

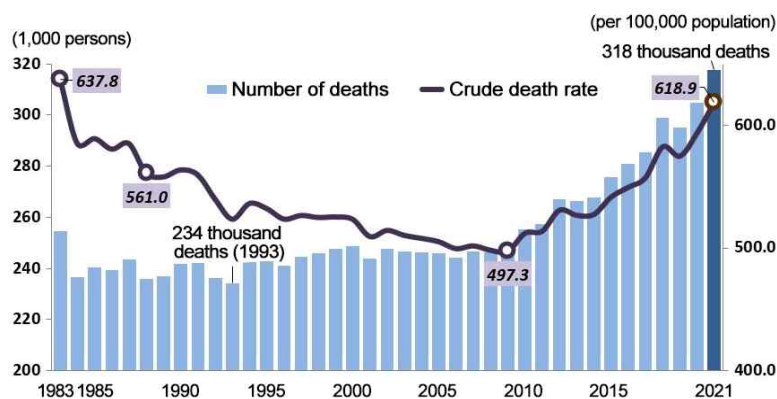


Causes of Death Statistics in 2021

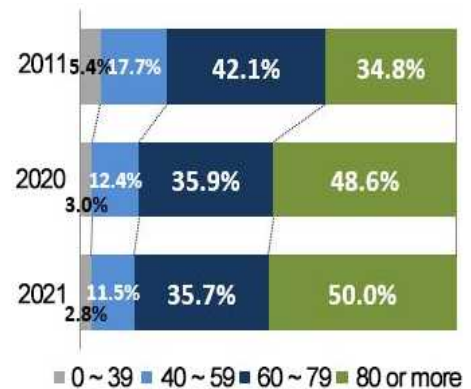
In 2021, there were 317,680 deaths, which recorded the highest figure after the first-time statistical production in 1983.

- In 2021, there were 317,680 deaths, rising by 12,732 deaths (4.2%) from 2020.
- The crude death rate (the number of deaths per 100,000 population) was 618.9 deaths in 2021, rising by 25.0 deaths (4.2%) from 2020.
 - Recording the lowest figure of 497.3 deaths in 2009, the crude death rate showed an increasing trend. Marking 585.2 deaths in 1984, the crude death rate recorded the highest figure in 2021.
- In 2021, the deaths of people aged 80 or more occupied 50.0% of the total deaths, up 15.2%p compared to a decade ago.
- The age-standardized death rate, which reflects the difference in age distribution among regions, recorded 298.3 deaths in 2021, falling by 1.7 deaths from 2020.

< Number of deaths and crude death rate (1983-2021) >



< Composition of deaths by age group >



Top 3 causes of death were cancer, heart diseases and pneumonia. These 3 causes of death occupied 43.1% of the total deaths.

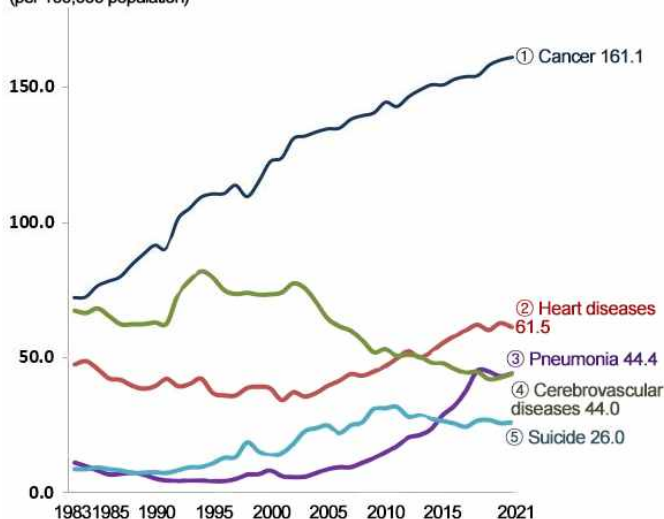
- Top 10 causes of death were, in ranking order: malignant neoplasms (cancer); heart diseases; pneumonia; cerebrovascular diseases; intentional self-harm (suicide); diabetes mellitus; Alzheimer's disease; liver diseases; sepsis; and hypertensive diseases.

< Leading causes of death >

(Unit: per 100,000 population)

Rank	Causes of death	Death rate	Compared to 2020
1	Malignant neoplasms (cancer)	161.1	-
2	Heart diseases	61.5	-
3	Pneumonia	44.4	-
4	Cerebrovascular diseases	44.0	-
5	Intentional self-harm (suicide)	26.0	-
6	Diabetes mellitus	17.5	-
7	Alzheimer's disease	15.6	-
8	Liver diseases	13.9	-
9	Sepsis	12.5	↑(+1)
10	Hypertensive diseases	12.1	↓(-1)

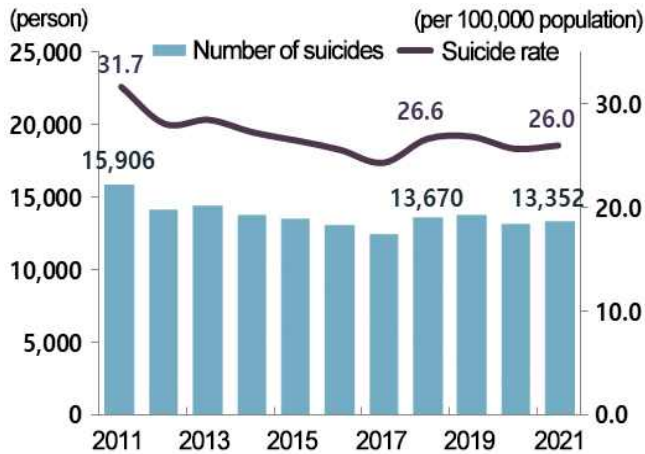
(per 100,000 population)



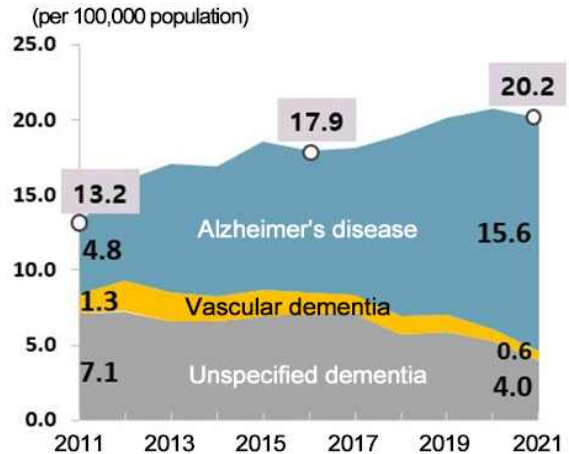
The death rates of respiratory tuberculosis and Alzheimer's disease showed a year-on-year increase. Whereas, the death rates of transport accidents and chronic lower respiratory diseases showed a year-on-year decrease.

- In 2021, deaths from cancer occupied 26.0% of the total deaths. The death rate of cancer stood at 161.1 deaths in 2021, rising by 0.6% from 2020.
 - The deaths from lung cancer recorded the highest figure at 36.8 deaths per 100,000 population, which was followed by liver cancer (20.0 deaths), colon cancer (17.5 deaths), stomach cancer (14.1 deaths) and pancreatic cancer (13.5 deaths).
- The death rate of intentional self-harm stood at 26.0 deaths, rising by 0.3 deaths (1.2%) from 2020.
- The infant mortality rate marked 2.4 deaths per 1,000 live births, which went down by 2.9% from 2020.
- The dementia-related death rate recorded 20.2 deaths in 2021. The dementia-related death rate of females was 2.1 times higher than that of males.
- The deaths from COVID-19 marked 5,030 deaths. The deaths from COVID-19 of people aged 60 or more occupied 92.4%.

< Number of suicides and suicide rate (2011-2021) >



< Dementia-related death rate (2011-2021) >

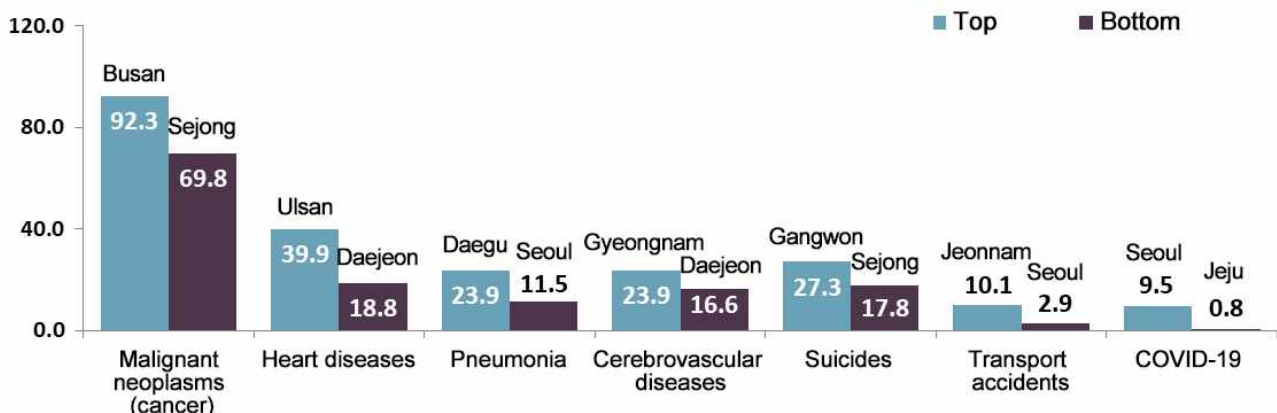


Seoul and Sejong recorded the lowest age-standardized death rate at 267.4 deaths per 100,000 standard population.

- In 2021, Seoul and Sejong marked the lowest age-standardized death rate of 267.4 deaths, which reflects the difference in age distribution among regions. This figure was followed by Gyeonggi (287.7 deaths).
- As for age-standardized death rates by cause of death, Busan (92.3 deaths) marked the highest age-standardized death rate of cancer. Ulsan (39.9 deaths) marked the highest age-standardized death rate of heart diseases. Daegu (23.9 deaths) marked the highest age-standardized death rate of pneumonia. Gyeongnam (23.9 deaths) marked the highest age-standardized death rate of cerebrovascular diseases. Gangwon (27.3 deaths) marked the highest age-standardized death rate of intentional self-harm (suicide). Jeonnam (10.1 deaths) marked the highest age-standardized death rate of transport accidents. Seoul (9.5 deaths) marked the highest age-standardized death rate of COVID-19.

< Age-standardized death rate by province and causes of death (2021) >

(per 100,000 standard population)



Purpose

- Statistics on causes of death are designed to provide death data required for making population and healthcare policies by identifying death data, causes of death and their geographic distribution.

Method

- Statistics on causes of death are produced on the basis of death reports that Korean nationals submit according to the Statistics Act and the Act on Registration of Family Relations as well as the Korean Standard Classification of Diseases and Causes of Death.
 - Since 1999, data on infant deaths, which are subject to omission of reports, have been supplemented by supplementary data of causes of death and reports of crematorium.
 - Data of deaths from unspecified causes and external causes (e.g. deaths from accidents) are supplemented by using administrative data of the National Cancer Center, the National Health Insurance Service, the National Forensic Service, the Korean National Police Agency and the Ministry of National Defense.
- Data for the 1983-2020 period may be inconsistent with figures in prior reports owing to the revision of time-series data in 2021.
- The ranking of causes of death is decided according to the death rate of 57 causes of death (general mortality tabulation list).
 - For the ranking of causes, all types of cancer including stomach cancer, liver cancer and pancreatic cancer are classified into malignant neoplasms.
- Alcohol-induced death
 - The causes of alcohol-induced death are as follows. Causes of alcohol-related indirect deaths including murders and fetal alcohol syndrome (dysmorphic) are excluded from the list.

Code	Cause of death	Code	Cause of death
E24.4	Alcohol-induced pseudo-Cushing's syndrome	K70	Alcoholic liver disease
F10	Mental and behavioural disorders due to use of alcohol	K85.2	Alcohol-induced acute pancreatitis
G31.2	Degeneration of nervous system due to alcohol	K86.0	Alcohol-induced chronic pancreatitis
G62.1	Alcoholic polyneuropathy	R78.0	Finding of alcohol in blood
G72.1	Alcoholic myopathy	X45	Accidental poisoning by and exposure to alcohol
I42.6	Alcoholic cardiomyopathy	X65	Intentional self-poisoning by and exposure to alcohol
K29.2	Alcoholic gastritis	Y15	Poisoning by and exposure to alcohol, undetermined intent

○ Death from dementia

- The deaths from dementia count vascular dementia (F01), unspecified dementia (F03) and Alzheimer's disease (G30).

○ Death from COVID-19

- The deaths from COVID-19 count coronavirus disease 2019, virus identified [COVID-19, virus identified] (U07.1), coronavirus disease 2019, virus not identified [COVID-19, virus not identified] (U07.2) and multisystem inflammatory syndrome associated with COVID-19, unspecified (U10.9).
- Data are based on the death reports of COVID-19 of Korean nationals*. Therefore, data may be inconsistent with death reports of the Korea Disease Control and Prevention Agency.
 - * Korean nationals who reside in the territory of South Korea.
- When tabulating general mortality (104 items), COVID-19 is classified under certain infectious and parasitic diseases.

Statistical terms

- The crude death rate is calculated as the number of deaths in a given year per 100,000 mid-year population in that year.

$$\text{Crude death rate} = \frac{\text{Number of deaths}}{\text{Mid-year population}} \times 100,000$$

- The cause-specific death rate is calculated as the number of deaths from a specific cause in a given year per 100,000 mid-year population in that year.

$$\text{Cause-specific death rate} = \frac{\text{Number of deaths from a specific cause}}{\text{Mid-year population}} \times 100,000$$

○ Age and cause-specific death rate

The age and cause-specific death rate is calculated as the number of deaths due to a specific cause in a given age group in a given year per 100,000 mid-year population in the corresponding age group in that year.

$$\text{Age and cause-specific death rate} = \frac{\text{Number of deaths from a specific cause in a given age group}}{\text{Mid-year population in that age group}} \times 100,000$$

○ The age-standardized death rate refers to the death rate which eliminates the effect of age structure on death to compare deaths among groups with different population structures.

$$\text{Age-standardized death rate} = \frac{\sum(\text{Age-specific death rate} \times \text{Age-specific standard population})}{\text{Standard population}}$$

※ The standard population represents the mid-year resident population in 2005.

○ The infant mortality rate is expressed as the number of children under one year of age per 1,000 live births in a given year.

$$\text{Infant mortality rate} = \frac{\text{Number of deaths of children under one year of age}}{\text{Number of live births}} \times 1,000$$

○ The perinatal mortality rate is expressed as the number of fetal deaths of 28 or more weeks of gestation and the number of newborns dying under 7 days of age per 1,000 births (number of live births and fetal deaths of 28 or more weeks of gestation).

$$\text{Perinatal mortality rate} = \frac{\text{Number of perinatal deaths}}{\text{Number of births}} \times 1,000$$

○ Maternal mortality ratio

The maternal mortality ratio is expressed as the number of pregnancy-related deaths of women while pregnant or within 42 days of termination of pregnancy per 100,000 live births in a given year.

$$\text{Maternal mortality ratio} = \frac{\text{Number of maternal deaths}}{\text{Number of live births}} \times 100,000$$

- Direct obstetric deaths are those resulting from obstetric complication of the pregnant state (pregnancy, labour and puerperium).
- Indirect obstetric deaths are those deaths resulting from previous existing disease or causes that developed during pregnancy and were aggravated by the physiologic effects of pregnancy.