



Statistics Korea

Press Release

다시, 대한민국!
새로운 국민의 나라

Embargo 12:00P.M., Dec. 4, 2024 Release Date 8:30A.M., Dec. 4, 2024

Life Tables for Korea, 2023 (the nation and provinces)

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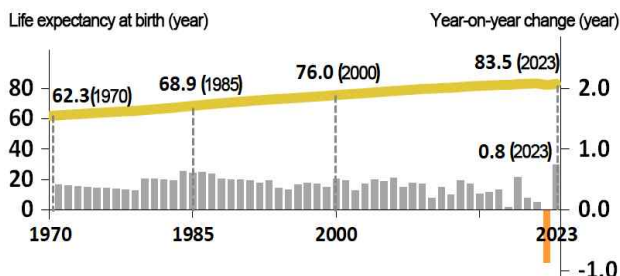
Life Tables for Korea, 2023

In 2023, the life expectancy at birth* stood at 83.5 years, rising by 0.8 year from 2022.

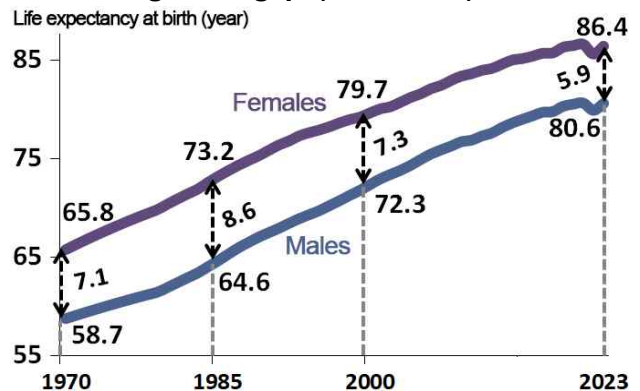
* Calculated after assuming that the current age-specific death rates are maintained

- If people would experience the current age-specific death rates in 2023, the life expectancy at birth of males marked 80.6 years, which rose by 0.7 year from 2022. The life expectancy at birth of females marked 86.4 years, which grew by 0.8 year from 2022.
- In 2023, the gender gap in life expectancy at birth recorded 5.9 years, which showed a decreasing trend after marking a peak of 8.6 years in 1985.

<Life expectancy at birth and year-on-year change (1970-2023)>

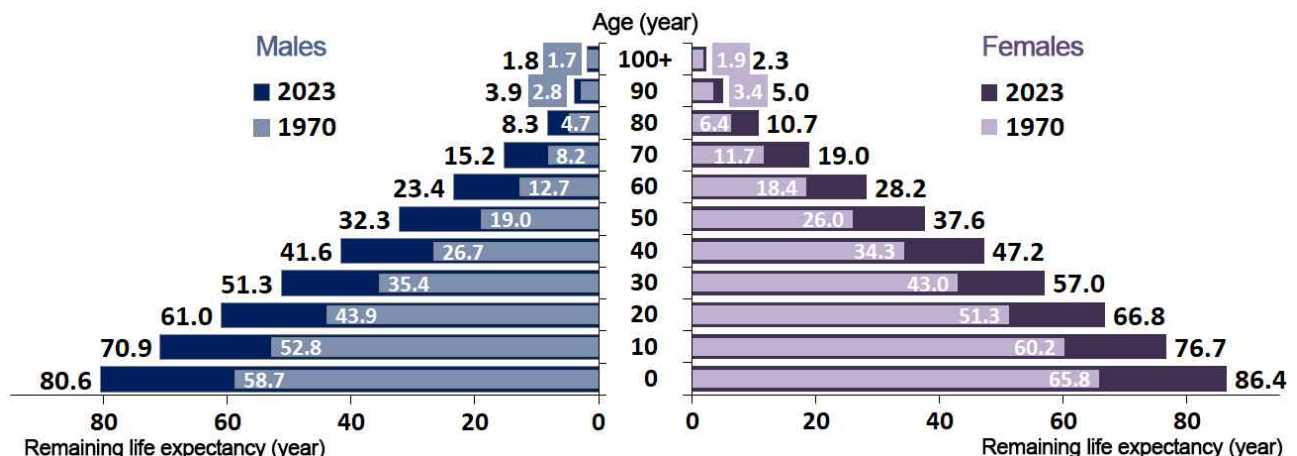


<Life expectancy at birth by gender and gender gap (1970-2023)>



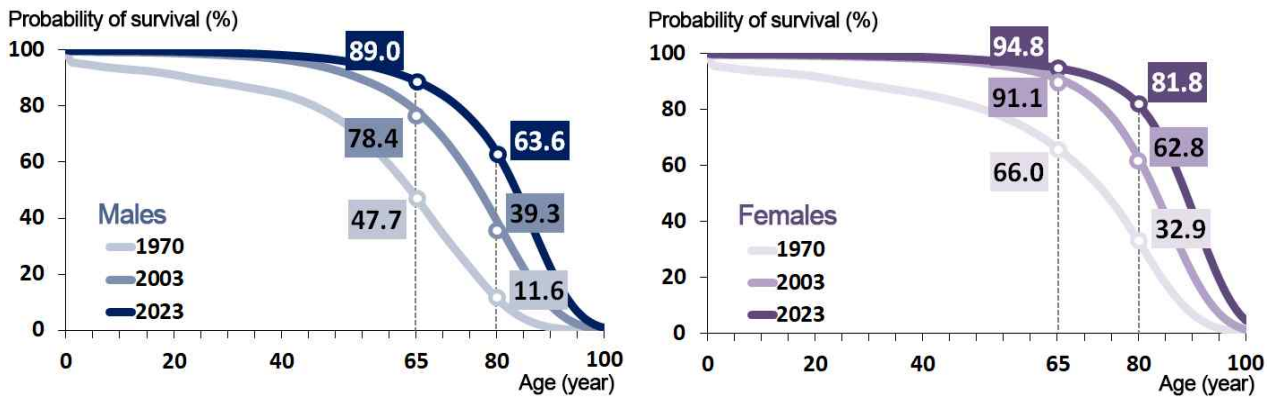
- In 2023, the remaining life expectancy of males aged 60 recorded 23.4 years, which grew by 0.7 year from 2022. The remaining life expectancy of females aged 60 recorded 28.2 years, which grew by 0.8 year from 2022.

<Remaining life expectancy by gender and age (1970, 2023)>



- As for people born in 2023, the probability of survival to 80 years of males recorded 63.6%, up 2.5%p from 2022. The probability of survival to 80 years of females recorded 81.8%, up 1.6%p from 2022.

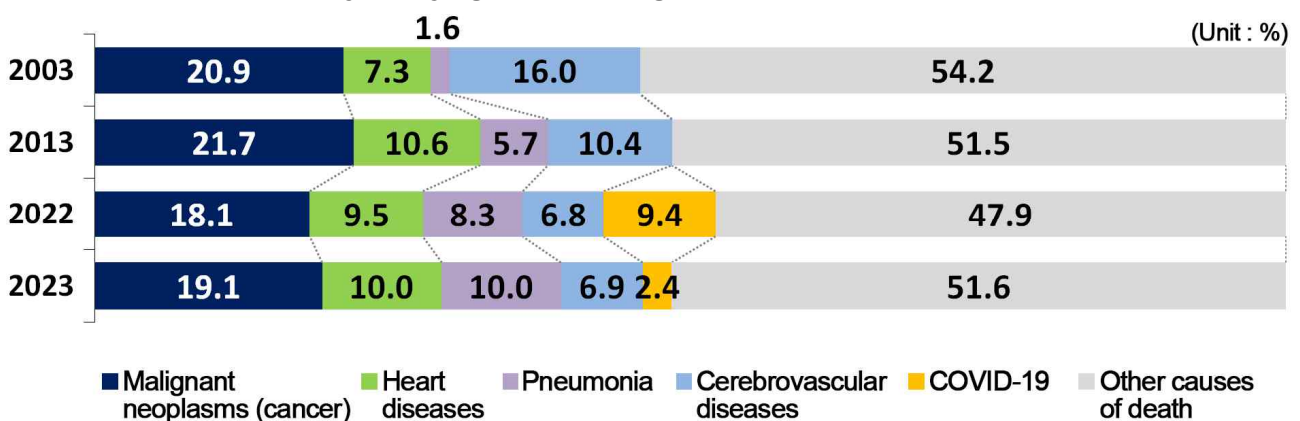
<Probability of survival to 65 years and 80 years by gender (1970, 2003, 2023)>



As for people born in 2023, the probability of dying from malignant neoplasms (cancer) recorded the highest figure of 19.1%, which was followed by pneumonia (10.0%), heart diseases (10.0%) and cerebrovascular diseases (6.9%).

- Compared to 2022, the probability of dying from COVID-19 showed a decrease. Whereas, the probability of dying from malignant neoplasms (cancer), pneumonia, heart diseases and cerebrovascular diseases marked an increase.

<Probability of dying from leading causes of death (2003-2023)>

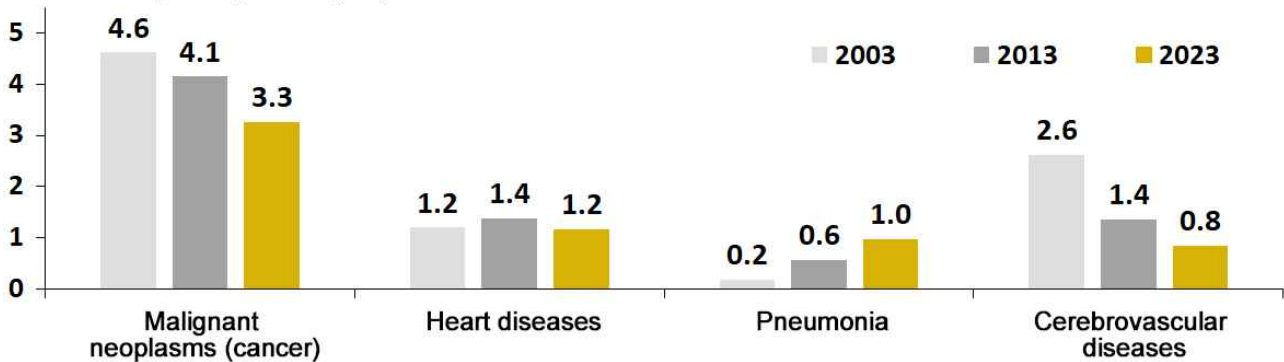


When eliminating malignant neoplasms (cancer) from causes of death, the life expectancy at birth would increase by 3.3 years.

- As for people born in 2023, the life expectancy at birth would increase by 3.3 years when eliminating cancer from causes of death, by 1.2 years when eliminating heart diseases and by 1.0 year when eliminating pneumonia.

<Gains in life expectancy at birth when eliminating major causes of death (2003, 2013, 2023)>

Gains in life expectancy at birth (year)

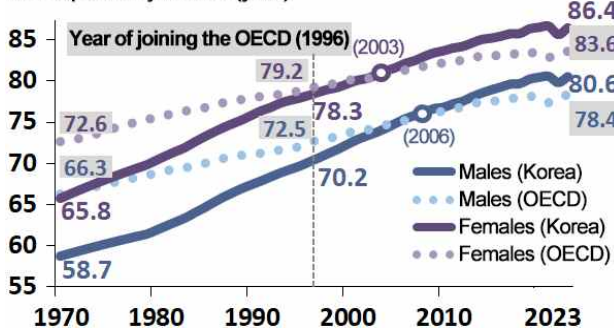


The life expectancy at birth of Korean males was 2.2 years longer than the OECD average of males. The life expectancy at birth of Korean females was 2.8 years longer than the OECD average of females.

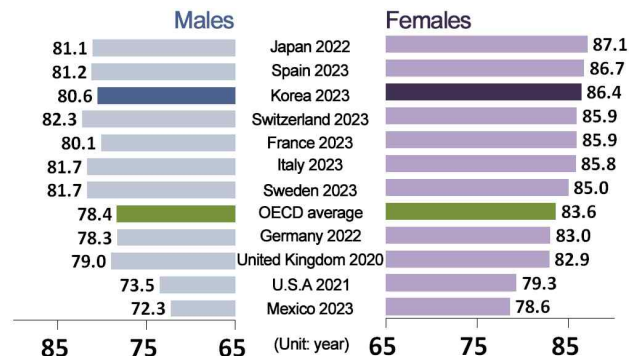
- The life expectancy at birth of Korean males stood at 80.6 years, which was 2.2 years longer than the OECD average of males (78.4 years). The life expectancy at birth of Korean females stood at 86.4 years, which was 2.8 years longer than the OECD average of females (83.6 years).

<Life expectancy at birth: Korea and OECD average (1970-2023)>

Life expectancy at birth (year)



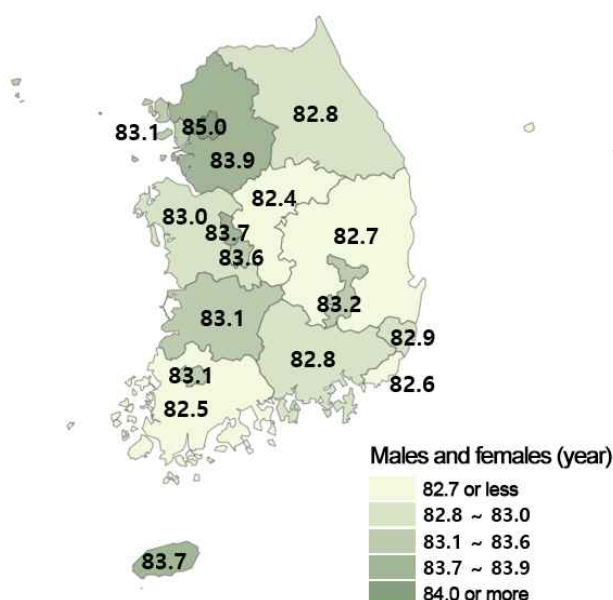
<Life expectancy at birth of major OECD member countries>



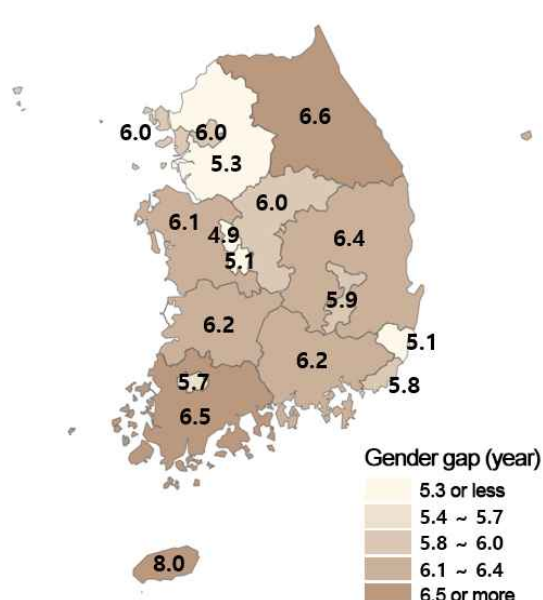
As for life expectancy at birth by province, Seoul recorded the highest figure, which was followed by Gyeonggi. Whereas, Chungbuk recorded the lowest figure, which was followed by Jeonnam.

- As for life expectancy at birth by province, in 2023, Seoul recorded the highest figure of 85.0 years, which was followed by Gyeonggi (83.9 years). Whereas, Chungbuk recorded the lowest figure of 82.4 years, which was followed by Jeonnam (82.5 years). Among metropolitan cities and provinces, the widest gap stood at 2.6 years.
- As for the gender gap in life expectancy at birth, Jeju showed the highest figure of 8.0 years, while Sejong showed the lowest figure of 4.9 years.

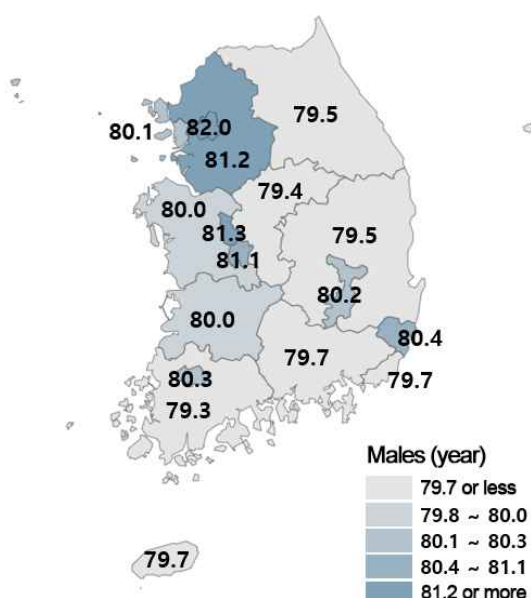
<Life expectancy at birth
by province (2023)>



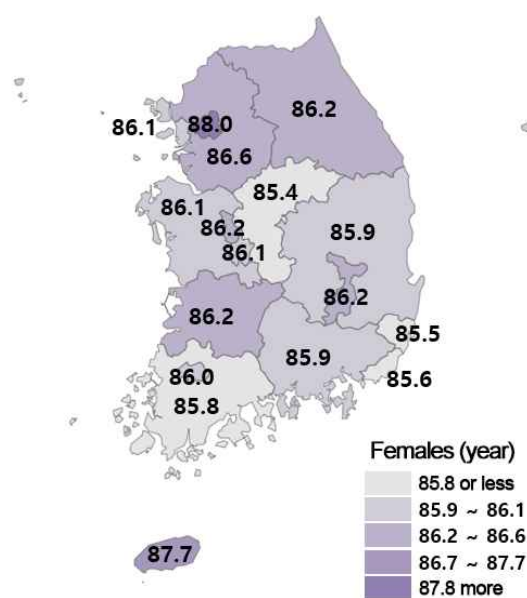
<Gender gap in life expectancy at birth
by province (2023)>



<Life expectancy at birth of males
by province (2023)>



<Life expectancy at birth of females
by province (2023)>



Appendix Outline of Life Tables

Purpose of life tables

- Life tables are designed to be used as basic data when establishing health care and medical policies and calculating insurance premiums and compensation for human injuries; and establishing Population Projections and comparing economic, social and health care levels among nations and regions.

Legal basis

- General statistics approved in accordance with Article 18, Paragraph 1 of the Statistics Act (Approval number 101035)

Method to construct complete life tables

Basic data	Population: Mid-year resident registration population Number of deaths: Number of deaths in the survey reference year
Calibration of basic data	Calibration of delayed reporting and unidentified ages
Calculation of age-specific death rate (m_x)	$m_x = \frac{D_x}{P_x}$ D_x : Number of deaths of people at age x , P_x : Mid-year resident registration population aged x
Calculation of age-specific probability of dying (q_x) / Probability of dying of people aged 85 or more	$q'_x = \frac{m_x}{1 + \frac{1}{2}m_x}$ • q'_x is calibrated to q_x by applying Greville's 9th formula. $q_x = q_{x-1} \times \exp(k_x)$, $x = 85, 86, \dots, 115$ $\dots k_x = \alpha x + \beta$ ($x = 80, \dots, 115$) • Probability of dying of the aged: Calibration by applying the Coale-Kisker model
Calculation of the number of age-specific deaths (d_x)	$d_x = l_x \times q_x$
Calculation of the number of age-specific survivors (l_x)	$l_{x+1} = l_x - d_x$
Calculation of the number of the age-specific stationary population (L_x)	$L_x = \frac{l_x + l_{x+1}}{2}, L_{100+} = \sum_{x=100}^{115} L_x$ • Stationary infant population ${}_1L_0 = f_0 \times l_0 + (1 - f_0) \times l_1$ Number of live births in the $t-1$ year among the deaths at age 0 in the t year $\dots f_0 = \frac{\text{Number of live births in the } t-1 \text{ year among the deaths at age 0 in the } t \text{ year}}{\text{Number of deaths at age 0 in the } t \text{ year}}$
Total number of age-specific survival years (T_x)	$T_x = \sum_{y=x}^{\infty} L_y$
Calculation of remaining life expectancy (e_x^o)	$e_x^o = \frac{T_x}{l_x}$

Method to construct life tables when eliminating causes of death

Basic data	Complete life tables in the reference year Causes of death statistics in the reference year
Calculation of the number of deaths from a specific cause of death ($d_x(i)$)	$d_x(i) = d_x \times \frac{D_x(i)}{D_x}$ D_x: Number of deaths of people aged x $D_x(i)$: Number of deaths from a specific cause of death (i) of people aged x
Calculation of the number of deaths when eliminating a specific cause of death ($d_x(-i)$)	$d_x(-i) = d_x - d_x(i)$
Calculation of the number of survivors when eliminating a specific cause of death ($l_x(-i)$)	$l_{x+1}(-i) = l_x(-i) - d_x(-i)$
Calculation of the stationary population when eliminating a specific cause of death ($L_x(-i)$)	$L_x(-i) = \frac{l_x(-i) + l_{x+1}(-i)}{2}$ ${}_{\infty}L_{90}(-i) = \frac{l_{90}(-i) \cdot e_{90}^o}{1 - {}_{\infty}R_{90}(i)}$ • Stationary infant population ${}_1L_0(-i) = f_0 \times l_0(-i) + (1 - f_0) \times l_1(-i)$ Number of live births in the $t-1$ year among the deaths at age 0 in the t year $\therefore f_0 = \frac{\text{Number of live births in the } t-1 \text{ year among the deaths at age 0 in the } t \text{ year}}{\text{Number of deaths at age 0 in the } t \text{ year}}$
Calculation of the total number of survival years when eliminating a specific cause of death ($T_x(-i)$)	$T_x(-i) = \sum_{y=x}^{\infty} L_y(-i)$
Calculation of remaining life expectancy when eliminating a specific cause of death ($e_x^o(-i)$)	$e_x^o(-i) = \frac{T_x(-i)}{l_x(-i)}$
A gain in remaining life expectancy when eliminating a specific cause of death	$e_x^o(-i) - e_x^o$

Statistical terms

- Average remaining life expectancy [e_x^0]
 - Remaining life expectancy indicates to what age a person of a specific age (x) would live on average.
 - Life expectancy at birth is an average time a person is expected to live, based on the year of birth
- Probability of dying [${}_nq_x$]
 - A probability that a person of a specific age (x) would die without living to the next age ($x+n$)
- Probability of surviving [${}_np_x$]
 - A probability that a person of a specific age (x) would live to the next age ($x+n$)
- Number of survivors [l_x]
 - Number of people alive at a specific age (x)
 - Number of people who are expected to be alive at a specific age (x) when 100,000 persons born at the same time die according to their probability of dying
- Number of deaths [${}_nd_x$]
 - Number of people alive at a specific age (x) who are expected to die without living to the next age ($x+n$)
- Stationary population [${}_nL_x$]
 - The sum of survival years that survivors at a specific age (x) are expected to live to the next age ($x+n$)
- Total number of survival years [T_x]
 - The sum of survival years that survivors at a specific age (x) are expected to survive until all of them die (total stationary population)
- Probability of dying from a specific cause of death [$R_x(i)$]
 - A probability that a person of a specific age (x) would eventually die from a specific cause of death (i)
- Gain in remaining life expectancy when eliminating a specific cause of death [$e_x^0(-i) - e_x^0$]
 - A gain in remaining life expectancy when a person would die from another cause of death without dying from a specific cause of death (i)