

## **Causes of Death 1995-2006**

This series consists mainly of primary statistics, statistics from statistical accounting systems and results of special censuses and surveys, for reference and documentation purposes. Presentation is basically in the form of tables, figures and necessary information about data, collection and processing methods, and concepts and definitions. In addition, a short overview of the main results is given. The series also includes Statistical Yearbook of Norway

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## Preface

The causes of death time series are based on ICD's main chapters and diagnosis groups based on the European abridged list. The causes of death were classified according to the Norwegian version of the International Statistical Classification of Diseases and Related Health Problems, 9th revision (ICD-9), for the year 1995. The causes of death were classified according to the International Statistical Classification of Diseases and Related Health Problems of 1990, 10th revision for the years 1996-2006.

The main function of the tables is to serve as basic material for the Health Authorities and research workers and others in need of annual, specific details. This publication and more detailed tables can be found on Statistics Norway's website ([http://www.ssb.no/english/subjects/03/01/10/nos\\_dodsarsak\\_en/](http://www.ssb.no/english/subjects/03/01/10/nos_dodsarsak_en/) and [http://www.ssb.no/english/subjects/03/01/10/dodsarsak\\_en/](http://www.ssb.no/english/subjects/03/01/10/dodsarsak_en/)), and in StatBank Norway ([http://statbank.ssb.no/statistikkbanken/default\\_fr.asp?PLanguage=1](http://statbank.ssb.no/statistikkbanken/default_fr.asp?PLanguage=1)). Documentation, coding rules and guidelines are also available on Statistics Norway's website.

This publication has been prepared by senior executive officer Wibeke Djume and senior executive officer Trond Ekornrud. Professor dr.med. Eystein Glattre at the Cancer Registry of Norway has served as a consultant in medical issues and classification for the years 1995-2002 and professor dr. med. Mr Jan Mæhlen at the Norwegian Institute of Public Health for the years 2003-2004. Elisabetta Vassenden, Head of the Division of Health Statistics, is responsible for this publication.

Statistics Norway,  
Oslo/Kongsvinger, 8 January 2009

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## 1. About the statistics

### 1.1. Main results

There has been a significant decrease in the mortality rate from the year 1995 to the year 2005 for both men and women. The decrease was most significant for men, but was not inconsiderable for women either. This led to an increase in life expectancy of 3.3 years for men and 1.8 years for women. The annual number of deaths from the year 1995 to the year 2006 decreased from approximately 45 200 to below 41 200. The decrease was approximately 3 400 for men and approximately 500 for women. The difference between the sexes is due to the mortality decline being smaller for women. Women live 4-5 years longer than men and a minor part of this difference can be explained by the fact that there are now more women living than men in the ages where most deaths occur. Men in all ages have a considerably higher death rate than women.

#### *Diseases in the circulatory system*

Diseases in the circulatory system have been the most common cause of death for several years in Norway. Mortality due to these causes reached a peak in the early 1960s among women and ten years later among men. In the last ten years there has been a significant decrease in the mortality rate due to diseases in the circulatory system. The number of deaths has fallen by 50 per cent among men between 45 and 90 years. The death rates show a higher mortality rate for men than women. A lower mortality rate for illnesses in the circulation system is the main reason for the major reduction in the difference between the life expectancy for men and women observed in the period.

#### *Malignant tumours*

A minor decrease in the cancer mortality rate of 8 per cent occurred from the year 1995 to the year 2006 among persons under the age of 70 years. For people over the age of 70, there are almost no changes. Taking all ages as a whole, the death rate for malignant tumours is stable, while for individual age groups there have been some considerable changes.

#### *Violent deaths*

The statistics show an increase in the number of accidental deaths in the lower age groups from the year 2003. This increase is not a true representation; from 2003, all sudden deaths caused by drug abuse/poisoning were transferred from chapter V (Mental and behavioural disorders) to chapter XX (External causes) in accordance with recommendations by the WHO.<sup>1</sup>

## 2. Background and purpose

### 2.1. Purpose and history

The causes of death regulation §1-3 states that the purpose of the Cause of Death Registry is:

1. To monitor causes of death and highlight changes in causes of death over time.
2. To provide a basis for compiling national, regional and local causes of death statistics.
3. To promote and provide a basis for scientific research, and
4. To provide a basis for information and knowledge for planning, and for ensuring and developing the quality of the health service and the health administration.

As a member of the World Health Organization, Norway has, since 1 January 1951, been obliged to prepare official statistics on causes of death in accordance with the International Classification of Diseases (ICD) and the principles and guidelines that apply to coding causes of death. Furthermore, information on the causes of death

from the death certificate is to be provided within the framework set by the World Health Organization as shown in appendix A.

In 1951, Norway compiled causes of death statistics according to ICD-5 for the first time. The ICD has been revised several times:

1951-1968 (ICD-6 and 7)  
1969-1985 (ICD-8)  
1986-1995 (ICD-9)  
1996 (ICD-10)

Since 1996, the cause of death statistics have been classified and coded according to the World Health Organization's International Statistical Classification of Diseases and Related Health Problems, 10th revision. The 10th revision of the ICD is based on Jacques Bertillon's 1893 international classification of causes of death. The traditional structure in the ICD has been retained in the 10th revision, however the former numerical code system has been replaced with an alphanumeric system. This expands the framework by more than double compared to ICD-9. Not all available codes in ICD-10 are currently in use, and it is possible to include later revisions without changing the alphanumeric system<sup>1</sup>.

ICD-10 consists of 21 chapters. Four chapters (I, II, XIX and XX) extend over more than one character. Chapter I-XVII covers diseases, conditions and symptoms. Chapter XX covers external causes of death. In the mortality statistics, Chapter XIX (S00-T98) is not to be used as the underlying cause of death.

In 2005, Norway started using the automatic system for coding which is named ACME. ACME is an automatic system for coding that selects the underlying cause of death. The coding is based on international rules and guidelines. The object of implementing ACME is to achieve a more uniform coding practice among countries, which will lead to more comparable statistics internationally. Norway has implemented a semi-automatic version of ACME<sup>2</sup>.

Causes of death are reported annually to the Nordic Medical Statistical Committee (NOMESCO), Eurostat, OECD and the World Health Organization (WHO).

## 2.2. Users and applications

The statistics are formed to provide health authorities with an overview of health conditions in Norway. Furthermore, data on causes of death are released for scientific/research and analytic purposes. The release of identifiable individual data to scientists is subject to the relevant permissions from the Directorate for Health and Social Affairs and the Data Inspectorate.

Users of the causes of death data include the OECD, Eurostat, the World Health Organization (WHO), the Nordic Medical Statistical Committee (NOMESCO), the Medical Birth Registry of Norway, university hospitals, medical researchers connected to central and local hospitals, health authorities, the Cancer Registry of Norway and different public institutions. Other users include students, journalists and the general public.

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<sup>1</sup> See point 7.5

<sup>2</sup> For more about ACME see 6.1

### 3. Statistics production

#### 3.1. Population

The statistics cover all persons registered by the National Population Register as inhabitants of Norway at the time of their death, regardless of whether the death took place in Norway or abroad.

#### 3.2. Data sources

Statistics on causes of death are prepared on the basis of medical death certificates sent to Statistics Norway by public health officers. Additional information is routinely obtained from the Cancer Registry of Norway, the Medical Birth Registry of Norway, Statistics Norway's statistics on road traffic accidents and the results of autopsies from hospital and forensic laboratories.

In 1995-2002, the doctor's reports were used to code approximately one third of all deaths. From 2003 there was a change in the use of data sources from the Cancer Registry and information from additional sources was reduced to just below 20 per cent. In the remaining cases, the only information used is the information given on the death certificate issued by a medical practitioner or a report of death abroad.

Data sources of information:

- Death certificate: civil information, a cause of death diagnosis form is completed using WHO guidelines, giving the name of the attending physician where possible and is signed by the issuing physician.
- The Cancer Registry of Norway: contains information on the certainty of the diagnosis, whether the tumour is benign or malignant, the metastasis status and the time of diagnosis, registration and any changes if applicable.
- The Medical Birth Registry: contains data on the health of the mother before and after birth, procedures during the birth and complications in connection with the birth, and the condition of the baby right after the birth.
- Report on road traffic accidents: data from police reports on whether the deceased was the driver or passenger and what kind of vehicle was involved in the accident as well as type of accident. From 2005 this source is no longer used.
- Autopsies: information about which hospital conducted the autopsy, autopsy number, laboratory number, cause of death diagnosis, and often also a conclusion/assessment.
- Forensic autopsies: information on external circumstances in the event of accidents, murder, suicide and other causes of death.
- Additional information: forms with additional questions are sent out when the death certificates are incomplete, incorrectly filled in or information is missing. The cause of death statistics unit cooperates with medical consultants, and medical questions are discussed.

#### 3.3. Sample

The statistics include all persons registered by the National Population Register as living in Norway at the time of their death, regardless of whether the death took place in Norway or abroad<sup>3</sup>.

#### 3.4. Data collection

Whenever a death occurs, a medical death certificate must be issued by a medical practitioner or local police officer to the public health officer (appendix A). The death certificate is sent to the Probate Court, which issues new death certificates that apply to the administrative and practical aspects of a death. The Probate Court

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<sup>3</sup> See 3.1

provides the report of death to the local population registry. The records in the population register are forwarded to the National Population Register at the Directorate of Taxes. The Probate Court forwards the death certificate to the chief municipal medical officer at the place of death. The municipal medical officer forwards the death certificate to Statistics Norway. Statistics Norway processes the data on behalf of the Norwegian Institute of Public Health<sup>4</sup>.

### 3.5. Authority

The legal basis for submitting death certificates containing information on cause of death is the Health Personnel Act of 2 June 1999, no. 64, § 36 and § 37 (enacted 01.01.2001), and the Cause of Death Regulation, chapter 2 (enacted 01.01.2002), cf. the Personal Health Data Filing System Act of 18 May 2001, no. 24, on health registry and the processing of health information, § 9, first section (enacted 01.01.2002).

Obtaining additional information from the issuer of the death certificate is pursuant to the Cause of Death Regulation, § 2-6, second section, cf. the Personal Health Data Filing System Act of 18 May 2001, no. 24 on health registers and processing of health information, § 9, second section.

Cooperation with the Cancer Registry of Norway and the Medical Birth Registry of Norway is authorised under the provisions of the Cause of Death Regulation of 21 December 2001, no. 1476, on submitting and processing health information in the Cause of Death Registry, § 2-6, first section.

Submissions of autopsy results are regulated by the Regulation on Autopsies etc. of 19 March 2004, no. 542, § 12, and the Cause of Death Regulation of 21 December 2001, no. 1476, § 2-4, on submitting and processing health information in the Cause of Death Registry.

The following laws and regulations were in force from 1995 to 2005:  
Act of 13 June 1980, no. 42, relating to medical practitioners (annulled 01.01.2001)  
Regulation of 18 March 1998, no. 230, on autopsies etc. (annulled 01.04.2004)

### 3.6. Control and revision

Deaths registered from medical death certificates are compared with deaths registered in the National Population Register. This process ensures that the statistics are exhaustive. Statistics Norway reminds the municipal medical officers to obtain missing information or copies of previously issued certificates that have not reached Statistics Norway by sending them letters. This process takes place 3-4 times per year. Deaths that still lack a medical certificate and for which no other information is available, are registered with unknown cause of death.

Data on Norwegians short-term residence abroad are compiled by the Ministry of Foreign Affairs or in some cases the Directorate of Taxes. These deaths are included in the statistics, most often registered with unknown cause of death.

Information from the death certificate is compared with information from other sources like autopsies, the Medical Birth Registry or others.

The IT system has built-in validity and consistency controls.

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<sup>4</sup> See section 3.2 for further information

### 3.7. Calculations

All deaths are included in the data and aggregated by age groups and sex. The aggregated code list for causes of death compiled by Eurostat is frequently used.

## 4. Concepts, variables, classifications

### 4.1. Definition of the main concepts

The data are coded according to the International Classification of Diseases. Since 1996, causes of death have been classified and coded according to the detailed list in the International Statistical Classification of Diseases and Related Health Problems, ICD-10, Volume 1 (World Health Organization, Geneva 1992).

Regulations and guidelines for mortality coding and selection of underlying cause of death are found using ICD-10 Volume 2 (World Health Organization, Geneva 1993). The rules and principles for mortality coding in ICD-9 are found as appendices in NOS C 490 Causes of Death 1995. For more information about the coding: <http://www.who.int/classifications/icd/en/>.

The disease or external cause of injury that initiated the chain of fatal events leading directly to death shall be registered as the underlying cause of death. In addition, up to six causes (conditions that directly led to the death and contributing causes) can be coded from the year 1996. The underlying cause of death is used in the international cause of death statistics.

Underlying cause of death is defined as:

1. The disease or injury that initiated the chain of fatal events leading directly to death or
2. The external circumstances of the accident or violence that was the cause of the fatal injury

The condition listed on the end line of part I of the death certificate is usually the underlying cause of death. The ICD's rules and guidelines can, however, result in a different condition (disease or external cause of injury) being selected as the underlying cause of death. To distinguish between these two possibilities, ICD-10 has introduced the concept of originating antecedent cause for the condition listed on the completed line at the bottom of part I. The underlying cause of death is used in the international causes of death statistics.

Immediate cause of death is defined as the disease, injury or condition directly leading to death and which was caused by the underlying cause of death.

Complication is defined as the condition that is a direct consequence of the underlying cause of death (immediate and intermediate cause of death) and by contributing cause of death, reference is to the condition that may have contributed to the death but is not in a direct causal relation with the disease or condition that caused the death.

Age is the number of years at the time of death.

### 4.2. Standard classifications

Standard classifications are the Classification of diseases, injuries and causes of death, ICD-9, Norwegian edition, for the year 1995, and the Classification of diseases, injuries and causes of death, ICD-10, English edition, for the years 1996-2005.

The cause of death statistics differ from ICD-10 (English edition) in the following cases:

- Fourth category for R99 (other poorly-defined and unspecified causes of death);
- R99.0 Cause of death cannot be established (physician or other expert has not been able to establish the cause of death)
- R99.8 Cause of death not specified (the form/document lacks information on the cause of death, e.g. document from abroad)
- R99.9 No information (the death is recorded in the National Population Register and not reported to the Cause of Death Registry).

Cases of hip fracture (fractura femoris) where the external circumstance is unknown or unspecified are coded with W19 (unspecified fall). From 2009 will such cases, according to ICD-10, be coded X59 (unspecified accident) as the underlying cause of death (ICD-10, Volume 3, 1994, page 600).

The publication NOS C 490 Causes of Death 1995 contains an overview of cases where the Norwegian causes of death statistics deviate from the English edition of ICD-9, as well as from guidelines for the selection of underlying causes. The Norwegian edition of ICD-9 was used in 1986-1995, while the Norwegian edition of ICD-8 was used in 1969-1985.

Other changes/documentation concerning practical coding from 1996 to 2005 can be found at <http://www.ssb.no/emner/03/01/10/dodsarsak/> (in Norwegian only).

## 5. Sources of error and uncertainty

### 5.1. Collection and processing errors

The main source of uncertainty in the cause of death statistics, and thus potentially the largest source of error, is the cause of death examination, i.e. the diagnosis and the physician's reporting of the information on the death certificate. Additional information and contact with the physician are consequently of major importance for ensuring the quality of the information on cause of death.

### 5.2. Non-response errors

Deaths registered on the basis of death certificates are compared with deaths registered in the National Population Register. This comparison ensures that the statistics are exhaustive. Reminders for missing death certificates are sent 3-4 times a year. Where no death certificate exists at the time of release of the statistics, these are classified as unknown cause of death.

### 5.3. Selection error

Not valid.

### 5.4. Incorrect classification and coding

Other possible errors in the data could be different interpretations of the death certificates and data entry errors.

## 6. Comparability and coherence

### 6.1. Spatial comparability and comparability over time

Comparing causes of death (at a detailed level) classified according to the various ICD revisions creates difficulties, both because of the differences in content and the changes in rules for selecting the underlying cause of death. In addition, the number of categories at the 4th character level has been almost doubled from 6 969 categories in ICD-9 to 12 420 in ICD-10, and there is no simple relation between

the codes in the two revisions. The World Health Organization has published a translation between the 9th and 10th revision (Translator, Ninth and Tenth Revision, WHO, Geneva 1997), and this shows that only 2 200 codes are unique in both versions.

Eurostat has prepared a shortlist of ICD-10 for use in international comparisons. The list consists of 65 groups of causes of death that are also translated into ICD-9 and ICD-8.

Eurostat has requested that the European countries start working with an automatic system for coding. An automatic program for coding (ACME) selects the underlying cause of death according to the International Classification of Diseases. ACME is based on international rules and guidelines for mortality coding and selection of underlying cause of death (ICD-10 Volume 2). The object of implementing ACME is to achieve a more uniform coding among the coders and to produce comparable statistics internationally.

All Nordic countries use or have started to implement ACME. ACME is a computer application that establishes the underlying cause of death. ACME is developed and owned by the National Center for Health Statistics in the USA, and is used as a standard to increase the comparability of causes of death statistics between European countries. Fifteen countries already use ACME and several will start using it within the next ten years. Norway implemented a semi-automatic version of ACME in 2005.

The Cause of Death Registry in Statistics Norway carried out a pilot project in 2004 (Notater 2004/1). The objective of the project was to evaluate the current code practice in Norway compared to an automated system (ACME) for selection of underlying cause of death.

The Norwegian Cause of Death Registry collaborates with The Baltic and Nordic countries via the Nordic Centre for Classification of Diseases in Uppsala, and internationally with the WHO with regard to comparability and uniform coding. Every quarter, cases are coded in the various countries and the results compared, with ACME as the international standard. Currently the "agreement rate" (the percentage of corresponding coding) for Norway is approximately 70.

The Norwegian documentation for interpretation and adaptation of ICD-10 and breaks in the statistics is available at <http://www.ssb.no/emner/03/01/10/dodsarsak/> (in Norwegian only).

From 1996-2002, deaths caused by acute poisoning among known substance abusers were coded with ICD-10 F10-19 with the fourth character '0'. Deaths where the deceased was not known to be a substance abuser were coded with ICD-10 X40-49 (accidental poisoning). Following recommendations from the WHO all *acute* deaths caused by substance abuse/poisoning were transferred to the accident chapter from 2003. This change has resulted in significant changes to the tables.

The WHO has made a list of codes that can cause pneumonia and are preferable in accordance with WHO rules and guidelines when pneumonia is the reported underlying cause of death. Senile dementia is among the codes preferable to pneumonia according to the new rules. This change has resulted in significant changes in the tables for 2003, 2004 and 2005.

## 7. Availability

### 7.1. Internet addresses

[http://www.ssb.no/english/subjects/03/01/10/dodsarsak\\_en/](http://www.ssb.no/english/subjects/03/01/10/dodsarsak_en/)  
<http://statbank.ssb.no/statistikbanken/>  
[http://www.ssb.no/english/subjects/03/01/10/nos\\_dodsarsak\\_en/](http://www.ssb.no/english/subjects/03/01/10/nos_dodsarsak_en/)

### 7.2. Languages

Norwegian (Nynorsk) and English

### 7.3. Publications

NOS every four years

### 7.4. Storing and use of basic material

The data material is stored at individual level by the personal identification number.

### 7.5. Other documentation

Link to documentation:

[http://www.ssb.no/english/subjects/03/01/10/dodsarsak\\_en/](http://www.ssb.no/english/subjects/03/01/10/dodsarsak_en/)

## 8. Other statistics

The population statistics contain an overview of deaths and stillbirths, based on registrations in the National Population Register at the Directorate of Taxes. Since 1986, the number of deaths in the population and the cause of death statistics have not corresponded. The background for this is that the population statistics receive data from the National Population Register shortly after the end of the statistical year, due to a desire for more timely population statistics.

The figures on traffic fatalities in the publication NOS Road Traffic Accidents differ from the figures in the cause of death statistics. This is because the road traffic statistics cover accidents on Norwegian roads regardless of whether the person who was injured or killed lived in Norway or not, while the cause of death statistics only cover persons who were residents in Norway at the time of death, regardless of whether the death took place in Norway or abroad. The statistics on road traffic accidents only include deaths that occur up to 30 days after the accident, while the category for traffic accidents in the cause of death statistics also includes later deaths. In cases of indisposition due to a disease, which in turn causes a fatal accident, the death will be registered as a disease and not as a traffic accident.

In 2007, the publication "På liv og død – Helsestatistikk i 150 år" was released. This contains time series for causes of death in Norway all the way back to the 1870s.

**1. Deaths by underlying cause of death. The whole country. 1991-2006**

Cause of death	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Deaths</b>																
Total	44 822	44 736	46 623	44 076	45 182	43 919	44 646	44 270	45 114	44 018	43 977	44 401	42 550	41 257	41 152	41 242
Males	23 086	23 076	23 781	22 358	23 024	22 127	22 282	22 149	22 416	21 676	21 634	21 617	20 595	20 025	20 065	19 621
Females	21 736	21 660	22 842	21 718	22 158	21 792	22 364	22 121	22 698	22 342	22 343	22 784	21 955	21 232	21 087	21 621
<b>Cardiovascular diseases (I00-I99)</b>																
Total	20 818	20 699	20 864	19 521	19 867	19 498	19 521	19 305	19 240	18 191	17 868	17 642	16 623	15 862	14 537	14 654
Males	10 623	10 562	10 488	9 767	10 016	9 651	9 524	9 447	9 227	8 659	8 539	8 321	7 668	7 293	6 886	6 595
Females	10 195	10 137	10 376	9 754	9 851	9 847	9 997	9 858	10 013	9 532	9 329	9 321	8 955	8 569	7 651	8 059
<b>Malignant neoplasm (C00-C97)</b>																
Total	9 785	9 789	10 222	10 334	10 371	10 643	10 649	10 340	10 413	10 447	10 563	10 633	10 509	10 489	10 564	10 440
Males	5 353	5 371	5 533	5 524	5 579	5 637	5 702	5 614	5 672	5 532	5 588	5 660	5 579	5 589	5 596	5 472
Females	4 432	4 418	4 689	4 810	4 792	5 006	4 947	4 726	4 741	4 915	4 975	4 973	4 930	4 900	4 968	4 968
<b>Diseases of the respiratory system (J00-J99)</b>																
Total	4 344	4 576	5 425	4 432	4 930	3 933	4 010	3 929	4 374	4 384	4 332	4 669	3 941	3 494	4 082	3 962
Males	2 044	2 144	2 523	2 098	2 360	1 886	1 905	1 820	2 087	2 052	2 089	2 153	1 905	1 711	2 027	1 938
Females	2 300	2 432	2 902	2 334	2 570	2 047	2 105	2 109	2 287	2 332	2 243	2 516	2 036	1 783	2 055	2 024
<b>Other diseases</b>																
Total	7 330	7 230	7 677	7 544	7 740	7 586	8 131	8 372	8 606	8 628	8 925	9 170	9 015	8 857	9 559	9 785
Males	3 471	3 467	3 722	3 601	3 655	3 612	3 734	3 854	3 956	4 007	4 068	4 076	3 923	3 879	4 126	4 168
Females	3 859	3 763	3 955	3 943	4 085	3 974	4 397	4 518	4 650	4 621	4 857	5 094	5 092	4 978	5 433	5 617
<b>Accidents</b>																
Total	1 780	1 742	1 786	1 656	1 663	1 674	1 729	1 717	1 843	1 752	1 699	1 742	1 898	1 980	1 835	1 824
Males	1 033	1 026	1 034	953	963	914	979	974	1 008	976	913	1 012	1 113	1 165	1 048	1 037
Females	747	716	752	703	700	760	750	743	835	776	786	730	785	815	787	787
<b>Suicides</b>																
Total	675	616	590	531	548	517	533	548	583	541	549	494	502	529	533	532
Males	499	449	449	379	411	389	387	399	430	409	411	362	374	359	360	391
Females	176	167	141	152	137	128	146	149	153	132	138	132	128	170	173	141
<b>Homicides</b>																
Total	66	47	42	34	45	47	41	43	38	53	33	39	48	39	29	45
Males	46	34	23	18	28	25	28	29	24	29	20	26	25	25	17	20
Females	20	13	19	16	17	22	13	14	14	24	13	13	23	14	12	25
<b>Other violent deaths</b>																
Total	24	37	17	24	18	21	32	16	17	22	8	12	14	7	13	-
Males	17	23	9	18	12	13	23	12	12	12	6	7	8	4	5	-
Females	7	14	8	6	6	8	9	4	5	10	2	5	6	3	8	-

**2. Infant deaths. County. 1991-2006**

County	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>The whole country</b>	<b>387</b>	<b>353</b>	<b>305</b>	<b>314</b>	<b>249</b>	<b>252</b>	<b>251</b>	<b>254</b>	<b>239</b>	<b>226</b>	<b>230</b>	<b>186</b>	<b>197</b>	<b>187</b>	<b>174</b>	<b>186</b>
Østfold	22	16	12	19	6	13	12	19	8	12	9	11	6	22	8	6
Akershus	29	30	28	32	16	25	17	21	18	10	20	15	26	19	13	23
Oslo	50	36	40	44	35	39	23	25	35	34	29	30	35	30	27	29
Hedmark	17	17	10	12	14	7	9	9	5	13	8	10	11	8	4	7
Oppland	23	10	9	14	11	11	12	7	9	8	15	12	3	2	3	3
Buskerud	22	16	17	19	11	9	7	16	11	8	20	8	11	8	8	10
Vestfold	10	7	10	15	5	9	13	16	15	8	8	7	5	8	5	9
Telemark	10	10	6	8	9	4	10	8	10	7	5	6	8	6	11	1
Aust-Agder	11	5	11	7	4	6	5	7	9	9	5	5	3	2	5	8
Vest-Agder	8	15	9	14	8	10	11	9	14	10	9	3	8	6	3	7
Rogaland	28	43	29	27	22	15	23	22	22	26	26	20	16	19	14	16
Hordaland	33	37	32	16	23	23	24	14	20	23	21	15	16	17	33	22
Sogn og Fjordane	7	7	8	3	2	2	4	9	5	3	2	6	4	2	4	4
Møre og Romsdal	24	19	19	19	17	12	12	17	11	12	6	13	10	8	8	7
Sør-Trøndelag	27	27	18	12	16	10	22	14	17	4	15	8	17	2	6	10
Nord-Trøndelag	11	10	11	8	6	9	9	3	4	5	3	2	5	4	3	5
Nordland	21	24	16	28	22	25	21	18	11	15	15	6	6	12	6	9
Troms Romsa	14	12	9	10	10	14	12	11	7	13	5	6	5	7	10	6
Finnmark Finnmarku	20	12	11	7	12	9	5	9	8	6	9	3	2	5	3	4

**3. Sex and age-specific death rates from cardiovascular diseases. Underlying cause of death. 1951-2006. Per 100 000 population**

Sex. Year.1	-39 years	40-49 years	50-59 years	60-69 years	70-79 years	80 years and over
<b>Males</b>						
1951-1955 .....	7	82	311	942	2 781	7 484
1956-1960 .....	7	99	360	1 105	3 141	8 244
1961-1965 .....	8	112	429	1 281	3 367	8 936
1966-1970 .....	7	143	456	1 389	3 489	8 733
1971-1975 .....	7	139	458	1 315	3 542	8 688
1976-1980 .....	6	127	454	1 246	3 252	7 834
1981-1985 .....	7	107	432	1 190	3 168	7 724
1986-1990 .....	7	93	373	1 143	3 025	7 654
1991-1995 .....	6	72	257	939	2 624	7 228
1996-2000 .....	5	59	182	669	2 223	6 975
2001-2005 .....	5	43	148	454	1 606	5 926
1991 .....	6	73	290	1 055	2 767	7 282
1992 .....	5	79	288	954	2 732	7 394
1993 .....	5	74	252	927	2 725	7 372
1994 .....	7	67	229	866	2 455	6 913
1995 .....	5	68	240	886	2 437	7 170
1996 .....	6	64	205	753	2 357	7 143
1997 .....	4	66	181	702	2 347	7 091
1998 .....	5	65	188	684	2 295	6 934
1999 .....	6	51	182	640	2 168	6 969
2000 .....	4	49	157	566	1 941	6 758
2001 .....	4	43	173	538	1 882	6 530
2002 .....	5	47	155	512	1 820	6 313
2003 .....	4	44	135	445	1 577	5 957
2004 .....	5	36	146	403	1 434	5 615
2005 .....	5	44	131	376	1 319	5 215
2006 .....	5	41	125	356	1 209	4 951
<b>Females</b>						
1951-1955 .....	5	42	174	689	2 594	7 747
1956-1960 .....	4	38	161	686	2 718	8 280
1961-1965 .....	4	39	152	688	2 742	8 683
1966-1970 .....	3	40	141	633	2 447	7 823
1971-1975 .....	3	36	129	534	2 273	7 640
1976-1980 .....	3	30	115	472	1 931	6 740
1981-1985 .....	3	23	104	405	1 728	6 365
1986-1990 .....	3	23	94	391	1 584	6 140
1991-1995 .....	3	19	71	334	1 358	5 856
1996-2000 .....	2	16	55	235	1 130	5 704
2001-2005 .....	2	14	48	166	861	4 947
1991 .....	3	15	72	369	1 497	5 941
1992 .....	2	19	84	357	1 396	5 908
1993 .....	3	19	71	329	1 384	6 073
1994 .....	3	21	69	304	1 251	5 691
1995 .....	3	19	61	308	1 254	5 678
1996 .....	2	15	54	255	1 189	5 783
1997 .....	2	13	47	240	1 168	5 870
1998 .....	3	20	57	230	1 166	5 631
1999 .....	2	15	55	249	1 089	5 795
2000 .....	3	17	60	203	1 033	5 456
2001 .....	3	15	55	182	978	5 305
2002 .....	2	13	51	185	947	5 278
2003 .....	1	16	43	173	876	5 063
2004 .....	2	12	49	153	802	4 828
2005 .....	2	15	41	138	706	4 269
2006 .....	2	16	45	128	713	4 522

**4. Sex and age-specific death rates from malignant neoplasms. Underlying cause of death. 1951-2006. Per 100 000 population**

Sex. Year	-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70-79 years	80 years and over
<b>Males</b>							
1951-1955 .....	11	25	74	220	532	1 145	1 762
1956-1960 .....	12	27	67	216	543	1 128	1 724
1961-1965 .....	11	27	70	215	562	1 132	1 844
1966-1970 .....	10	27	74	210	572	1 210	1 991
1971-1975 .....	10	24	72	226	588	1 240	2 054
1976-1980 .....	8	23	67	232	616	1 356	2 306
1981-1985 .....	7	21	66	239	653	1 414	2 460
1986-1990 .....	6	18	66	240	673	1 419	2 556
1991-1995 .....	5	16	62	226	666	1 420	2 678
1996-2000 .....	5	14	57	207	645	1 467	2 675
2001-2005 .....	4	15	49	188	575	1 399	2 695
2001 .....	2	18	58	186	580	1 448	2 706
2002 .....	4	12	49	203	614	1 412	2 700
2003 .....	4	16	42	194	581	1 346	2 755
2004 .....	3	14	50	179	558	1 396	2 675
2005 .....	4	12	43	181	542	1 393	2 637
2006 .....	3	14	39	170	545	1 286	2 586
<b>Females</b>							
1951-1955 .....	10	33	103	240	436	856	1 365
1956-1960 .....	8	37	104	224	430	778	1 205
1961-1965 .....	8	32	97	209	404	757	1 220
1966-1970 .....	8	32	100	217	409	776	1 246
1971-1975 .....	6	31	98	214	399	732	1 186
1976-1980 .....	6	27	86	227	419	758	1 296
1981-1985 .....	5	27	88	221	426	759	1 331
1986-1990 .....	4	24	88	229	432	780	1 317
1991-1995 .....	3	25	89	212	452	760	1 315
1996-2000 .....	4	22	81	220	446	792	1 342
2001-2005 .....	3	18	67	205	431	809	1 362
2001 .....	3	20	73	207	447	810	1 382
2002 .....	3	16	64	223	432	821	1 363
2003 .....	4	20	66	199	420	837	1 339
2004 .....	4	19	66	194	426	796	1 344
2005 .....	2	17	64	200	428	780	1 384
2006 .....	2	18	68	173	407	791	1 413