

*Data extracted in August 2020.
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This article presents an overview of statistics related to [cancer](#) in the [European Union \(EU\)](#) and focuses on three aspects: deaths from cancer, cancer healthcare and the availability of specialist healthcare personnel and equipment for the treatment of cancer. Some of the statistics presented in this article are only available for the broader category of [neoplasms](#) , which includes benign and uncertain neoplasms as well as malignant ones (cancer). An accompanying article, [Cancer statistics — specific cancers](#) , looks in more detail at statistics for a selection of specific cancers: colorectal cancer, lung cancer, breast cancer and prostate cancer.

This article is one of a set of statistical articles concerning health status in the EU which forms part of an online publication on [health statistics](#) .

Deaths from cancer

In 2016, 1.2 million people died from cancer in the [EU-27](#) , which equated to more than one quarter (25.8 %) of the total number of deaths — see Table 1. Cancer accounted for a higher share (29.0 %) of deaths among men than among women (22.6 %).

Causes of death — malignant neoplasms, residents, 2017

	Number of deaths (number)	Share of all deaths			Standardised death rates (per 100 000 inhabitants)				
		Total	Males (%)	Females	Total	Males	Females	Persons aged < 65 years	Persons aged ≥ 65 years
EU-27 (*)	1 167 672	25.8	29.0	22.6	257.1	344.0	196.2	77.3	999.3
Belgium	26 743	24.6	27.6	21.7	240.1	312.4	189.7	65.3	961.6
Bulgaria	17 371	16.0	18.0	13.9	232.8	319.4	172.4	94.0	805.7
Czechia	27 331	24.6	27.1	22.0	275.8	372.9	211.7	75.3	1 103.6
Denmark	15 618	29.4	31.0	27.8	287.9	348.4	245.3	66.6	1 201.5
Germany	228 040	24.4	26.8	22.0	248.0	315.9	201.2	69.4	985.5
Estonia	3 820	24.7	27.8	21.9	289.2	455.9	209.0	80.6	1 150.7
Ireland	9 126	30.0	31.3	28.7	270.9	324.7	231.7	64.2	1 124.3
Greece	29 833	24.1	29.0	19.0	246.7	339.8	172.6	73.3	962.5
Spain	108 887	25.8	31.1	20.4	228.5	326.3	156.2	68.5	888.7
France (*)	163 919	27.6	31.5	23.8	243.8	332.7	180.2	77.4	930.7
Croatia	13 731	25.6	30.2	21.4	323.3	458.1	237.0	99.9	1 245.2
Italy	169 929	26.3	30.7	22.2	239.3	317.6	185.0	61.4	973.9
Cyprus	1 419	23.5	25.9	20.7	211.8	274.5	162.3	56.4	853.4
Latvia	5 992	21.0	24.0	18.3	298.7	476.6	213.2	101.2	1 114.1
Lithuania	7 950	20.1	23.0	17.4	274.2	430.1	193.9	94.2	1 017.1
Luxembourg	1 090	26.8	28.3	25.3	238.3	296.6	203.8	54.2	998.4
Hungary	32 829	25.0	27.7	22.4	342.1	470.0	263.6	128.3	1 225.1
Malta	951	26.6	29.3	23.8	224.6	287.8	179.6	61.6	897.5
Netherlands	44 986	30.2	34.2	26.4	279.9	353.8	229.8	71.2	1 141.8
Austria	20 312	24.7	28.2	21.6	236.2	307.4	188.2	64.1	946.8
Poland	99 698	24.7	26.2	23.1	293.6	406.6	224.5	92.0	1 126.1
Portugal	27 455	25.0	29.8	20.2	245.2	357.0	168.0	81.5	921.1
Romania	51 631	19.9	22.5	17.0	276.5	383.0	199.0	114.7	944.4
Slovenia	6 376	31.3	35.6	27.2	308.1	429.2	232.6	84.3	1 231.7
Slovakia	13 790	25.7	28.2	23.0	314.9	446.6	233.6	94.9	1 223.1
Finland	12 569	23.5	25.2	21.8	219.2	282.8	178.3	53.0	905.1
Sweden	22 959	25.1	26.8	23.5	231.6	274.3	203.6	49.8	981.8
United Kingdom	167 490	27.4	29.7	25.2	273.6	334.1	230.4	65.6	1 132.1
Iceland	590	26.8	27.6	26.0	237.5	271.4	214.2	51.1	1 007.1
Liechtenstein	64	26.3	27.9	24.8	186.0	219.9	160.0	55.7	724.3
Norway	10 917	27.0	29.9	24.4	241.7	297.7	205.1	54.1	1 015.9
Switzerland	17 310	26.0	29.6	22.6	214.8	278.8	171.3	50.9	891.4
Serbia	21 495	20.8	23.4	18.1	296.6	381.2	233.6	114.2	1 049.4
Turkey	78 904	19.2	22.9	14.8	196.1	290.4	124.1	63.6	742.8

(*) 2016.

Source: Eurostat (online data codes: hlth_cd_aro and hlth_cd_asdr2)



Table 1: Causes of death — malignant neoplasms, residents, 2017 Source: Eurostat (hlth_cd_aro) and (hlth_cd_asdr2)

Among the EU Member States, the share of deaths from cancer in the total number of deaths in 2017 reached or exceeded 30.0 % in Ireland, the Netherlands and Slovenia. Among men, this share peaked at 35.6 % in Slovenia and 34.2 % in the Netherlands, while among women it peaked at 28.7 % in Ireland and 27.8 % in Denmark. By contrast, less than one fifth of all deaths in Romania and Bulgaria were caused by cancer.

For the EU-27, the [standardised death rate](#) for cancer was 257.1 per 100 000 inhabitants in 2016, lower than the rate for circulatory diseases, but higher than the rate for most other causes of death (at a similar level of the [International Statistical Classification of Diseases and Related Health Problems \(ICD\)](#)). An analysis by gender and by age shows large differences in standardised death rates for cancer: for men the rate (344.0 per 100 000 male inhabitants) was 75 % higher than that for women (196.2 per 100 000 female inhabitants), while the rate for persons aged 65 years and over was 13 times as high as it was for younger persons (those aged less than 65 years).

Among the EU Member States, the highest standardised death rates for cancer were recorded in Hungary, Croatia, Slovakia and Slovenia, each with rates of at least 300 per 100 000 inhabitants in 2017. Cyprus recorded the lowest standardised death rate for cancer among the Member States, 211.8 per 100 000 inhabitants. Cyprus also recorded the second lowest standardised death rates when analysed by sex: 274.5 per 100 000 male inhabitants, higher only than in Sweden (274.3 per 100 000 inhabitants); 162.3 per 100 000 female inhabitants, higher only than in Spain (156.2 per 100 000 inhabitants). For men, the highest standardised death rates for cancer were reported in Latvia, Hungary, Croatia, Estonia and Slovakia, all with rates close to or above 450 per 100 000 male inhabitants. For women, the highest standardised death rates for cancer were recorded in Hungary and Denmark, both with rates over 240 per 100 000 female inhabitants.

Cancer healthcare

Three sets of data are available for cancer healthcare. These concern the number of discharges of in-patients, the average length of stay for in-patients, and the type of operations and procedures performed.

Concerning the provision of care, this article concentrates on in-patient care and day care. Both in-patient care and day care comprise a formal admission into a health care facility such as a hospital for diagnosis, treatment or other types of health care. While in-patient care involves an overnight stay after admission, day care comprises planned medical and paramedical services delivered to patients without an overnight stay: day care patients are formally admitted with the intention of being discharged on the same day. The inclusion of accommodation with medical and ancillary care constitutes the main distinction between in-patient and outpatient care.

In 2018, there were around 6.6 million in-patients who were discharged from hospitals having been treated for neoplasms in the EU-27 (2017 data for Germany and Malta; 2016 data for Denmark and Luxembourg; 2015 data for Portugal; no recent data for Greece) .

Austria recorded the highest discharge rate for in-patients with neoplasms

From Figure 1 it can be seen that, for all neoplasms, the highest discharge rate for in-patients was in Austria, where 2 900 in-patients per 100 000 inhabitants were discharged in 2018 after diagnosis or treatment for neoplasms. In Bulgaria, Germany (2017 data), Hungary, Romania, Croatia and Estonia, this rate also exceeded 2 000 per 100 000 inhabitants. Elsewhere the rate ranged from 918 per 100 000 inhabitants in Sweden to 1 920 per 100 000 inhabitants in Lithuania, with Portugal (2015 data), Ireland, Cyprus and Malta (2017 data) below this range.

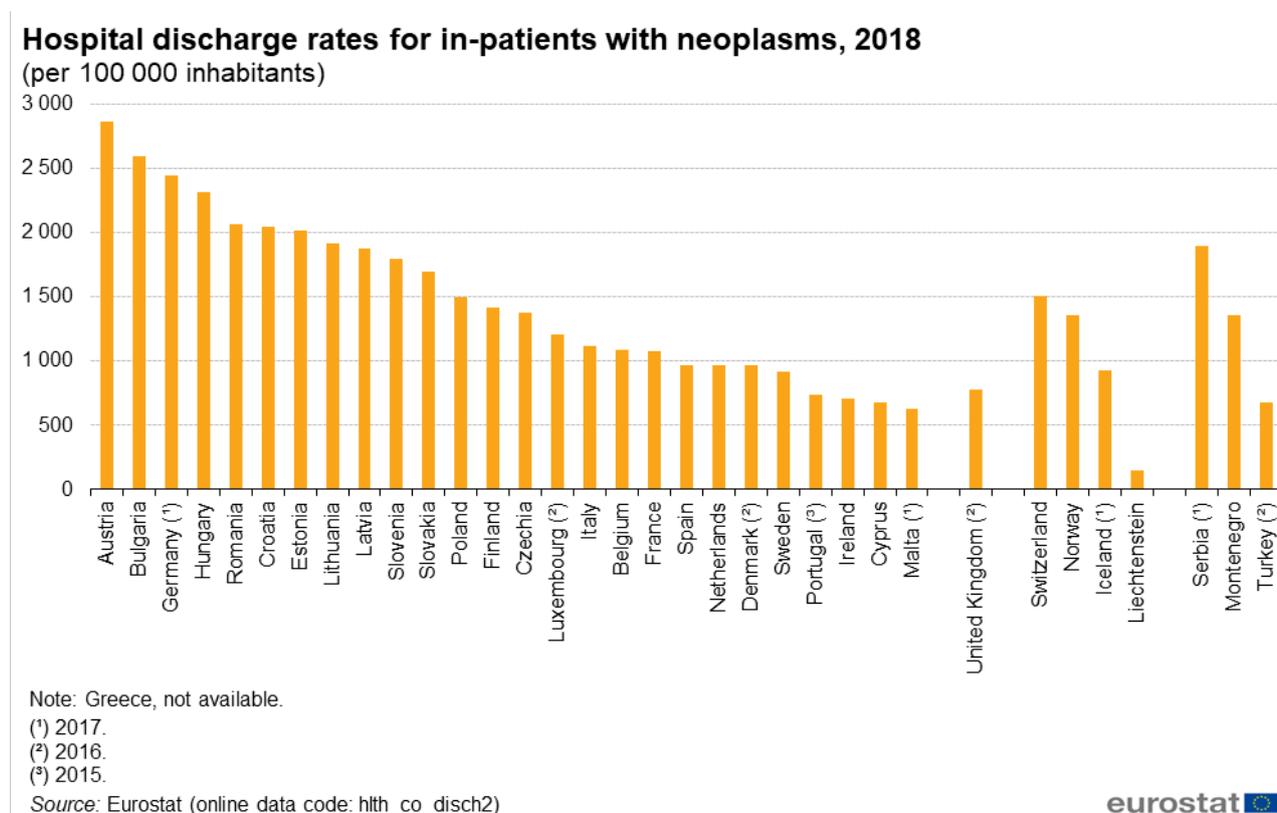


Figure 1: Hospital discharge rates for in-patients with neoplasms, 2018(per 100 000 inhabitants)Source: Eurostat (hlth_co_disch2)

Neoplasms: falling average length of stay for in-patients

The average length of stay for in-patients having been classified for the purpose of their treatment or in-

investigation under neoplasms ranged among the EU Member States from 4.7 days in Bulgaria in 2018 to 10.2 days in Malta in 2017 (no recent data for Greece or Portugal). A comparison of the data for 2018 with that for 2013 (see Figure 2 for the precise availability) shows an overall downward pattern in the average length of stays for in-patients. Increases were recorded only for Malta (2013-2017), Spain, Slovenia and Austria; an increase was also recorded for Serbia (2014-2018) among the non-member countries shown in Figure 2. The largest reduction in terms of the average number of days was recorded in Croatia (1.6 days fewer in 2018 than in 2013).

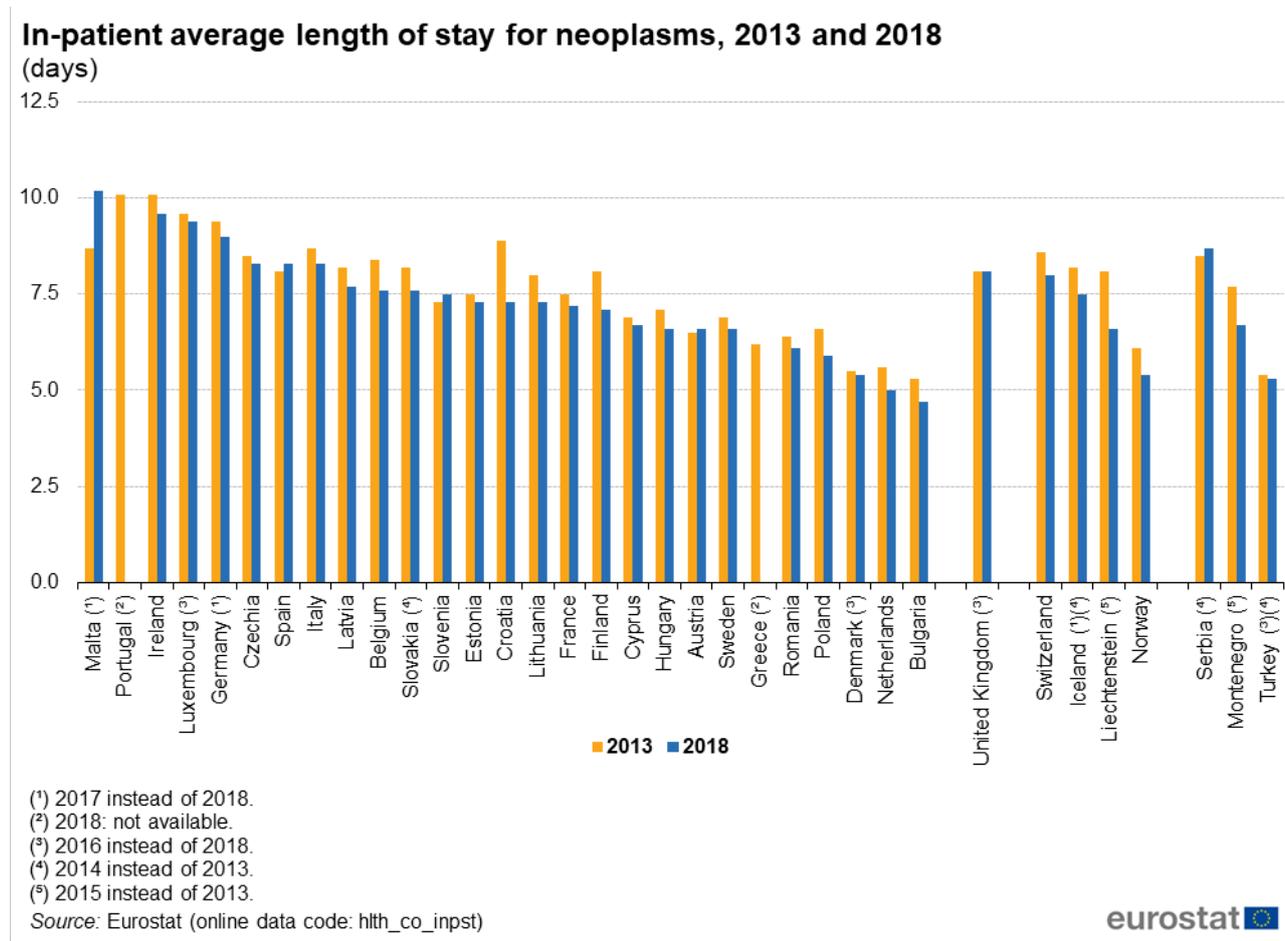


Figure 2: In-patient average length of stay for neoplasms, 2013 and 2018(days)Source: Eurostat (hlth_co_inpst)

Table 2 presents data for the frequency (relative to population size) with which two procedures were carried out to prevent or treat breast cancer: the removal of part or all (total mastectomy) of a mammary gland — codes 85.20-85.23, 85.33-85.36 and 85.4. In 2018, 356 000 operations were performed in the 23 EU Member States with data available (2017 data for Malta and the Netherlands, 2015 data for Portugal, no data for Czechia, Greece, Latvia and Slovakia) to remove part of a mammary gland. A further 147 000 total mastectomies were performed in 24 Member States (similar coverage, but also including data for Slovakia).

Surgical operations and procedures performed related to cancer, 2013 and 2018
(per 100 000 inhabitants)

	Partial excision of mammary gland		Total mastectomy	
	2013	2018	2013	2018
Belgium	107.8	140.1	48.0	67.7
Bulgaria	:	79.5	:	34.2
Czechia	:	:	:	:
Denmark	107.3	86.8	45.6	44.3
Germany	106.1	96.6	35.1	32.4
Estonia	45.2	49.9	27.9	23.6
Ireland	60.5	74.3	19.7	22.7
Greece	:	:	50.3	:
Spain	82.1	88.1	31.5	43.1
France	103.5	105.3	32.4	32.7
Croatia	65.3	65.9	38.1	38.9
Italy	118.5	109.7	35.5	37.8
Cyprus	5.6	10.5	24.0	26.7
Latvia	:	:	:	:
Lithuania	74.7	84.5	19.7	26.9
Luxembourg	66.1	72.7	33.7	33.7
Hungary	75.3	70.6	28.7	25.5
Malta (*)	77.7	78.0	30.5	22.4
Netherlands (*)	62.8	73.2	65.2	49.2
Austria	107.0	97.3	26.3	31.2
Poland	19.9	16.9	20.4	22.5
Portugal	68.6	:	37.0	:
Romania	32.8	33.2	24.8	24.9
Slovenia	62.0	70.3	30.4	31.5
Slovakia	:	:	24.2	18.6
Finland	72.3	87.5	48.4	45.5
Sweden	83.5	72.7	44.8	37.2
United Kingdom	78.8	77.7	33.9	31.4
Iceland	43.2	42.0	37.4	48.8
Liechtenstein	37.9	0.0	10.8	0.0
Norway	61.6	81.5	39.3	33.8
Switzerland (*)	92.5	94.1	35.9	35.0
North Macedonia	26.8	28.8	25.0	27.0
Serbia (*)	70.6	70.0	27.5	28.1
Turkey (*)	20.5	:	10.5	:

(*) 2017 instead of 2018.

(*) 2014 instead of 2013.

(*) 2012 instead of 2013.

Source: Eurostat (online data code: hlth_co_proc2)



Table 2: Surgical operations and procedures performed related to cancer, 2013 and 2018(per 100 000 inhabitants)Source: Eurostat (hlth_co_proc2)

In 2018, partial mastectomies were most commonly performed in Belgium, with 140 of these procedures per 100 000 inhabitants, while the next highest rates were between 105 and 110 per 100 000 inhabitants in Italy and France. Romania, Poland and Cyprus recorded the lowest frequencies for this procedure, with less than 40 partial mastectomies per 100 000 inhabitants in 2018. Total mastectomies were also most common in Belgium, with 68 per 100 000 inhabitants. The Netherlands (2017 data), Finland, Denmark and Spain also recorded more than 40 total mastectomies per 100 000 inhabitants in 2018.

Majority of Member States recorded an increase in the frequency (relative to population) in procedures related to breast cancer

For partial mastectomies, more than half of the EU Member States for which data are available reported an increase in the frequency of this operation between 2013 and 2018: the largest increase was reported by Cyprus (up 87.8 %) and Belgium (up 30.0 %), while the largest decrease was recorded in Denmark (down 19.2 %). For total mastectomies, the largest increases were in Belgium (up 41.1 %) and Spain (up 36.5 %), while the largest decreases were in Malta (down 26.5 %; 2013-2017), the Netherlands (down 24.6 %; 2013-2017) and Slovakia (down 23.0 %).

Healthcare personnel and equipment

Oncological day care involves treatments that do not require an overnight stay, for example day case chemotherapy, blood and platelet transfusions, tests, removal of sutures (stitches), injections and dressings. Although only a limited amount of data are available (see Table 3 for data availability), the range in availability of day care

places in 2018 was large, from 0.2 places per 100 000 inhabitants in Slovakia to 14.1 places per 100 000 inhabitants in Belgium and 19.8 places per 100 000 inhabitants in Spain.

Cancer related healthcare personnel and equipment, 2013 and 2018

(per 100 000 inhabitants)

	Oncological day care places		Radiation therapy equipment	
	2013	2018	2013	2018
Belgium (*) ^(*)	11.8	14.1	1.7	1.8
Bulgaria	.	.	0.5	1.0
Czechia	.	.	0.8	0.8
Denmark	.	.	1.3	1.2
Germany (*) ^(*) ^(*)	1.2	1.2	0.5	0.5
Estonia	.	.	0.4	0.5
Ireland	.	.	1.0	1.0
Greece (*)	4.1	5.4	0.6	0.7
Spain	16.4	19.8	0.5	0.5
France (*)	8.7	10.4	1.0	1.1
Croatia (*)	5.0	4.0	0.7	0.6
Italy	4.6	3.7	0.7	0.7
Cyprus (*)	3.0	7.5	0.5	0.8
Latvia	.	.	0.4	0.6
Lithuania	.	.	0.8	0.8
Luxembourg	.	.	0.7	0.8
Hungary (*)	.	.	0.5	0.5
Malta	.	5.6	0.7	0.8
Netherlands
Austria	.	.	0.5	0.5
Poland (*) ^(*)	1.3	.	0.4	0.5
Portugal (*)	.	.	0.4	0.4
Romania	3.1	3.8	0.4	0.4
Slovenia	.	.	0.6	0.6
Slovakia	0.4	0.2	1.2	1.1
Finland	.	.	1.0	1.0
Sweden (*) ^(*)	.	.	0.8	0.7
United Kingdom (*) ^(*)	.	.	0.6	0.8
Iceland	.	.	0.9	0.9
Liechtenstein	2.7	10.5	0.0	0.0
Switzerland	.	.	1.7	1.7
North Macedonia (*)	1.8	3.2	0.2	.
Albania	.	.	0.1	.
Serbia	3.7	3.2	0.3	0.4
Turkey	.	.	0.3	0.3

(*) Radiation therapy equipment: hospitals only.

(*) Radiation therapy equipment: 2017 instead of 2018.

(*) Oncological day care places: 2017 instead of 2018.

(*) Oncological day care places: 2014 instead of 2013.

(*) Radiation therapy equipment, 2013: definition differs.

(*) Oncological day care places: break in series.

(*) Oncological day care places: 2011 instead of 2013.

(*) Radiation therapy equipment: break in series.

(*) Radiation therapy equipment: 2015 instead of 2013.

(*) Radiation therapy equipment: 2014 instead of 2013.

Source: Eurostat (online data codes: hlth_rs_tech and hlth_rs equip)

eurostat 

Table 3: Cancer related healthcare personnel and equipment, 2013 and 2018 (per 100 000 inhabitants) Source: Eurostat (hlth_rs_spec), (hlth_rs_tech) and (hlth_rs equip)

Radiation therapy equipment covers machines used for treatment with x-rays or radionuclides. These include linear accelerators, Cobalt-60 units, Caesium-137 therapy units, low to orthovoltage x-ray units, high dose and low dose rate brachytherapy units, and conventional brachytherapy units: note that some of these machines may also be used for treatments other than for cancer. In 2018, there were 3 100 radiation therapy units in the EU Member States for which data are available (2017 data for Belgium, Germany and Hungary; no data for the Netherlands; note that data for Belgium, Germany, France, Portugal and Sweden refer only to equipment in hospitals), with the largest numbers in France (744), Italy (439) and Germany (422). Relative to population size, radiation therapy equipment was most common in Belgium (2017 data; hospitals only), while it was least common in Portugal (hospitals only) and Romania.

Source data for tables and graphs

- [Cancer statistics: tables and figures](#)

Data sources

Key concepts

An in-patient or day care patient is discharged from hospital when formally released after a procedure or course of treatment (episode of care). A discharge may occur because of the finalisation of treatment, signing out against medical advice, transfer to another healthcare institution, or because of death.

The number of deaths from a particular cause of death can be expressed relative to the size of the population. A standardised (rather than crude) death rate can be compiled which is independent of the age and sex structure of a population: this is done as most causes of death vary significantly by age and according to sex and the standardisation facilitates comparisons of rates over time and between countries.

Causes of death

Statistics on causes of death provide information on [mortality](#) patterns, supplying information on developments over time in the underlying causes of death. This source is documented in more detail in the background article [Causes of death statistics — methodology](#) which provides information on the scope of the data, its legal basis, the methodology employed, as well as related concepts and definitions.

Causes of death are classified according to the [European shortlist](#) (86 causes), which is based on the [International Statistical Classification of Diseases and Related Health Problems \(ICD\)](#) . Chapter II of the ICD covers neoplasms:

- C00-C97 Malignant neoplasms;
- D00-D09 In situ neoplasms;
- D10-D36 Benign neoplasms;
- D37-D48 Neoplasms of uncertain or unknown behaviour.

Please refer to this background information document for [country specific notes on this data collection](#) .

Healthcare resources and activities

For hospital discharges and the length of stay in hospitals, the [International Shortlist for Hospital Morbidity Tabulation \(ISHMT\)](#) is used to classify data from 2000 onwards; Chapter II covers neoplasms:

- Malignant neoplasm of colon, rectum and anus (0201);
- Malignant neoplasms of trachea, bronchus and lung (0202);
- Malignant neoplasms of skin (0203);
- Malignant neoplasm of breast (0204);
- Malignant neoplasm of uterus (0205);
- Malignant neoplasm of ovary (0206);
- Malignant neoplasm of prostate (0207);
- Malignant neoplasm of bladder (0208);
- Other malignant neoplasms (0209);
- Carcinoma in situ (0210);
- Benign neoplasm of colon, rectum and anus (0211);
- Leiomyoma of uterus (0212);
- Other benign neoplasms and neoplasms of uncertain or unknown behaviour (0213).

Please refer to this background information document for [country specific notes on this data collection](#) .

Statistics on healthcare resources (such as personnel and medical equipment) and healthcare activities (such as information on surgical operations and procedures and [hospital discharges](#)) are documented in the background article [Healthcare non-expenditure statistics — methodology](#) which provides information on the scope of the data, its legal basis, the methodology employed, as well as related concepts and definitions.

For surgical operations and procedures the [International Classification of Diseases — clinical modification \(ICD-9-CM\)](#) is used:

- Partial excision of a mammary gland (85.20-85.23);
- Total mastectomy (85.33-85.36 and 85.4).

Please refer to this background information document for [country specific notes on this data collection](#) .

Symbols

Note on tables:

- a colon ':' is used to show where data are not available;
- a dash '-' is used to show where data are not applicable/relevant.

Context

Although significant advances have been made in the fight against this group of diseases, cancer remains a key public health concern and a tremendous burden on EU societies — it is the second largest cause of death in the EU-27. The ambitious goal set by the European Commission [Communication on Action Against Cancer: European Partnership](#) (adopted in June 2009) is to reduce cancer incidence by 15 % by 2020.

By way of Decision 2014/C 167/05, the European Commission established an expert group on Cancer Control with the aims to: assist the European Commission in the drawing up of legal instruments and policy documents, guidelines and recommendations on cancer control; advise in the implementation, monitoring, evaluation and dissemination of the results of EU and national measures and on international cooperation; facilitate coordination and exchange of information between EU Member States; provide an overview of EU and national policies; gather information about relevant experience, policies and practices of the Member States and other parties.

[CanCon](#) — short for cancer control — was a joint action initiative, co-funded by participating organisations, institutes, universities and health care units, and the EU. CanCon developed a [European Guide on Quality Improvement in Comprehensive Cancer Control](#) .

Other articles

Online publications

- [Health in the European Union — facts and figures](#)
- [Disability statistics](#)

Health status — selected diseases and related health problems

- [Specific cancers](#)

Causes of death

- [Causes of death](#)

- [Causes of death of the elderly](#)

Healthcare activities

- [Hospital discharges and length of stay](#)
- [Surgical operations and procedures](#)

Methodology

- [Causes of death statistics](#)
- [Healthcare non-expenditure statistics](#)

General health statistics articles

- [Health statistics introduced](#)
- [Health statistics at regional level](#)
- [The EU in the world — health](#)

Publications

Atlas

- [Health statistics — Atlas on mortality in the European Union](#)

News releases

- [21% of cancer-related deaths due to lung cancer](#)
- [Breast cancer screening differs among Member States](#)
- [Deaths from prostate cancer in EU regions](#)
- [World Cancer Day: 1 in 4 deaths caused by cancer](#)

Main tables

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Health care resources (hlth_res)

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Causes of death - deaths by country of residence and occurrence (hlth_cd_aro)

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Dedicated section

- [Health](#)

Methodology

- [Causes of death statistics](#) (ESMS metadata file — [hlth_cdeath_esms](#))
- [Healthcare activities](#) (ESMS metadata file — [hlth_act](#))
- [Healthcare resources](#) (ESMS metadata file — [hlth_res](#))

External links

- [Cancer control Joint Action \(CanCon\)](#)
- [European Commission — Directorate-General for Health and Food Safety — Public health](#) , see:
 - [European Commission — Directorate-General for Health and Food Safety — Non-communicable diseases](#)
 - [European Commission — Directorate-General for Health and Food Safety — Non-communicable diseases — Cancer](#)
 - [European Commission — Directorate-General for Health and Food Safety — European core health indicators \(ECHI\)](#)
- [Joint OECD / European Commission report 'Health at a Glance: Europe'](#)
- [OECD — Health policies and data](#)
- [WHO Global Health Observatory \(GHO\) — Mortality and global health estimates](#)
- [World Health Organisation \(WHO\) — Health system governance](#)