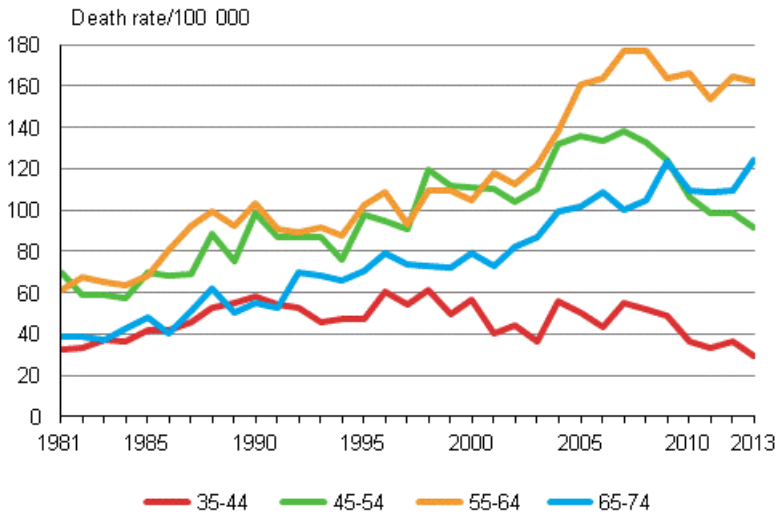
# Causes of death in 2013

## Persons who died of alcohol-related causes older than before

*According to Statistics Finland, good 1,900 persons died of alcohol-related causes in 2013. The number of deaths was unchanged from the previous year. Three-quarters of the persons that died of alcohol-related causes were men. Deaths from alcohol-related causes have become more common over the past ten years especially among men aged over 55. Simultaneously, the medium age of those who died has risen from 55 to 59. In younger age groups, deaths from alcohol-related causes have decreased.*

**Men's mortality from alcohol-related causes by age groups in 1981 to 2013**




Over the past ten years, deaths from alcohol-related causes among men have increased most for those aged 65 to 74. Deaths have grown nearly 1.5-fold. Deaths from alcohol-related causes are, however, still highest among men aged 55 to 64. By contrast, deaths from alcohol-related causes among younger men than that have decreased.

Deaths related to the use of alcohol grew relatively evenly in Finland from the 1980s until 2003, after which deaths from alcohol-related causes increased by around one-quarter within a few years. The slow

decrease in the number of deaths from alcohol-related causes that started in 2008 came to a halt in 2012. In 2013, deaths from alcohol-related causes again decreased slightly from the previous year but still being clearly higher than in 2003.

In 2013, the share of alcohol-related causes in all causes of death was four per cent. In 2013, good 1,900 persons died from alcohol-related diseases and alcohol poisonings. Of them 1,500 were men and 400 were women. Persons who died from alcohol-related causes were older than before. The share of persons aged over 65 in deaths from alcohol-related causes has grown by ten percentage points over the past ten years from 18 to 28 per cent. A majority, or seven out of ten, of those who died from alcohol-related causes were still of working-age. The meaning of alcohol as a cause of death is higher for middle-aged people than for retirement-age people because the mortality of middle-aged people as a whole is clearly lower than for older age groups. For example, among men who died at the age of 45 to 54, one in four died of alcohol-related causes.

A majority of deaths from alcohol-related causes are caused by diseases related to long-term use, such as liver and heart diseases. The share of alcohol poisonings in deaths from alcohol-related causes has decreased to 17 per cent. In addition to the underlying cause of death, alcohol can also be a contributing factor to death. In 2013, alcohol was a contributing factor in 355, or more than one in- six, accidental deaths. Intoxication was most common in fire accidents, where more than one-half of those who died were under the influence of alcohol. One in five of those who died in traffic were intoxicated. In stumbling accidents, of which a majority occurred among persons aged over 65, fewer than one in ten were under the influence of alcohol.

## *One in five women died of dementia*

Altogether 51,500 persons died in 2013. The longer life expectancy is visible in the age distribution of deaths. People are dying at an ever older age: nearly two in three were aged over 75 and one in three were over 85. Four hundred of those who died had turned 100.

In 2013, thirty-eight per cent of all deaths were caused by diseases of the circulatory system and 24 per cent by neoplasms. Lung cancer was the most common type of cancer among men and breast cancer among women. The share of dementia (including Alzheimer's disease) among deaths has grown quickly over the past few years partially because of the population aging. Fifteen per cent of all deaths were caused by dementia, while the share ten years ago was still eight per cent. Of women, one in five died from dementia and of men nearly one in ten. The higher share of deaths from dementia among women than men is caused by women living longer than men.

Suicides were committed by 887 persons, which was slightly more than in the year before. Of those who committed suicides, 11 per cent were under the age of 25. The number of suicides has decreased among both women and men by over 15 per cent over the past ten years. The figure was at its highest in 1990, when there were over 1,500 suicides in Finland.

In terms of the total number of accidents, 2013 did not differ much from 2012. The number of accidental deaths is 2,200 when alcohol poisonings are included in deaths from alcohol-related causes. Especially, the number of deaths from fires was record low.

## Causes of death 2013 (time series classification)

| | Total | Males | Females | Total | Males | Females |
|---|---|---|---|---|---|---|
| | Number | Number | Number | % | % | % |
| Diseases of the circulatory system | 19 548 | 9 478 | 10 070 | 38 | 37 | 39 |
| Neoplasms | 12 224 | 6 408 | 5 816 | 24 | 25 | 22 |
| Dementia, Alzheimer's disease | 7 543 | 2 403 | 5 140 | 15 | 9 | 20 |
| Accidents | 2 245 | 1 427 | 818 | 4 | 6 | 3 |
| Disease of the respiratory system | 1 892 | 1 186 | 706 | 4 | 5 | 3 |
| Alcohol related diseases and accidental poisoning by alcohol | 1 926 | 1 502 | 424 | 4 | 6 | 2 |
| Suicides | 887 | 666 | 221 | 2 | 3 | 1 |
| Other causes of death | 5 213 | 2 557 | 2 656 | 10 | 10 | 10 |
| **Deaths total** | **51 478** | **25 627** | **25 851** | **100** | **100** | **100** |

# Contents



## Tables



**Appendix tables**



## Figures

# 1. Causes of death in 2013

A total of 51,500 persons, 25,600 men and 25,900 women, died in 2013. The longer life expectancy is visible in the age distribution of deaths. People are dying at an ever older age: nearly two in three were aged over 75 and one in three were over 85. Four hundred of those who died had turned 100.

Due to the age structure of persons who died, the typical causes of death of older age groups govern the causes of death distribution of the entire population. In 2013, thirty-eight per cent of all deaths in Finland were caused by diseases of the circulatory system and 24 per cent by neoplasms. The commonest disease of the circulatory system, ischaemic heart disease, was the cause of around one-fifth of all deaths. The commonest types of cancer leading to death for men were lung cancer and prostate cancer, and correspondingly for women breast cancer and lung cancer.

Altogether 7,500 persons died from dementia, including Alzheimer's disease, which represented 15 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. Dementia mortality among women is twice as high as among men, which is mainly because women live longer than men. Of the deaths among women, one in five and nearly one in ten among men was caused by dementia.

In 2013, the share of people of working-age (15 to 64) among all deaths was 18 per cent (9,200 persons) and the share of those aged under 15 was close on one-half per cent (176 children). In particular, the number of children who died under the age of one year decreased clearly from the previous year. Altogether, the number of deaths among persons aged under 65 decreased by 400 from 2012.

## *Among persons of working-age, 1,400 died from alcohol-related causes.*

One in four of the men that died in 2013 were of working-age and one in ten of women. Most working-age people died from neoplasms (29%) and from diseases of the circulatory system (22%). More than half of working-age people deceased during the year died of these two causes. One in ten of them died in accidents. The share of persons that died from alcohol-related causes and diseases, and alcohol poisonings was 15 per cent or 1,400 persons of working-age. Deaths from alcohol-related causes among working-age men and women has decreased clearly from the peak level of 2007 but is still higher than ten years ago. Eight per cent of deaths among working-age people were caused by suicides despite the fact that suicides have decreased rapidly in the 1990s.

**Table 1. Main causes of death among working-age population (aged 15 to 64) in 2013**

| 54–group time series classification | Total | Males | Females | Total | Males | Females |
|---|---|---|---|---|---|---|
| | Number | Number | Number | % | % | % |
| Neoplasms | 2 640 | 1 391 | 1 249 | 29 | 22 | 43 |
| - Malignant neoplasm of larynx, trachea, bronchus and lung | 546 | 360 | 186 | 6 | 6 | 6 |
| - Malignant neoplasm of breast | 290 | 0 | 290 | 3 | 0 | 10 |
| - Malignant neoplasm of pancreas | 232 | 124 | 108 | 3 | 2 | 4 |
| Diseases of the circulatory system | 2 041 | 1 601 | 440 | 22 | 25 | 15 |
| - Ischaemic heart diseases | 1 030 | 884 | 146 | 11 | 14 | 5 |
| Alcohol related diseases and accidental poisoning by alcohol | 1 386 | 1 084 | 302 | 15 | 17 | 10 |
| Accidents | 876 | 706 | 170 | 10 | 11 | 6 |
| Suicides | 706 | 529 | 177 | 8 | 8 | 6 |
| Disease of the respiratory system | 227 | 162 | 65 | 2 | 3 | 2 |
| Other causes of death | 1 302 | 819 | 483 | 14 | 13 | 17 |
| **Deaths total** | **9 178** | **6 292** | **2 886** | **100** | **100** | **100** |

Working-age men were killed most by diseases of the circulatory system (25%), neoplasms (22%) and alcohol-related causes (17%). The most common disease of the circulatory system among men was still ischaemic heart disease even though the number of people who have died from it has halved over the past

twenty years. The most common type of cancer that killed working-age men was lung cancer. The number of accidents among working-age men decreased by nearly one-quarter compared to 2003. Positive development has also taken place in suicide mortality. In 2013, the number of suicides among working-age men was 529, which is one-fifth fewer than ten years earlier.

The main cause of death category for working-age women was neoplasms. As many as 43 per cent of women deceased at working-age died from neoplasms. The most common type of cancer was breast cancer, which caused one in ten deaths. More women of working-age died from alcohol-related causes than from breast cancer. Among working-age women, the importance of diseases of the circulatory system as the cause of death has decreased: their share in 2013 was 15 per cent when twenty years ago the share was nearly one-quarter of all deaths. Six per cent of deaths among working-age women were suicides.

## *Diseases of the circulatory system caused one-half of deaths among persons aged over 90.*

In 2013, eighty-two per cent of those who died were over the age of 65. Their structures of causes of death clearly differ from the structure of working-age people: the share of suicides, accidents and alcohol-related causes of death is clearly smaller and the share of dementia and diseases of the circulatory system is higher than for people of working-age (Table 2).

The most common cause of death category for persons aged over 65 was diseases of the circulatory system, which caused over 40 per cent of the deaths. The share of diseases of the circulatory system in causes of death grows with age: For those aged 65 to 74 they killed one-third and for those aged over 90 as many as one-half (Figure 1).

The share of neoplasms as a cause of death was smaller among those of retirement age than among those of working-age. Among persons aged over 65, nearly one in four died of neoplasms. The share of persons that died from neoplasms decreases rapidly with age: among persons aged over 85 they killed 12 per cent and among those aged over 95 they killed only seven per cent. The most common type of cancer that killed old people was lung cancer.

**Table 2. Main causes of death among persons aged 65 or over in 2013**

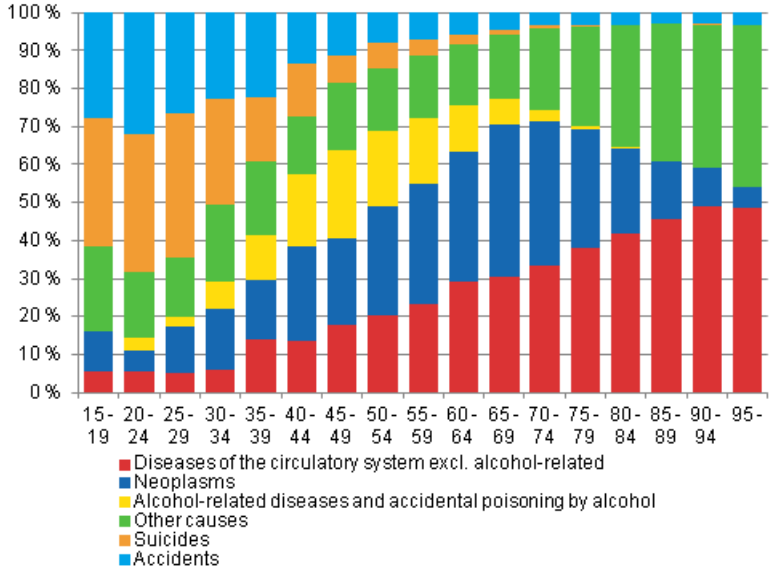
| Time series classification | Total | Males | Females | Total | Males | Females |
|---|---|---|---|---|---|---|
| | Number | Number | Number | % | % | % |
| Neoplasms | 9 564 | 5 007 | 4 557 | 23 | 26 | 20 |
| - Malignant neoplasm of larynx, trachea, bronchus and lung | 1 713 | 1171 | 542 | 4 | 6 | 2 |
| - Malignant neoplasm of lymphoid, haematopoietic and related tissue | 951 | 459 | 492 | 2 | 2 | 2 |
| - Malignant neoplasm of pancreas | 793 | 375 | 418 | 2 | 2 | 2 |
| Diseases of the circulatory system | 17 497 | 7 872 | 9 625 | 42 | 41 | 42 |
| - Ischaemic heart diseases | 9 522 | 4 674 | 4 848 | 23 | 24 | 21 |
| Dementia, Alzheimer's disease | 7 490 | 2 380 | 5 110 | 18 | 12 | 22 |
| Alcohol related diseases and accidental poisoning by alcohol | 540 | 418 | 122 | 1 | 2 | 1 |
| Accidents | 1 354 | 711 | 643 | 3 | 4 | 3 |
| Suicides | 179 | 136 | 43 | 0 | 1 | 0 |
| Disease of the respiratory system | 1 661 | 1 023 | 638 | 4 | 5 | 3 |
| Other causes of death | 3 839 | 1 691 | 2 148 | 9 | 9 | 9 |
| **Deaths total** | **42 124** | **19 238** | **22 886** | **100** | **100** | **100** |

The importance of dementia, including Alzheimer’s disease as a cause of death has grown strongly. In 2013, dementia was already the third most common cause of death category for elderly people after diseases of the circulatory system and neoplasms. It killed nearly one-fifth of persons who had turned 65 and one-third of those aged over 95. Dementia mortality has developed over the past twenty years in a similar fashion for both men and women (Figure 5). Dementia mortality of Finnish men and women was the highest in EU countries relative to the population in 2011.

In 2013, one in five of the persons who committed suicides were aged over 65. The share of suicides in the causes of death for elderly people is, however, very low, under one per cent. In an international comparison in 2011, the suicide mortality of Finns aged over 65 did not differ from the average for EU countries.

More information about the causes of death of children, working-age persons and those aged over 65 can be found in Appendix tables 1a to 1c and in the database tables.

**Figure 1. Proportions of causes of death by age groups in 2013**



# 2. Ischaemic heart disease still the cause of one in five deaths

Of the main cause of death categories, most Finns died of diseases of the circulatory system. The importance of diseases of the circulatory system as a cause of death has decreased, however, over the past twenty years from 47 to 38 per cent. Simultaneously, men's and women's mortality from diseases of the circulatory system has declined by over 40 per cent.

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 considerably in Finland. Ischaemic heart disease still caused more than every fifth death. In 2013, more than 10,000 persons died from ischaemic heart disease. Slightly over one-half of them were men. Persons dying of this disease have become older than before. In 1970, four out of ten persons that died of ischaemic heart disease were of working-age, while in 2013 only one in ten was of working-age.

Figure 2 shows ischaemic heart disease mortality age-standardised. In age standardisation, the effect of the age structure of the population and its changes are eliminated. Here it is seen in 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 evenly over the last 40 years. Ischaemic heart disease mortality decreased further in 2013 for both men and women.

Of the main cause of death categories, second most Finns died of neoplasms. In 2013, they caused one in four deaths. Over the past ten years, age-standardised neoplasm mortality has decreased by over ten per cent for men and slightly less for women (7%). The most common type of cancer resulting in death was still lung cancer for men and breast cancer for women. In 2013, a total of 1,500 men and 700 women died from carcinoma of the larynx, carcinoma of the tracheitis and lung cancer. Among men, lung cancer mortality has decreased since the beginning of the 1980s. Women's lung cancer mortality has, however, been growing slowly over the past ten years (Figure 3).

**Figure 2. Age-standardised mortality from ischaemic heart disease in 1971 to 2013**

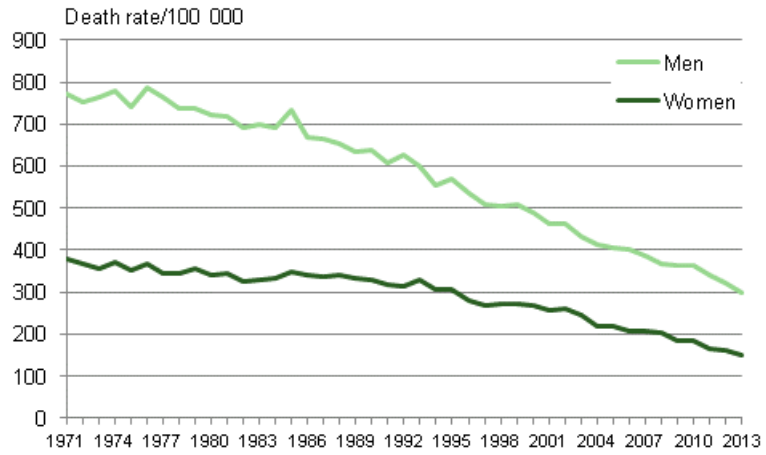
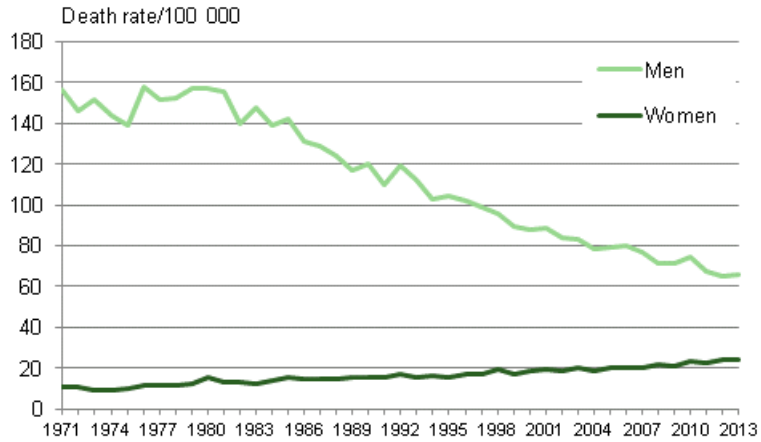


**Figure 3. Age-standardised carcinoma of larynx, trachea and lung 1971 to 2013**

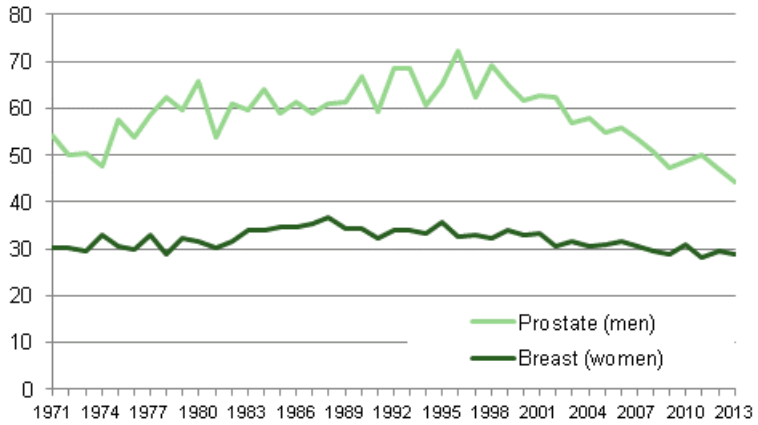



The commonest type of cancer causing death among women is breast cancer. In 2013, the number of deaths from breast cancer totalled 866, that is, 31 deaths per 100,000 women. One in three of the victims was aged under 65. Fewer working-age women died from breast cancer than from alcohol-related causes. Breast cancer mortality has grown slightly in the past few decades but age-standardised breast cancer mortality has remained almost unchanged since the 1970s (Figure 4).

After lung cancer, prostate cancer is the second most common type of cancer resulting in death. In 2013, altogether 853 men died from prostate cancer, which was nearly as many as women who died from breast cancer. Prostate cancer mortality is on level with women's breast cancer mortality, that is, 32 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. Men's age-standardised prostate cancer mortality has decreased clearly in the 21st century, even though the numbers of deaths from prostate cancer have been growing since the 1990s.

**Figure 4. Age-standardised prostate cancer mortality for men and breast cancer mortality for women 1971 to 2013**

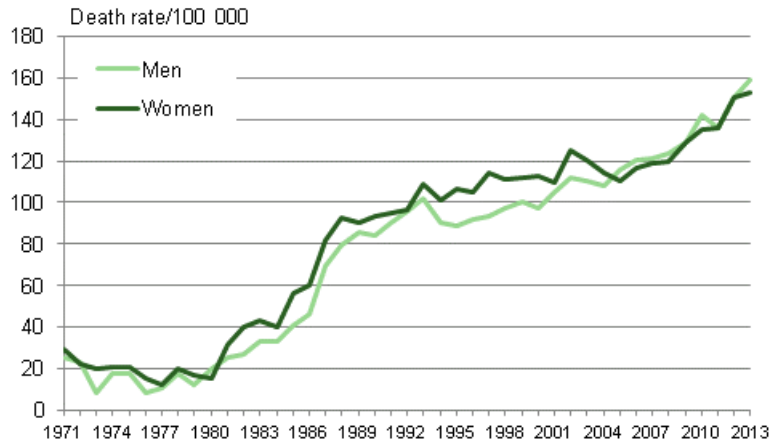


# 3. Deaths from dementia and Alzheimer's disease are increasing

In 2013, more than 7,500 Finns dies from dementia including Alzheimer's disease. The number of deaths from dementia has nearly doubled over the past ten years. The growth is also visible in the age-standardised figures (Figure 5), 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, Finland has 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 is suffering from, for example, dementia in addition to pneumonia, dementia is selected as the primary cause of death in the statistics.

Dementia mortality has developed over the past twenty years in a similar fashion for both men and women. A majority 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.

**Figure 5. Age-standardised dementia mortality (icl. Alzheimer's disease) 1971 to 2013**



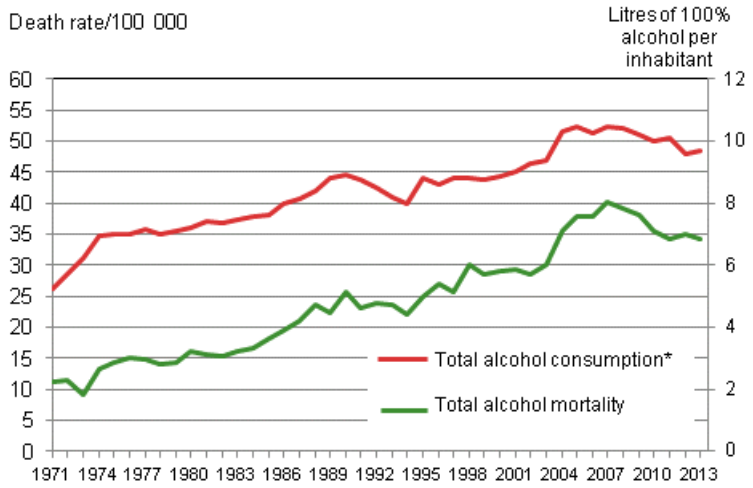
# 4. Deaths from alcohol-related causes almost unchanged

Deaths related to the use of alcohol grew relatively evenly from the 1980s until 2003, after which deaths from alcohol-related causes increased by around one-quarter within a few years. The slow decrease in the number of deaths from alcohol-related causes that started in 2008 came to a halt in 2012. In 2013, age-standardised mortality from alcohol-related causes again decreased slightly from the previous year but was still clearly higher than in 2003. In 2013, good 1,900 persons died from alcohol-related diseases and alcohol poisonings. Of them, 1,500 were men and 400 women.

The most significant reason for high alcohol mortality is increased consumption of alcohol over the past decades. Since 2007, total alcohol consumption has decreased, however. In 2013, converted to 100% alcohol, the consumption was under 10 litres per capita (National Institute for Health and Welfare 2014). Changes in alcohol-related mortality has followed fairly regularly the graph for total consumption of alcoholic beverages even though alcohol-related deaths usually call for long-term detrimental use of alcohol that lasts for several years. The changes in the number of deaths from alcohol-related causes between 2009 and 2013 were mainly caused by changes in men's deaths from alcohol-related causes.

Alcohol-related deaths include both alcohol-related diseases and accidental poisonings by alcohol. Diseases related to long-term alcohol use, such as liver and heart diseases, cause a majority of deaths from alcohol-related causes. The share of alcohol poisonings in deaths from alcohol-related causes has decreased from 26 to 17 per cent over a ten-year period. Seventy-six per cent of those dying from alcohol poisonings were men.

**Figure 6. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol and total consumption of alcohol in 1971 to 2013**




*Source: National Institute for Health and Welfare THL 2014

Men die from alcohol-related causes clearly more often than women (Figure 7). Male mortality has also followed more closely changes in total consumption of alcohol. Women are lagging behind in alcohol statistics but women's mortality from alcohol-related causes has also risen evenly over several decades following men's mortality from alcohol-related causes.

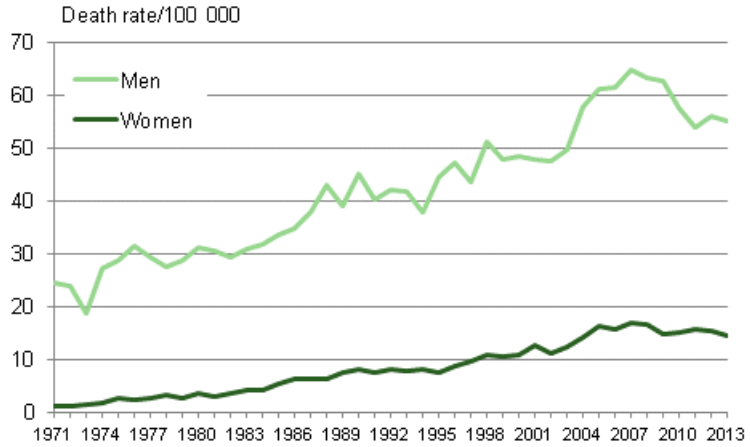
Persons who died from alcohol-related causes are older than before. Over the past ten years, the mortality from alcohol-related causes of men aged 65 or over has grown faster than the mortality of all men. A majority, or seven out of ten, of those who died from alcohol-related causes are still of working-age. The share of aged people among deaths from alcohol-related causes is increasing, however. Over the past ten years, their share has grown by ten percentage points from 18 to 28 per cent.

In 2013, the share of alcohol-related causes in all deaths was four per cent. The meaning of alcohol as a cause of death is higher for middle-aged people than for retirement-age people because the mortality in these age groups as a whole is clearly lower than for older age groups. Among men who died between the

ages of 45 and 54, alcohol-related causes were the cause of death for one-in-four, or 24 per cent and among those who died between the ages of 65 and 74 it was clearly lower at six per cent.

In addition to the underlying cause of death, alcohol is a contributing factor to death in many accidental deaths. The share of intoxication in accidents will be discussed in the following section.

**Figure 7. Age-standardised mortality from alcohol-related diseases and accidental poisonings by alcohol in 1971 to 2013**



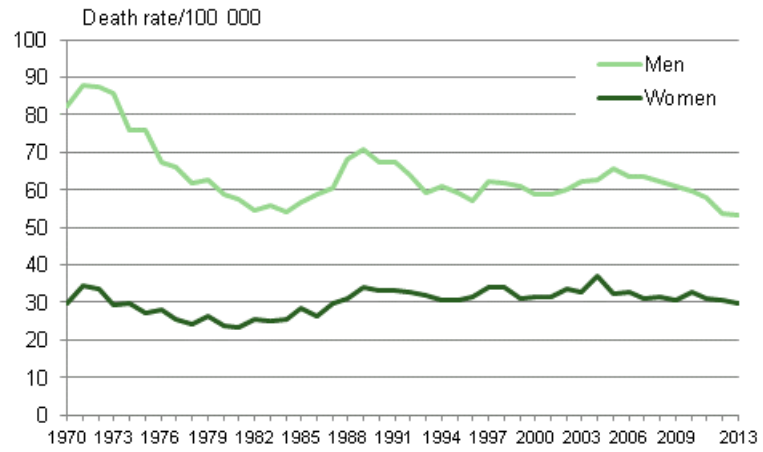
# 5. Stumbling the commonest reason for fatal accidents

Fatal accidents include such as fatal traffic accidents, fatal falls and stumbles, drowning, fatal fires and poisonings. In this publication, all other poisonings apart from alcohol poisonings that belong to alcohol-related causes are considered accidents.

In 2013, accidents caused good four per cent of all deaths. Accidents were the cause of the death of 2,200 persons, of whom 1,400 were men and 800 women. Women's accident mortality is clearly lower than men's but the accident mortality of both sexes has developed favourably in recent years. The lower mortality is mainly due to a decrease in the number of fatal traffic accidents.

Examined by age group, six out of ten persons who died from accidents in 2013 were aged over 65. Aged people died in particular from fatal stumbling and falls more than other age groups.

**Figure 8. Accident mortality in 1970 to 2013**



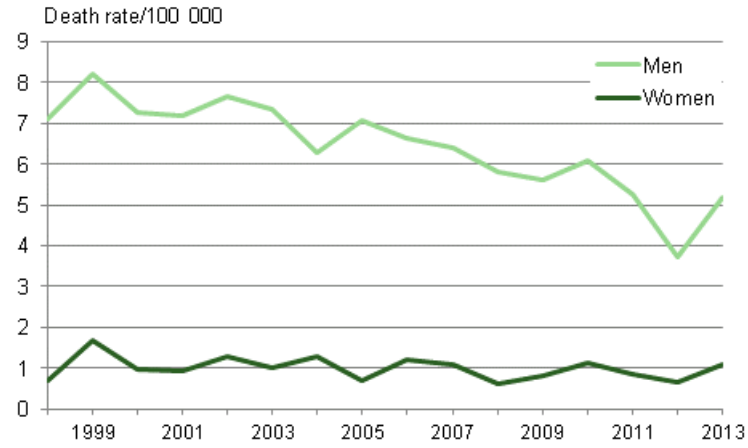

The commonest accident leading to death is stumbling or falling. In 2013, stumbling and falling caused the death of over 1,100 persons, which is nearly one-half of all accidental deaths. Approximately one-half of stumbling accidents took place inside one's home or in its immediate vicinity and one-fifth in care institutions. Eight out of ten stumbles resulting in death occurred to persons aged over 65. In absolute numbers, more deaths occurred among elderly women than elderly men but relative to the number of living people, elderly men had more stumbles resulting in death than women in relative terms.

The second most common fatal accidents were transport accidents. There were 281 deaths in transport accidents (excl. drowning accidents in water traffic) in 2013. The number of deaths has decreased by one-third over the past ten years. In 2013, there were, however, nearly 40 more deaths caused by transport accidents than in the year before.

Drowning accidents usually include drowning from falling into water and drowning while swimming or boating. In 2013, a total of 168 persons died in drowning accidents of which 37 in water traffic. Over 80 per cent of those who drowned were men. Men's drowning deaths decreased clearly in a few previous years but the figures became gloomier again in 2013 (Figure 9).

In 2013, the number of deaths in accidental fires was record low. Fires claimed 47 lives, while in 2012 the number of victims was 84. Of these three out of four were men. There were 44 deaths caused by the heat of sauna and 64 deaths caused by hypothermia.

**Figure 9. Mortality from drowning accidents 1998 to 2013**




## *More than one-half of the persons that died in fires were intoxicated.*

In 2013, alcohol was a contributing factor in one in six fatal accidents, on average. Eighteen per cent of persons that died in fatal accidents were intoxicated, i.e. 355 persons (Appendix table 2). Ten years ago, the corresponding proportion was 23 per cent of fatal accidents. In fatal accidents, intoxication means that the doctor signing the death certificate mentions that alcohol had contributed to the death. The figures exclude alcohol and drug poisonings where alcohol or drugs have not directly caused the death.

In 2013, intoxication was most common in accidental fires. More than one-half of the persons that died in fires were under the influence of alcohol. Also, among sauna deaths and accidental drowning deaths, nearly one-half of the persons were intoxicated. Of those who died of hypothermia, almost two-thirds were sober. In traffic deaths, one in five were intoxicated at the time of death. By contrast, in stumbling accidents, of which a majority occurred among persons aged over 70, only one in ten were under the influence of alcohol.

## *Four out of five persons that died accidentally from drugs were men.*

In 2013, there were 201 deaths in Finland that were caused by drugs. When calculating drug-related deaths, Statistics Finland uses a classification (Selection B) compiled by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) that publishes statistics and reports on its Internet site: www.emcdda.europa.eu

According to the EMCDDA, cases where the underlying cause of death is drug psychoses, accidental poisoning, self-inflicted poisoning, and poisoning with undetermined intent are calculated as drug-related deaths. Deaths caused by drug psychoses are usually a result of drug addiction and long-term drug use. Accidental drug poisonings are cases where the death occurs shortly after the consumption of the substance. They can often also be referred to as overdoses. Self-inflicted poisonings with drugs are suicides. In 2013, thirty-three suicides were committed with drugs. In poisonings with undetermined intent, the intent remains unclear.

**Table 3. Drug-related mortality 2000 to 2013**

| | 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 |

The drugs referred to in the EMCDDA's classification are mainly opioids. In addition to opioids, drugs also refer to cannabis and cannabinoids, other hallucinogens, and stimulants suitable for abuse, such as amphetamine and its derivatives. In 2013, more than one-half of drug-related deaths were associated with accidental overdoses of opioids.

The numbers of deaths have been calculated in accordance with the WHO's recommendation based on the substance judged as most influential. In many cases, the death is the result of multiple substance poisoning where the person has also taken other substances like alcohol and/or psychopharmacons.

Considerably fewer women than men die from drugs. In 2013, the share of women among all drug-related deaths was one-quarter. One-fifth of the persons that died accidentally from drugs were women but in suicides committed with drugs, the share of women is clearly higher, over one-half. Most drug-related deaths in absolute numbers occurred among persons aged 30 to 34.

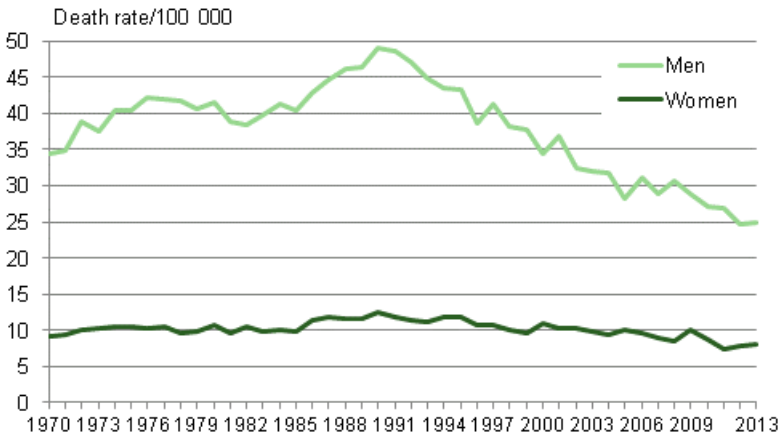
# 6. Number of suicides has remained unchanged

In 2013, suicides were committed by 887 persons, which is 14 more 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 by over 40 per cent in twenty years.

Men's suicide mortality is much higher than women's. In 2013, suicide mortality or the number of suicides a year per 100,000 population was 16.3 (24.9 for men and 8.0 for women). Three quarters of suicides were committed by men.

Suicides are a central cause of death for young people. More than one-third of young people aged between 15 and 24 that died had committed suicides. The share of suicides in all causes of death for young people is high because other mortality among young people is so low. Of all persons that committed suicides, one in ten were young people aged under 25. The suicide mortality of young men has been declining in Finland in recent years. By contrast, there is no clear decrease visible in the suicide mortality of young women. Young people's suicide mortality in Finland is high by European comparison. According to Eurostat's statistics, suicide mortality among young people was higher than in Finland only in Lithuania and Latvia. By contrast, for persons aged 65 and over, suicide mortality in Finland did not differ from the EU average. Of those who committed suicides, one in five were aged over 65.

**Figure 10. Suicide mortality 1970 to 2013**



# 7. Number of children dying under the age of one record low

The number of children who died under the age of one year decreased clearly from the previous year. In 2013, overall 98 children died in infancy, that is, under the age of one, which was 43 fewer children than in 2012. Infant mortality was 1.7 per 1,000 live-born children. The main causes of death among children under the age of one were perinatal reasons and inborn malformations (Table 4). Infectious diseases, accidents and violence are rare causes of death for infants. In 2013, only two children who died because of an accident or violence. The statistics include the children that have been registered in the Population Information System.

In 2013, there were 147 stillbirths, which was slightly fewer than in the year before (161). Perinatal mortality (deaths during the first week and stillborn) was 3.4 per thousand births. Around one-half of children dying during their first year of life die during their first week of life (in the early neonatal period) and 60 per cent during the first four weeks of life (in the neonatal period). The main causes of death after the neonatal period are inborn malformations and cot deaths. In 2013, there were 11 cot deaths. Cot deaths mostly occur to children over the age of one month.

The mortality of children aged 1 to 14 has halved over the past twenty years. In 2013, the number of deaths among children was 78, which is 20 fewer than in the previous year. This corresponds with approximately nine deaths per 100,000 population. The commonest causes of death for children aged 1 to 14 were cancers and accidents.

Over the past ten years, three women per year have, on average, died from pregnancy or in childbirth (ICD codes O00–O99). The year 2011 was the first year in the history of the statistics on causes of death when there were no maternal deaths. In 2012, there were two maternal deaths and in 2013 one, which meant that maternal mortality was 1.7 deaths per 100,000 live-born children.

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

**Figure 11. Mortality during infant and perinatal period in 1992–2013**

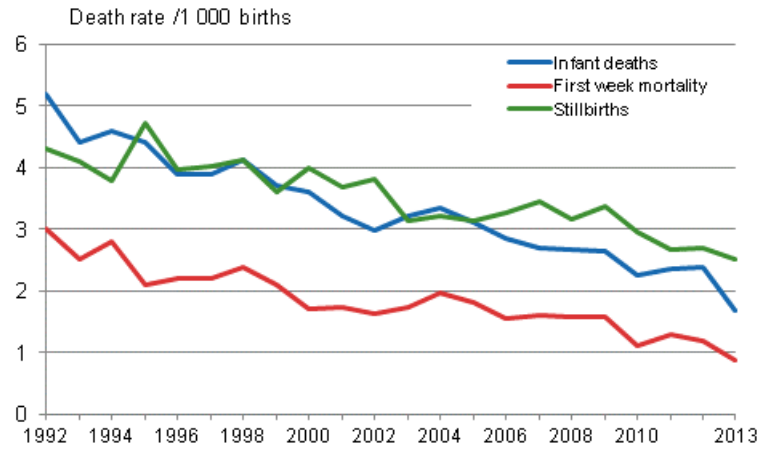


**Table 4. Causes of death among children under the age of one 2002, 2009, 2012 and 2013**

| | 2002 | 2009 | 2012 | 2013 |
|---|---|---|---|---|
| Total deaths | 165 | 160 | 141 | 98 |
| Certain conditions originating in the perinatal period (P00–P96) | 75 | 74 | 51 | 41 |
| Congenital malformations and chromosomal abnormalities (Q00–Q99) | 51 | 52 | 43 | 31 |
| Sudden infant death syndrome (R95) | 13 | 15 | 12 | 11 |
| Diseases of circulatory system and respiratory system (J00–J99, I00–I99) | 4 | 5 | 7 | 3 |
| Endocrine, nutritional and metabolic diseases (E00–E90) | 0 | 5 | 5 | 3 |
| Other diseases and unknown | 17 | 4 | 19 | 7 |
| Accidents and assault (V01–X44, X46–Y89) | 5 | 5 | 4 | 2 |

# *Appendix tables*

### Appendix table 1a. Deaths by underlying cause of death and by age in 2013, both sexes

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 01–54 TOTAL DEATHS (A00-Y89) | 51 478 | 176 | 9 178 | 42 124 |
| 01–41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45) | 47 925 | 156 | 7 348 | 40 421 |
| 01–03 Certain infectious and parasitic diseases (A00-B99, J65) | 312 | 3 | 49 | 260 |
| 01 Tuberculosis (A15-A19, B90, J65) | 31 | 0 | 2 | 29 |
| 02 Human immunodeficiency virus (HIV) disease (B20-B24) | 4 | 0 | 3 | 1 |
| 03 Other infectious and parasitic diseases (A00-A09, A20-B19, B25-B89, B91-B99) | 277 | 3 | 44 | 230 |
| 04–22 Neoplasms (C00-D48) | 12 224 | 20 | 2 640 | 9 564 |
| 04–21 Malignant neoplasms (C00-C97) | 11 896 | 19 | 2 613 | 9 264 |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14) | 204 | 0 | 68 | 136 |
| 05 Malignant neoplasm of oesophagus (C15) | 253 | 0 | 64 | 189 |
| 06 Malignant neoplasm of stomach (C16) | 479 | 0 | 112 | 367 |
| 07 Malignant neoplasm of colon (C18, C19) | 806 | 0 | 160 | 646 |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21) | 394 | 0 | 104 | 290 |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22) | 453 | 1 | 94 | 358 |
| 10 Malignant neoplasm of pancreas (C25) | 1 025 | 0 | 232 | 793 |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34) | 2 259 | 0 | 546 | 1 713 |
| 12 Malignant melanoma of skin (C43) | 232 | 0 | 56 | 176 |
| 13 Malignant neoplasm of breast (C50) | 870 | 0 | 290 | 580 |
| 14 Malignant neoplasm of cervix uteri (C53) | 54 | 0 | 17 | 37 |
| 15 Malignant neoplasm of uterus (C54-C55) | 187 | 0 | 26 | 161 |
| 16 Malignant neoplasm of ovary (C56) | 305 | 0 | 73 | 232 |
| 17 Malignant neoplasm of prostate (C61) | 853 | 0 | 60 | 793 |
| 18 Malignant neoplasm of kidney (C64) | 370 | 0 | 71 | 299 |
| 19 Malignant neoplasm of bladder (C67) | 257 | 0 | 32 | 225 |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96) | 1 143 | 5 | 187 | 951 |
| 21 Other malignant neoplasms | 1 752 | 13 | 421 | 1 318 |
| 22 Other neoplasms (D00-D48) | 328 | 1 | 27 | 300 |
| 23–24 Endocrine, nutritional and metabolic diseases (E00-E90) | 632 | 10 | 183 | 439 |
| 23 Diabetes mellitus (E10-E14) | 488 | 0 | 147 | 341 |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90) | 144 | 10 | 36 | 98 |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54) | 7 543 | 0 | 53 | 7 490 |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related | 1 368 | 6 | 257 | 1 105 |
| 27-30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99) | 19 548 | 10 | 2 041 | 17 497 |
| 27 Ischaemic heart diseases (I20-I25) | 10 552 | 0 | 1 030 | 9 522 |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52) | 1 806 | 9 | 326 | 1 471 |
| 29 Cerebrovascular diseases (I60-I69) | 4 419 | 1 | 369 | 4 049 |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99) | 2 771 | 0 | 316 | 2 455 |
| 31–35 Diseases of the respiratory system (J00-J64, J66-J99) | 1 892 | 4 | 227 | 1 661 |
| 31 Influenza (J09-J11) | 40 | 1 | 15 | 24 |
| 32 Pneumonia (J12-J18, J849) | 286 | 1 | 32 | 253 |
| 33 Bronchitis and emphysema (J40-J44, J47) | 1 152 | 0 | 136 | 1 016 |
| 34 Asthma (J45-J46) | 82 | 1 | 7 | 74 |

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 332 | 1 | 37 | 294 |
| 36 Diseases of the digestive system excl. alcohol-related diseases | 1 229 | 2 | 184 | 1 043 |
| 37 Diseases of the genitourinary system (N00-N99) | 373 | 2 | 12 | 359 |
| 38 Congenital malformations (Q00-Q99) | 168 | 42 | 89 | 37 |
| 39 Other diseases excl. alcohol-related | 521 | 56 | 108 | 357 |
| 40 Ill-defined and unknown causes of mortality (R96-R99) | 189 | 1 | 119 | 69 |
| 41 Alcohol-related diseases and accidental poisoning by alcohol | 1 926 | 0 | 1 386 | 540 |
| 42–53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89) | 3 286 | 20 | 1 707 | 1 559 |
| 42–49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 2 245 | 15 | 876 | 1 354 |
| 42 Land traffic accidents | 235 | 6 | 147 | 82 |
| 43 Other land transport accidents | 36 | 1 | 25 | 10 |
| 44 Water transport accidents (V90-V94) | 37 | 0 | 24 | 13 |
| 45 Others and unspecified transport accidents (V95-V99) | 10 | 1 | 8 | 1 |
| 46 Accidental falls (W00-W19) | 1 113 | 0 | 176 | 937 |
| 47 Accidental drownings (W65-W74) | 131 | 4 | 65 | 62 |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 294 | 0 | 255 | 39 |
| 49 Other accidents and sequelae of accidents | 389 | 3 | 176 | 210 |
| 50 Suicides (X60-X84, Y87.0) | 887 | 2 | 706 | 179 |
| 51 Assault (X85-Y09, Y87.1) | 78 | 0 | 74 | 4 |
| 52 Event of undetermined intent (Y16-Y34, Y87.2) | 67 | 2 | 50 | 15 |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89) | 9 | 1 | 1 | 7 |
| 54 NO DEATH CERTIFICATE | 267 | 0 | 123 | 144 |

## Appendix table 1b. Deaths by underlying cause of death and by age in 2013, males

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 01–54 TOTAL DEATHS (A00-Y89) | 25 627 | 97 | 6 292 | 19 238 |
| 01–41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45) | 23 244 | 84 | 4 867 | 18 293 |
| 01–03 Certain infectious and parasitic diseases (A00-B99, J65) | 155 | 2 | 33 | 120 |
| 01 Tuberculosis (A15-A19, B90, J65) | 16 | 0 | 1 | 15 |
| 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) | 136 | 2 | 30 | 104 |
| 04–22 Neoplasms (C00-D48) | 6 408 | 10 | 1 391 | 5 007 |
| 04–21 Malignant neoplasms (C00-C97) | 6 282 | 10 | 1 378 | 4 894 |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14) | 134 | 0 | 47 | 87 |
| 05 Malignant neoplasm of oesophagus (C15) | 187 | 0 | 53 | 134 |
| 06 Malignant neoplasm of stomach (C16) | 262 | 0 | 62 | 200 |
| 07 Malignant neoplasm of colon (C18, C19) | 386 | 0 | 87 | 299 |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21) | 231 | 0 | 60 | 171 |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22) | 266 | 1 | 60 | 205 |
| 10 Malignant neoplasm of pancreas (C25) | 499 | 0 | 124 | 375 |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34) | 1 531 | 0 | 360 | 1 171 |
| 12 Malignant melanoma of skin (C43) | 152 | 0 | 38 | 114 |
| 13 Malignant neoplasm of breast (C50) | 4 | 0 | 0 | 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) | 853 | 0 | 60 | 793 |
| 18 Malignant neoplasm of kidney (C64) | 214 | 0 | 49 | 165 |
| 19 Malignant neoplasm of bladder (C67) | 184 | 0 | 25 | 159 |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96) | 575 | 1 | 115 | 459 |
| 21 Other malignant neoplasms | 804 | 8 | 238 | 558 |
| 22 Other neoplasms (D00-D48) | 126 | 0 | 13 | 113 |
| 23–24 Endocrine, nutritional and metabolic diseases (E00-E90) | 325 | 4 | 120 | 201 |
| 23 Diabetes mellitus (E10-E14) | 264 | 0 | 102 | 162 |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90) | 61 | 4 | 18 | 39 |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54) | 2 403 | 0 | 23 | 2 380 |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related | 662 | 3 | 136 | 523 |
| 27–30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99) | 9 478 | 5 | 1 601 | 7 872 |
| 27 Ischaemic heart diseases (I20-I25) | 5 558 | 0 | 884 | 4 674 |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52) | 916 | 4 | 256 | 656 |
| 29 Cerebrovascular diseases (I60-I69) | 1 843 | 1 | 228 | 1 614 |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99) | 1 161 | 0 | 233 | 928 |
| 31–35 Diseases of the respiratory system (J00-J64, J66-J99) | 1 186 | 1 | 162 | 1 023 |
| 31 Influenza (J09-J11) | 21 | 0 | 14 | 7 |
| 32 Pneumonia (J12-J18, J849) | 140 | 1 | 26 | 113 |
| 33 Bronchitis and emphysema (J40-J44, J47) | 799 | 0 | 95 | 704 |
| 34 Asthma (J45-J46) | 22 | 0 | 3 | 19 |
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 204 | 0 | 24 | 180 |

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 36 Diseases of the digestive system excl. alcohol-related diseases | 533 | 2 | 119 | 412 |
| 37 Diseases of the genitourinary system (N00-N99) | 163 | 1 | 6 | 156 |
| 38 Congenital malformations (Q00-Q99) | 69 | 20 | 40 | 9 |
| 39 Other diseases excl. alcohol-related | 233 | 35 | 64 | 134 |
| 40 Ill-defined and unknown causes of mortality (R96-R99) | 127 | 1 | 88 | 38 |
| 41 Alcohol-related diseases and accidental poisoning by alcohol | 1 502 | 0 | 1 084 | 418 |
| 42–53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89) | 2 204 | 13 | 1 331 | 860 |
| 42-49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 1 427 | 10 | 706 | 711 |
| 42 Land traffic accidents | 169 | 4 | 119 | 46 |
| 43 Other land transport accidents | 28 | 1 | 20 | 7 |
| 44 Water transport accidents (V90-V94) | 37 | 0 | 24 | 13 |
| 45 Others and unspecified transport accidents (V95-V99) | 6 | 1 | 5 | 0 |
| 46 Accidental falls (W00-W19) | 596 | 0 | 146 | 450 |
| 47 Accidental drownings (W65-W74) | 101 | 4 | 54 | 43 |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 207 | 0 | 184 | 23 |
| 49 Other accidents and sequelae of accidents | 283 | 0 | 154 | 129 |
| 50 Suicides (X60-X84, Y87.0) | 666 | 1 | 529 | 136 |
| 51 Assault (X85-Y09, Y87.1) | 59 | 0 | 56 | 3 |
| 52 Event of undetermined intent (Y16-Y34, Y87.2) | 49 | 1 | 40 | 8 |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89) | 3 | 1 | 0 | 2 |
| 54 NO DEATH CERTIFICATE | 179 | 0 | 94 | 85 |

## Appendix table 1c. Deaths by underlying cause of death and by age in 2013, females

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 01–54 TOTAL DEATHS (A00-Y89) | 25 851 | 79 | 2 886 | 22 886 |
| 01–41 DISEASES AND ACCIDENTAL POISONING BY ALCOHOL (A00-R99, X45) | 24 681 | 72 | 2 481 | 22 128 |
| 01-03 Certain infectious and parasitic diseases (A00-B99, J65) | 157 | 1 | 16 | 140 |
| 01 Tuberculosis (A15-A19, B90, J65) | 15 | 0 | 1 | 14 |
| 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) | 141 | 1 | 14 | 126 |
| 04–22 Neoplasms (C00-D48) | 5 816 | 10 | 1 249 | 4 557 |
| 04–21 Malignant neoplasms (C00-C97) | 5 614 | 9 | 1 235 | 4 370 |
| 04 Malignant neoplasms of lip, oral cavity and pharynx (C00-C14) | 70 | 0 | 21 | 49 |
| 05 Malignant neoplasm of oesophagus (C15) | 66 | 0 | 11 | 55 |
| 06 Malignant neoplasm of stomach (C16) | 217 | 0 | 50 | 167 |
| 07 Malignant neoplasm of colon (C18, C19) | 420 | 0 | 73 | 347 |
| 08 Malignant neoplasm of rectum, anus and anal canal (C20-C21) | 163 | 0 | 44 | 119 |
| 09 Primary malignant neoplasm of liver and intrahepatic bile ducts (C22) | 187 | 0 | 34 | 153 |
| 10 Malignant neoplasm of pancreas (C25) | 526 | 0 | 108 | 418 |
| 11 Malignant neoplasm of larynx, trachea, bronchus and lung (C32-C34) | 728 | 0 | 186 | 542 |
| 12 Malignant melanoma of skin (C43) | 80 | 0 | 18 | 62 |
| 13 Malignant neoplasm of breast (C50) | 866 | 0 | 290 | 576 |
| 14 Malignant neoplasm of cervix uteri (C53) | 54 | 0 | 17 | 37 |
| 15 Malignant neoplasm of uterus (C54-C55) | 187 | 0 | 26 | 161 |
| 16 Malignant neoplasm of ovary (C56) | 305 | 0 | 73 | 232 |
| 17 Malignant neoplasm of prostate (C61) | 0 | 0 | 0 | 0 |
| 18 Malignant neoplasm of kidney (C64) | 156 | 0 | 22 | 134 |
| 19 Malignant neoplasm of bladder (C67) | 73 | 0 | 7 | 66 |
| 20 Malignant neoplasm of lymphoid, haematopoietic and related tissue (C81-C96) | 568 | 4 | 72 | 492 |
| 21 Other malignant neoplasms | 948 | 5 | 183 | 760 |
| 22 Other neoplasms (D00-D48) | 202 | 1 | 14 | 187 |
| 23–24 Endocrine, nutritional and metabolic diseases (E00-E90) | 307 | 6 | 63 | 238 |
| 23 Diabetes mellitus (E10-E14) | 224 | 0 | 45 | 179 |
| 24 Other endocrine, nutritional and metabolic diseases (E00-E09, E15-E90) | 83 | 6 | 18 | 59 |
| 25 Dementia, Alzheimers disease (F01, F03, G30, R54) | 5 140 | 0 | 30 | 5 110 |
| 26 Other diseases of the nervous system and sense organs excl. alcohol-related | 706 | 3 | 121 | 582 |
| 27–30 Diseases of the circulatory system excl. alcohol-related (I00-I425, I427-I99) | 10 070 | 5 | 440 | 9 625 |
| 27 Ischaemic heart diseases (I20-I25) | 4 994 | 0 | 146 | 4 848 |
| 28 Other heart diseases excl. rheumatic and alcohol-related (I30-I425, I427-I52) | 890 | 5 | 70 | 815 |
| 29 Cerebrovascular diseases (I60-I69) | 2 576 | 0 | 141 | 2 435 |
| 30 Other diseases of the circulatory system (I00-I15, I26-I28, I70-I99) | 1 610 | 0 | 83 | 1 527 |
| 31–35 Diseases of the respiratory system (J00-J64, J66-J99) | 706 | 3 | 65 | 638 |
| 31 Influenza (J09-J11) | 19 | 1 | 1 | 17 |
| 32 Pneumonia (J12-J18, J849) | 146 | 0 | 6 | 140 |
| 33 Bronchitis and emphysema (J40-J44, J47) | 353 | 0 | 41 | 312 |
| 34 Asthma (J45-J46) | 60 | 1 | 4 | 55 |
| 35 Other diseases of the respiratory system (J00-J06, J20-J39, J60-J64, J66-J848, J85-J99) | 128 | 1 | 13 | 114 |
| 36 Diseases of the digestive system excl. alcohol-related diseases | 696 | 0 | 65 | 631 |

| Underlying cause of death (54-group classification) | Ages total | 0 – 14 | 15 – 64 | 65- |
|---|---|---|---|---|
| 37 Diseases of the genitourinary system (N00-N99) | 210 | 1 | 6 | 203 |
| 38 Congenital malformations (Q00-Q99) | 99 | 22 | 49 | 28 |
| 39 Other diseases excl. alcohol-related | 288 | 21 | 44 | 223 |
| 40 Ill-defined and unknown causes of mortality (R96-R99) | 62 | 0 | 31 | 31 |
| 41 Alcohol-related diseases and accidental poisoning by alcohol | 424 | 0 | 302 | 122 |
| 42–53 ACCIDENTS AND VIOLENCE excl. accidental poisoning by alcohol (V01-X44, X46-Y89) | 1 082 | 7 | 376 | 699 |
| 42–49 Accidents excl. accidental poisoning by alcohol (V01-X44, X46-X59, Y10-Y15, Y85-Y86) | 818 | 5 | 170 | 643 |
| 42 Land traffic accidents | 66 | 2 | 28 | 36 |
| 43 Other land transport accidents | 8 | 0 | 5 | 3 |
| 44 Water transport accidents (V90-V94) | 0 | 0 | 0 | 0 |
| 45 Others and unspecified transport accidents (V95-V99) | 4 | 0 | 3 | 1 |
| 46 Accidental falls (W00-W19) | 517 | 0 | 30 | 487 |
| 47 Accidental drownings (W65-W74) | 30 | 0 | 11 | 19 |
| 48 Accidental poisonings excl. accidental poisoning by alcohol (X40-X44, X46-X49, Y10-Y15) | 87 | 0 | 71 | 16 |
| 49 Other accidents and sequelae of accidents | 106 | 3 | 22 | 81 |
| 50 Suicides (X60-X84, Y87.0) | 221 | 1 | 177 | 43 |
| 51 Assault (X85-Y09, Y87.1) | 19 | 0 | 18 | 1 |
| 52 Event of undetermined intent (Y16-Y34, Y87.2) | 18 | 1 | 10 | 7 |
| 53 Other external causes and sequelae of other external causes (Y35-Y84, Y88-Y89) | 6 | 0 | 1 | 5 |
| 54 NO DEATH CERTIFICATE | 88 | 0 | 29 | 59 |

## Appendix table 2. Deaths from accidents by external cause and deaths from alcohol intoxication 2013

| External cause | Deaths from accidents | Of which under alcohol intoxication | |
|---|---|---|---|
| | | Persons | % |
| Accidental deaths (excl. poisonings) | 1 951 | 355 | 18,2 |
| Transport accidents | 281 | 57 | 20,3 |
| Falls | 1 113 | 119 | 10,7 |
| Drowning | 168 | 72 | 42,9 |
| Eating, inhalation of food (W79) | 58 | 15 | 25,9 |
| Heat of sauna (W92) | 44 | 23 | 52,3 |
| Fire (X00–X09) | 47 | 26 | 55,3 |
| Natural cold (X31) | 64 | 25 | 39,1 |
| Other accident | 176 | 18 | 10,2 |

## Appendix table 3. Mortality during infant and perinatal period 1987–2013

| | 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 |
| 1988 | 530 | 8,3 | 333 | 197 | 3,1 | 250 | 3,9 | 385 | 6,1 |
| 1989 | 495 | 7,8 | 282 | 213 | 3,4 | 261 | 4,1 | 382 | 6,0 |
| 1990 | 507 | 7,7 | 307 | 200 | 3,1 | 245 | 3,7 | 368 | 5,6 |
| 1991 | 531 | 8,1 | 305 | 226 | 3,5 | 276 | 4,2 | 383 | 5,9 |
| 1992 | 490 | 7,3 | 288 | 202 | 3,0 | 248 | 3,7 | 344 | 5,2 |
| 1993 | 428 | 6,6 | 267 | 161 | 2,5 | 195 | 3,0 | 285 | 4,4 |
| 1994 | 431 | 6,6 | 248 | 183 | 2,8 | 220 | 3,4 | 300 | 4,6 |
| 1995 | 429 | 6,8 | 299 | 130 | 2,1 | 172 | 2,8 | 251 | 4,0 |
| 1996 | 378 | 6,2 | 242 | 136 | 2,2 | 176 | 2,9 | 238 | 3,9 |
| 1997 | 368 | 6,2 | 239 | 129 | 2,2 | 165 | 2,8 | 233 | 3,9 |
| 1998 | 373 | 6,5 | 237 | 136 | 2,4 | 169 | 3,0 | 236 | 4,1 |
| 1999 | 329 | 5,7 | 208 | 121 | 2,1 | 154 | 2,7 | 213 | 3,7 |
| 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 |

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. Mean population 2013 by age and sex

| Age | Total | Males | Females |
|---|---|---|---|
| Total | 5 438 972 | 2 673 493 | 2 765 479 |
| 0 | 59 023 | 30 190 | 28 834 |
| 1–4 | 244 522 | 124 902 | 119 620 |
| 5–9 | 298 927 | 152 761 | 146 166 |
| 10–14 | 290 736 | 148 716 | 142 020 |
| 15–19 | 317 130 | 161 662 | 155 468 |
| 20–24 | 340 315 | 174 026 | 166 289 |
| 25–29 | 340 615 | 174 797 | 165 818 |
| 30–34 | 347 770 | 179 031 | 168 739 |
| 35–39 | 334 984 | 172 139 | 162 846 |
| 40–44 | 321 655 | 163 927 | 157 729 |
| 45–49 | 370 782 | 187 427 | 183 355 |
| 50–54 | 373 052 | 186 897 | 186 155 |
| 55–59 | 376 717 | 186 233 | 190 485 |
| 60–64 | 385 378 | 189 082 | 196 296 |
| 65–69 | 343 882 | 164 951 | 178 931 |
| 70–74 | 234 857 | 107 272 | 127 585 |
| 75–79 | 187 820 | 80 063 | 107 757 |
| 80–84 | 144 482 | 54 050 | 90 432 |
| 85–89 | 86 572 | 26 628 | 59 945 |
| 90–94 | 32 464 | 7 482 | 24 982 |
| 95– | 7 294 | 1 262 | 6 032 |

### 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 |

# Quality Description:Causes of death 2013

## 1. Relevance of statistical information

In the statistics on causes of death, statistical data are produced annually on the causes of death of persons permanently resident in Finland. The statistics are compiled on the basis of death certificates. The data are supplemented with and verified against data on deaths from the Population Information System of the Population Register Centre. Statistics Finland has death certificates and data on causes of death from 1936 onwards.

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.

### *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. The data files on causes of death are supplemented with other demographic data from the Population Information System.

Death certificates are received at Statistics Finland in paper form from THL. 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 an electronic 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) × 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

**Number of death certificates missing from statistics yearly**

| Year | Number | Proportion of all deaths, % |
|---|---|---|
| 2000 | 40 | 0,1 |
| 2005 | 118 | 0,2 |
| 2006 | 135 | 0,3 |
| 2007 | 139 | 0,3 |
| 2008 | 146 | 0,3 |
| 2009 | 157 | 0,3 |
| 2010 | 107 | 0,2 |
| 2011 | 132 | 0,3 |
| 2012 | 226 | 0,4 |
| 2013 | 267 | 0,5 |

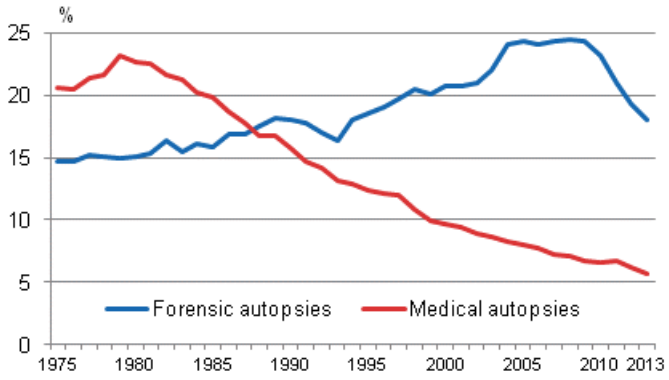
The death certificate form is confirmed by the Ministry of Social Affairs and Health. The physician records the cause of death on the death certificate as a code and as a text specifying the diagnosis. At Statistics Finland, the causes of death are coded mainly on the basis of the diagnosis text.

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. The underlying cause of death is determined from the event information in the death certificate in about 1,000 cases yearly. Around 700 cases are handled by a medical expert every year. Additional information is requested from the issuer of the death certificate in about 100 cases per year. Additional information is obtained for some 200 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. The number of deaths on which no information on the cause of death is obtained has previously been 100 to 150 per year, but in the last few years the number of missing death certificates has been growing. In 2013, there were 267 missing death certificates. Of them, 17 were deaths abroad on which only a notification on death was obtained. The data derived from late death certificates are combined to the survey database and death certificate archives.

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 2013, a forensic autopsy was performed for 18 per cent and a medical autopsy for 6 per cent of dead persons.

**Share of forensic and medical autopsies in death cases in 1975 to 2013**




## 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 the paper publications. 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/Publications.aspx

— 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. 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 and for scientific research and statistical surveys. Instructions for applying for death certificates and on the licence procedure can be found on Statistics Finland's web pages.

## 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, use is made of a 72-category classification where data are available from 1998. This classification complies in main aspects with the 65-category European shortlist classification used by the EU, which was used by Eurostat from 1998 to 2013. Since the beginning of 2014, an updated 86-category European shortlist 2012 classification has been available on Eurostat's website. During 2015 this classification will also be formed for the data of the causes of death statistics at Statistics Finland.

## *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 2013, the number of deaths was 51,470, which was 8 deaths fewer than in the cause of death statistics. The number of deaths under the age of one year was 102 in the vital statistics and 98 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 cause of death statistics are compiled on the basis of the day of the death, but the time period of the statistics on road traffic accidents is the day of the accident and at most the 30 following days.
- 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 as defined by the physician. 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 2014

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