genitourinary system (N00-N99)	107	0	6	101
38 Congenital malformations (Q00-Q99)	90	22	43	25
39 Other diseases excl. alcohol-related	308	20	56	232
40 Ill-defined and unknown causes of mortality (R96-R99)	68	0	33	35

Underlying cause of death (54-group short list)	Ages total	0–14	15–64	65-
41 Alcohol-related diseases and accidental poisoning by alcohol	412	0	254	158
42-53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89)	1 053	9	309	735
42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86)	833	6	145	682
42 Land traffic accidents	43	1	24	18
43 Other land transport accidents	1	0	0	1
44 Water transport accidents (V90-V94)	0	0	0	0
45 Others and unspecified transport accidents (V95-V99)	1	0	1	0
46 Accidental falls (W00-W19)	568	0	24	544
47 Accidental drownings (W65-W74)	18	1	5	12
48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15)	77	0	60	17
49 Other accidents and sequelae of accidents	125	4	31	90
50 Suicides (X60-X84, Y87.0)	179	2	142	35
51 Assault (X85-Y09, Y87.1)	22	0	17	5
52 Event of undetermined intent (Y16-Y34, Y87.2)	13	0	5	8
53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89)	6	1	0	5
54 NO DEATH CERTIFICATE	66	2	4	60

Appendix table 2. Deaths from accidents by external cause and deaths from acute intoxication 2019

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)	**1 967**	**314**	**275**	**18**	**21**	**16,0**
Transport accidents	209	51	33	11	7	24,4
Falls	1 190	76	75	0	1	6,4
Drowning	132	59	57	1	1	44,7
Eating, inhalation of food (W79)	58	18	13	3	2	31,0
Heat of sauna (W92)	48	27	24	1	2	56,3
Fire (X00–X09)	48	24	23	0	1	50,0
Natural cold (X31)	92	41	35	2	4	44,6
Other accident	190	18	15	0	3	9,5

Appendix table 3. Mortality during infant and perinatal period 1987–2019

	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
2019	180	3,9	126	54	1,2	64	1,4	95	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 2019[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
2019	234	177	57	4,2	6,5	2,0

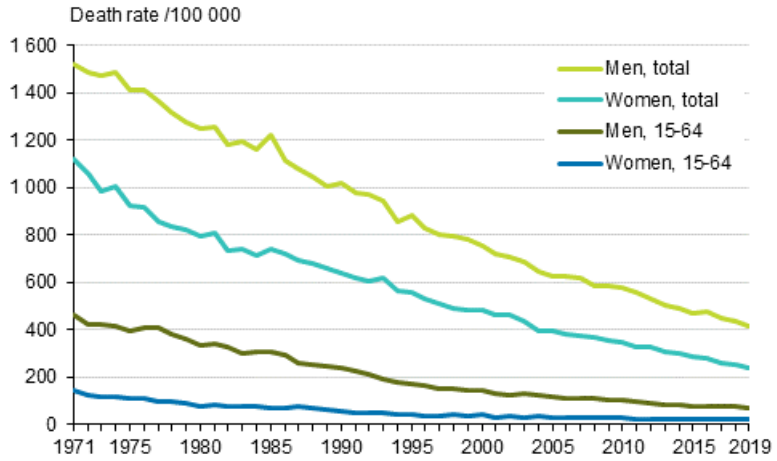
1) ICD-10:n codes F11–F12, F14–F16, F19 and X41, X42, X61, X62, Y11 and Y12 together with T codes (T40.0-9, T43–43.6)

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

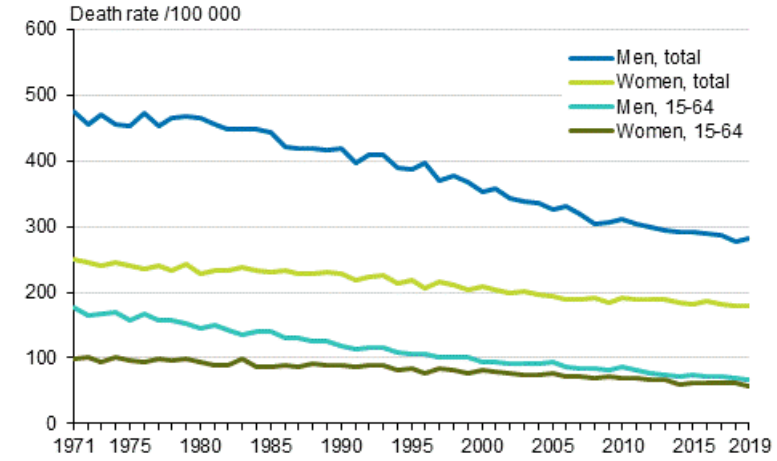
Age	Standard population
0	1 000
1–4	4 000
5–9	5 500
10–14	5 500
15–19	5 500
20–24	6 000
25–29	6 000
30–34	6 500
35–39	7 000
40–44	7 000
45–49	7 000
50–54	7 000
55–59	6 500
60–64	6 000
65–69	5 500
70–74	5 000
75–79	4 000
80–84	2 500
85–89	1 500
90–94	800
95+	200
Total	100 000

Appendix figures

Appendix figure 1. Age-standardised mortality from diseases of the circulatory system in 1971 to 2019



Appendix figure 2. Age-standardised mortality from neoplasms in 1971 to 2019



Quality Description: Causes of death 2019

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.

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 15 % of the 2019 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 2019, there were 130 missing death certificates, which was 0,2 per cent of the deaths. Of these 130 missing death certificates, the number of deaths abroad is unknown. On the subject of the other deaths abroad (around 250 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.

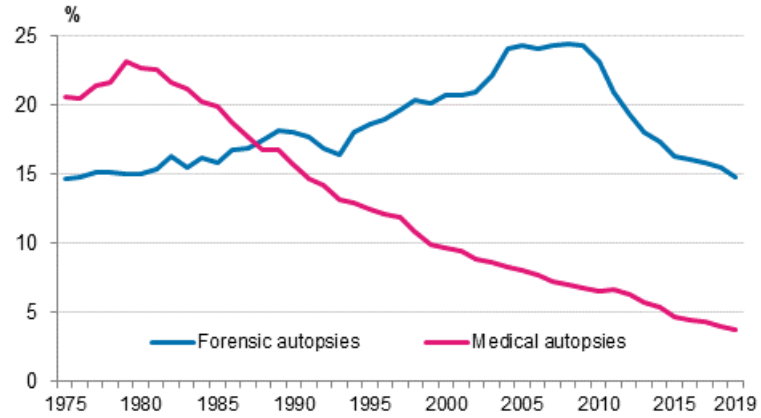
Those 130 dead persons from whom a death certificate was not obtained before the statistics were compiled (28 Oct 2020) are included in the statistics with the code R999 (no death certificate). The data derived from late death certificates are combined to the survey database and death certificate archives.

Number of death certificates missing from statistics yearly 2000–2019

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

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 2019, 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 2019



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 2019, the number of deaths was 53,949, which was 13 deaths less than in the cause of death statistics. The number of deaths under the age of one year was 96 in the vital statistics and 95 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

Inquiries

Airi Pajunen 029 551 3605
Kati Taskinen 029 551 3648
Jari Hellanto 029 551 3291
Head of Department in charge:
Hannele Orjala

kuolemansyyt@stat.fi
www.stat.fi
Source: Causes of death, Statistics Finland

Communication and Information Services, Statistics Finland
tel. +358 29 551 2220
www.stat.fi

ISSN 1796-0479
= Official Statistics of Finland
ISSN 1799-5078 (pdf)