

2021 Annual Report on Aging and Long Term Care in Taiwan



Ministry of Health and Welfare



National Health Research Institutes

2021 Annual Report on Aging and Long Term Care in Taiwan



Preface

The Ministry of Health and Welfare has been promoting Long-Term Care 2.0 since 2017, with the policy goals of extending healthy life expectancy and reducing unhealthy years of life. It has been continuously improving the central and local cooperation model of the care management system, digitizing the service processes, enhancing the efficiency of service delivery, formulating legal work relating to the application and payment methods for long-term care services, perfecting regulation of the system of long-term care payment and benefits, innovating and incorporating professional services, and turning over a new thinking of long-term care, so as to increase the autonomous functions of daily living, reduce the need for care. It has been establishing an integrated community-based service system, increasing the density of distribution of long-term care service providers, providing the public with diversified and accessible services, enhances the sensitivity of the long-term care service network to high-burden families, introducing family caregiver supportive services in a timely manner, reducing the burden on the family members of residents in residential institutions through policy subsidies, and bridging the integration of medical care and long-term care to promote continuity of care. With the promotion of services, the satisfaction level of long-term care services increased year by year, and it reached 93.7% in 2021.

The *2021 Annual Report on Aging and Long Term Care in Taiwan* has been compiled and published as part of the regular business of the “National Center for Geriatrics and Welfare Research” organized by the National Health Research Institutes since 2021, which has continued to consolidate the data related to aging health and long-term care from various related organizations, including six major categories: demographics, economic status, health status, preventive health care and behavior, utilization of health and long-term care, social participation and living arrangement, to establish indicators of aging health and long-term care and to monitor the long-term changes of these indicators. It is hoped that all sectors of the community will understand the current situation of the aging population and services, and deepen the research on aging health and long-term care through public-private collaboration, so as to perfect the planning of our country's aging health and welfare policies and create a friendly environment for a super-aged society.

Sincerely,
Minister, Ministry of Health and Welfare

Jui-Yuan Hsueh

November 2022

Preface

Population aging is an important issue that the world needs to face together. Our country changed from an ageing society to an aged society in 2018, and it is estimated that we will become a super-aged society in 2026, and the health care needs of the aging population will increase. Facing the advent of super-aged society, it is all the more necessary to step up the promotion of related research. The National Health Research Institutes (NHRI), as a think tank of the government, has received policy subsidies from the Ministry of Health and Welfare since 2018 to promote the establishment of the National Center for Geriatrics and Welfare Research at the national level, with the regular publication of the *Annual Report on Aging and Long Term Care in Taiwan* is one of the long-term tasks of the research center to assist in the implementation results monitoring and the research on important issues of the “National Ten-year Long-term Care Plan 2.0”, as a policy reference for responding to the population aging.

NHRI is a mission-oriented research institute that has been focusing on healthy aging research for more than 10 years. The annual report focuses on factors that affect the aging health, and collects data from a combination of individual physiology and behavior, physical environment and social environment, health and long-term care services, and access to health care. Several new indicators were added this year to better understand the health and care of the aging population, and the *2021 Annual Report on Aging and Long Term Care in Taiwan* was published.

We would like to thank the Ministry of Health and Welfare for their assistances, as well as the experts of the “National Research Center on Ageing and Long-Term Care (NRCALTC) Strategic and Planning Advisory Committee” for their guidance and valuable opinions, which enabled smooth publication of the annual report. It is believed that it will be of great help in understanding the current situation and trend of the health and long-term care of the aging population in our country, as well as facilitating the promotion of long-term care policy in our country.

Sincerely,
President, National Health Research Institutes

Kung-Yee Liang

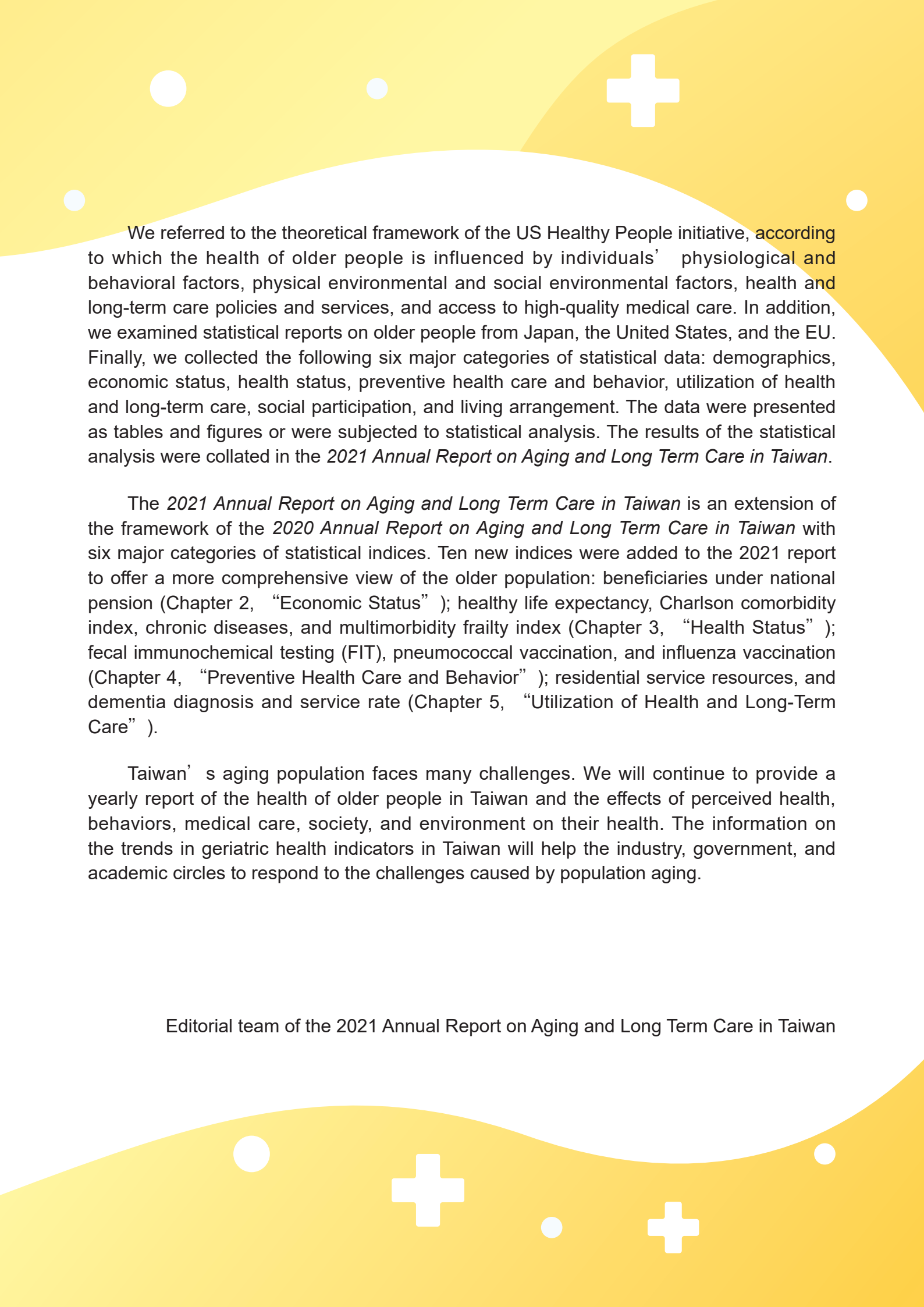
November 2022

Introduction

Population aging is a common problem and challenge facing countries worldwide. According to statistics from the National Development Council (NDC) of Taiwan, the population aged 65 years and above with household registrations in Taiwan reached 3.31 million people in March 2018, accounting for 14.1% of the total population and officially making Taiwan an “aged society.” The aging index (the number of persons aged 65 years and older per 100 persons aged 14 years and younger) has been continually increasing alongside the growth of the aged population, from 28.24 at the end of 1993 to 100.18 in February, 2017—that is, the population aged 65 years and older had exceeded the population aged 0–14 years. The index further rose to 107.45 at the end of March 2018, which highlights the degree of population aging in Taiwan. Taiwan is expected to become a super-aged society by 2026, defined as 21% or more of the population being 65 years and older.

Since 1998, in response to problems arising due to population aging, the government has been planning and promoting long-term care policies and programs. The goal of the National Ten-Year Long-Term Care Plan is to establish a holistic long-term care system for older populations, thereby enhancing their ability to live independently and improving their quality of life. In response to the pressing research topics and the requirements for long-term cultivation and infrastructure construction, the Executive Yuan ratified the “National Ten-year Long-term Care Plan 2.0” to expand the service capacity in December 2016. Specifically, it is achieved by building a community-based comprehensive long-term care system that offers high-quality, prevalent, affordable, and diversified, and continuous care. This plan also facilitates innovation in medical care and care service models for older people and creating an aged society that is healthy, energetic, happy, and friendly.

Since 2018, as part of the establishment of the Ministry of Health and Welfare–funded National Research Center on Ageing and Long-Term Care, the National Health Research Institutes invited over 200 geriatric experts and scholars from the industry, government, academic, and research sectors in Taiwan to develop the organizational structure and plans. The “National Research Center on Aging and Long-Term Care Promoting Project” (hereafter referred to as this project) was launched in 2020. Considering the statistics relating to geriatric health and lack of centralized data regarding older populations, which increases the time and costs of data querying, one of the missions of this project is the regular collection of data on elderly care from the relevant units and the publication of an annual report. This annual report provides actual data on older people, which can be used as reference in support policy drafting, resource allocations, and performance evaluations relating to long-term elderly care.



We referred to the theoretical framework of the US Healthy People initiative, according to which the health of older people is influenced by individuals' physiological and behavioral factors, physical environmental and social environmental factors, health and long-term care policies and services, and access to high-quality medical care. In addition, we examined statistical reports on older people from Japan, the United States, and the EU. Finally, we collected the following six major categories of statistical data: demographics, economic status, health status, preventive health care and behavior, utilization of health and long-term care, social participation, and living arrangement. The data were presented as tables and figures or were subjected to statistical analysis. The results of the statistical analysis were collated in the *2021 Annual Report on Aging and Long Term Care in Taiwan*.

The *2021 Annual Report on Aging and Long Term Care in Taiwan* is an extension of the framework of the *2020 Annual Report on Aging and Long Term Care in Taiwan* with six major categories of statistical indices. Ten new indices were added to the 2021 report to offer a more comprehensive view of the older population: beneficiaries under national pension (Chapter 2, "Economic Status"); healthy life expectancy, Charlson comorbidity index, chronic diseases, and multimorbidity frailty index (Chapter 3, "Health Status"); fecal immunochemical testing (FIT), pneumococcal vaccination, and influenza vaccination (Chapter 4, "Preventive Health Care and Behavior"); residential service resources, and dementia diagnosis and service rate (Chapter 5, "Utilization of Health and Long-Term Care").

Taiwan's aging population faces many challenges. We will continue to provide a yearly report of the health of older people in Taiwan and the effects of perceived health, behaviors, medical care, society, and environment on their health. The information on the trends in geriatric health indicators in Taiwan will help the industry, government, and academic circles to respond to the challenges caused by population aging.

Editorial team of the 2021 Annual Report on Aging and Long Term Care in Taiwan

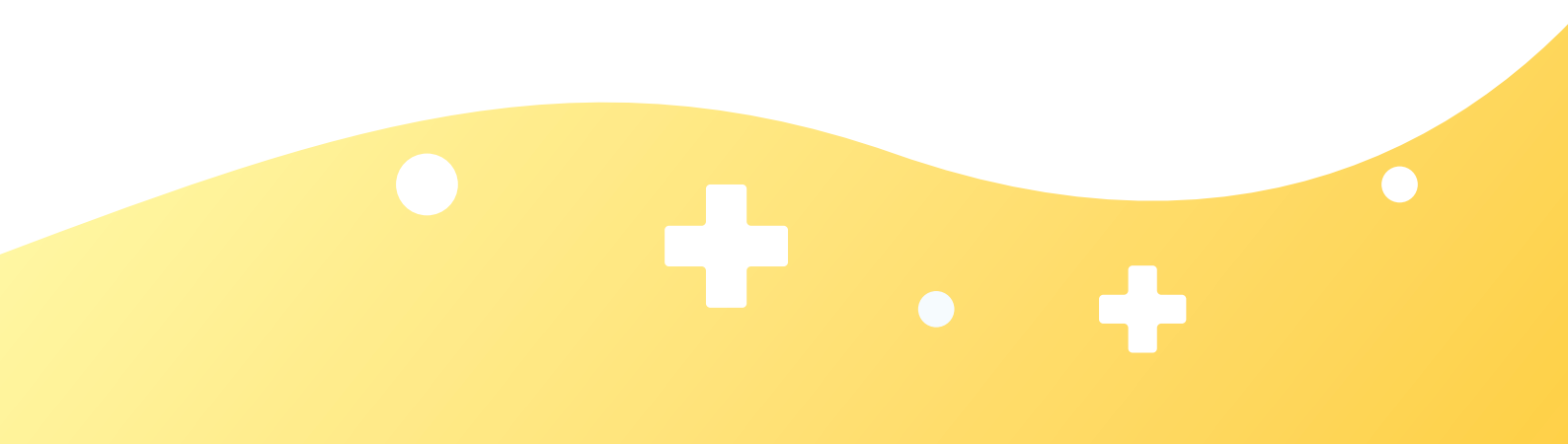


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Chapter 1

Demographics

Demographics

Demographic characteristics are presented in terms of population distribution, marital status, educational attainment, distribution of indigenous peoples, and distribution of veterans. The population aged 65 years and older in Taiwan has rapidly increased from 267,838 people in 1960 to 3.79 million people in 2020. The population aged 65 years and older is estimated to reach 4.70 million people by 2025, accounting for 20.1% of the national population, and further increase to 5.57 million people by 2030. This forecast highlights the severity of population aging.

As of the end of 2021, the top three counties and cities with the largest populations aged 65 years and older were Chiayi County (21.1%), Taipei City (20.0%), and Yunlin County (19.7%).

In terms of marital status, statistics indicate little difference in the percentage of individuals aged 65 years and older who were currently married from 2014 to 2021. Data from 2021 indicate that as individuals grew older, the percentage of being widowed increased. The percentage of being widowed was 16.7% in those aged 65–74 years, and it increased to 38.9% in those aged 75–84 years, then increased to 63.5% in those aged 85 years and older.

An overall gradual increase in educational attainment was observed among population aged 65 years and older. A yearly decrease in the percentage of individuals with a primary school graduation and under has been observed, with values of 64.5% in 2015 to 50.9% in 2021.

The distribution of indigenous peoples among those aged 55 years and older exhibited a gradually increasing trend, growing from 17.8% in 2016 to 21.0% in 2021.

Regarding veterans, the number of veterans aged 65 years and older gradually decreased from 236,293 in 2012 to 155,263 in 2021.

1. The older population

The population aged 65 years and older in Taiwan has increased from 267,838 people in 1960 to 3.79 million people in 2020. According to age stratification, the populations of three age groups demonstrated an upward trend from 1960 to 2020. The population projections from 2030 to 2050 are based on a middle projection method and are depicted in lighter colors (Figure 1). In addition, gender stratification results indicated that females aged 65 years and older increased more than males aged 65 years and older (Figure 2).

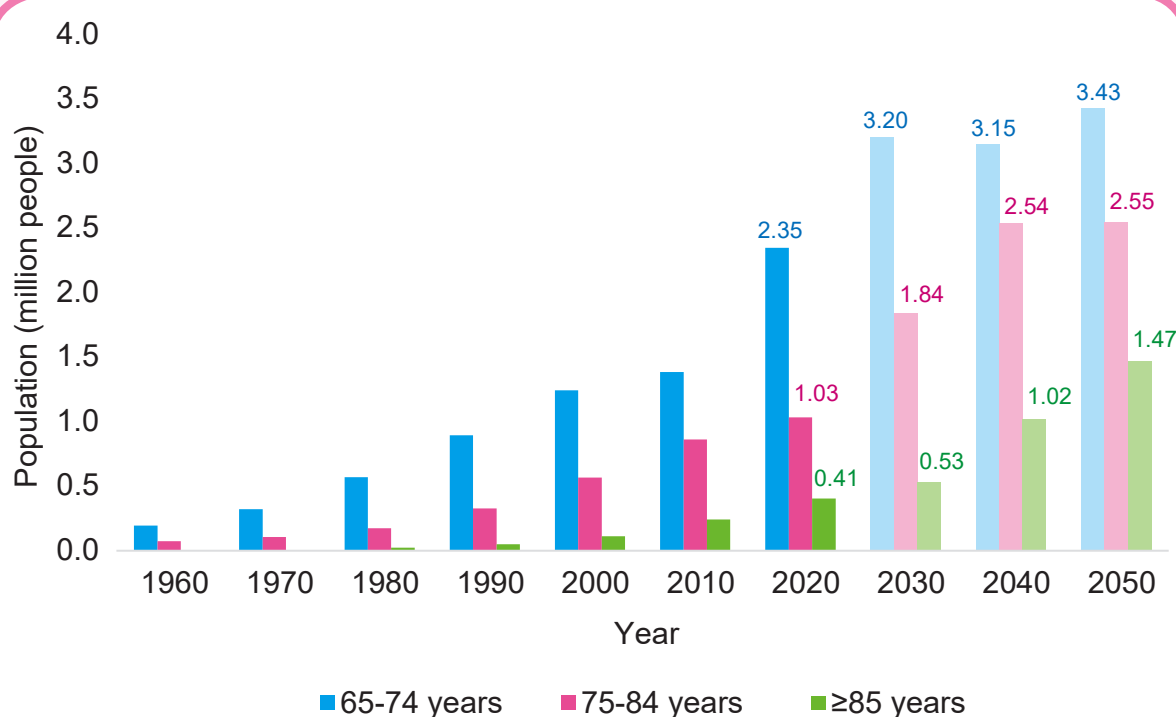


Figure 1 Population aged 65 years and older in Taiwan from 1960 to 2050.

Source: 1. Department of Household Registration, Ministry of the Interior: <https://www.ris.gov.tw/app/portal/346>

2. National Development Council: <https://pop-proj.ndc.gov.tw/download.aspx?uid=70&pid=70>

Note 1: The 1960–2020 year-end population data were retrieved from the Department of Household Registration, Ministry of the Interior.

Note 2: The 2030–2050 projections are based on the NDC medium scenario projections. The medium scenario assumes that the active promotion of population policies by the government will halt the declining total fertility rate and result in a slight increase in population by 1.2 people by 2045.

Note 3: The 1960–1970 statistics did not further divide the age group of 75 years and older; consequently, for this period, the results for the age groups of 75–84 years and 85 years and older are combined in the figure.

Note 4: For further details, please refer to Appendix 1.

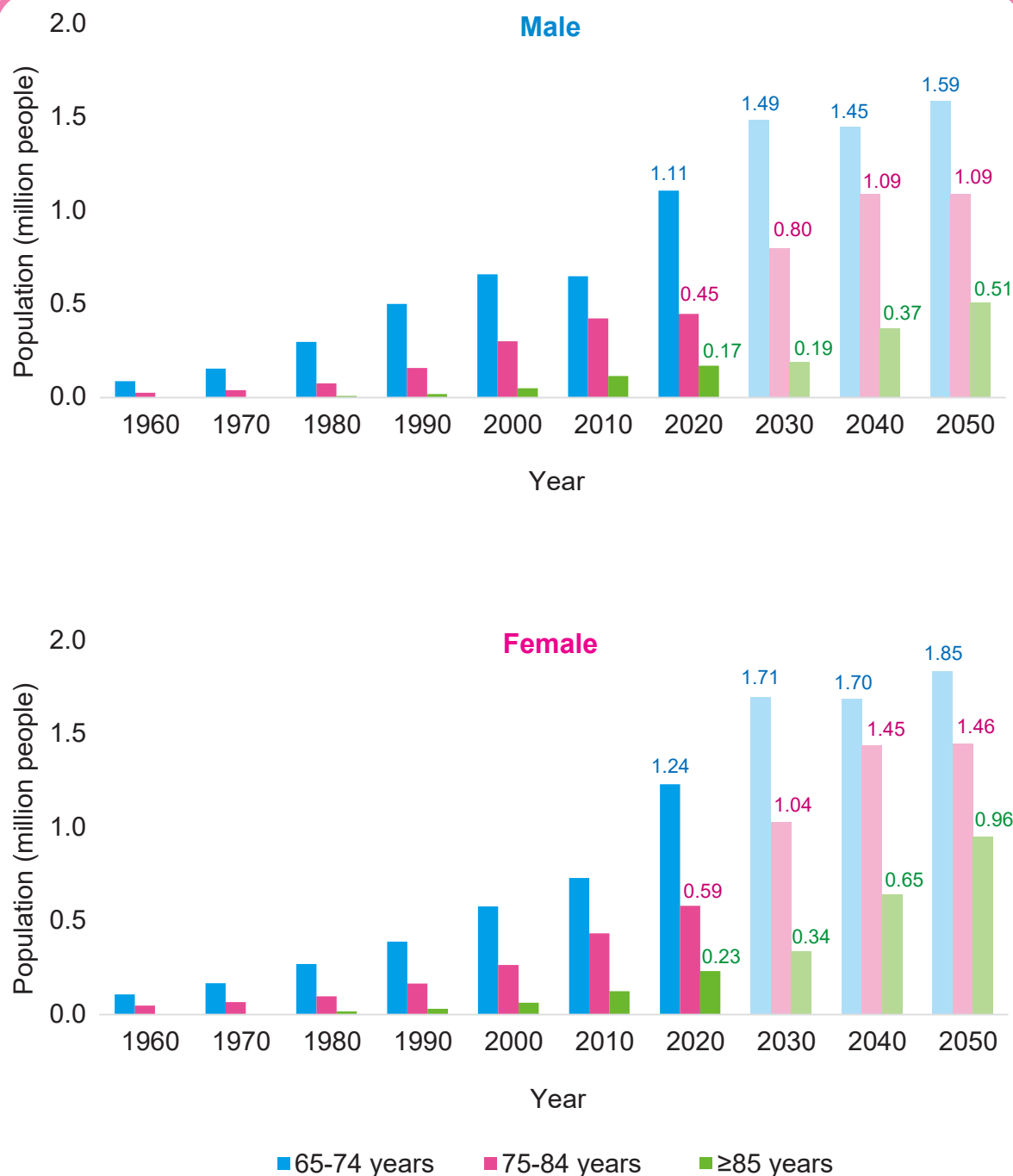


Figure 2 Population of males and females aged 65 years and older in Taiwan from 1960 to 2050.

Source: 1. Department of Household Registration, Ministry of the Interior: <https://www.ris.gov.tw/app/portal/346>

2. National Development Council: <https://pop-proj.ndc.gov.tw/download.aspx?uid=70&pid=70>

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Note 3: The 1960–1970 statistics did not further divide the age group of 75 years and older; consequently, for this period, the results for the age groups of 75–84 years and 85 years and older are combined in the figure.

Note 4: For further details, please refer to Appendix 1.

2. Population distribution in townships

As of the end of 2021, the top three counties and cities with the largest populations aged 65 years and older were Chiayi County (21.1%), Taipei City (20.0%), and Yunlin County (19.7%). Among the counties and cities in the eastern half of Taiwan, from the highest to lowest percentage, were Hualien County (18.3%), Taitung County (18.1%), and Yilan County (18.0%; Appendix 2). The ten townships and urban areas with the highest percentages of older population were Pingxi District of New Taipei City (31.7%); Zuojhen District of Tainan City (30.1%); Longqi District of Tainan City (30.0%); Tianliao District of Kaohsiung City (29.9%); Shuangxi District of New Taipei City (28.9%); Shitan Township of Miaoli County (28.7%); Pinglin District of New Taipei City (28.1%); Emei Township of Hsinchu County (28.0%); Lucao Township of Chiayi County (27.8%); and Yizhu Township of Chiayi County (27.7%; Figure 3).

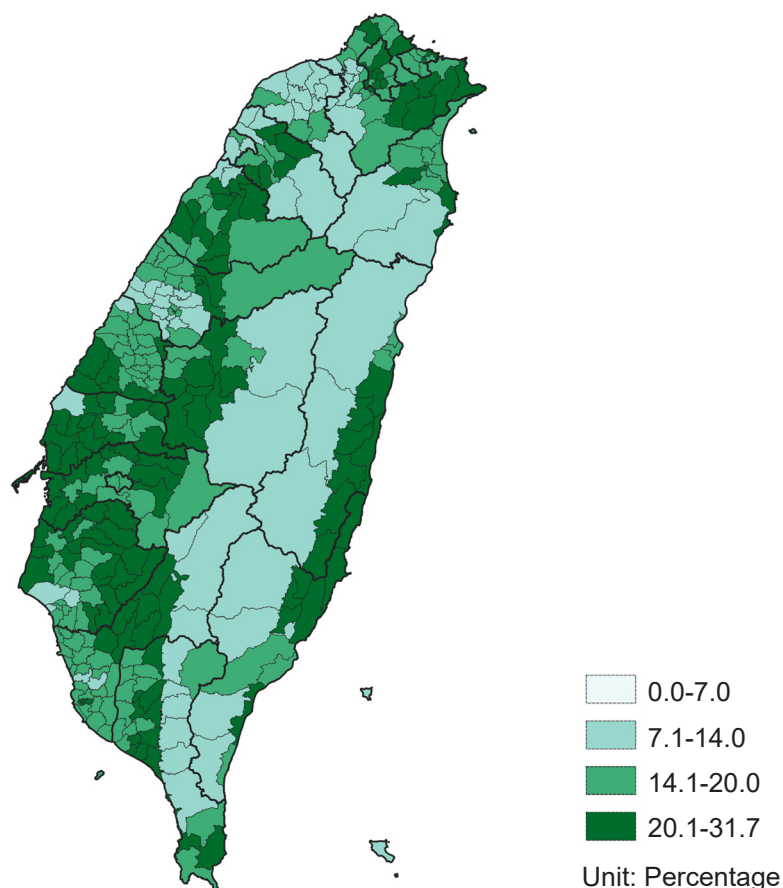


Figure 3 Distribution of population aged 65 years and older by township in 2021.

Source: Socioeconomic Geographic Information System:

https://segis.moi.gov.tw/STAT/Web/Platform/QueryInterface/STAT_QueryInterface.aspx?Type=0

Note: Percentage of older population in each township of Taiwan = the population aged 65 years and older in each township / the total population in each township × 100%.

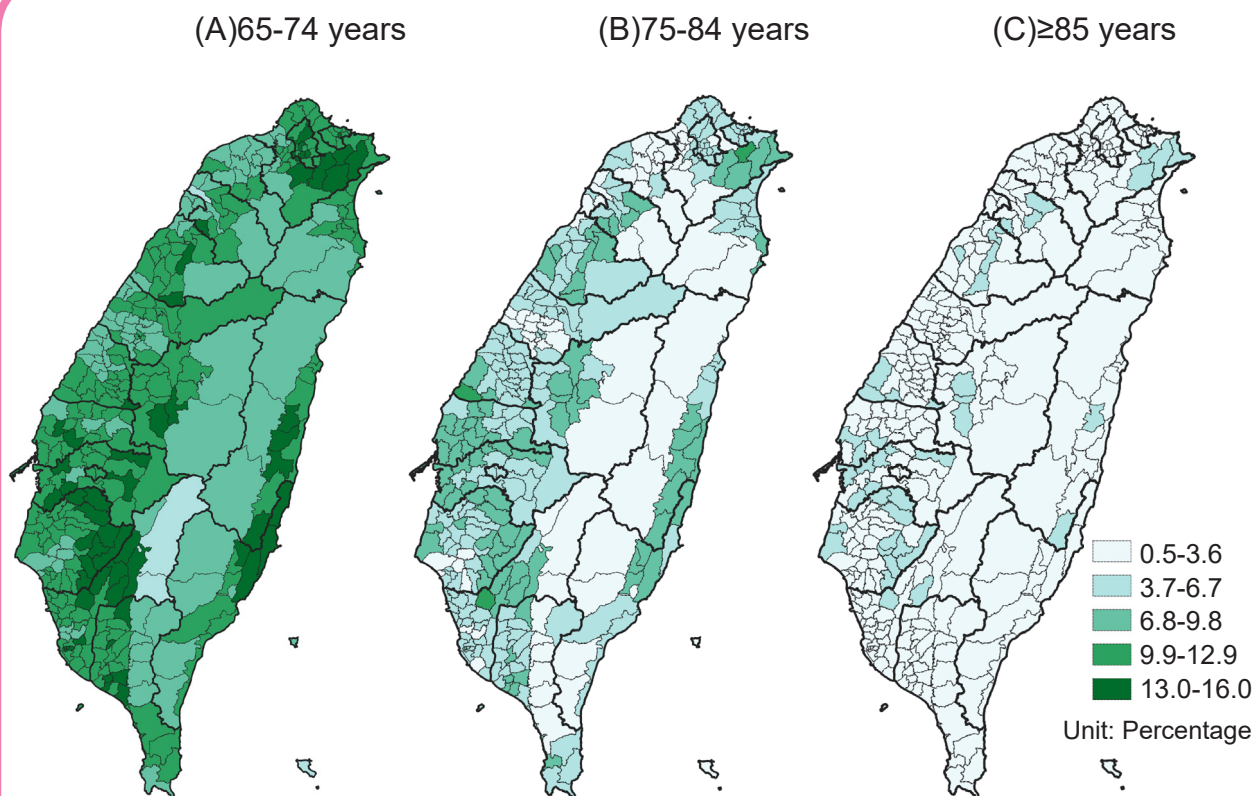


Figure 4 Distribution of population aged 65–74 years (A), 75–84 years (B), and ≥85 years (C) by township in 2021.

Source: Socioeconomic Geographic Information System:

https://segis.moi.gov.tw/STAT/Web/Platform/QueryInterface/STAT_QueryInterface.aspx?Type=0

Note: Percentage of older population in each township of Taiwan = the population in a specific age group in each township / the total population in each township × 100%.

3. Marital status

Most of the population aged 65 years and older were currently married individuals followed by widowed and unmarried individuals from 2014 to 2021 (Figure 5).

Stratified by age, currently married individuals accounted for the highest percentage of the 65–74 age group (68.3%), followed by widowed individuals (16.7%); unmarried individuals accounted for the lowest percentage (4.6%). In the 75–84 age group, currently married individuals accounted for the highest percentage (54.3%), followed by widowed individuals (38.9%); unmarried individuals accounted for the lowest percentage (2.3%). In the ≥85 age group, widowed individuals accounted for the highest percentage (63.5%), followed by currently married individuals (31.8%); unmarried individuals accounted for the lowest percentage (2.3%). The percentage of currently married individuals showed a declining trend with age, whereas the percentage of those widowed individuals increased with age. By gender stratification, currently married males accounted for the highest percentage of all three age groups (65–74 years, 79.4%; 75–84 years, 76.3%; ≥85 years, 57.0%), whereas unmarried males accounted for the lowest percentage of all three age groups (65–74 years, 4.2%; 75–84 years, 2.2%; ≥85 years, 2.8%). Among females aged 65–74 years, currently married individuals accounted for the highest percentage (58.3%), and unmarried individuals accounted for the lowest percentage (5.0%). Among females aged 75–84 years, widowed individuals accounted for the highest percentage (56.2%), and unmarried individuals accounted for the lowest percentage (2.4%). For females aged ≥85 years, widowed individuals accounted for the highest percentage (81.9%), and divorced / terminated marriage individuals accounted for the lowest percentage (1.8%; Figure 6).



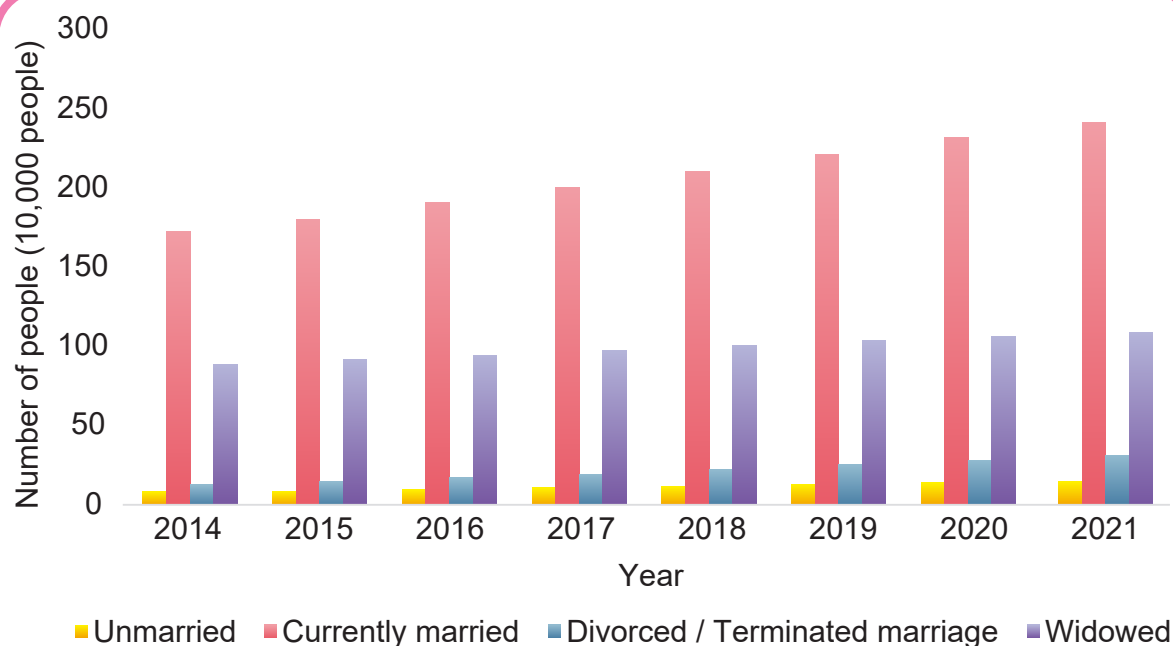


Figure 5 Marital status of population aged 65 years and older from 2014 to 2021.

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: “Unmarried” refers to individuals who have never been married.

“Currently married” refers to officially married individuals whose spouse is still alive and divorced or widowed individuals who remarried and whose spouse is still alive.

“Divorced / Terminated marriage” refers to individuals who legally terminated their marriage and have not remarried.

“Widowed” refers to individuals who have not remarried after their spouse died or was declared dead.

Note 2: For further details, please refer to Appendix 3.

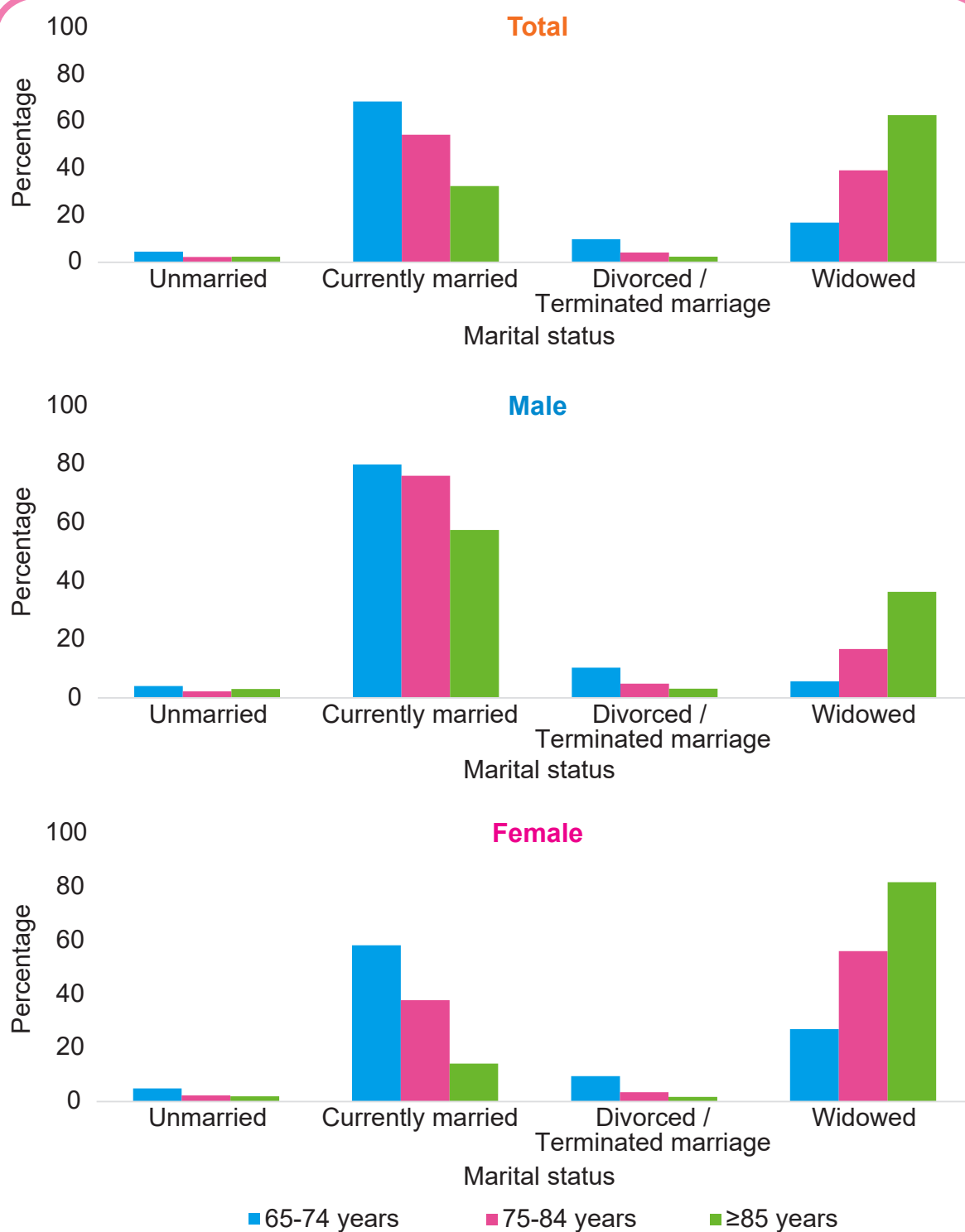


Figure 6 Percentage of population aged 65 years and older with marital status by age group in 2021.

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: Percentage = the number of individuals with marital status (stratified by gender and age group) / the year-end population (stratified by gender and age group) × 100%.

Note 2: For further details, please refer to Appendix 4.

4. Educational attainment

The percentages of the population aged 65 years and older with a junior / senior or university (college) graduation and over gradually increased from 2015 to 2021, whereas the percentage of those with only a primary school graduation and under gradually declined (Figure 7).

By gender stratification, a yearly decrease in the percentage of individuals with only a primary school graduation and under was noted among both males and females in the 65–74 and 75–84 age groups (Figure 8).

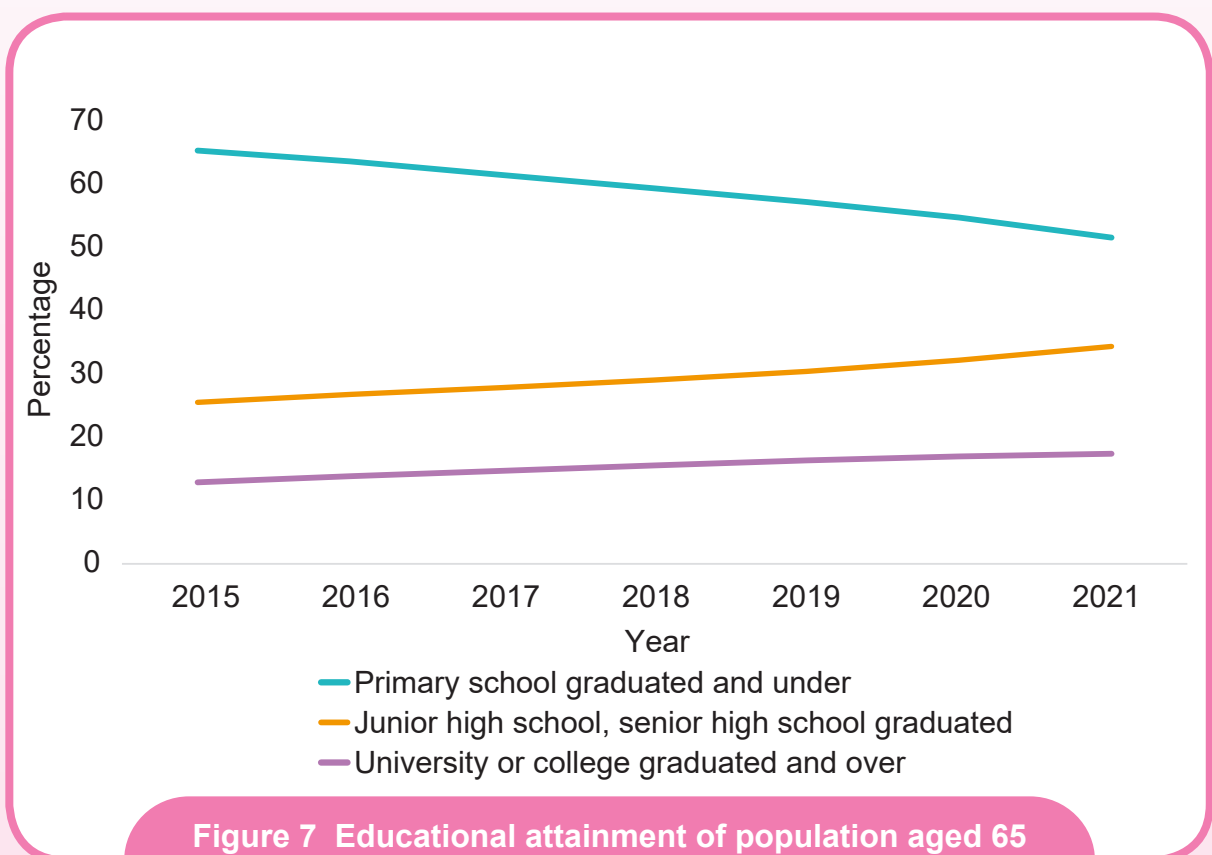


Figure 7 Educational attainment of population aged 65 years and older from 2015 to 2021.

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: Percentage = the number of individuals with educational attainment / the mid-year population aged 65 years and older $\times 100\%$.

Note 2: For further details, please refer to Appendix 5.

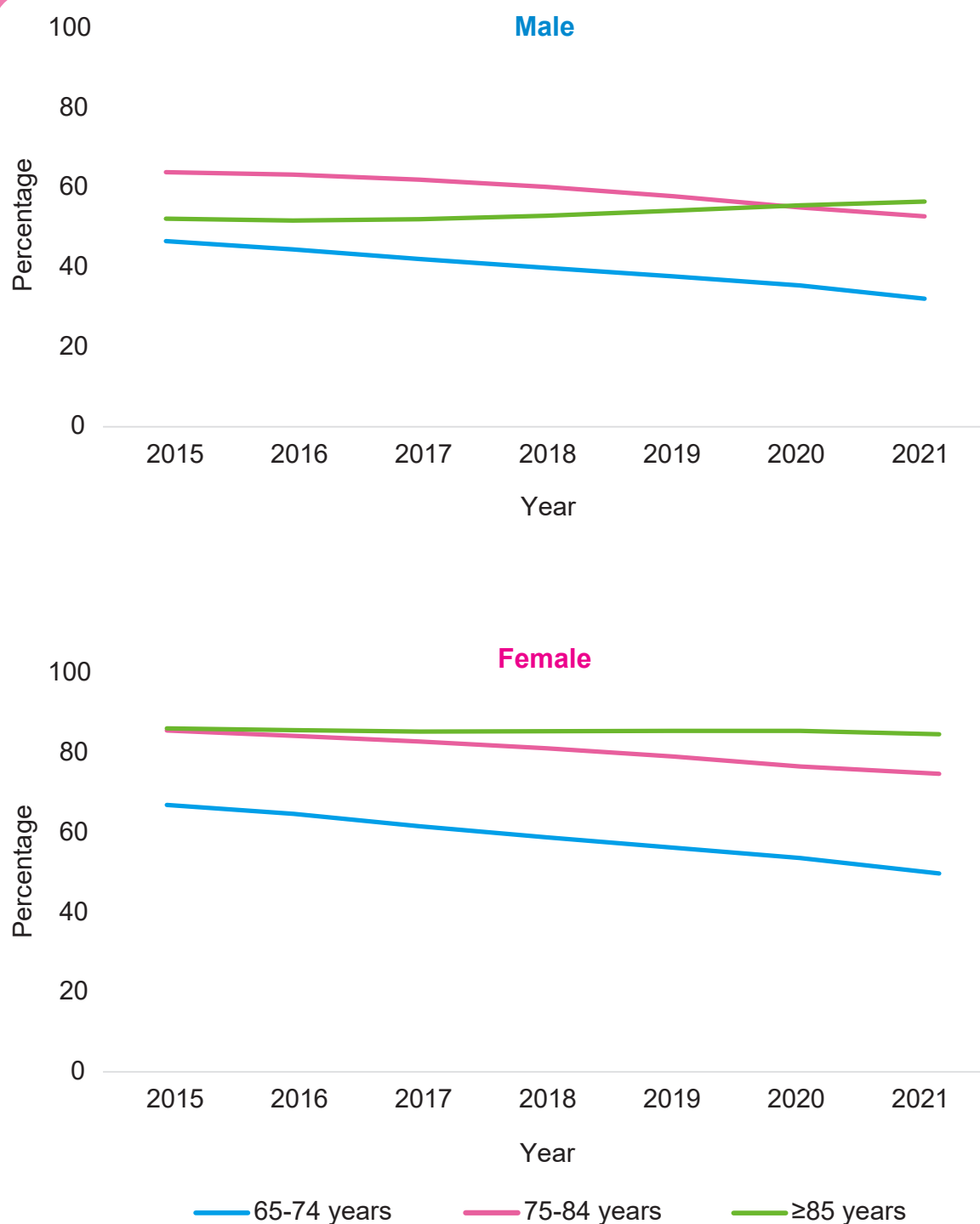


Figure 8 Percentage of population aged 65 years and older with a primary school graduation and under from 2015 to 2021.

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: Percentage = the number of individuals with a primary school graduation and under by age group / the mid-year population aged 65 years and older by age group $\times 100\%$.

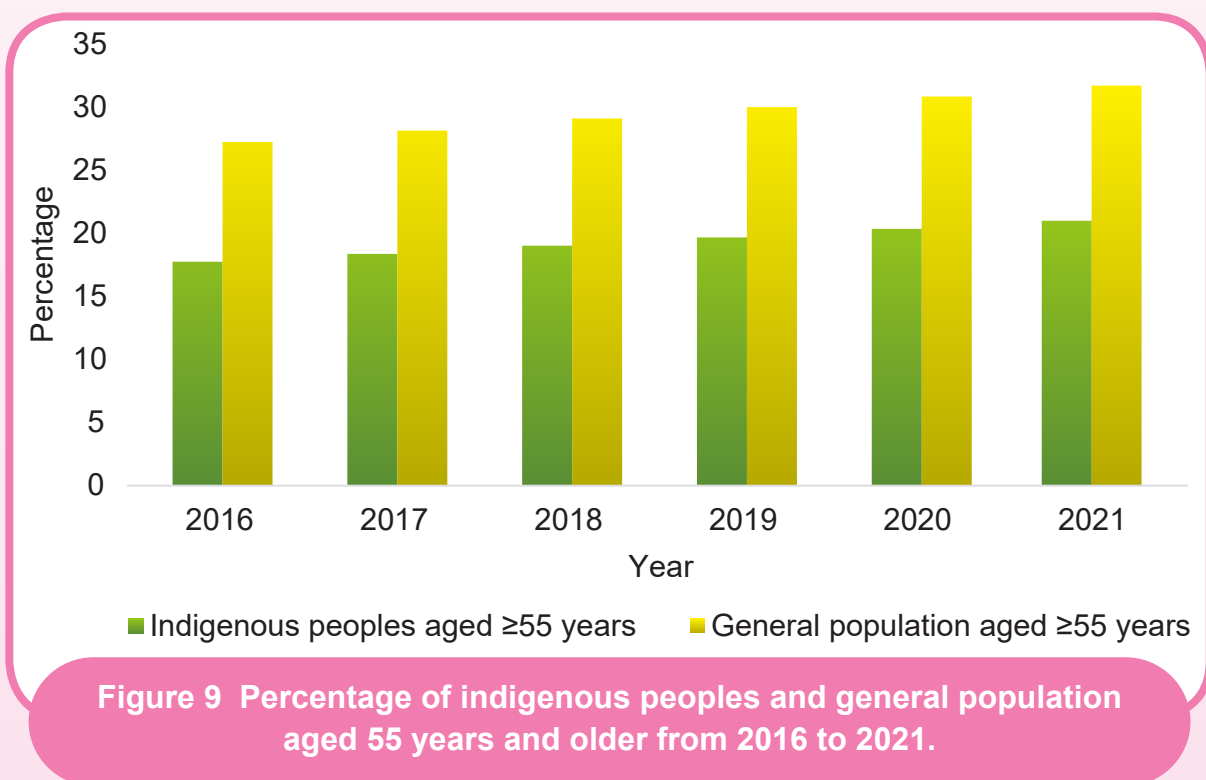
Note 2: For further details, please refer to Appendix 6.

5. Indigenous peoples aged 55 years and older

A yearly increase in the percentage of individuals aged 55 years and older was noted among both indigenous peoples and general population from 2016 to 2021. Among indigenous peoples, this percentages were 17.8% in 2016 and 21.0% in 2021 (Figure 9).

The population of indigenous peoples aged 55 years and older was 121,273 people, of which the Amis were the most (49,863 people), followed by the Paiwan (22,628 people) and then the Atayal (16,401 people) among ethnic groups. As for the percentage of indigenous peoples aged 55 years and older by ethnic group, the others (unregistered) had the highest (35.4%), and the Kanakanavu had the lowest (12.9%; Figure 10).

Regardless of ethnic group, among the population of indigenous peoples aged 55 years and older, the 55–64 age group accounted for the highest percentage, followed by the 65–74 age group, then the 75–84 age group, and the ≥85 age group was the lowest (Figure 11).



Source:

1. Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

2. Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: Percentage = the population of indigenous peoples (general population) aged 55 years and older / the mid-year population of indigenous peoples (general population) × 100%.

Note 2: This report only presents the demographics of indigenous peoples; for data on causes of death and cancer, please refer to the Health Statistics of Taiwan Indigenous Peoples: <https://cip.nhri.org.tw/stat/death>

Note 3: For further details, please refer to Appendix 7.

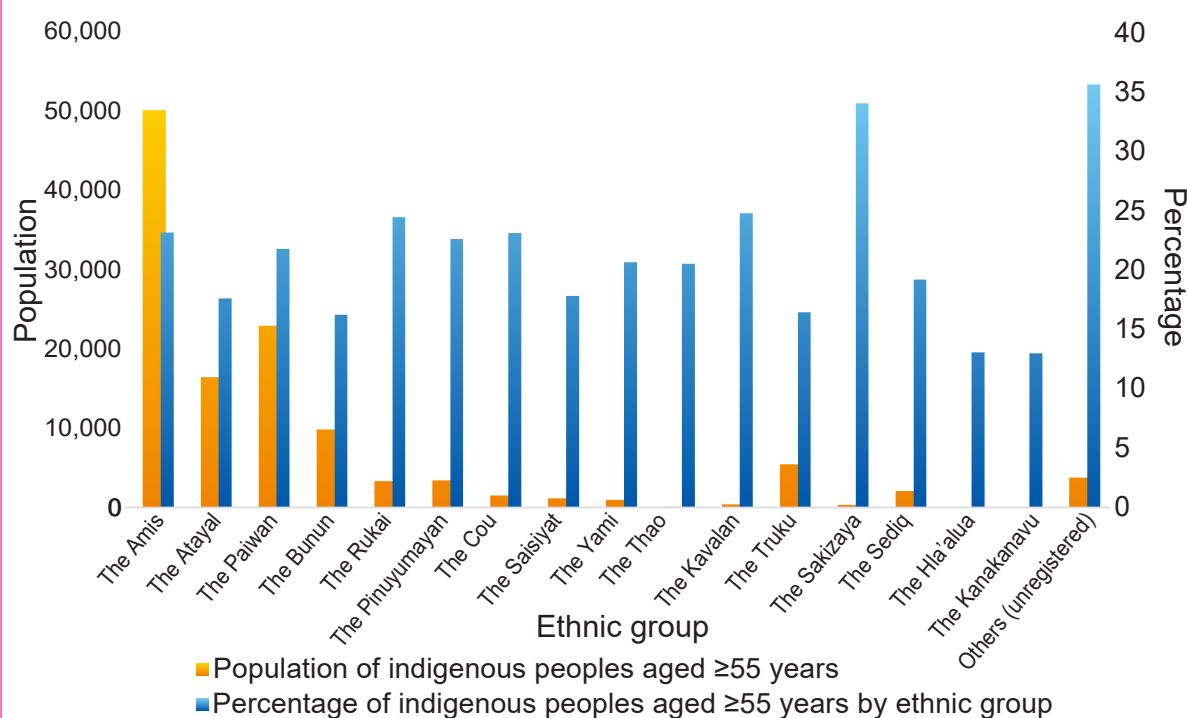


Figure 10 Population and percentage of indigenous peoples aged 55 years and older by ethnic group in 2021.

Source:

Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

Note 1: Percentage = the population of indigenous peoples aged 55 years and older by ethnic group / the population of indigenous peoples by ethnic group × 100%.

Note 2: For further details, please refer to Appendix 8.

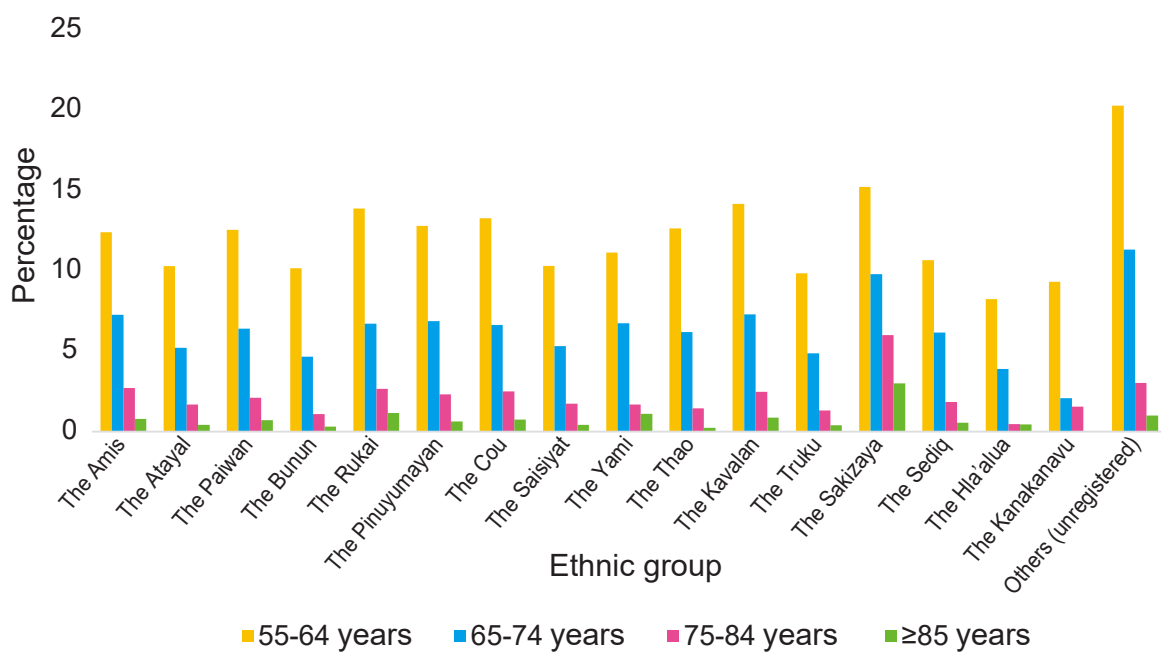


Figure 11 Percentage of indigenous peoples aged 55 years and older by age group in each ethnic group in 2021.

Source:

Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

Note 1: Percentage = the population of indigenous peoples aged 55 years and older by age group in each ethnic group / the population of indigenous peoples by ethnic group × 100%.

Note 2: For further details, please refer to Appendix 9.

6. Veteran population

The number of veterans gradually decreased from 236,293 in 2012 to 155,263 in 2021. By age stratification, most veterans were in the 75–84 age group, followed by the ≥85 age group; minimal veterans were in the 65–74 age group in 2012. The number of veterans was the highest in the ≥85 age group, followed by the 75–84 age group, and the lowest in the 65–74 age group from 2013 to 2015. The number of veterans was the highest in the ≥85 age group, followed by the 65–74 age group, and the lowest in the 75–84 age group from 2016 to 2021 (Figure 12). By gender stratification, the number of male veterans was considerably higher than that of female veterans (Appendix 10).

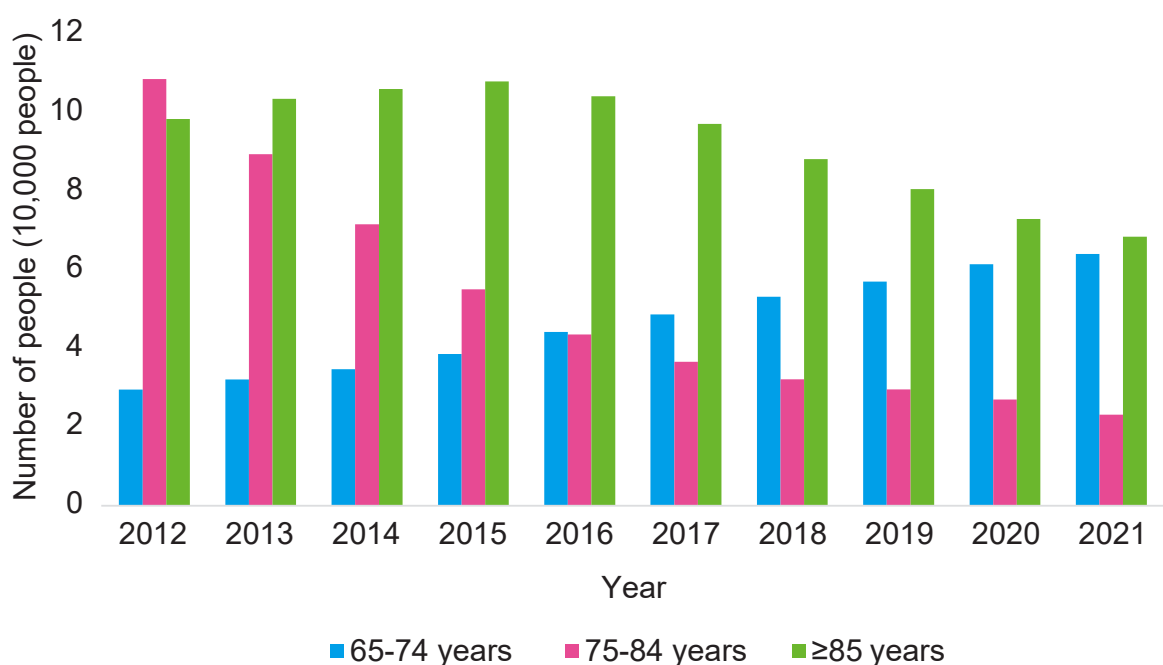


Figure 12 Number of veterans from 2012 to 2021.

Source: Veterans Affairs Council: <https://www.vac.gov.tw/cp-2009-2898-1.html>

Note: For further details, please refer to Appendix 10.

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Chapter 2

Economic Status

Economic Status

We understand the economic disadvantage of Taiwan's population aged 65 years and older according to low-income households, mid or low-income older people receiving the living allowance, beneficiaries under national pension, the employed, and average monthly living expenses.

The number of individuals aged 65 years and older in low-income households demonstrated a gradually increasing trend from 2012 to 2021. The percentage of individuals in low-income households among the population aged 65 years and older was 1.0% in 2012 and 1.1% in 2021, about 0.1% increase. On the other hand, the percentage of mid or low-income older people receiving the living allowance among the population aged 65 years and older exhibited little change: 4.7% in 2012 and 4.8% in 2021.

The number of individuals receiving national pension payments increased yearly from 1,239,736 in 2013 to 1,760,791 in 2021. By gender stratification, more females received national pension payments than males.

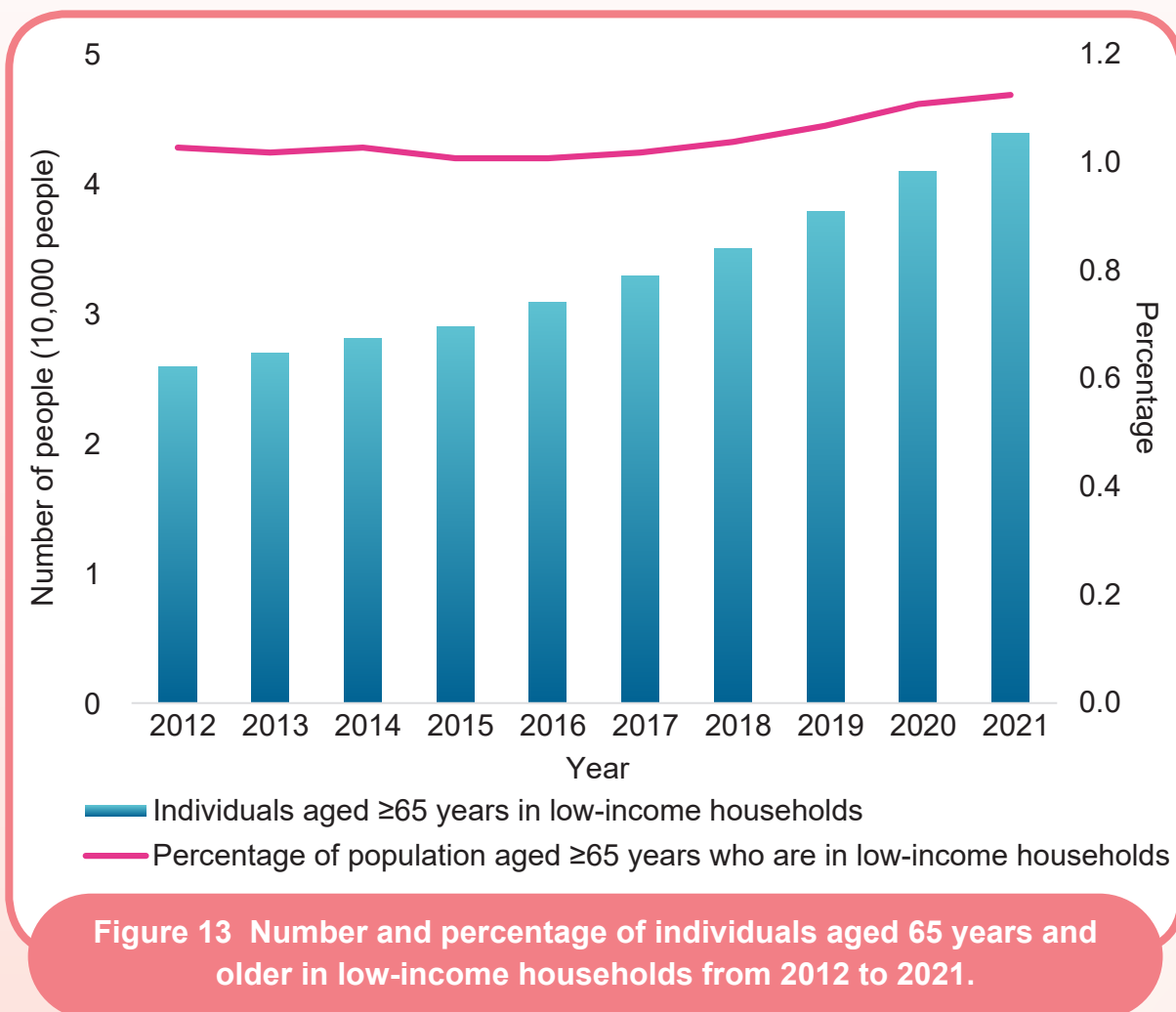
Furthermore, the number of employed individuals aged 65 years and older increased from 206,000 in 2012 to 350,000 in 2021. The percentage of employed individuals among the population aged 65 years and older was 8.0% in 2012 and 9.1% in 2021, about 1.1% increase.

On the other hand, the average monthly living expenses self-reported by individuals aged 65 years and older was NT\$12,743 in 2017, NT\$13,714 for males and NT\$11,916 for females.



1. Low-income households

The number of individuals aged 65 years and older in low-income households increased yearly from 26,346 in 2012 to 43,536 in 2021 (Figure 13).



Source: Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

Note 1: Percentage = the number of individuals aged 65 years and older in low-income households / the mid-year population aged 65 years and older $\times 100\%$.

Note 2: For further details, please refer to Appendix 11.

2. Mid or low-income older people receiving the living allowance

In the overall and gender-stratified populations, the number of mid or low-income older people receiving the living allowance increased yearly from 120,968 in 2012 to 186,225 in 2021 (Figure 14).

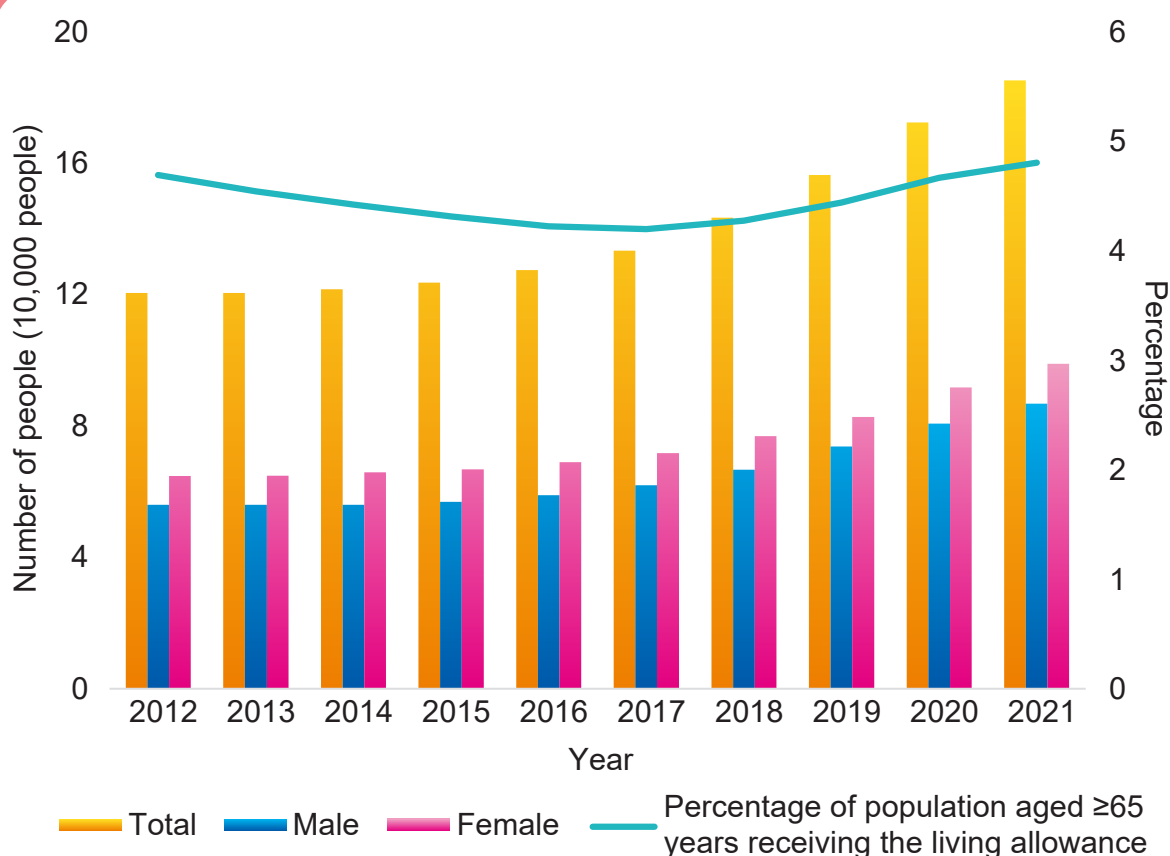


Figure 14 Number and percentage of mid or low-income older people receiving the living allowance from 2012 to 2021.

Source: Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

Note 1: Percentage = the number of individuals aged 65 years and older receiving the living allowance / the mid-year population aged 65 years and older × 100%.

Note 2: For further details, please refer to Appendix 12.

3. Beneficiaries under national pension

The number of individuals receiving national pension payments increased yearly from 1,239,736 in 2013 to 1,760,791 in 2021. Historically, more females than males received national pension payments. The number of males and females receiving the payments increased from 504,013 and 735,723 to 750,622 and 1,010,169 respectively from 2013 to 2021 (Figure 15).

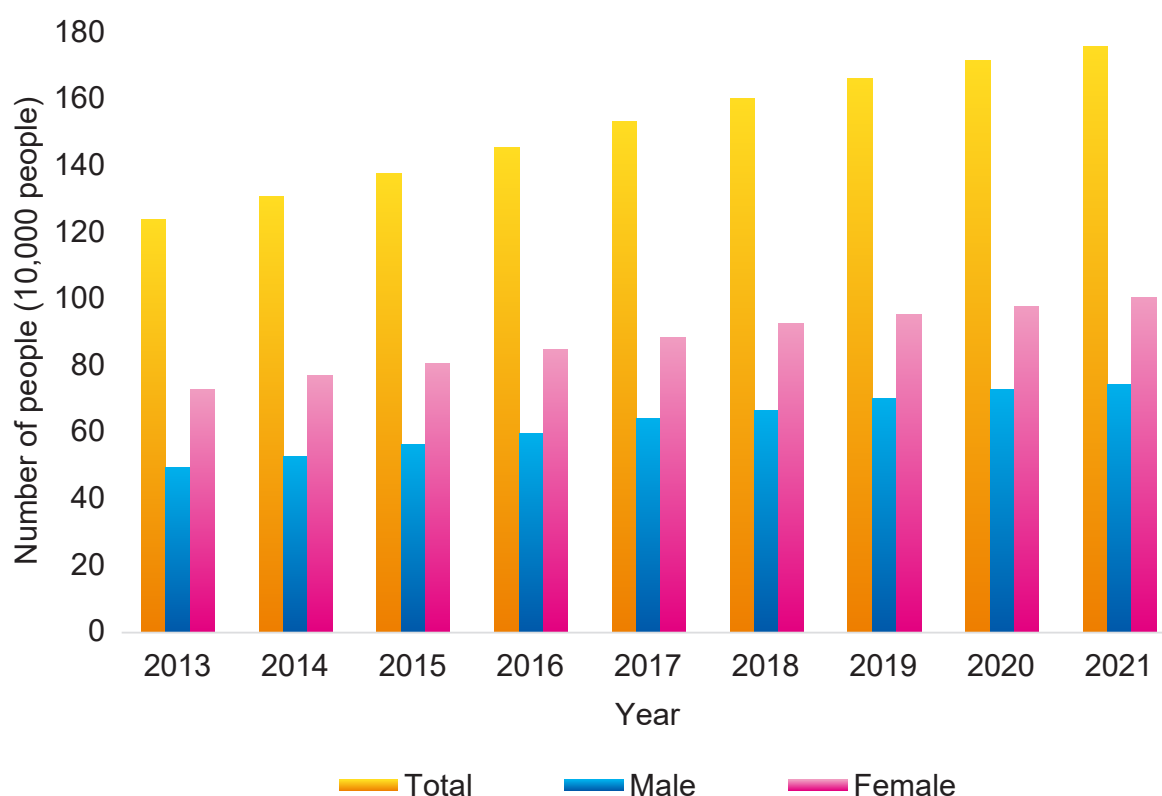


Figure 15 Number of individuals aged 65 years and older receiving national pension payments from 2013 to 2021.

Source: Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/dos/cp-5223-62358-113.html>

Note 1: The National Pension Program offers three annuity payments, including the old-age pension, disability pension, and survivor pension, as well as two lump sum benefits, including the maternity benefits and funeral benefits. This report only considered the old-age basic guaranteed pension payments, old-age pension payments, disability pension payments, disability basic guaranteed pension payments, and survivor pension payments.

Note 2: For further details, please refer to Appendix 13.

4. The employed

The number of employed individuals aged 65 years and older increased from 206,000 in 2012 to 350,000 in 2021 (Figure 16).

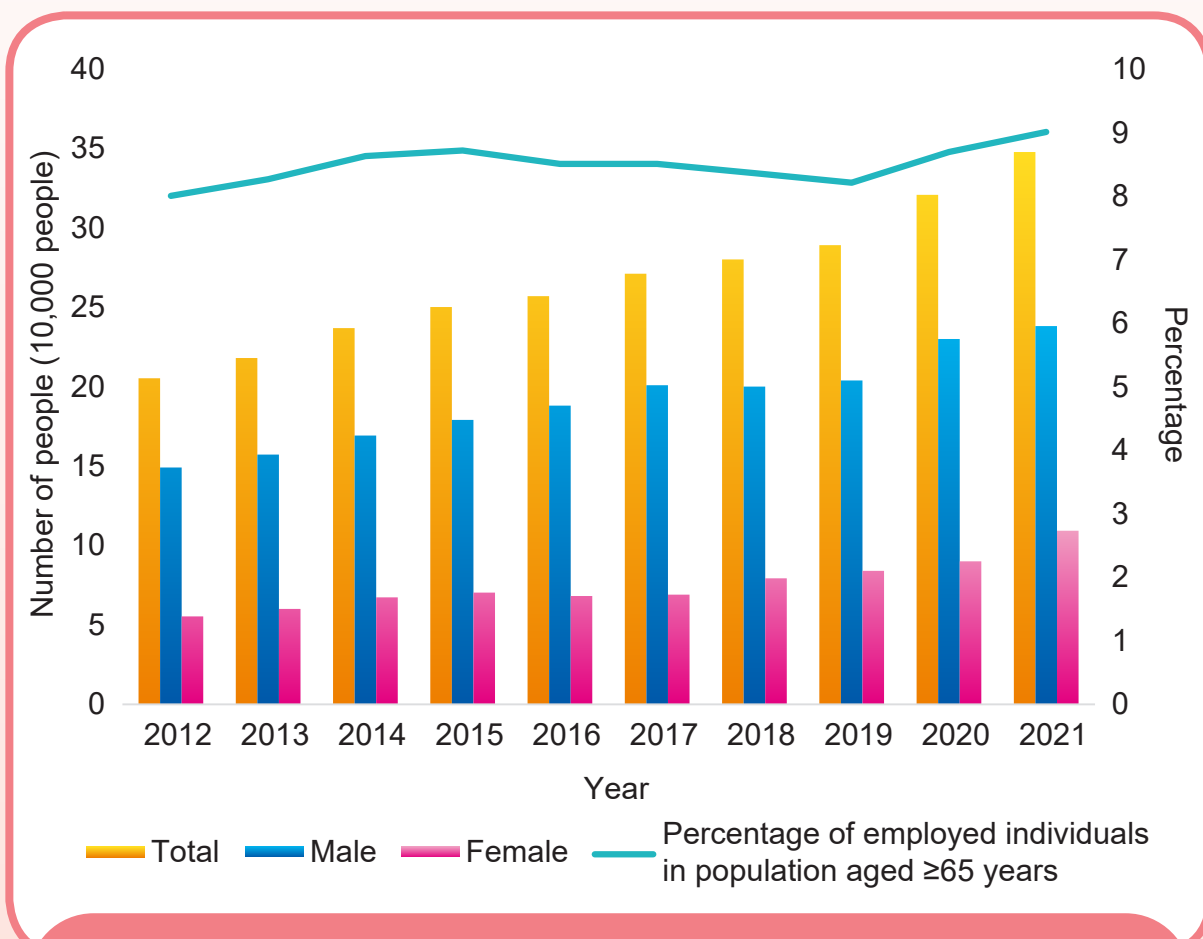


Figure 16 Number and percentage of employed individuals aged 65 years and older from 2012 to 2021.

Source: Yearbook of Manpower Survey Statistics:

<https://www.stat.gov.tw/ct.asp?xItem=37200&ctNode=517&mp=4>

Note 1: Percentage = the number of employed individuals aged 65 years and older / the mid-year population aged 65 years and older × 100%.

Note 2: For further details, please refer to Appendix 14.

5. Average monthly living expenses

The average monthly living expenses self-reported by individuals aged 65 years and older was the highest in 2009, with an overall average of NT\$13,830 (male, NT\$15,407; female, NT\$12,012). The average monthly living expenses self-reported by individuals was the lowest in 2005, with an overall average of NT\$11,715 (male, NT\$13,003; female, NT\$10,160; Figure 17).

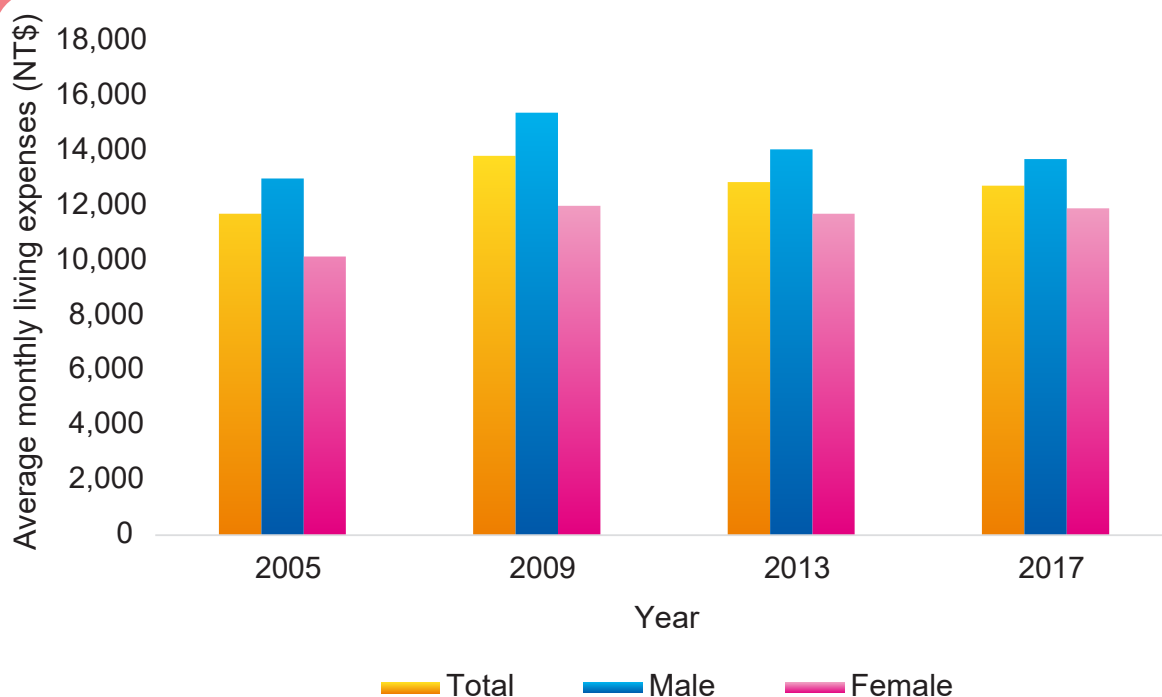


Figure 17 Average monthly living expenses self-reported by individuals aged 65 years and older from 2005 to 2017.

Source: Senior Citizen Condition Survey: <https://dep.mohw.gov.tw/DOS/lp-5095-113.html>

Note 1: "Available living expenses" refers to the amount of money one may spend on food, clothing, housing, transportation, education, and entertainment in a month after deductions for consumer durables and other non-recurring expenses.

Note 2: For further details, please refer to Appendix 15.

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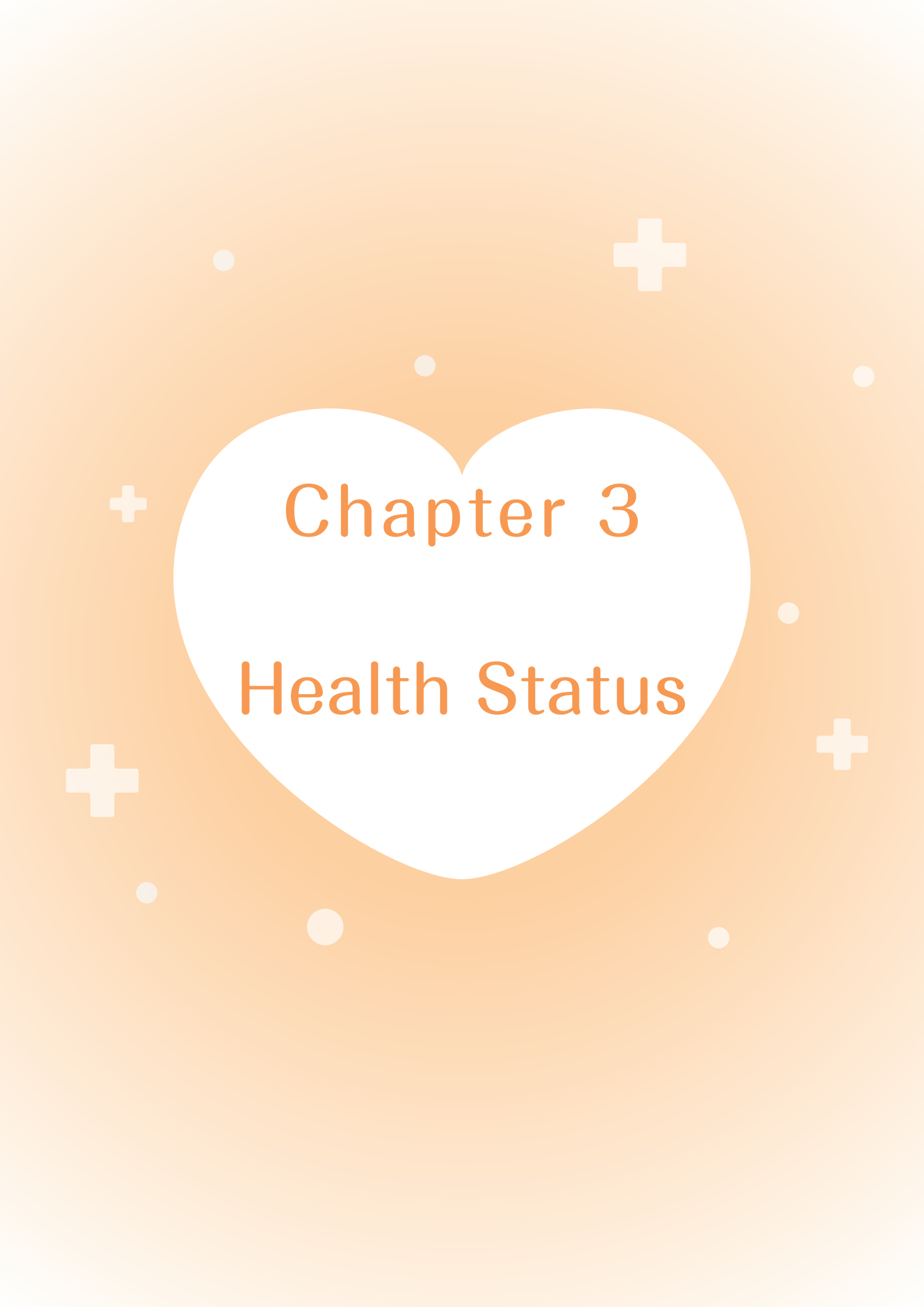
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Chapter 3

Health Status

Health Status

We present a comprehensive overview of the health of the older population based on life expectancy, healthy life expectancy, leading causes of death, Charlson comorbidity index (CCI), chronic diseases, multimorbidity frailty index (mFI), self-perceived health status, mobility, activities of daily living (ADLs), instrumental activities of daily living (IADLs), and depressive tendencies.

The life expectancy at birth of Taiwan's population was 80.9 years for both sexes or 77.7 years for males and 84.3 years for females in 2021. The life expectancy at age 65 was 20.4 years for both sexes or 18.4 years for males and 22.3 years for females in 2021. The healthy life expectancy at birth was 73.3 years for both sexes or 70.9 years for males and 75.8 years for females in 2020.

The number of deaths involving people aged 65 years and older was 126,881 in 2020, accounting for 73.3% of all deaths in the same year and a 0.6% increase from the previous year. The crude death rate was 3,431.8 per 100,000 population, a 5.2% decline from the previous year and a 15.2% decline since 2016. The ten leading causes of death among the population aged 65 years and older in 2020, in order, were cancer, heart diseases, pneumonia, cerebrovascular diseases, diabetes, hypertension, chronic lower respiratory diseases, nephritis, nephrotic syndrome, and nephropathy, unintentional injuries, vascular and unspecified dementia. The ranking of vascular and unspecified dementia as a cause of death increased with age, whereas that of diabetes and unintentional injuries decreased in 2020.

The mean CCI score among the population aged 65 years and older increased from 1.11 to 1.37 from 2010 to 2019. Males had higher mean scores than females. Both sexes demonstrated an increasing trend yearly during this period.

The crude prevalence rates of chronic diseases among the population aged 65 years and older were calculated according to National Health Insurance Research Database on ambulatory care expenditures by visits (CD) and inpatient expenditures by admissions (DD) from 2010 to 2019. The crude prevalence rates were 9.5%–12.6% for stroke, 1.0%–1.3% for intracranial hemorrhagic stroke, 6.7%–7.4% for ischemic stroke, 13.4%–15.2% for coronary heart disease, 8.5%–10.4% for chronic obstructive pulmonary disease, 0.2%–0.5% for psychosomatic disorder, 9.5%–11.5% for insomnia, 3.0%–3.6% for depression, and 6.4%–7.4% for anxiety. The percentages of diseases based on Adult Preventive Health Service Databases from 2012 to 2017 are as follows: health checkups revealed that 60.4%–62.2% of the population aged 65 years and older had hypertension, among whom, 63.4%–66.4% reported a history of hypertension; 25.6%–27.0% had diabetes, with 62.9%–65.1% of this group reporting a history of diabetes; and 55.1%–56.7% had hyperlipidemia, among whom, 12.3%–17.5% reported a history of hyperlipidemia.



The mean mFI scores were between 0.059 and 0.062 from 2010 to 2019, with little difference after age standardization. Males had higher mean mFI scores than females, both overall and after age stratification.

The mobility, ADLs, IADLs, depressive tendencies, and self-reported health status were worse in females than males in the same age groups, according to the 2005 to 2017 National Health Interview Survey (NHIS). In 2017, the percentage with mobility problems in those aged 65–74 years were 26.3% in males and 42.7% in females. In those aged 75–84 years, it was 53.1% and 77.1% in males and females, respectively. It reached 82.0% in males and 89.8% in females aged 85 years and older. Similar patterns occurred in ADLs and IADLs. The depressive tendencies were 10.0% in males and 10.2% in females aged 65–74 years, whereas it was 10.9% in males and 15.2% in females aged 75–84 years in 2017. It was 8.8% and 10.6% in males and females aged 85 years and older, respectively. Overall, 43.8% of males and 47.3% of females aged 65 years and older reported to have fair self-perceived health. There were 15.8% of males and 19.5% of females reported to have bad self-perceived health. The percentage of having very bad self-perceived health was 1.7% and 1.8% in males and females, respectively.



1. Life expectancy

The life expectancy at birth for Taiwan's population was 80.9 years, 77.7 years for males and 84.3 years for females in 2021 (Figure 18).

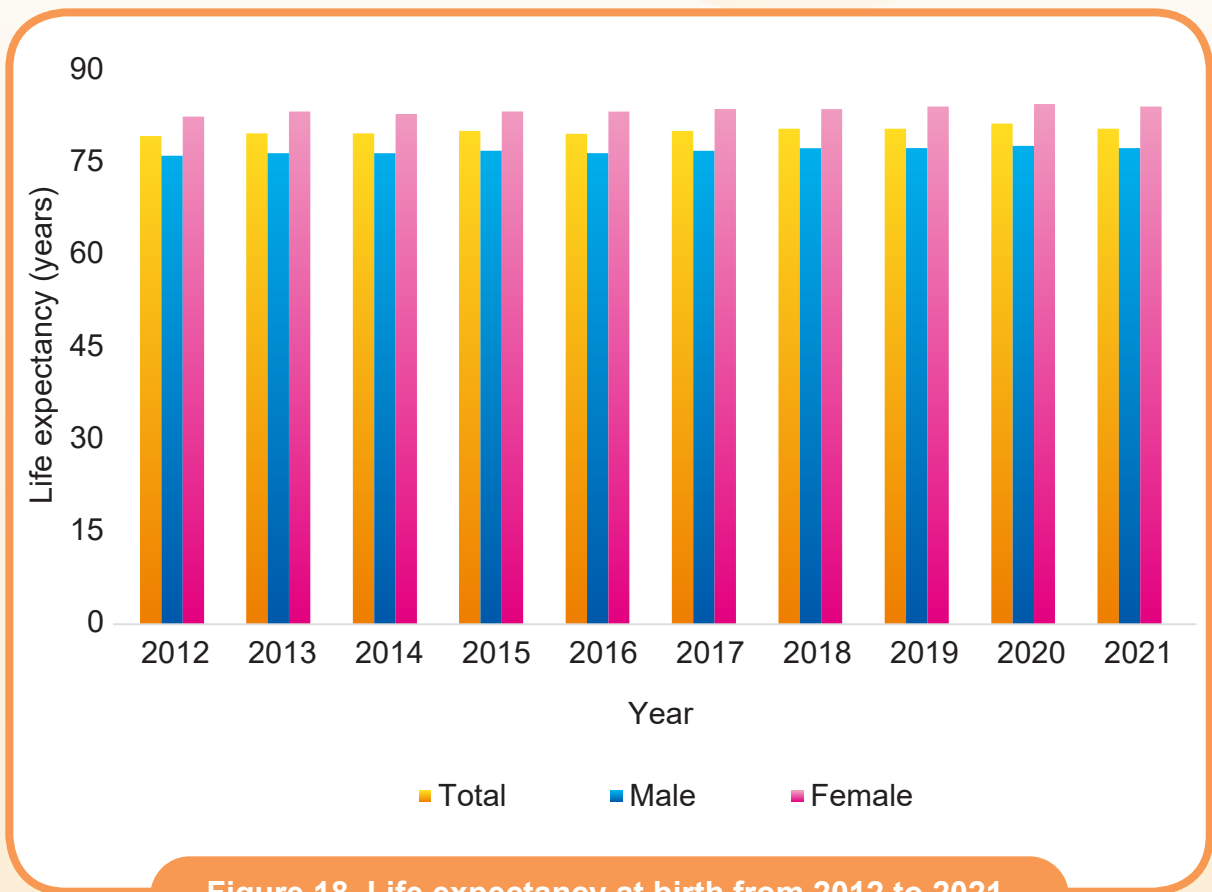


Figure 18 Life expectancy at birth from 2012 to 2021.

Source: Statistical Information Network, Ministry of the Interior: <https://statis.moi.gov.tw/micst/stmain.jsp?sys=100>

Note 1: Life expectancy at birth refers to the average number of years a newborn infant is expected to live.

Note 2: For further details, please refer to Appendix 16.

The life expectancy at age 65 for Taiwan's population was 20.4 years, 18.4 years for males and 22.3 years for females in 2021 (Figure 19).

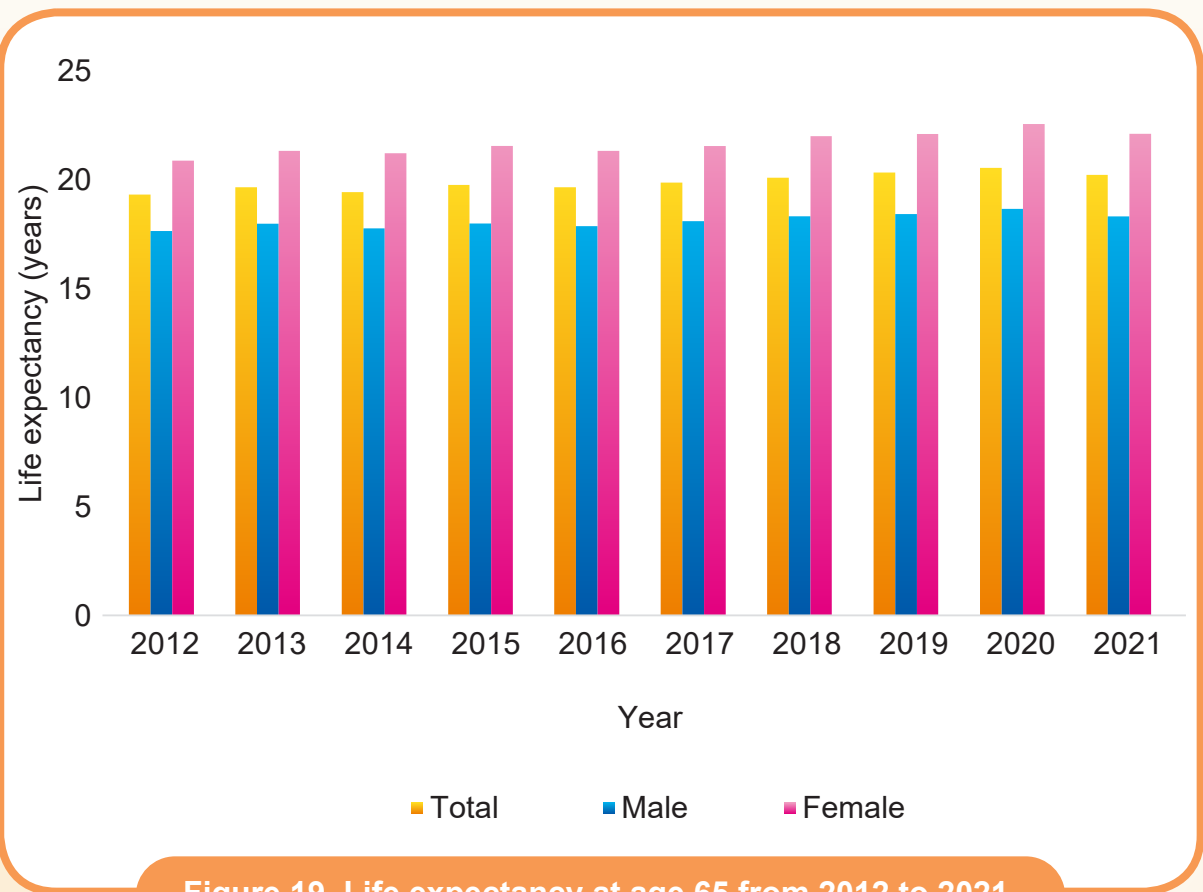


Figure 19 Life expectancy at age 65 from 2012 to 2021.

Source: Statistical Information Network, Ministry of the Interior: <https://statis.moi.gov.tw/micst/stmain.jsp?sys=100>

Note 1: Life expectancy at age 65 refers to the average number of years that an individual is expected to live after reaching age 65.

Note 2: For further details, please refer to Appendix 17.

2. Healthy life expectancy

The healthy life expectancy at birth for Taiwan's population was 73.3 years, 70.9 years for males and 75.8 years for females in 2020 (Figure 20).

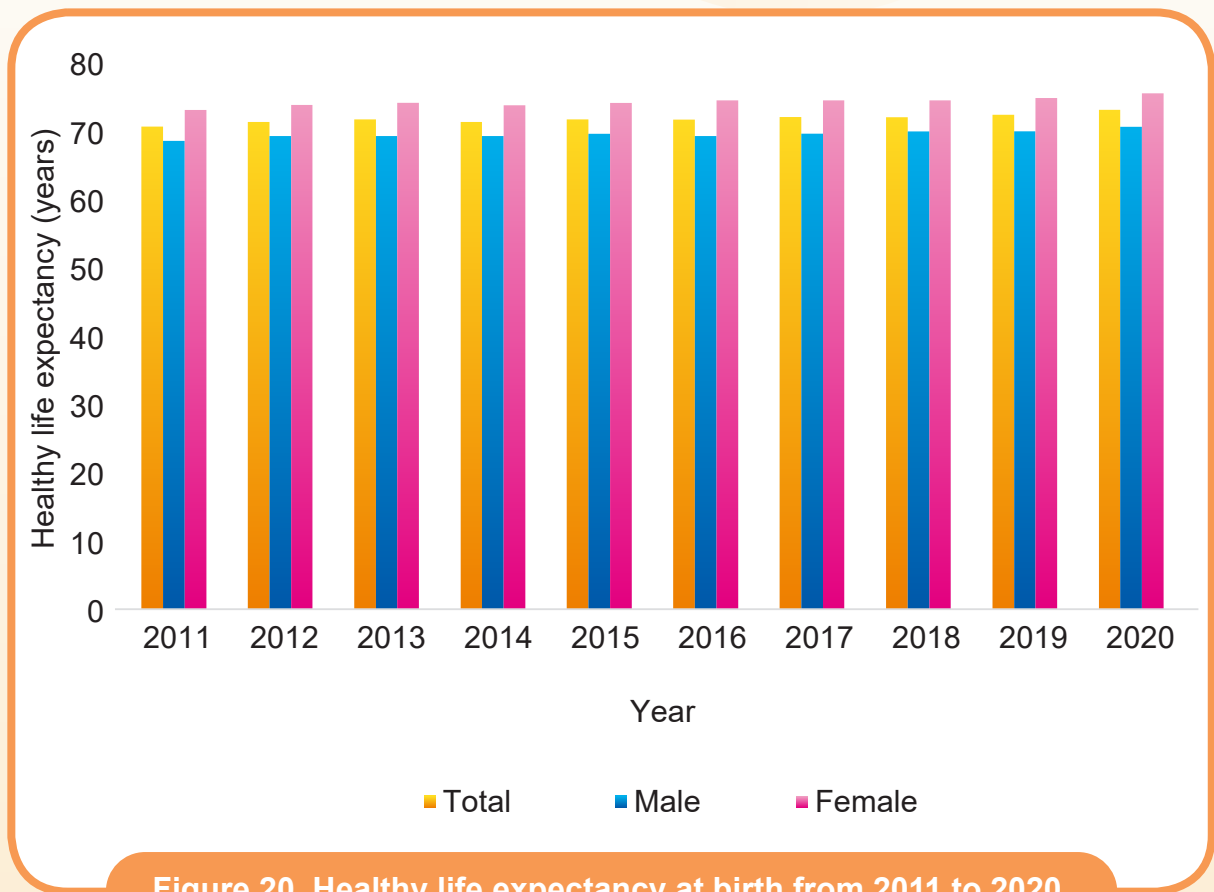


Figure 20 Healthy life expectancy at birth from 2011 to 2020.

Source: Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/DOS/cp-5082-55400-113.html>

Note 1: Healthy life expectancy at birth refers to the expected number of years an individual remains healthy and does not depend on others. The survival curves for disease, functional disorder, and death were analyzed to calculate the healthy life survival rates and life expectancy without chronic disease for each age group.

Note 2: For further details, please refer to Appendix 18.

3. Leading causes of death

Table 1 Leading causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	126,881	127,461	124,768	123,543	122,256
	Cancer	32,388	31,750	30,466	29,790	29,220
	Diseases of heart (except hypertensive diseases)	15,805	15,304	16,737	15,951	15,856
	Pneumonia	12,555	13,936	12,257	11,365	10,997
	Cerebrovascular diseases	9,388	9,702	9,164	9,360	9,422
	Diabetes	8,372	7,997	7,590	7,969	7,917
	Hypertension	5,624	5,260	5,052	5,072	4,892
	Chronic lower respiratory diseases	5,239	5,850	5,721	5,821	6,300
	Nephritis, nephrotic syndrome, and nephropathy	4,359	4,311	4,666	4,588	4,373
	Unintentional injuries	3,269	3,190	3,141	3,145	3,072
	Vascular and unspecified dementia	2,842	2,592	1,492	1,701	1,607
65-74 years	All causes of death	31,514	30,859	29,569	28,841	28,006
	Cancer	12,614	12,032	11,460	10,846	10,593
	Diseases of heart (except hypertensive diseases)	3,346	3,238	3,406	3,314	3,112
	Diabetes	2,108	2,136	1,922	2,097	2,023
	Cerebrovascular diseases	2,030	1,986	1,927	1,860	1,877
	Pneumonia	1,609	1,725	1,415	1,354	1,316
	Unintentional injuries	1,276	1,134	1,111	1,141	1,038
	Hypertension	948	851	714	748	767
	Nephritis, nephrotic syndrome, and nephropathy	892	868	993	985	903
	Chronic lower respiratory diseases	733	820	766	738	813
	Chronic liver disease and cirrhosis	655	699	691	733	739

**Continued Table 1 Leading causes of death among the population
aged 65 years and older from 2016 to 2020.**

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	43,358	44,287	44,835	44,922	46,218
	Cancer	11,958	12,178	11,897	11,837	12,013
	Diseases of heart (except hypertensive diseases)	5,008	4,939	5,659	5,519	5,797
	Pneumonia	3,798	4,250	3,780	3,615	3,511
	Cerebrovascular diseases	3,472	3,564	3,432	3,696	3,806
	Diabetes	3,268	3,125	3,075	3,236	3,334
	Chronic lower respiratory diseases	1,807	2,007	2,026	2,015	2,373
	Hypertension	1,670	1,609	1,663	1,629	1,687
	Nephritis, nephrotic syndrome, and nephropathy	1,578	1,548	1,764	1,754	1,738
	Unintentional injuries	1,193	1,241	1,215	1,194	1,270
	Vascular and unspecified dementia	715	654	385	423	422
≥85 years	All causes of death	52,009	52,315	50,364	49,780	48,032
	Cancer	7,816	7,540	7,109	7,107	6,614
	Diseases of heart (except hypertensive diseases)	7,451	7,127	7,672	7,118	6,947
	Pneumonia	7,148	7,961	7,062	6,396	6,170
	Cerebrovascular diseases	3,886	4,152	3,805	3,804	3,739
	Hypertension	3,006	2,800	2,675	2,695	2,438
	Diabetes	2,996	2,736	2,593	2,636	2,560
	Chronic lower respiratory diseases	2,699	3,023	2,929	3,068	3,114
	Vascular and unspecified dementia	1,957	1,789	1,028	1,199	1,132
	Nephritis, nephrotic syndrome, and nephropathy	1,889	1,895	1,909	1,849	1,732
	Senility	1,827	1,627	1,153	1,201	1,122

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

Table 2 Leading causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	69,173	69,322	68,439	67,755	67,605
	Cancer	19,178	18,776	18,014	17,716	17,345
	Diseases of heart (except hypertensive diseases)	8,135	7,769	8,738	8,343	8,313
	Pneumonia	7,312	7,989	7,123	6,708	6,551
	Cerebrovascular diseases	5,135	5,171	5,041	5,123	5,153
	Diabetes	3,872	3,633	3,429	3,597	3,620
	Chronic lower respiratory diseases	3,768	4,201	4,147	4,143	4,564
	Hypertension	2,533	2,335	2,326	2,326	2,313
	Unintentional injuries	2,070	1,995	1,947	1,944	1,938
	Nephritis, nephrotic syndrome, and nephropathy	2,065	2,082	2,211	2,147	2,075
	Vascular and unspecified dementia	1,236	1,163	663	759	725
65-74 years	All causes of death	20,270	19,735	18,742	18,248	17,623
	Cancer	8,006	7,619	7,198	6,841	6,565
	Diseases of heart (except hypertensive diseases)	2,256	2,176	2,245	2,183	2,028
	Cerebrovascular diseases	1,375	1,321	1,302	1,267	1,260
	Diabetes	1,276	1,255	1,092	1,181	1,139
	Pneumonia	1,124	1,223	972	959	934
	Unintentional injuries	831	743	737	739	681
	Hypertension	614	531	425	456	480
	Chronic lower respiratory diseases	574	640	587	586	640
	Nephritis, nephrotic syndrome, and nephropathy	497	495	533	516	478
	Chronic liver disease and cirrhosis	408	428	407	431	431

Continued Table 2 Leading causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	23,605	23,933	24,397	24,458	25,371
	Cancer	6,829	6,933	6,779	6,813	6,914
	Diseases of heart (except hypertensive diseases)	2,586	2,533	2,904	2,902	3,068
	Pneumonia	2,293	2,497	2,252	2,166	2,112
	Cerebrovascular diseases	1,914	1,900	1,886	1,979	2,106
	Diabetes	1,453	1,337	1,341	1,398	1,452
	Chronic lower respiratory diseases	1,321	1,499	1,520	1,476	1,768
	Unintentional injuries	759	774	738	738	810
	Hypertension	748	716	800	775	786
	Nephritis, nephrotic syndrome, and nephropathy	736	727	819	809	789
	Vascular and unspecified dementia	302	308	180	197	196
≥85 years	All causes of death	25,298	25,654	25,300	25,049	24,611
	Cancer	4,343	4,224	4,037	4,062	3,866
	Pneumonia	3,895	4,269	3,899	3,583	3,505
	Diseases of heart (except hypertensive diseases)	3,293	3,060	3,589	3,258	3,217
	Chronic lower respiratory diseases	1,873	2,062	2,040	2,081	2,156
	Cerebrovascular diseases	1,846	1,950	1,853	1,877	1,787
	Hypertension	1,171	1,088	1,101	1,095	1,047
	Diabetes	1,143	1,041	996	1,018	1,029
	Vascular and unspecified dementia	843	770	432	513	492
	Nephritis, nephrotic syndrome, and nephropathy	832	860	859	822	808
	Senility	753	689	467	475	472

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

Table 3 Leading causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	57,708	58,139	56,329	55,788	54,651
	Cancer	13,210	12,974	12,452	12,074	11,875
	Diseases of heart (except hypertensive diseases)	7,670	7,535	7,999	7,608	7,543
	Pneumonia	5,243	5,947	5,134	4,657	4,446
	Diabetes	4,500	4,364	4,161	4,372	4,297
	Cerebrovascular diseases	4,253	4,531	4,123	4,237	4,269
	Hypertension	3,091	2,925	2,726	2,746	2,579
	Nephritis, nephrotic syndrome, and nephropathy	2,294	2,229	2,455	2,441	2,298
	Vascular and unspecified dementia	1,606	1,429	829	942	882
	Chronic lower respiratory diseases	1,471	1,649	1,574	1,678	1,736
	Senility	1,317	1,180	850	890	838
65-74 years	All causes of death	11,244	11,124	10,827	10,593	10,383
	Cancer	4,608	4,413	4,262	4,005	4,028
	Diseases of heart (except hypertensive diseases)	1,090	1,062	1,161	1,131	1,084
	Diabetes	832	881	830	916	884
	Cerebrovascular diseases	655	665	625	593	617
	Pneumonia	485	502	443	395	382
	Unintentional injuries	445	391	374	402	357
	Nephritis, nephrotic syndrome, and nephropathy	395	373	460	469	425
	Hypertension	334	320	289	292	287
	Chronic liver disease and cirrhosis	247	271	284	302	308
	Intentional self-harm (suicide)	173	167	169	158	155

Continued Table 3 Leading causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	19,753	20,354	20,438	20,464	20,847
	Cancer	5,129	5,245	5,118	5,024	5,099
	Diseases of heart (except hypertensive diseases)	2,422	2,406	2,755	2,617	2,729
	Diabetes	1,815	1,788	1,734	1,838	1,882
	Cerebrovascular diseases	1,558	1,664	1,546	1,717	1,700
	Pneumonia	1,505	1,753	1,528	1,449	1,399
	Hypertension	922	893	863	854	901
	Nephritis, nephrotic syndrome, and nephropathy	842	821	945	945	949
	Chronic lower respiratory diseases	486	508	506	539	605
	Unintentional injuries	434	467	477	456	460
	Vascular and unspecified dementia	413	346	205	226	226
≥85 years	All causes of death	26,711	26,661	25,064	24,731	23,421
	Diseases of heart (except hypertensive diseases)	4,158	4,067	4,083	3,860	3,730
	Cancer	3,473	3,316	3,072	3,045	2,748
	Pneumonia	3,253	3,692	3,163	2,813	2,665
	Cerebrovascular diseases	2,040	2,202	1,952	1,927	1,952
	Diabetes	1,853	1,695	1,597	1,618	1,531
	Hypertension	1,835	1,712	1,574	1,600	1,391
	Vascular and unspecified dementia	1,114	1,019	596	686	640
	Senility	1,074	938	686	726	650
	Nephritis, nephrotic syndrome, and nephropathy	1,057	1,035	1,050	1,027	924
	Chronic lower respiratory diseases	826	961	889	987	958

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

The ten leading causes of death among the population aged 65 years and older in 2020, in order, were cancer (876.0 per 100,000 population), diseases of heart (427.5), pneumonia (339.6), cerebrovascular diseases (253.9), diabetes (226.4), hypertension (152.1), chronic lower respiratory diseases (141.7), nephritis, nephrotic syndrome, and nephropathy (117.9), unintentional injuries (88.4), vascular and unspecified dementia (76.9). An analysis of the variation in crude death rate among the three leading causes of death in the past 5 years reveals that cancer, diseases of heart, and pneumonia among the population aged 65 years and older have decreased by 9.4%, 18.5%, and 6.7%, respectively from 2016 to 2020 (Table 4).

Stratified by gender, the ten leading causes of death among males aged 65 years and older in 2020 were cancer (1,136.9 per 100,000 population), diseases of heart (482.3), pneumonia (433.5), cerebrovascular diseases (304.4), diabetes (229.5), chronic lower respiratory diseases (223.4), hypertension (150.2), unintentional injuries (122.7), nephritis, nephrotic syndrome, and nephropathy (122.4), vascular and unspecified dementia (73.3). Among females aged 65 years and older, the ten leading causes of death were cancer (657.1), diseases of heart (381.5), pneumonia (260.8), diabetes (223.8), cerebrovascular diseases (211.5), hypertension (153.7), nephritis, nephrotic syndrome, and nephropathy (114.1), vascular and unspecified dementia (79.9), chronic lower respiratory diseases (73.2), and senility (65.5; Table 5–Table 6).

Variations in the three leading causes of crude death rate among males and females aged 65 years and older are similar to overall trends from 2016 to 2020. Cancer, diseases of heart and pneumonia decreased in males (8.4%, 19.0% and 7.6%, respectively) and females (10.0%, 17.8% and 4.6%, respectively) comparing to those in 2016 (Table 4–Table 6).



Table 4 Crude death rates of leading causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	3,431.8	3,620.7	3,723.6	3,876.4	4,045.1
	Cancer	876.0	901.9	909.2	934.7	966.8
	Diseases of heart (except hypertensive diseases)	427.5	434.7	499.5	500.5	524.6
	Pneumonia	339.6	395.9	365.8	356.6	363.9
	Cerebrovascular diseases	253.9	275.6	273.5	293.7	311.7
	Diabetes	226.4	227.2	226.5	250.0	261.9
	Hypertension	152.1	149.4	150.8	159.1	161.9
	Chronic lower respiratory diseases	141.7	166.2	170.7	182.6	208.4
	Nephritis, nephrotic syndrome, and nephropathy	117.9	122.5	139.3	144.0	144.7
	Unintentional injuries	88.4	90.6	93.7	98.7	101.6
	Vascular and unspecified dementia	76.9	73.6	44.5	53.4	53.2
65-74 years	All causes of death	1,392.0	1,463.3	1,498.4	1,562.8	1,631.2
	Cancer	557.2	570.5	580.7	587.7	617.0
	Diseases of heart (except hypertensive diseases)	147.8	153.5	172.6	179.6	181.3
	Diabetes	93.1	101.3	97.4	113.6	117.8
	Cerebrovascular diseases	89.7	94.2	97.6	100.8	109.3
	Pneumonia	71.1	81.8	71.7	73.4	76.7
	Unintentional injuries	56.4	53.8	56.3	61.8	60.5
	Hypertension	41.9	40.4	36.2	40.5	44.7
	Nephritis, nephrotic syndrome, and nephropathy	39.4	41.2	50.3	53.4	52.6
	Chronic lower respiratory diseases	32.4	38.9	38.8	40.0	47.4
	Chronic liver disease and cirrhosis	28.9	33.1	35.0	39.7	43.0

Continued Table 4 Crude death rates of leading causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	4,188.8	4,316.9	4,469.7	4,588.2	4,831.0
	Cancer	1,155.3	1,187.1	1,186.0	1,209.0	1,255.7
	Diseases of heart (except hypertensive diseases)	483.8	481.4	564.2	563.7	605.9
	Pneumonia	366.9	414.3	376.8	369.2	367.0
	Cerebrovascular diseases	335.4	347.4	342.1	377.5	397.8
	Diabetes	315.7	304.6	306.6	330.5	348.5
	Chronic lower respiratory diseases	174.6	195.6	202.0	205.8	248.0
	Hypertension	161.3	156.8	165.8	166.4	176.3
	Nephritis, nephrotic syndrome, and nephropathy	152.5	150.9	175.9	179.2	181.7
	Unintentional injuries	115.3	121.0	121.1	122.0	132.7
	Vascular and unspecified dementia	69.1	63.7	38.4	43.2	44.1
≥85 years	All causes of death	13,060.9	13,569.9	13,455.4	13,729.7	13,771.6
	Cancer	1,962.8	1,955.8	1,899.3	1,960.2	1,896.3
	Diseases of heart (except hypertensive diseases)	1,871.2	1,848.7	2,049.7	1,963.2	1,991.8
	Pneumonia	1,795.1	2,065.0	1,886.7	1,764.1	1,769.0
	Cerebrovascular diseases	975.9	1,077.0	1,016.6	1,049.2	1,072.0
	Hypertension	754.9	726.3	714.7	743.3	699.0
	Diabetes	752.4	709.7	692.8	727.0	734.0
	Chronic lower respiratory diseases	677.8	784.1	782.5	846.2	892.8
	Vascular and unspecified dementia	491.5	464.0	274.6	330.7	324.6
	Nephritis, nephrotic syndrome, and nephropathy	474.4	491.5	510.0	510.0	496.6
	Senility	458.8	422.0	308.0	331.2	321.7

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths for each cause of death / the mid-year population × 100,000.

**Table 5 Crude death rates of leading causes of death among males
aged 65 years and older from 2016 to 2020.**

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	4,100.8	4,305.8	4,452.1	4,618.4	4,840.1
	Cancer	1,136.9	1,166.2	1,171.9	1,207.6	1,241.8
	Diseases of heart (except hypertensive diseases)	482.3	482.6	568.4	568.7	595.2
	Pneumonia	433.5	496.2	463.4	457.2	469.0
	Cerebrovascular diseases	304.4	321.2	327.9	349.2	368.9
	Diabetes	229.5	225.7	223.1	245.2	259.2
	Chronic lower respiratory diseases	223.4	260.9	269.8	282.4	326.8
	Hypertension	150.2	145.0	151.3	158.5	165.6
	Unintentional injuries	122.7	123.9	126.7	132.5	138.7
	Nephritis, nephrotic syndrome, and nephropathy	122.4	129.3	143.8	146.3	148.6
	Vascular and unspecified dementia	73.3	72.2	43.1	51.7	51.9
65-74 years	All causes of death	1,898.3	1,983.0	2,011.1	2,093.7	2,173.6
	Cancer	749.8	765.6	772.4	784.9	809.7
	Diseases of heart (except hypertensive diseases)	211.3	218.6	240.9	250.5	250.1
	Cerebrovascular diseases	128.8	132.7	139.7	145.4	155.4
	Diabetes	119.5	126.1	117.2	135.5	140.5
	Pneumonia	105.3	122.9	104.3	110.0	115.2
	Unintentional injuries	77.8	74.7	79.1	84.8	84.0
	Hypertension	57.5	53.4	45.6	52.3	59.2
	Chronic lower respiratory diseases	53.8	64.3	63.0	67.2	78.9
	Nephritis, nephrotic syndrome, and nephropathy	46.5	49.7	57.2	59.2	59.0
	Chronic liver disease and cirrhosis	38.2	43.0	43.7	49.5	53.2

Continued Table 5 Crude death rates of leading causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	5,261.8	5,379.2	5,597.8	5,719.8	6,018.6
	Cancer	1,522.3	1,558.3	1,555.4	1,593.3	1,640.2
	Diseases of heart (except hypertensive diseases)	576.4	569.3	666.3	678.7	727.8
	Pneumonia	511.1	561.2	516.7	506.5	501.0
	Cerebrovascular diseases	426.6	427.0	432.7	462.8	499.6
	Diabetes	323.9	300.5	307.7	326.9	344.5
	Chronic lower respiratory diseases	294.5	336.9	348.8	345.2	419.4
	Unintentional injuries	169.2	174.0	169.3	172.6	192.2
	Hypertension	166.7	160.9	183.6	181.2	186.5
	Nephritis, nephrotic syndrome, and nephropathy	164.1	163.4	187.9	189.2	187.2
	Vascular and unspecified dementia	67.3	69.2	41.3	46.1	46.5
≥85 years	All causes of death	14,847.2	15,102.8	14,930.5	14,918.9	14,964.3
	Cancer	2,548.9	2,486.7	2,382.4	2,419.3	2,350.7
	Pneumonia	2,285.9	2,513.2	2,301.0	2,134.0	2,131.2
	Diseases of heart (except hypertensive diseases)	1,932.6	1,801.5	2,118.0	1,940.4	1,956.0
	Chronic lower respiratory diseases	1,099.2	1,213.9	1,203.9	1,239.4	1,310.9
	Cerebrovascular diseases	1,083.4	1,148.0	1,093.5	1,117.9	1,086.6
	Hypertension	687.3	640.5	649.7	652.2	636.6
	Diabetes	670.8	612.9	587.8	606.3	625.7
	Vascular and unspecified dementia	494.8	453.3	254.9	305.5	299.2
	Nephritis, nephrotic syndrome, and nephropathy	488.3	506.3	506.9	489.6	491.3
	Senility	441.9	405.6	275.6	282.9	287.0

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths for each cause of death / the mid-year population × 100,000.

Table 6 Crude death rates of leading causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All causes of death	2,870.4	3,043.4	3,106.0	3,243.5	3,362.0
	Cancer	657.1	679.1	686.6	702.0	730.5
	Diseases of heart (except hypertensive diseases)	381.5	394.4	441.1	442.3	464.0
	Pneumonia	260.8	311.3	283.1	270.8	273.5
	Diabetes	223.8	228.4	229.4	254.2	264.3
	Cerebrovascular diseases	211.5	237.2	227.3	246.3	262.6
	Hypertension	153.7	153.1	150.3	159.7	158.7
	Nephritis, nephrotic syndrome, and nephropathy	114.1	116.7	135.4	141.9	141.4
	Vascular and unspecified dementia	79.9	74.8	45.7	54.8	54.3
	Chronic lower respiratory diseases	73.2	86.3	86.8	97.6	106.8
	Senility	65.5	61.8	46.9	51.7	51.6
65-74 years	All causes of death	940.0	998.8	1,039.6	1,087.7	1,145.9
	Cancer	385.2	396.2	409.2	411.2	444.5
	Diseases of heart (except hypertensive diseases)	91.1	95.4	111.5	116.1	119.6
	Diabetes	69.6	79.1	79.7	94.1	97.6
	Cerebrovascular diseases	54.8	59.7	60.0	60.9	68.1
	Pneumonia	40.5	45.1	42.5	40.6	42.2
	Unintentional injuries	37.2	35.1	35.9	41.3	39.4
	Nephritis, nephrotic syndrome, and nephropathy	33.0	33.5	44.2	48.2	46.9
	Hypertension	27.9	28.7	27.7	30.0	31.7
	Chronic liver disease and cirrhosis	20.6	24.3	27.3	31.0	34.0
	Intentional self-harm (suicide)	14.5	15.0	16.2	16.2	17.1

Continued Table 6 Crude death rates of leading causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All causes of death	3,368.1	3,503.4	3,603.0	3,710.9	3,895.4
	Cancer	874.6	902.8	902.2	911.0	952.8
	Diseases of heart (except hypertensive diseases)	413.0	414.1	485.7	474.6	509.9
	Diabetes	309.5	307.8	305.7	333.3	351.7
	Cerebrovascular diseases	265.7	286.4	272.5	311.4	317.7
	Pneumonia	256.6	301.7	269.4	262.8	261.4
	Hypertension	157.2	153.7	152.1	154.9	168.4
	Nephritis, nephrotic syndrome, and nephropathy	143.6	141.3	166.6	171.4	177.3
	Chronic lower respiratory diseases	82.9	87.4	89.2	97.7	113.0
	Unintentional injuries	74.0	80.4	84.1	82.7	86.0
	Vascular and unspecified dementia	70.4	59.6	36.1	41.0	42.2
≥85 years	All causes of death	11,724.9	12,362.5	12,235.2	12,704.1	12,707.3
	Diseases of heart (except hypertensive diseases)	1,825.2	1,885.8	1,993.2	1,982.8	2,023.7
	Cancer	1,524.5	1,537.6	1,499.6	1,564.2	1,491.0
	Pneumonia	1,427.9	1,712.0	1,544.0	1,445.0	1,445.9
	Cerebrovascular diseases	895.5	1,021.1	952.9	989.9	1,059.1
	Diabetes	813.4	786.0	779.6	831.2	830.7
	Hypertension	805.5	793.8	768.4	821.9	754.7
	Vascular and unspecified dementia	489.0	472.5	290.9	352.4	347.2
	Senility	471.4	434.9	334.9	372.9	352.7
	Nephritis, nephrotic syndrome, and nephropathy	464.0	479.9	512.6	527.6	501.3
	Chronic lower respiratory diseases	362.6	445.6	434.0	507.0	519.8

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths for each cause of death / the mid-year population × 100,000.

4. Leading cancer causes of death

Table 7 Leading cancer causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	32,388	31,750	30,466	29,790	29,220
	Cancers of trachea, bronchus and lung	6,814	6,758	6,561	6,488	6,511
	Cancers of liver and intrahepatic bile ducts	5,280	5,277	5,423	5,409	5,301
	Cancers of colon, rectum and anus	4,540	4,536	4,072	3,963	3,859
	Cancer of prostate	1,625	1,439	1,284	1,295	1,260
	Cancer of breast	1,136	1,073	925	839	790
	Cancer of stomach	1,698	1,681	1,577	1,602	1,577
	Cancer of pancreas	1,669	1,658	1,513	1,375	1,306
	Cancer of oral cavity	1,318	1,274	1,021	970	935
	Non-Hodgkin's lymphoma	975	931	829	812	825
	Cancer of bladder	918	940	851	831	728
65-74 years	All cancer causes of death	12,614	12,032	11,460	10,846	10,593
	Cancers of trachea, bronchus and lung	2,682	2,598	2,441	2,358	2,353
	Cancers of liver and intrahepatic bile ducts	2,141	2,208	2,186	2,201	2,141
	Cancers of colon, rectum and anus	1,482	1,383	1,276	1,164	1,125
	Cancer of breast	564	511	481	410	414
	Cancer of oral cavity	809	738	585	554	521
	Cancer of pancreas	723	683	623	563	550
	Cancer of prostate	310	271	258	279	214
	Cancer of stomach	570	518	474	448	444
	Cancer of esophagus	449	423	387	346	303
	Non-Hodgkin's lymphoma	339	338	274	257	268

Continued Table 7 Leading cancer causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	11,958	12,178	11,897	11,837	12,013
	Cancers of trachea, bronchus and lung	2,620	2,706	2,627	2,693	2,779
	Cancers of liver and intrahepatic bile ducts	2,094	2,080	2,248	2,241	2,246
	Cancers of colon, rectum and anus	1,627	1,748	1,610	1,541	1,630
	Cancer of prostate	631	553	527	507	573
	Cancer of breast	363	392	320	281	276
	Cancer of pancreas	635	646	578	518	506
	Cancer of stomach	583	633	600	638	610
	Non-Hodgkin's lymphoma	394	365	347	355	351
	Cancer of oral cavity	385	378	307	307	308
	Cancer of bladder	359	394	337	343	289
≥85 years	All cancer causes of death	7,816	7,540	7,109	7,107	6,614
	Cancer of prostate	684	615	499	509	473
	Cancers of trachea, bronchus and lung	1,512	1,454	1,493	1,437	1,379
	Cancers of colon, rectum and anus	1,431	1,405	1,186	1,258	1,104
	Cancers of liver and intrahepatic bile ducts	1,045	989	989	967	914
	Cancer of stomach	545	530	503	516	523
	Cancer of breast	209	170	124	148	100
	Cancer of bladder	313	328	305	301	255
	Cancer of pancreas	311	329	312	294	250
	Non-Hodgkin's lymphoma	242	228	208	200	206
	Leukemia	192	149	148	128	140

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

Table 8 Leading cancer causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	19,178	18,776	18,014	17,716	17,345
	Cancers of trachea, bronchus and lung	4,263	4,264	4,156	4,099	4,175
	Cancers of liver and intrahepatic bile ducts	3,232	3,191	3,249	3,237	3,129
	Cancers of colon, rectum and anus	2,526	2,532	2,309	2,203	2,154
	Cancer of prostate	1,625	1,439	1,284	1,295	1,260
	Cancer of oral cavity	1,154	1,106	875	857	791
	Cancer of stomach	1,053	997	966	1,026	982
	Cancer of pancreas	874	838	734	700	648
	Cancer of esophagus	648	658	586	559	534
	Cancer of bladder	599	602	542	535	472
	Non-Hodgkin's lymphoma	546	519	462	470	475
65-74 years	All cancer causes of death	8,006	7,619	7,198	6,841	6,565
	Cancers of trachea, bronchus and lung	1,757	1,717	1,620	1,534	1,509
	Cancers of liver and intrahepatic bile ducts	1,494	1,525	1,499	1,474	1,409
	Cancers of colon, rectum and anus	941	870	817	710	689
	Cancer of oral cavity	746	674	523	515	478
	Cancer of esophagus	420	392	354	322	282
	Cancer of pancreas	405	378	328	323	299
	Cancer of stomach	389	319	301	299	306
	Cancer of prostate	310	271	258	279	214
	Non-Hodgkin's lymphoma	204	205	168	160	158
	Leukemia	191	157	141	134	128

Continued Table 8 Leading cancer causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	6,829	6,933	6,779	6,813	6,914
	Cancers of trachea, bronchus and lung	1,615	1,660	1,641	1,719	1,803
	Cancers of liver and intrahepatic bile ducts	1,183	1,183	1,231	1,242	1,222
	Cancers of colon, rectum and anus	899	982	888	866	896
	Cancer of prostate	631	553	527	507	573
	Cancer of stomach	338	371	362	402	361
	Cancer of oral cavity	321	317	257	261	239
	Cancer of pancreas	316	303	267	242	234
	Cancer of bladder	217	239	211	194	176
	Non-Hodgkin's lymphoma	214	189	183	185	194
	Cancer of esophagus	159	192	159	164	170
≥85 years	All cancer causes of death	4,343	4,224	4,037	4,062	3,866
	Cancers of trachea, bronchus and lung	891	887	895	846	863
	Cancers of colon, rectum and anus	686	680	604	627	569
	Cancer of prostate	684	615	499	509	473
	Cancers of liver and intrahepatic bile ducts	555	483	519	521	498
	Cancer of stomach	326	307	303	325	315
	Cancer of bladder	203	220	192	206	170
	Cancer of pancreas	153	157	139	135	115
	Non-Hodgkin's lymphoma	128	125	111	125	123
	Leukemia	121	83	80	73	95
	Cancer of oral cavity	87	115	95	81	74

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

Table 9 Leading cancer causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	13,210	12,974	12,452	12,074	11,875
	Cancers of trachea, bronchus and lung	2,551	2,494	2,405	2,389	2,336
	Cancers of liver and intrahepatic bile ducts	2,048	2,086	2,174	2,172	2,172
	Cancers of colon, rectum and anus	2,014	2,004	1,763	1,760	1,705
	Cancer of breast	1,136	1,073	925	839	790
	Cancer of pancreas	795	820	779	675	658
	Cancer of stomach	645	684	611	576	595
	Non-Hodgkin's lymphoma	429	412	367	342	350
	Cancers of cervix uteri and uterus, part unspecified	354	336	297	337	330
	Cancer of bladder	319	338	309	296	256
	Cancer of ovary	302	269	248	243	259
65-74 years	All cancer causes of death	4,608	4,413	4,262	4,005	4,028
	Cancers of trachea, bronchus and lung	925	881	821	824	844
	Cancers of liver and intrahepatic bile ducts	647	683	687	727	732
	Cancer of breast	564	511	481	410	414
	Cancers of colon, rectum and anus	541	513	459	454	436
	Cancer of pancreas	318	305	295	240	251
	Cancer of stomach	181	199	173	149	138
	Cancer of ovary	158	130	116	127	116
	Non-Hodgkin's lymphoma	135	133	106	97	110
	Cancers of cervix uteri and uterus, part unspecified	131	124	97	108	107
	Cancer of corpus uteri	107	94	89	80	60

Continued Table 9 Leading cancer causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Persons

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	5,129	5,245	5,118	5,024	5,099
	Cancers of trachea, bronchus and lung	1,005	1,046	986	974	976
	Cancers of liver and intrahepatic bile ducts	911	897	1,017	999	1,024
	Cancers of colon, rectum and anus	728	766	722	675	734
	Cancer of breast	363	392	320	281	276
	Cancer of pancreas	319	343	311	276	272
	Cancer of stomach	245	262	238	236	249
	Non-Hodgkin's lymphoma	180	176	164	170	157
	Cancer of bladder	142	155	126	149	113
	Cancers of cervix uteri and uterus, part unspecified	122	113	122	142	141
	Leukemia	115	127	99	107	119
≥85 years	All cancer causes of death	3,473	3,316	3,072	3,045	2,748
	Cancers of colon, rectum and anus	745	725	582	631	535
	Cancers of trachea, bronchus and lung	621	567	598	591	516
	Cancers of liver and intrahepatic bile ducts	490	506	470	446	416
	Cancer of stomach	219	223	200	191	208
	Cancer of breast	209	170	124	148	100
	Cancer of pancreas	158	172	173	159	135
	Non-Hodgkin's lymphoma	114	103	97	75	83
	Cancer of bladder	110	108	113	95	85
	Cancers of cervix uteri and uterus, part unspecified	101	99	78	87	82
	Leukemia	71	66	68	55	45

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note: Causes of death are ranked in order of crude death rate in 2020.

The ten leading cancer causes of death among the population aged 65 years and older in 2020 were cancers of trachea, bronchus and lung (184.3 per 100,000 population), cancers of liver and intrahepatic bile ducts (142.8), cancers of colon, rectum and anus (122.8), cancer of prostate (96.3), cancer of breast (56.5), cancer of stomach (45.9), cancer of pancreas (45.1), cancer of oral cavity (35.6), non-Hodgkin's lymphoma (26.4), and cancer of bladder (24.8). Over the past 5 years, crude death rates for the three leading cancers—namely, lung cancer, liver cancer, and colorectal cancer—declined by 14.4%, 18.6%, and 3.8%, respectively from 2016 to 2020 (Table 10).

The ten leading cancer causes of death among males aged 65 years and older in 2020 were cancers of trachea, bronchus and lung (252.7 per 100,000 population), cancers of liver and intrahepatic bile ducts (191.6), cancers of colon, rectum and anus (149.8), cancer of prostate (96.3), cancer of oral cavity (68.4), cancer of stomach (62.4), cancer of pancreas (51.8), cancer of esophagus (38.4), cancer of bladder (35.5), and non-Hodgkin's lymphoma (32.4). Among females, the ten leading cancers were cancers of trachea, bronchus and lung (126.9), cancers of liver and intrahepatic bile ducts (101.9), cancers of colon, rectum and anus (100.2), cancer of breast (56.5), cancer of pancreas (39.5), cancer of stomach (32.1), non-Hodgkin's lymphoma (21.3), cancers of cervix uteri and uterus, part unspecified (17.6), cancer of bladder (15.9), and cancer of ovary (15.0; Table 11–Table 12).

Variations in the three leading cancers as causes of death among males and females aged 65 years and older are similar to overall trends from 2016 to 2020. Cancers of trachea, bronchus and lung, cancers of liver and intrahepatic bile ducts, and cancers of colon, rectum and anus showed a decrease of males (15.5%, 14.5% and 2.9%, respectively) and females (11.7%, 23.7% and 4.5%, respectively) from 2016 to 2020 (Table 10–Table 12).

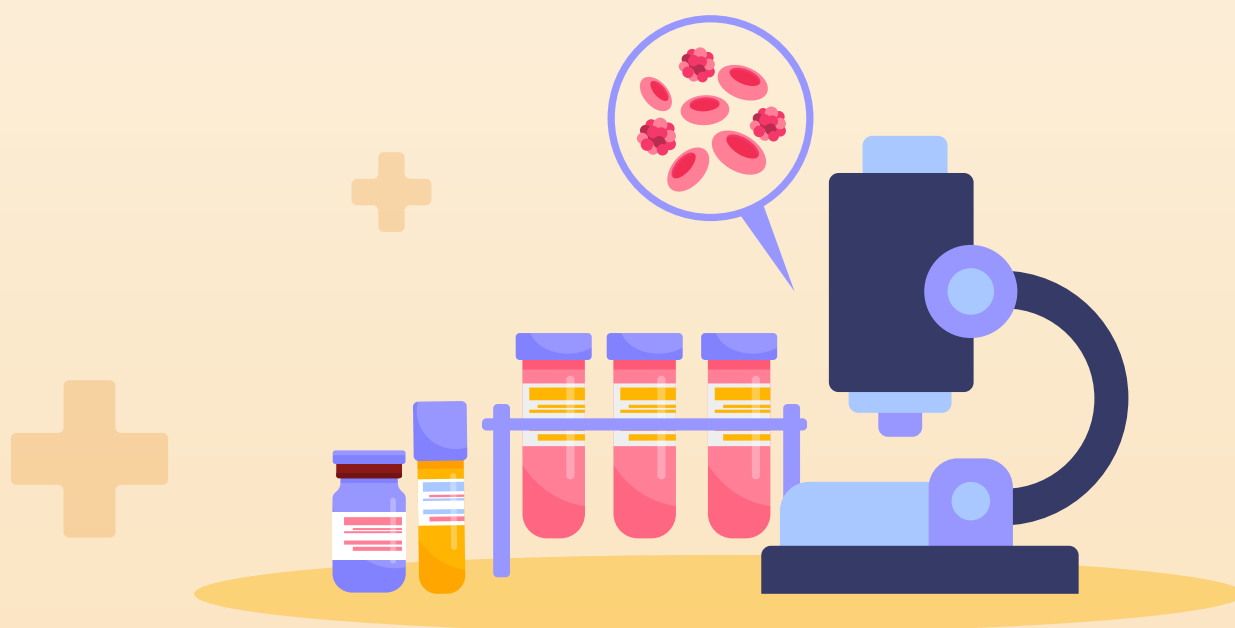


Table 10 Crude death rates of leading cancer causes of death among the population aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	876.0	901.9	909.2	934.7	966.8
	Cancers of trachea, bronchus and lung	184.3	192.0	195.8	203.6	215.4
	Cancers of liver and intrahepatic bile ducts	142.8	149.9	161.8	169.7	175.4
	Cancers of colon, rectum and anus	122.8	128.9	121.5	124.3	127.7
	Cancer of prostate	96.3	89.4	83.5	88.3	90.2
	Cancer of breast	56.5	56.2	51.0	48.8	48.6
	Cancer of stomach	45.9	47.8	47.1	50.3	52.2
	Cancer of pancreas	45.1	47.1	45.2	43.1	43.2
	Cancer of oral cavity	35.6	36.2	30.5	30.4	30.9
	Non-Hodgkin's lymphoma	26.4	26.4	24.7	25.5	27.3
	Cancer of bladder	24.8	26.7	25.4	26.1	24.1
65-74 years	All cancer causes of death	557.2	570.5	580.7	587.7	617.0
	Cancers of trachea, bronchus and lung	118.5	123.2	123.7	127.8	137.1
	Cancers of liver and intrahepatic bile ducts	94.6	104.7	110.8	119.3	124.7
	Cancers of colon, rectum and anus	65.5	65.6	64.7	63.1	65.5
	Cancer of breast	47.2	45.9	46.2	42.1	45.7
	Cancer of oral cavity	35.7	35.0	29.6	30.0	30.3
	Cancer of pancreas	31.9	32.4	31.6	30.5	32.0
	Cancer of prostate	29.0	27.2	27.7	32.0	26.4
	Cancer of stomach	25.2	24.6	24.0	24.3	25.9
	Cancer of esophagus	19.8	20.1	19.6	18.7	17.6
	Non-Hodgkin's lymphoma	15.0	16.0	13.9	13.9	15.6

**Continued Table 10 Crude death rates of leading cancer causes of death
among the population aged 65 years and older from 2016 to 2020.**

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	1,155.3	1,187.1	1,186.0	1,209.0	1,255.7
	Cancers of trachea, bronchus and lung	253.1	263.8	261.9	275.1	290.5
	Cancers of liver and intrahepatic bile ducts	202.3	202.7	224.1	228.9	234.8
	Cancers of colon, rectum and anus	157.2	170.4	160.5	157.4	170.4
	Cancer of prostate	140.7	124.3	120.9	118.6	135.9
	Cancer of breast	61.9	67.5	56.4	51.0	51.6
	Cancer of pancreas	61.3	63.0	57.6	52.9	52.9
	Cancer of stomach	56.3	61.7	59.8	65.2	63.8
	Non-Hodgkin's lymphoma	38.1	35.6	34.6	36.3	36.7
	Cancer of oral cavity	37.2	36.8	30.6	31.4	32.2
	Cancer of bladder	34.7	38.4	33.6	35.0	30.2
≥85 years	All cancer causes of death	1,962.8	1,955.8	1,899.3	1,960.2	1,896.3
	Cancer of prostate	401.4	362.1	294.5	303.2	287.6
	Cancers of trachea, bronchus and lung	379.7	377.2	398.9	396.3	395.4
	Cancers of colon, rectum and anus	359.4	364.4	316.9	347.0	316.5
	Cancers of liver and intrahepatic bile ducts	262.4	256.5	264.2	266.7	262.1
	Cancer of stomach	136.9	137.5	134.4	142.3	150.0
	Cancer of breast	91.7	78.8	60.5	76.0	54.3
	Cancer of bladder	78.6	85.1	81.5	83.0	73.1
	Cancer of pancreas	78.1	85.3	83.4	81.1	71.7
	Non-Hodgkin's lymphoma	60.8	59.1	55.6	55.2	59.1
	Leukemia	48.2	38.6	39.5	35.3	40.1

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths from cancer / the mid-year population × 100,000.

Table 11 Crude death rates of leading cancer causes of death among males aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	1,136.9	1,166.2	1,171.9	1,207.6	1,241.8
	Cancers of trachea, bronchus and lung	252.7	264.8	270.4	279.4	298.9
	Cancers of liver and intrahepatic bile ducts	191.6	198.2	211.4	220.6	224.0
	Cancers of colon, rectum and anus	149.8	157.3	150.2	150.2	154.2
	Cancer of prostate	96.3	89.4	83.5	88.3	90.2
	Cancer of oral cavity	68.4	68.7	56.9	58.4	56.6
	Cancer of stomach	62.4	61.9	62.8	69.9	70.3
	Cancer of pancreas	51.8	52.1	47.7	47.7	46.4
	Cancer of esophagus	38.4	40.9	38.1	38.1	38.2
	Cancer of bladder	35.5	37.4	35.3	36.5	33.8
	Non-Hodgkin's lymphoma	32.4	32.2	30.1	32.0	34.0
65-74 years	All cancer causes of death	749.8	765.6	772.4	784.9	809.7
	Cancers of trachea, bronchus and lung	164.5	172.5	173.8	176.0	186.1
	Cancers of liver and intrahepatic bile ducts	139.9	153.2	160.8	169.1	173.8
	Cancers of colon, rectum and anus	88.1	87.4	87.7	81.5	85.0
	Cancer of oral cavity	69.9	67.7	56.1	59.1	59.0
	Cancer of esophagus	39.3	39.4	38.0	36.9	34.8
	Cancer of pancreas	37.9	38.0	35.2	37.1	36.9
	Cancer of stomach	36.4	32.1	32.3	34.3	37.7
	Cancer of prostate	29.0	27.2	27.7	32.0	26.4
	Non-Hodgkin's lymphoma	19.1	20.6	18.0	18.4	19.5
	Leukemia	17.9	15.8	15.1	15.4	15.8

**Continued Table 11 Crude death rates of leading cancer causes of death
among males aged 65 years and older from 2016 to 2020.**

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	1,522.3	1,558.3	1,555.4	1,593.3	1,640.2
	Cancers of trachea, bronchus and lung	360.0	373.1	376.5	402.0	427.7
	Cancers of liver and intrahepatic bile ducts	263.7	265.9	282.4	290.5	289.9
	Cancers of colon, rectum and anus	200.4	220.7	203.7	202.5	212.6
	Cancer of prostate	140.7	124.3	120.9	118.6	135.9
	Cancer of stomach	75.3	83.4	83.1	94.0	85.6
	Cancer of oral cavity	71.6	71.2	59.0	61.0	56.7
	Cancer of pancreas	70.4	68.1	61.3	56.6	55.5
	Cancer of bladder	48.4	53.7	48.4	45.4	41.8
	Non-Hodgkin's lymphoma	47.7	42.5	42.0	43.3	46.0
	Cancer of esophagus	35.4	43.2	36.5	38.4	40.3
≥85 years	All cancer causes of death	2,548.9	2,486.7	2,382.4	2,419.3	2,350.7
	Cancers of trachea, bronchus and lung	522.9	522.2	528.2	503.9	524.7
	Cancers of colon, rectum and anus	402.6	400.3	356.4	373.4	346.0
	Cancer of prostate	401.4	362.1	294.5	303.2	287.6
	Cancers of liver and intrahepatic bile ducts	325.7	284.3	306.3	310.3	302.8
	Cancer of stomach	191.3	180.7	178.8	193.6	191.5
	Cancer of bladder	119.1	129.5	113.3	122.7	103.4
	Cancer of pancreas	89.8	92.4	82.0	80.4	69.9
	Non-Hodgkin's lymphoma	75.1	73.6	65.5	74.4	74.8
	Leukemia	71.0	48.9	47.2	43.5	57.8
	Cancer of oral cavity	51.1	67.7	56.1	48.2	45.0

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths from cancer / the mid-year population × 100,000.

Table 12 Crude death rates of leading cancer causes of death among females aged 65 years and older from 2016 to 2020.

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
≥65 years	All cancer causes of death	657.1	679.1	686.6	702.0	730.5
	Cancers of trachea, bronchus and lung	126.9	130.6	132.6	138.9	143.7
	Cancers of liver and intrahepatic bile ducts	101.9	109.2	119.9	126.3	133.6
	Cancers of colon, rectum and anus	100.2	104.9	97.2	102.3	104.9
	Cancer of breast	56.5	56.2	51.0	48.8	48.6
	Cancer of pancreas	39.5	42.9	43.0	39.2	40.5
	Cancer of stomach	32.1	35.8	33.7	33.5	36.6
	Non-Hodgkin's lymphoma	21.3	21.6	20.2	19.9	21.5
	Cancers of cervix uteri and uterus, part unspecified	17.6	17.6	16.4	19.6	20.3
	Cancer of bladder	15.9	17.7	17.0	17.2	15.7
	Cancer of ovary	15.0	14.1	13.7	14.1	15.9
65-74 years	All cancer causes of death	385.2	396.2	409.2	411.2	444.5
	Cancers of trachea, bronchus and lung	77.3	79.1	78.8	84.6	93.1
	Cancers of liver and intrahepatic bile ducts	54.1	61.3	66.0	74.7	80.8
	Cancer of breast	47.2	45.9	46.2	42.1	45.7
	Cancers of colon, rectum and anus	45.2	46.1	44.1	46.6	48.1
	Cancer of pancreas	26.6	27.4	28.3	24.6	27.7
	Cancer of stomach	15.1	17.9	16.6	15.3	15.2
	Cancer of ovary	13.2	11.7	11.1	13.0	12.8
	Non-Hodgkin's lymphoma	11.3	11.9	10.2	10.0	12.1
	Cancers of cervix uteri and uterus, part unspecified	11.0	11.1	9.3	11.1	11.8
	Cancer of corpus uteri	8.9	8.4	8.5	8.2	6.6

**Continued Table 12 Crude death rates of leading cancer causes of death
among females aged 65 years and older from 2016 to 2020.**

Unit: Per 100,000 pop.

Age	Causes of death	2020	2019	2018	2017	2016
75-84 years	All cancer causes of death	874.6	902.8	902.2	911.0	952.8
	Cancers of trachea, bronchus and lung	171.4	180.0	173.8	176.6	182.4
	Cancers of liver and intrahepatic bile ducts	155.3	154.4	179.3	181.2	191.3
	Cancers of colon, rectum and anus	124.1	131.8	127.3	122.4	137.2
	Cancer of breast	61.9	67.5	56.4	51.0	51.6
	Cancer of pancreas	54.4	59.0	54.8	50.0	50.8
	Cancer of stomach	41.8	45.1	42.0	42.8	46.5
	Non-Hodgkin's lymphoma	30.7	30.3	28.9	30.8	29.3
	Cancer of bladder	24.2	26.7	22.2	27.0	21.1
	Cancers of cervix uteri and uterus, part unspecified	20.8	19.5	21.5	25.7	26.3
≥85 years	Leukemia	19.6	21.9	17.5	19.4	22.2
	All cancer causes of death	1,524.5	1,537.6	1,499.6	1,564.2	1,491.0
	Cancers of colon, rectum and anus	327.0	336.2	284.1	324.1	290.3
	Cancers of trachea, bronchus and lung	272.6	262.9	291.9	303.6	280.0
	Cancers of liver and intrahepatic bile ducts	215.1	234.6	229.4	229.1	225.7
	Cancer of stomach	96.1	103.4	97.6	98.1	112.9
	Cancer of breast	91.7	78.8	60.5	76.0	54.3
	Cancer of pancreas	69.4	79.8	84.5	81.7	73.2
	Non-Hodgkin's lymphoma	50.0	47.8	47.4	38.5	45.0
	Cancer of bladder	48.3	50.1	55.2	48.8	46.1
	Cancers of cervix uteri and uterus, part unspecified	44.3	45.9	38.1	44.7	44.5
	Leukemia	31.2	30.6	33.2	28.3	24.4

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/lp-5069-113.html>

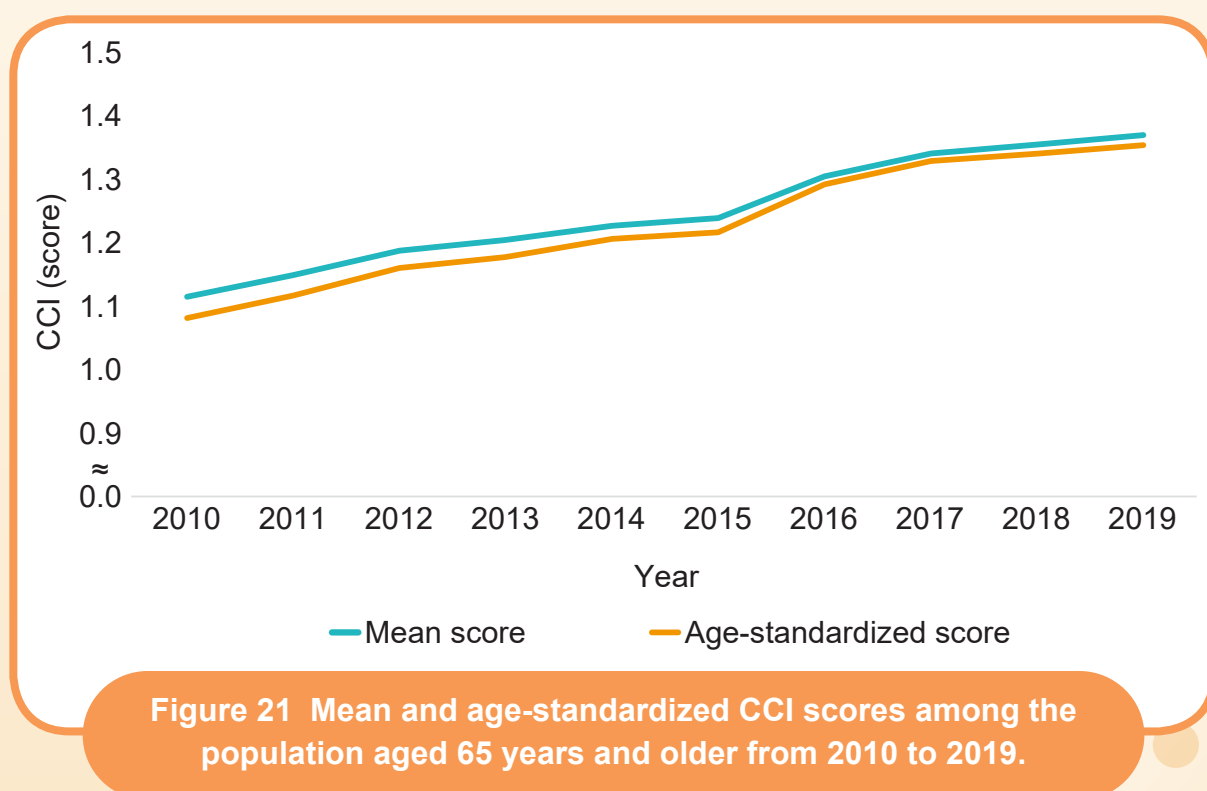
Note 1: Causes of death are ranked in order of crude death rate in 2020.

Note 2: Crude death rate = the number of deaths from cancer / the mid-year population × 100,000.

5. Charlson comorbidity index (CCI)

Comorbidity refers to the presence of one or more health conditions in an individual in addition to a primary disease. Complex chronic diseases are a major issue affecting the health of the older population, and understanding the types and numbers of chronic diseases among the older population enables the assessment of their health statuses. The Charlson comorbidity index (CCI) is one of the tools commonly used for assessing the risk of comorbidity, and different CCI calculation approaches have been developed for different conditions. This annual report used Deyo's CCI (Deyo et al., 1992), and the weights were calculated by referring to Chu and Wu (2010).

The mean CCI score among the population aged 65 years and older increased from 1.11 to 1.37; the age-standardized and non-standardized scores were similar, with both exhibiting an upward trend from 2010 to 2019 (Figure 21). By gender stratification, males aged 65 years and older (1.20–1.49) had higher mean CCI scores than females aged 65 years and older (1.04–1.27), with gradually increasing trends observed in both sexes; the age-standardized scores were little different from the non-standardized scores (Figure 22).



Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 4: References: (1) Deyo et al., *Journal of clinical epidemiology*, 45(6), 613–619, 1992.

(2) 朱等，台灣公共衛生雜誌，29(1)，8-21，2010。[Chu et al, *Taiwan Journal of Public Health*, 29(1), 8-21, 2010.]

Note 5: For further details, please refer to Appendix 19.

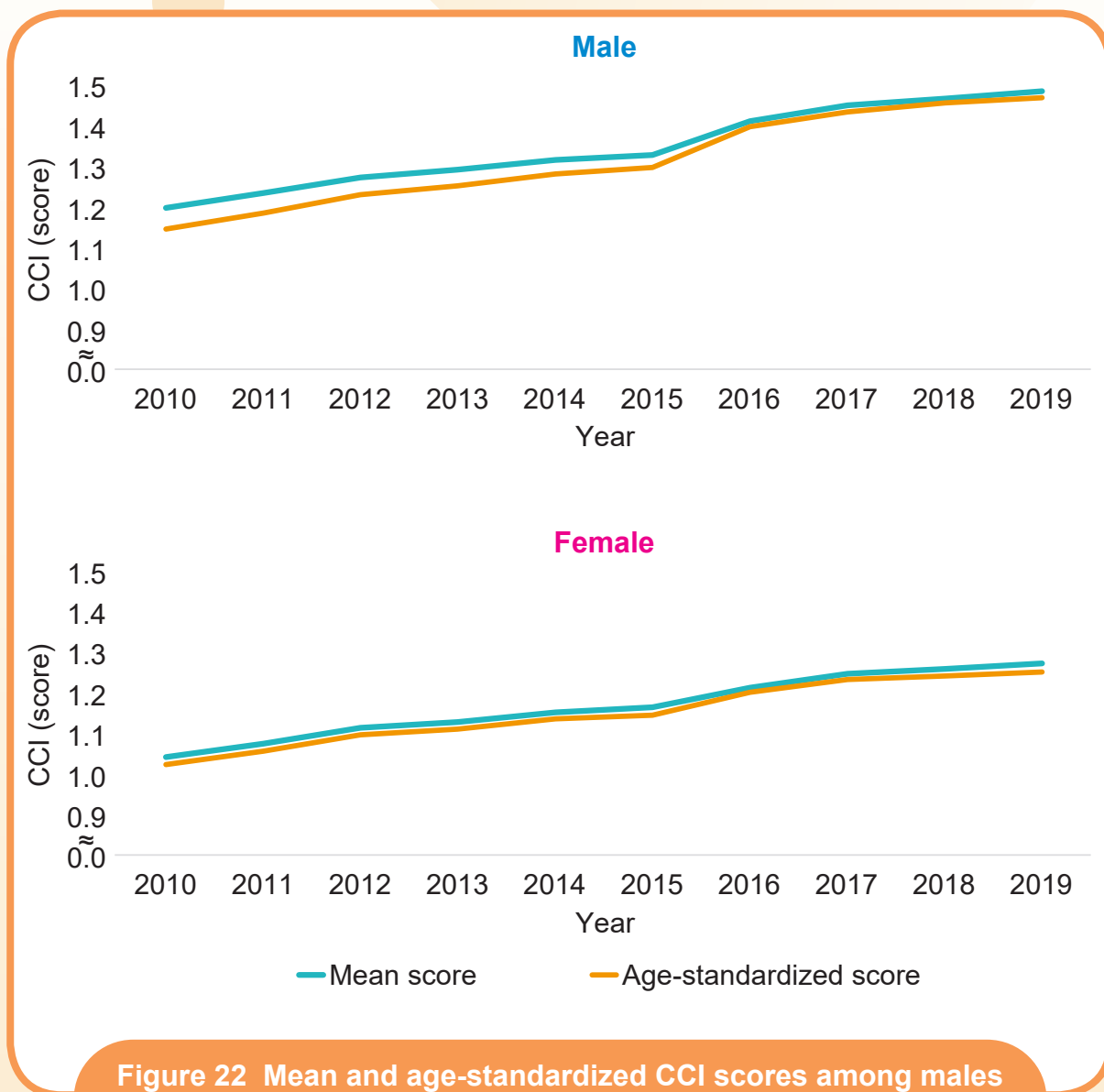


Figure 22 Mean and age-standardized CCI scores among males and females from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 4: References: (1) Deyo et al., Journal of clinical epidemiology, 45(6), 613–619, 1992.

(2) 朱等，台灣公共衛生雜誌，29(1)，8-21，2010。 [Chu et al, Taiwan Journal of Public Health, 29(1), 8-21, 2010.]

Note 5: For further details, please refer to Appendix 19.

By age stratification, the mean CCI scores were also higher among males than females, and exhibited overall upward trends (Figure 23).

For the diseases included in the CCI, we also calculated the crude and age-standardized prevalence rates for the following diseases: myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic pulmonary disease, rheumatologic disease, peptic ulcer disease, mild liver disease, diabetes, diabetes with chronic complications, hemiplegia or paraplegia, renal disease, any malignancy, including leukemia and lymphoma, moderate or severe liver disease, metastatic solid tumor, and acquired immune deficiency syndrome (AIDS; Appendix 20 and Appendix 21). (ICD-9 and ICD-10 for each disease are included in the definition of statistical indicators.)



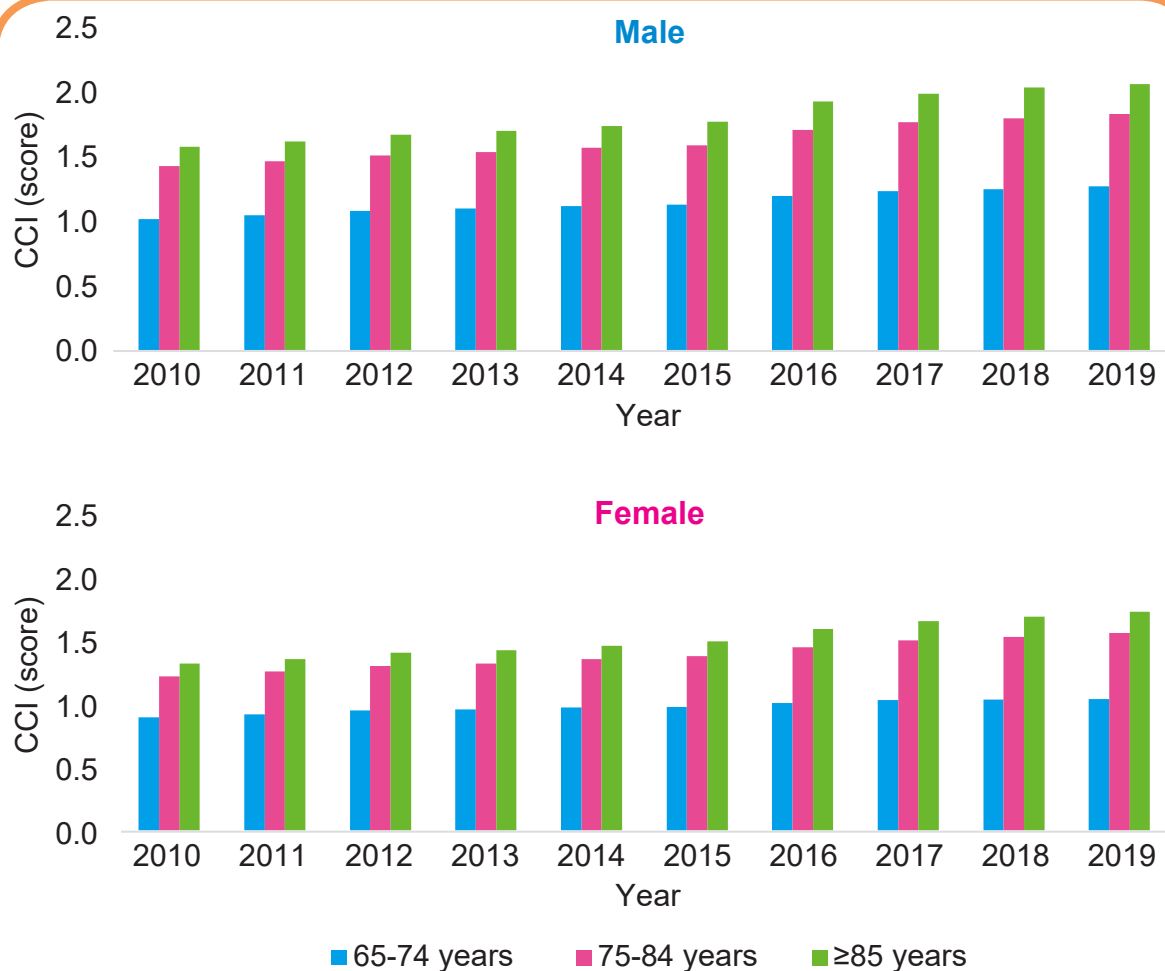


Figure 23 Mean CCI scores among males and females by age group from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

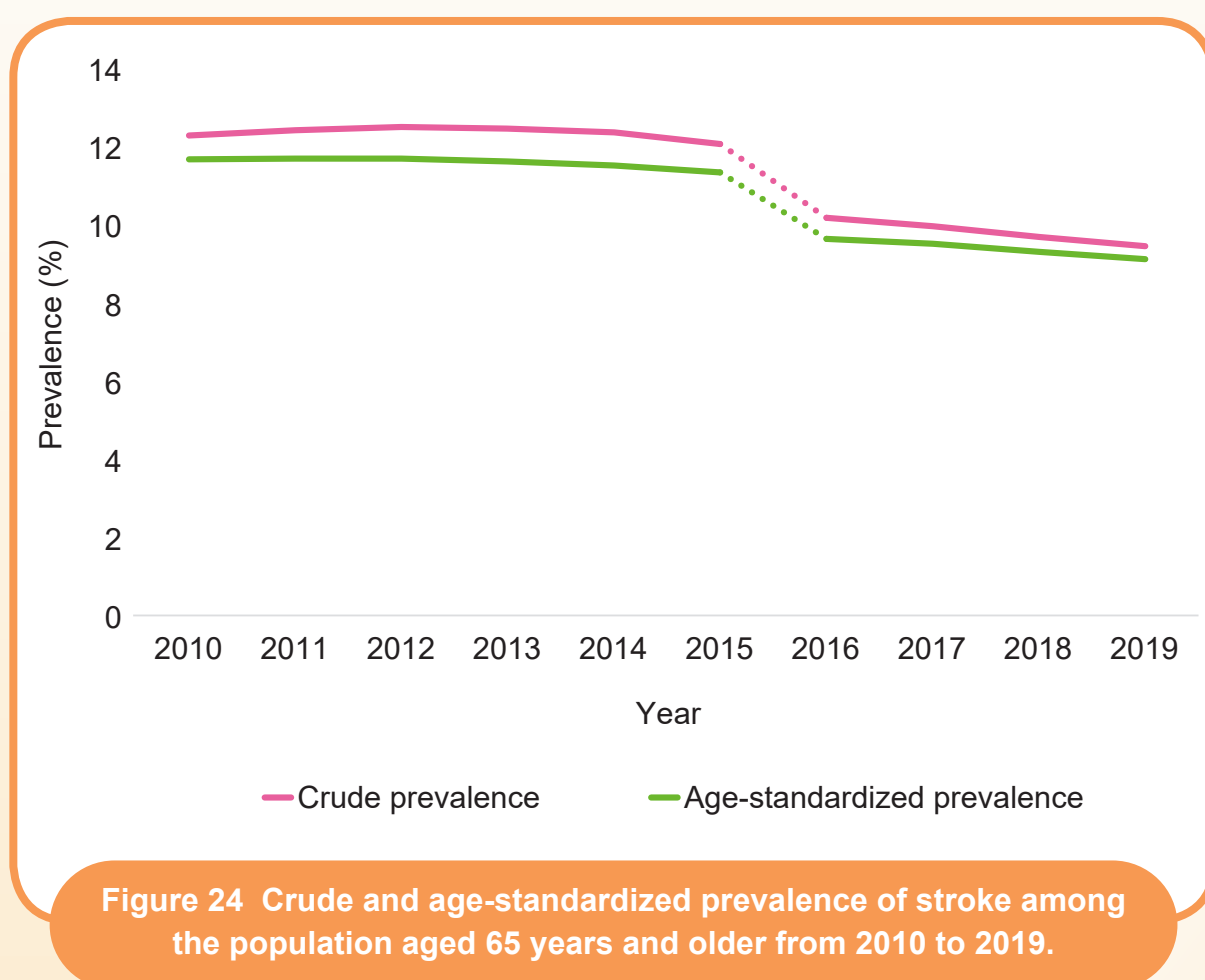
Note 3: References: (1) Deyo et al., Journal of clinical epidemiology, 45(6), 613–619, 1992.

(2) 朱等，台灣公共衛生雜誌，29(1)，8-21，2010。[Chu et al, Taiwan Journal of Public Health, 29(1), 8-21, 2010.]

Note 4: For further details, please refer to Appendix 19.

6. Chronic diseases

Analysis of data from the National Health Insurance Research Database revealed that the crude prevalence of stroke was between 9.5% and 12.6%, and the age-standardized prevalence was between 9.2% and 11.8% from 2010 to 2019 (Figure 24).



Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for stroke are 430–438, and the ICD-10-CM codes are I60–I69.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by stroke / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 6: According to the study by T. H. Lu (2020), deaths coded according to the ICD-10 were fewer than those coded according to the ICD-9, and no study has investigated the related disease prevalence.

Note 7: For further details, please refer to Appendix 22.

The crude prevalence of intracranial hemorrhagic stroke was between 1.0% and 1.3%, and the age-standardized prevalence was between 0.9% and 1.3% from 2010 to 2019 (Figure 25).

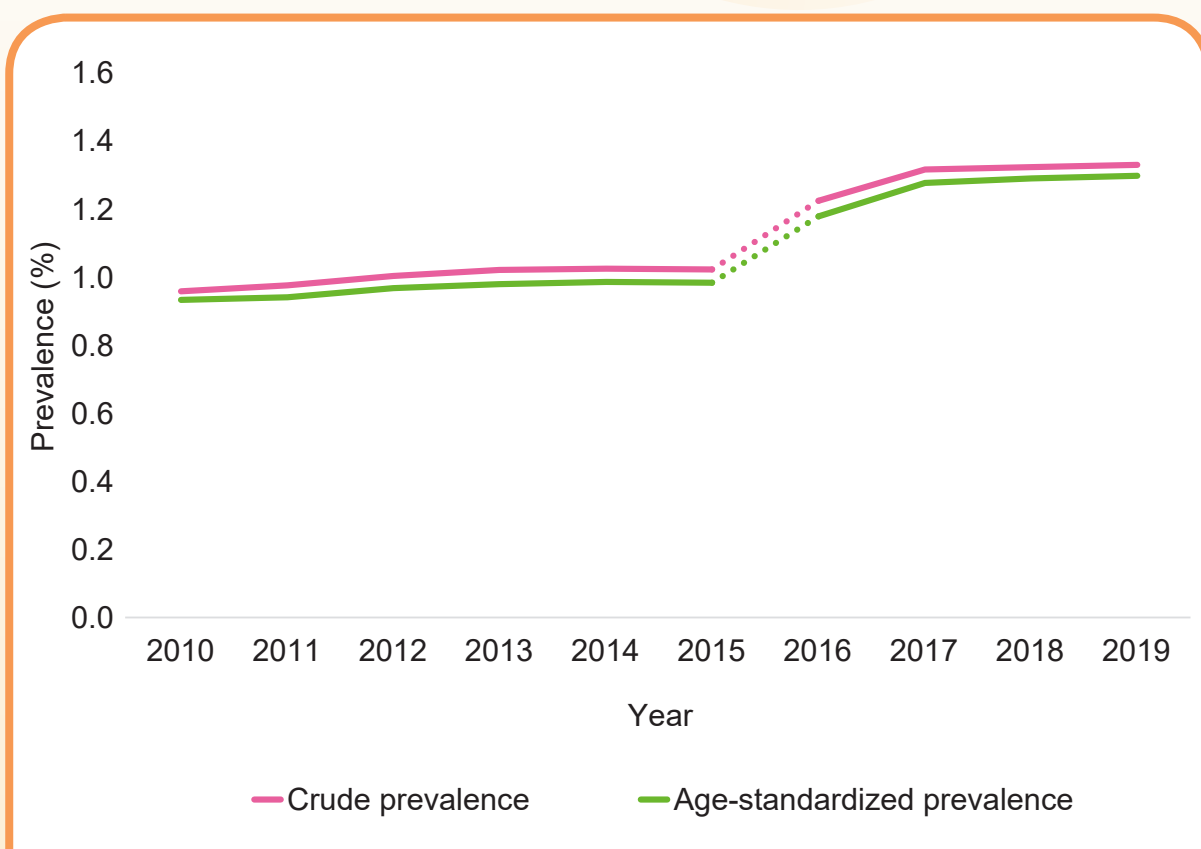


Figure 25 Crude and age-standardized prevalence of intracranial hemorrhagic stroke among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

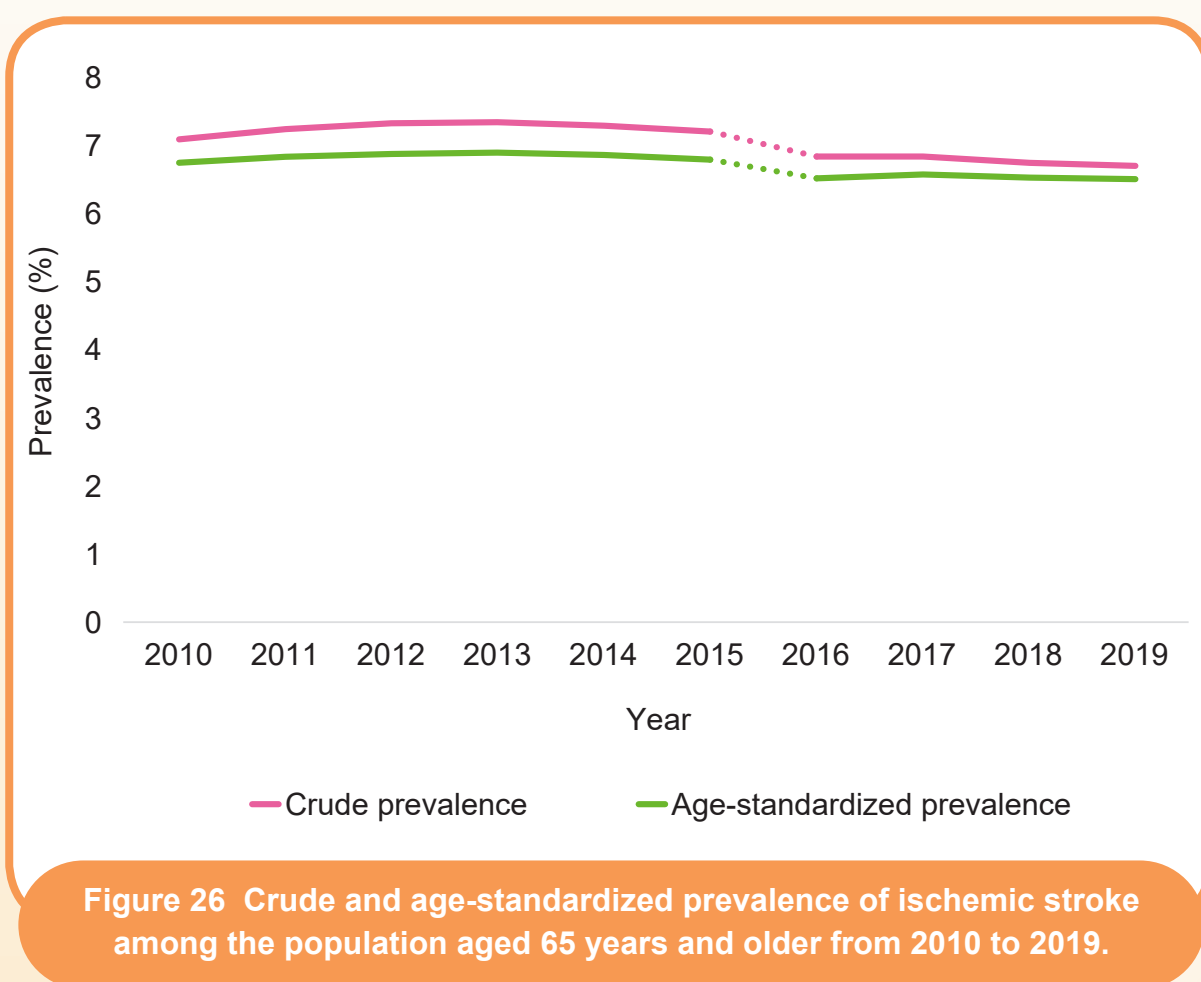
Note 3: The ICD-9-CM codes for intracranial hemorrhagic stroke are 430–432, and the ICD-10-CM codes are I60–I62.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by intracranial hemorrhagic stroke / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 6: For further details, please refer to Appendix 23.

The crude prevalence of ischemic stroke was between 6.7% and 7.4%, and the age-standardized prevalence was between 6.5% and 6.9% from 2010 to 2019 (Figure 26).



Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for ischemic stroke are 433–435, and the ICD-10-CM codes are I63, I65–I66, G45.0, G45.1, G45.2, G45.8, G45.9, G46.0, G46.1, G46.2 and I67.84.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by ischemic stroke / the mid-year population aged 65 years and older $\times 100\%$.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 6: For further details, please refer to Appendix 24.

The crude prevalence of coronary heart disease was between 13.4% and 15.2%, and the age-standardized prevalence was between 13.3% and 14.8% from 2010 to 2019 (Figure 27).

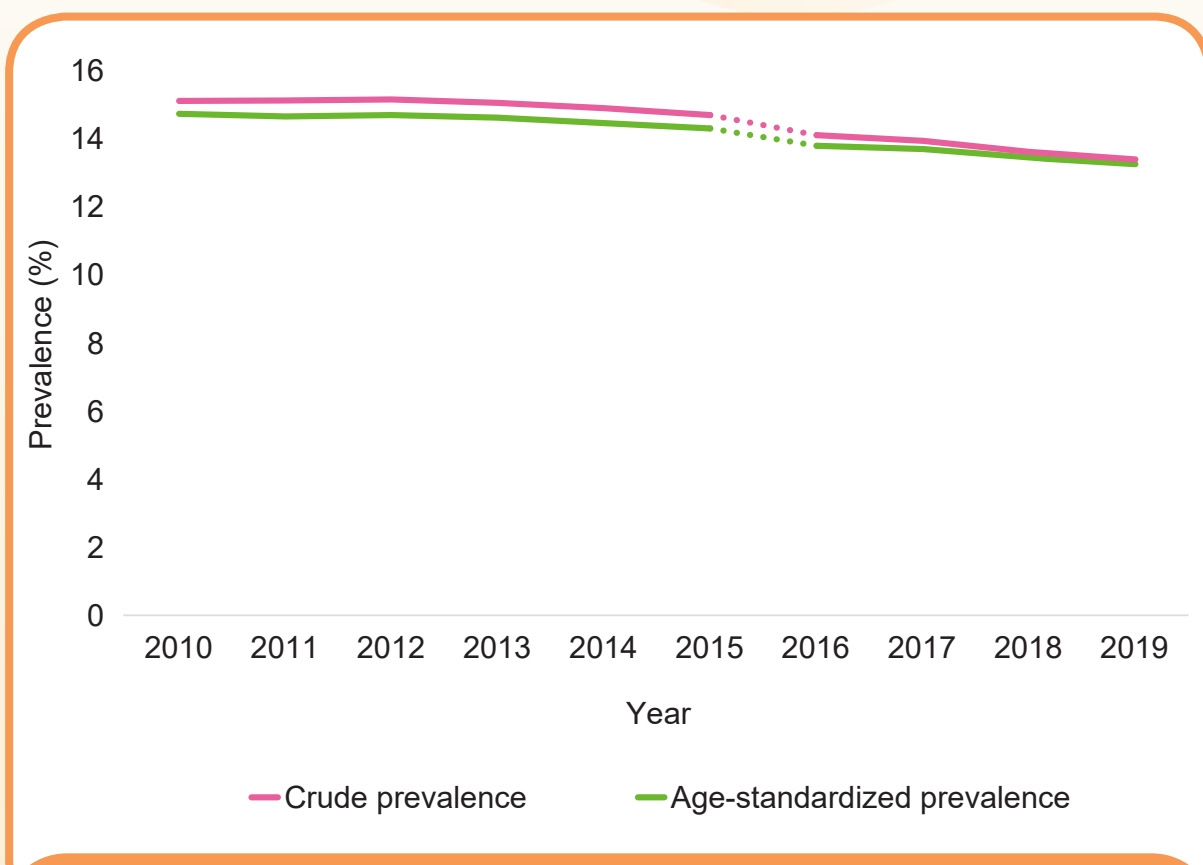


Figure 27 Crude and age-standardized prevalence of coronary heart disease among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for coronary heart disease are 410–414, and the ICD-10-CM codes are I20–I25.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by coronary heart disease / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 6: For further details, please refer to Appendix 25.

The crude prevalence of chronic obstructive pulmonary disease was between 8.5% and 10.4%, and the age-standardized prevalence was between 8.2% and 9.7% from 2010 to 2019 (Figure 28).

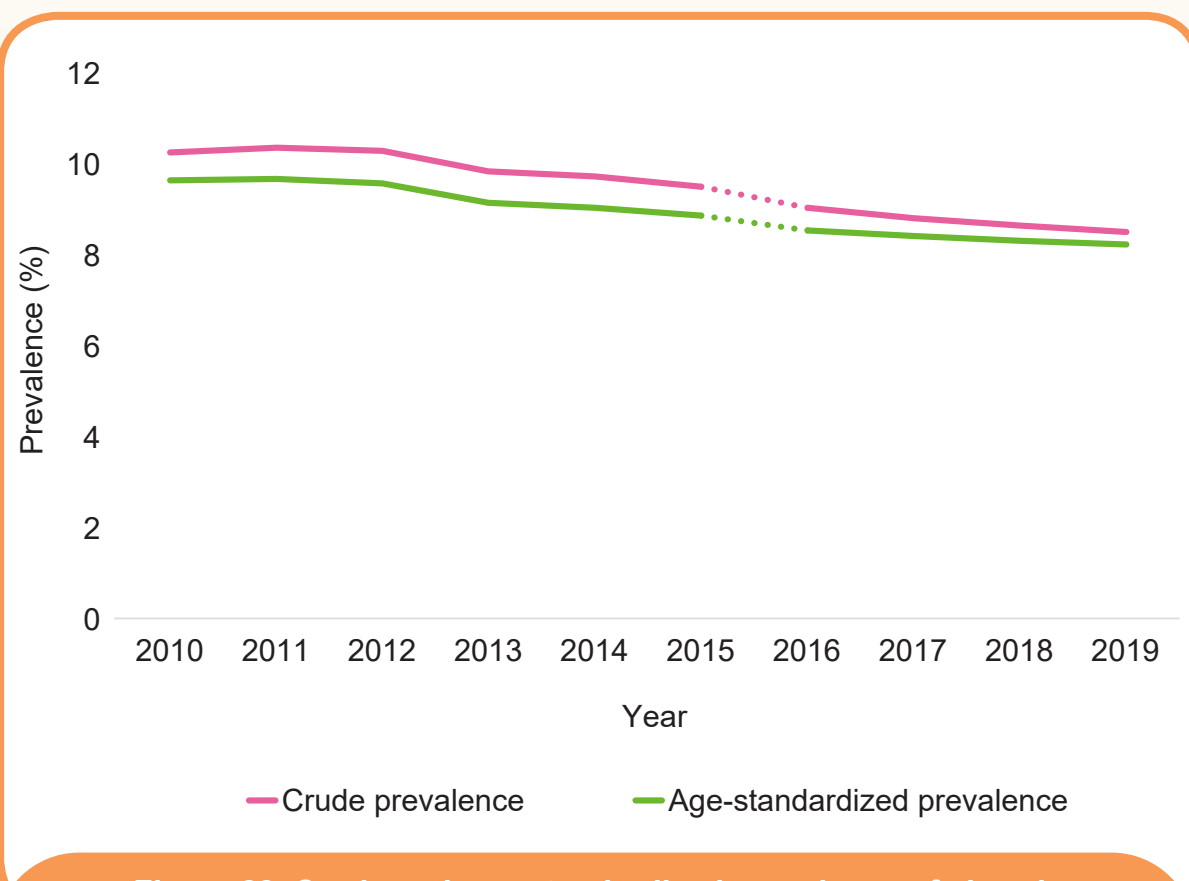


Figure 28 Crude and age-standardized prevalence of chronic obstructive pulmonary disease among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

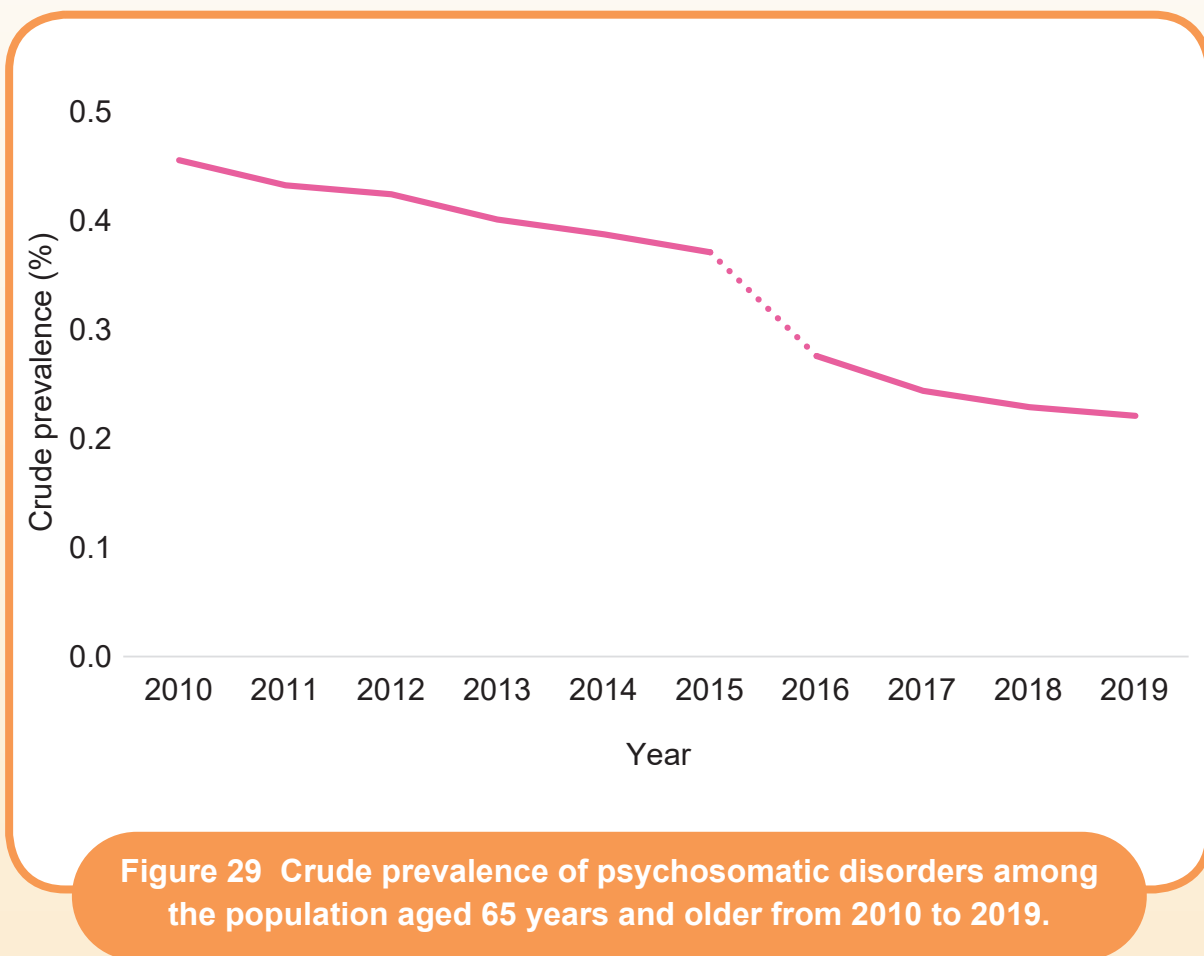
Note 3: The ICD-9-CM codes for chronic obstructive pulmonary disease are 491–494, 496 and 510, and the ICD-10-CM codes are J41–J45 and J47.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by chronic obstructive pulmonary disease / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 6: For further details, please refer to Appendix 26.

Psychosomatic disorders, insomnia, depression, and anxiety are common diseases among the older population, with similar crude prevalence and age-standardized prevalence. Therefore, only the historical crude prevalence rates are presented. The crude prevalence of psychosomatic disorders was between 0.2% and 0.5% from 2010 to 2019 (Figure 29).



Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for psychosomatic disorder are 306.x, and the ICD-10-CM codes are F45.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by psychosomatic disorder / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: For further details, please refer to Appendix 27.

The crude prevalence of insomnia was between 9.5% and 11.5% from 2010 to 2019 (Figure 30).

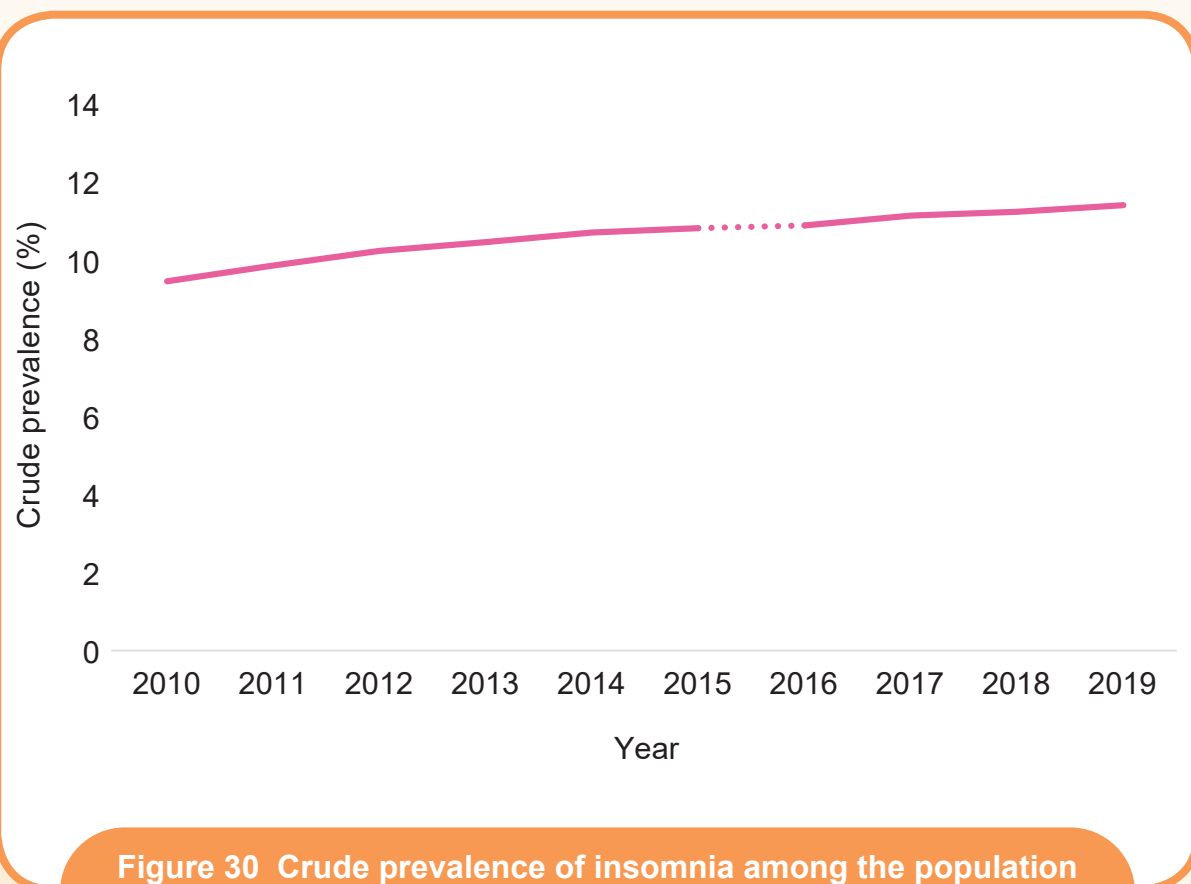


Figure 30 Crude prevalence of insomnia among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for insomnia are 307.4x and 780.5x, and the ICD-10-CM codes are G47.x and F51.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by insomnia / the mid-year population aged 65 years and older $\times 100\%$.

Note 5: For further details, please refer to Appendix 28.

The crude prevalence of depression was between 3.0% and 3.6% from 2010 to 2019 (Figure 31).

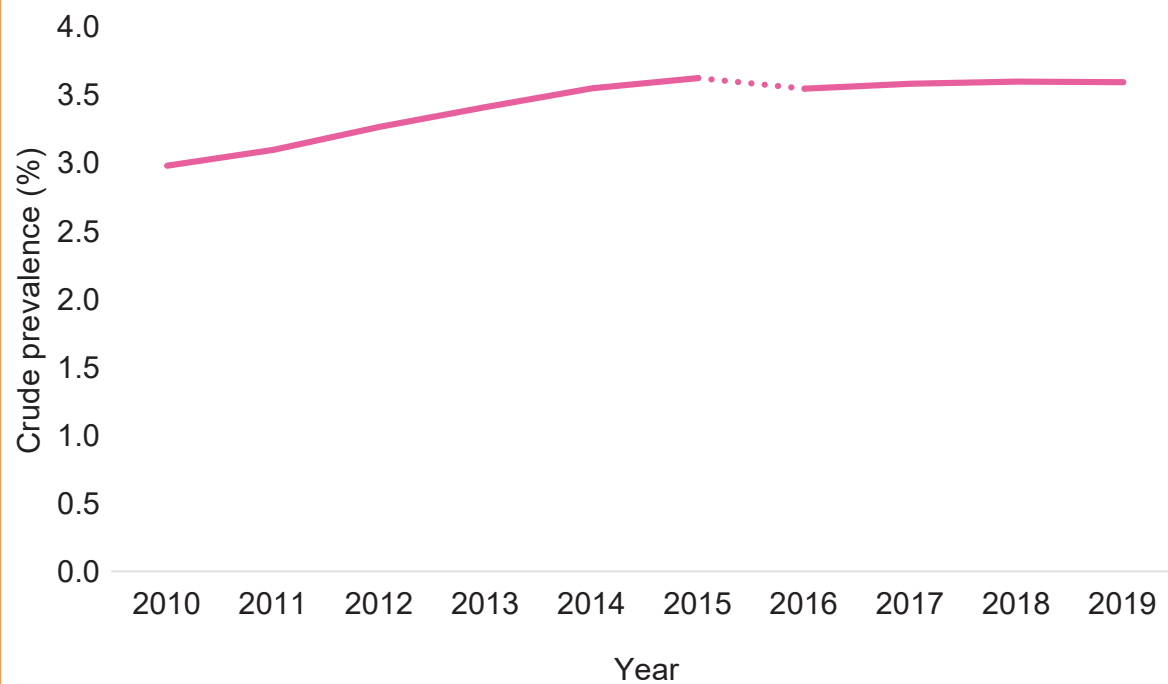


Figure 31 Crude prevalence of depression among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for depression are 296.2x, 296.3x, 300.4 and 311, and the ICD-10-CM codes are F32.1–F32.9, F33.1–F33.9 and F34.1.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by depression / the mid-year population aged 65 years and older × 100%.

Note 5: For further details, please refer to Appendix 29.

The crude prevalence of anxiety was between 6.4% and 7.4% from 2010 to 2019 (Figure 32).

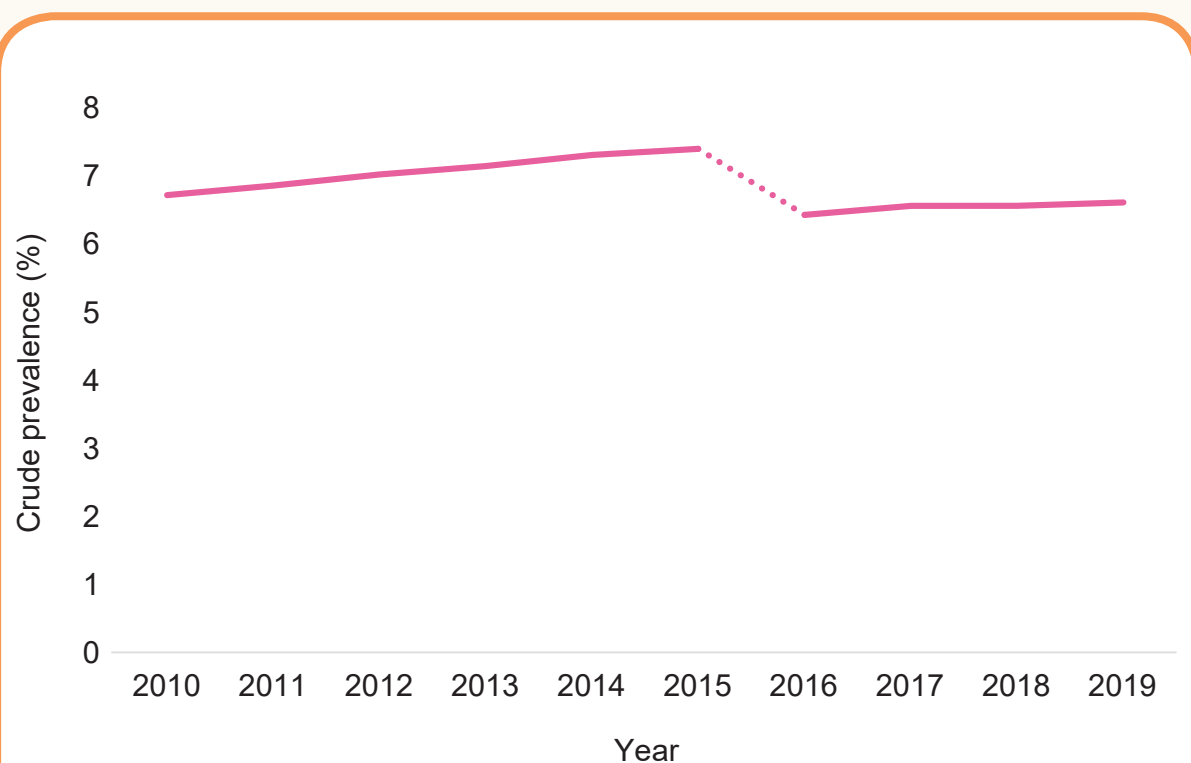


Figure 32 Crude prevalence of anxiety among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019, so it is shown as a dashed line in 2015–2016.

Note 3: The ICD-9-CM codes for anxiety are 300.xx (not including 300.3 or 300.4), and the ICD-10-CM codes are F40.x and F41.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by anxiety / the mid-year population aged 65 years and older $\times$ 100%.

Note 5: For further details, please refer to Appendix 30.

The Adult Preventive Health Service Databases revealed an increase in the number of adults aged 65 years and older undergoing health checkups from 743,484 in 2012 to 941,334 in 2017. Among the total number of people who received health checkups, 60.4%–62.2% had hypertension (Figure 33). Among all people with hypertension, 63.4%–66.4% reported a history of hypertension. In other words, approximately 40% of all people with hypertension are unaware that they have the condition (Figure 34).

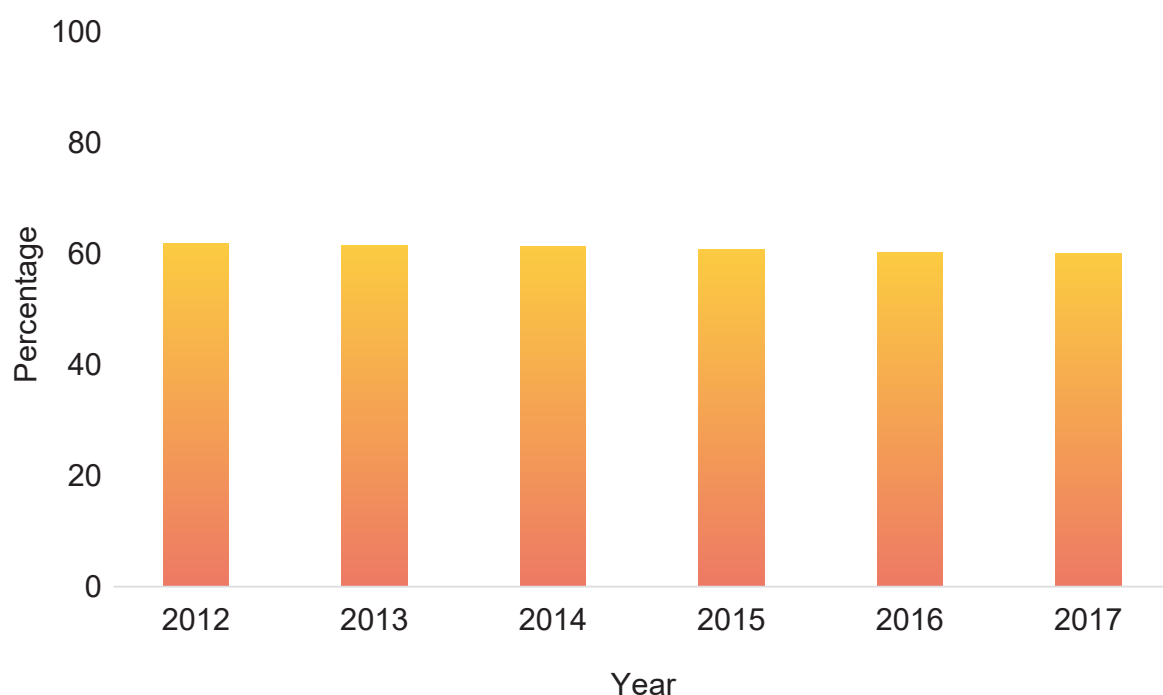


Figure 33 Percentage of the population aged 65 years and older with hypertension according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, systolic blood pressure was over 220 mmHg or under 70 mmHg, and diastolic blood pressure was under 50 mmHg or over 120 mmHg.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose systolic blood pressure was ≥ 140 mmHg, whose diastolic blood pressure was ≥ 90 mmHg, or who reported a history of hypertension were determined to have hypertension.

Note 3: Percentage of population with hypertension = the number of people aged 65 years and older with hypertension / the number of people who received checkups $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 31.

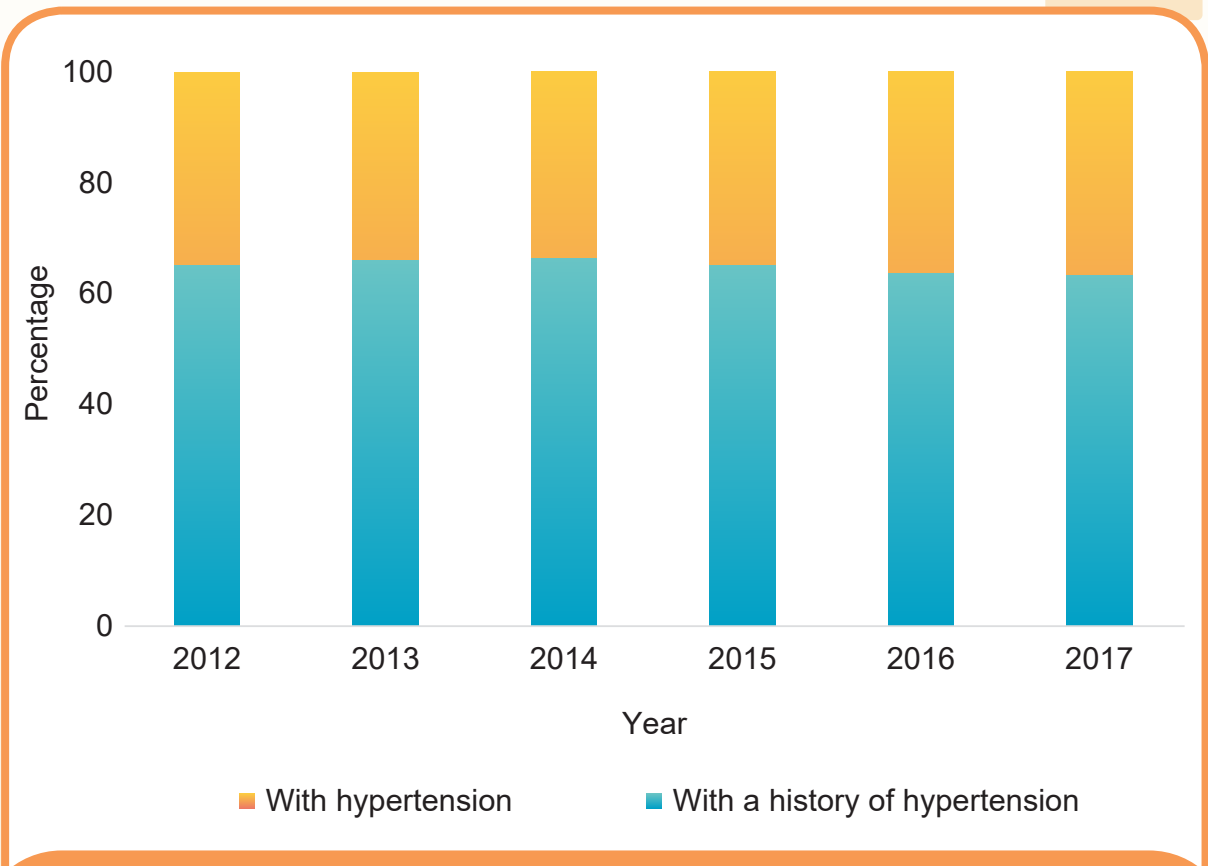


Figure 34 Percentage of the population aged 65 years and older with a history of hypertension among those determined to have hypertension according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, systolic blood pressure was over 220 mmHg or under 70 mmHg, and diastolic blood pressure was under 50 mmHg or over 120 mmHg.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose systolic blood pressure was ≥ 140 mmHg, whose diastolic blood pressure was ≥ 90 mmHg, or who reported a history of hypertension were determined to have hypertension.

Note 3: Percentage of population with a history of hypertension = the number of people aged 65 years and older with a history of hypertension / the number of people aged 65 years and older with hypertension $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 31.

The Adult Preventive Health Service Databases revealed an increase in the number of adults aged 65 years and older undergoing health checkups from 759,476 in 2012 to 948,755 in 2017. Among the total number of people who received health checkups, 25.6%–27.0% had diabetes (Figure 35). Among all people with diabetes, 62.9%–65.1% reported a history of diabetes. In other words, approximately 40% of all people with diabetes are unaware that they have the condition (Figure 36).

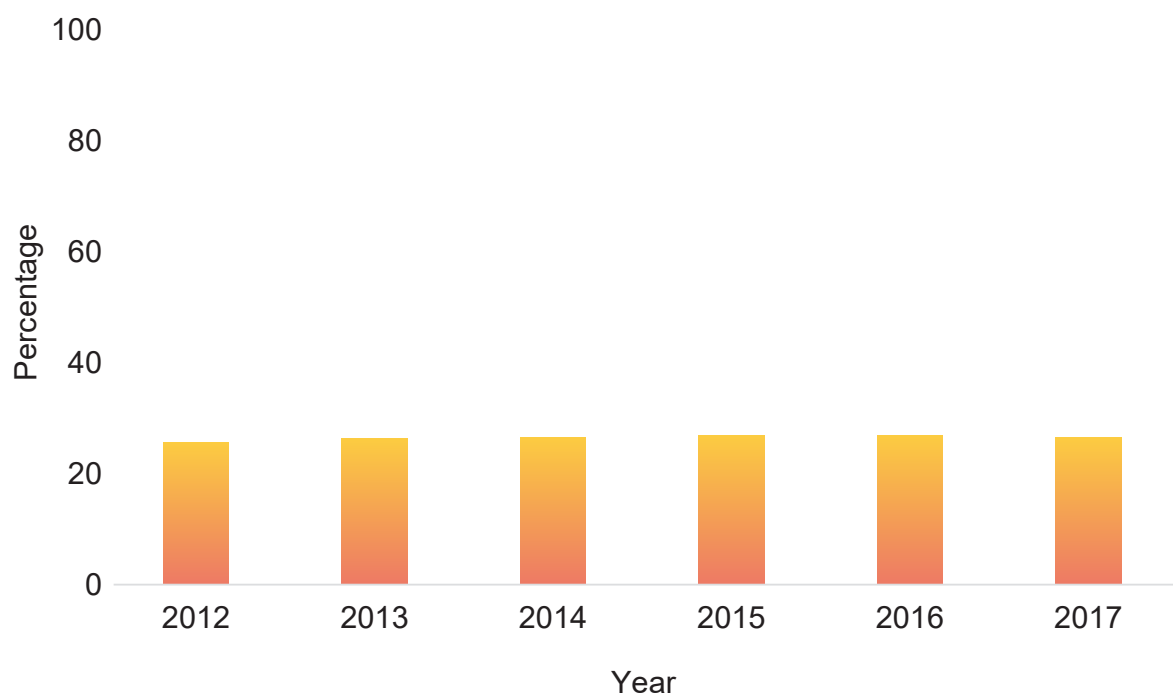


Figure 35 Percentage of the population aged 65 years and older with diabetes according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, and blood sugar was below 5 mg/dL or over 4,000 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose blood sugar was ≥ 126 mg/dL or who reported a history of diabetes were determined to have diabetes.

Note 3: Percentage of population with diabetes = the number of people aged 65 years and older with diabetes / the number of people who received checkups $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 32.

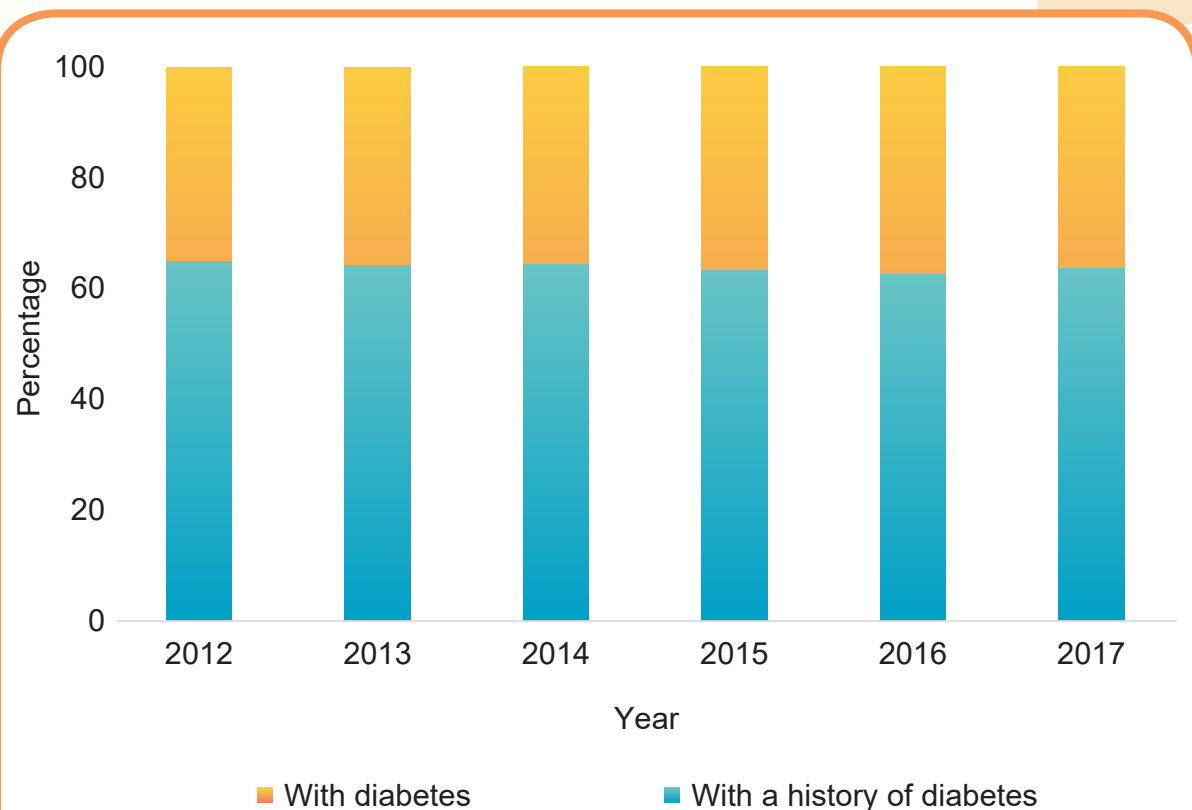


Figure 36 Percentage of the population aged 65 years and older with a history of diabetes among those determined to have diabetes according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, and blood sugar was below 5 mg/dL or over 4,000 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose blood sugar was ≥ 126 mg/dL or who reported a history of diabetes were determined to have diabetes.

Note 3: Percentage of population with a history of diabetes = the number of people aged 65 years and older with a history of diabetes / the number of people aged 65 years and older with diabetes $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 32.

The Adult Preventive Health Service Databases revealed an increase in the number of adults aged 65 years and older undergoing health checkups from 763,306 in 2012 to 948,976 in 2017. Among the total number of people who received health checkups, 55.1%–56.7% had hyperlipidemia (Figure 37). Among all people with hyperlipidemia, 12.3%–17.5% reported a history of hyperlipidemia. In other words, approximately 90% of all people with hyperlipidemia are unaware that they have the condition (Figure 38).

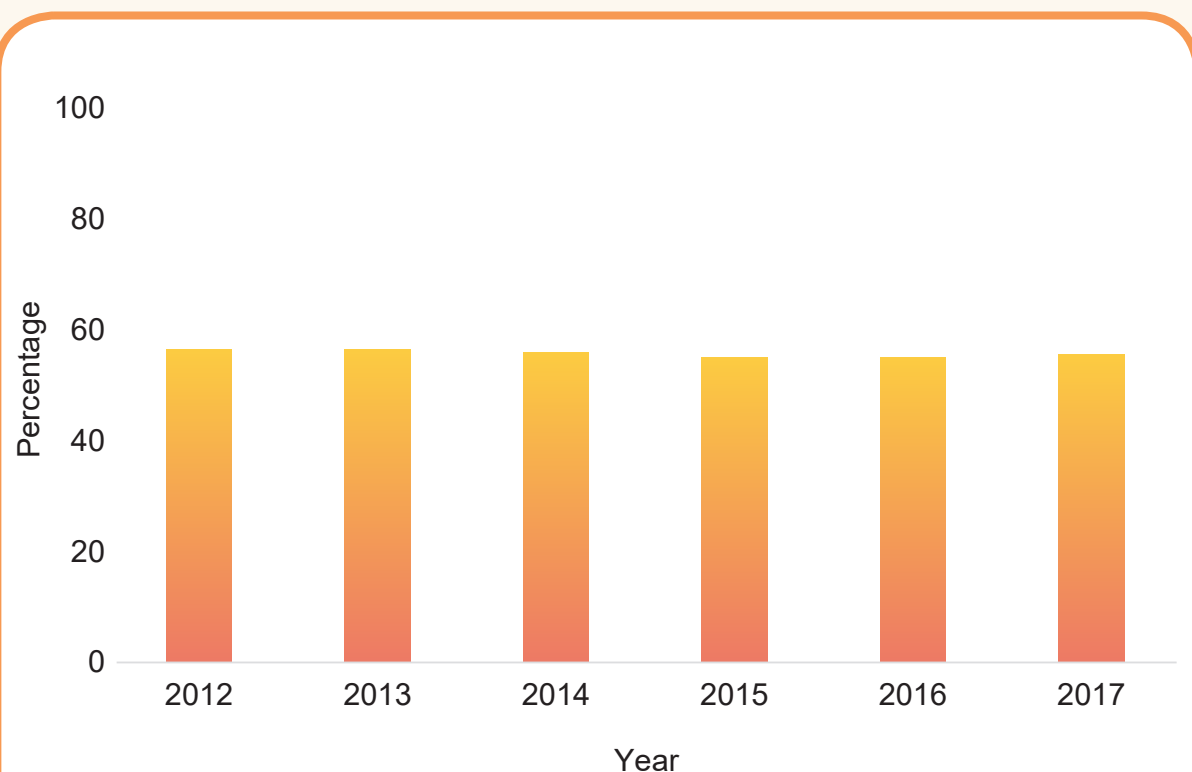


Figure 37 Percentage of the population aged 65 years and older with hyperlipidemia according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, total cholesterol was below 7 mg/dL or over 705 mg/dL, and triglycerides were below 7 mg/dL or over 5,680 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose total cholesterol was ≥ 200 mg/dL, whose triglycerides were ≥ 150 mg/dL, or who reported a history of hyperlipidemia were determined to have hyperlipidemia.

Note 3: Percentage of population with hyperlipidemia = the number of people aged 65 years and older with hyperlipidemia / the number of people who received checkups $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 33.

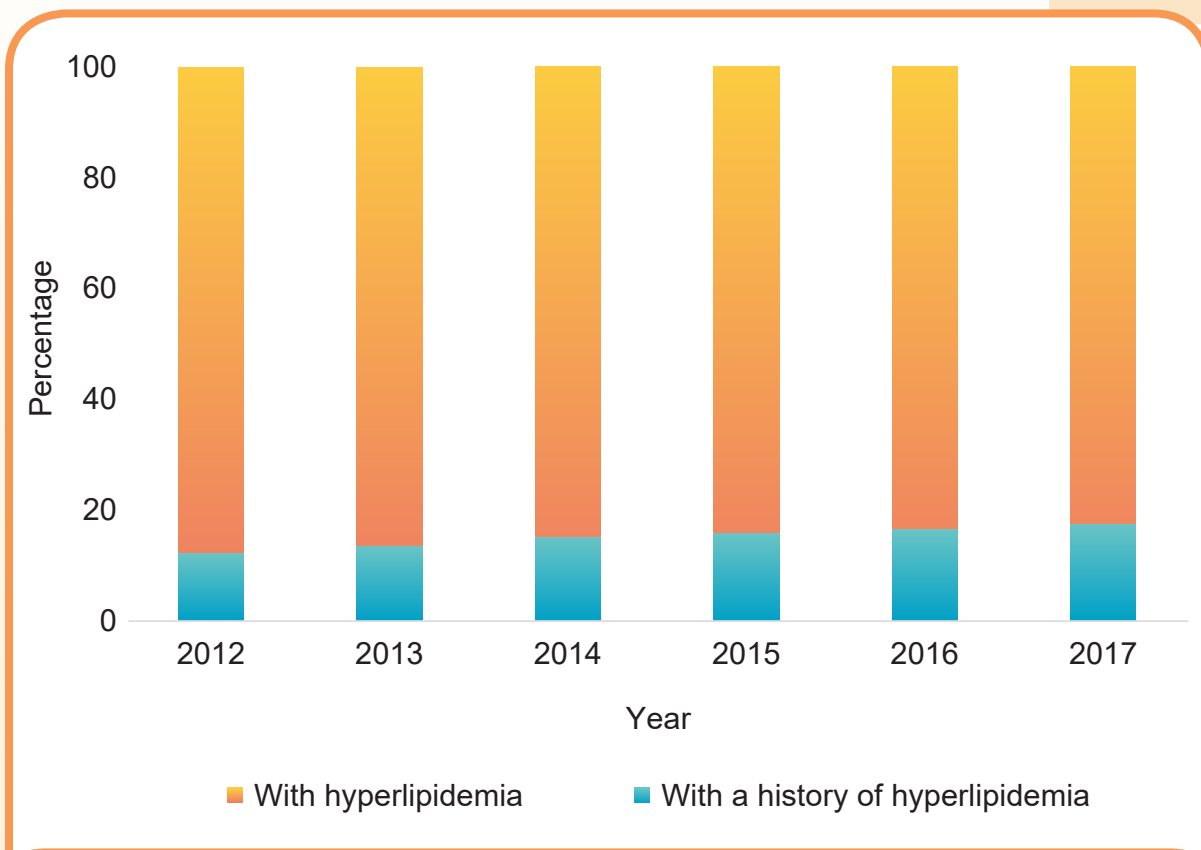


Figure 38 Percentage of the population aged 65 years and older with a history of hyperlipidemia among those determined to have hyperlipidemia according to adult preventive health checkups from 2012 to 2017.

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, total cholesterol was below 7 mg/dL or over 705 mg/dL, and triglycerides were below 7 mg/dL or over 5,680 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose total cholesterol was ≥ 200 mg/dL, whose triglycerides were ≥ 150 mg/dL, or who reported a history of hyperlipidemia were determined to have hyperlipidemia.

Note 3: Percentage of population with a history of hyperlipidemia = the number of people aged 65 years and older with a history of hyperlipidemia / the number of people aged 65 years and older with hyperlipidemia $\times 100\%$.

Note 4: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Note 5: For further details, please refer to Appendix 33.

7. Multimorbidity frailty index (mFI)

Frailty is a state in which physiological functions are easily lost and complications are more likely to occur. The clinical manifestations of frailty include low physical activity, weight loss, fatigue, loss of appetite, loss of musculoskeletal mass, gait and balance impairment, and cognitive impairment. Compared with a healthy person, an individual in a frail state is more vulnerable to external stressors, which may lead to an increased risk of unhealthy conditions or death.

In this annual report, frailty was presented using the multimorbidity frailty index (mFI) proposed by Wen et al. (2017), which comprises 32 deficits with values ranging from 0 to 1. The closer the mFI value is to 1, the higher the level of frailty; the opposite is lower. (Please refer to the definition of statistical indicators for the calculation approach.)

The mean mFI scores ranged from 0.059 to 0.062, and the age-standardized scores demonstrated little difference from 2010 to 2019 (Figure 39). By gender stratification, males had higher mean mFI scores than females (Figure 40). When comparing the two sexes within the same age groups, males also had higher mean mFI scores than females (Figure 41).



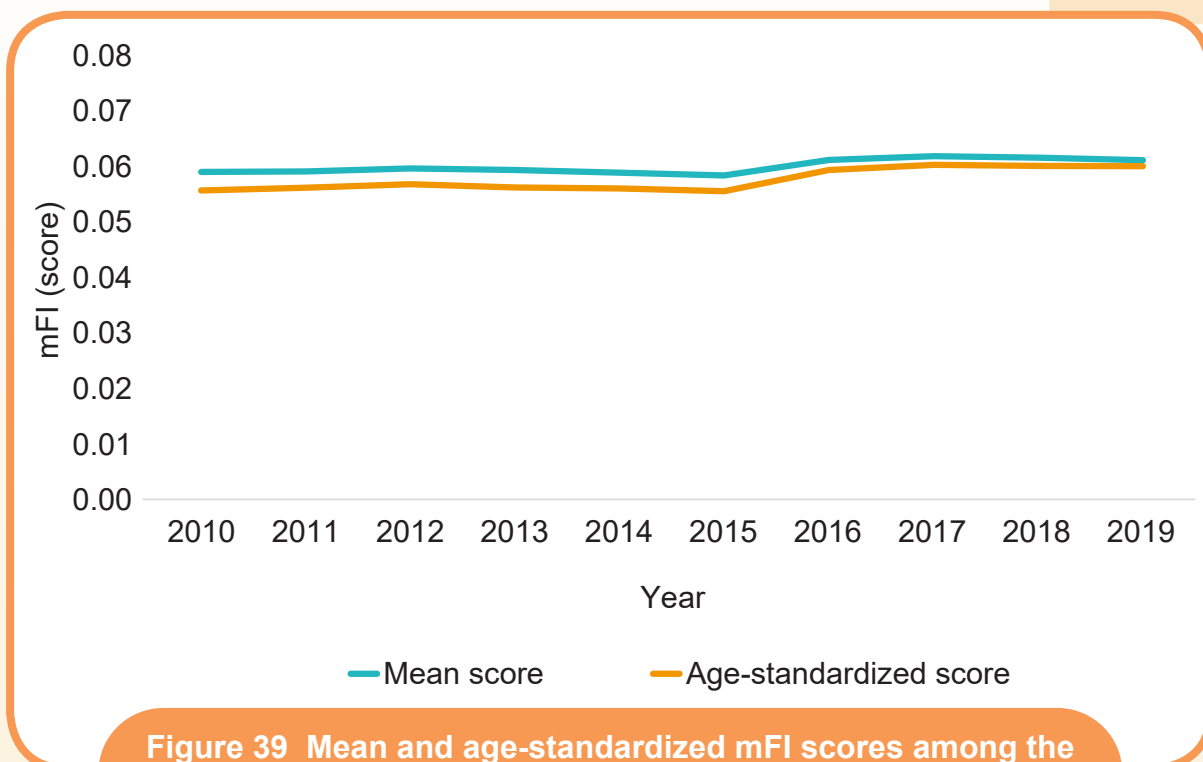


Figure 39 Mean and age-standardized mFI scores among the population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The mFI scores varied between 0 and 1.

Note 3: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 4: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 5: Reference: Wen et al., PLoS one, 12(11), e0187825, 2017.

Note 6: For further details, please refer to Appendix 34.

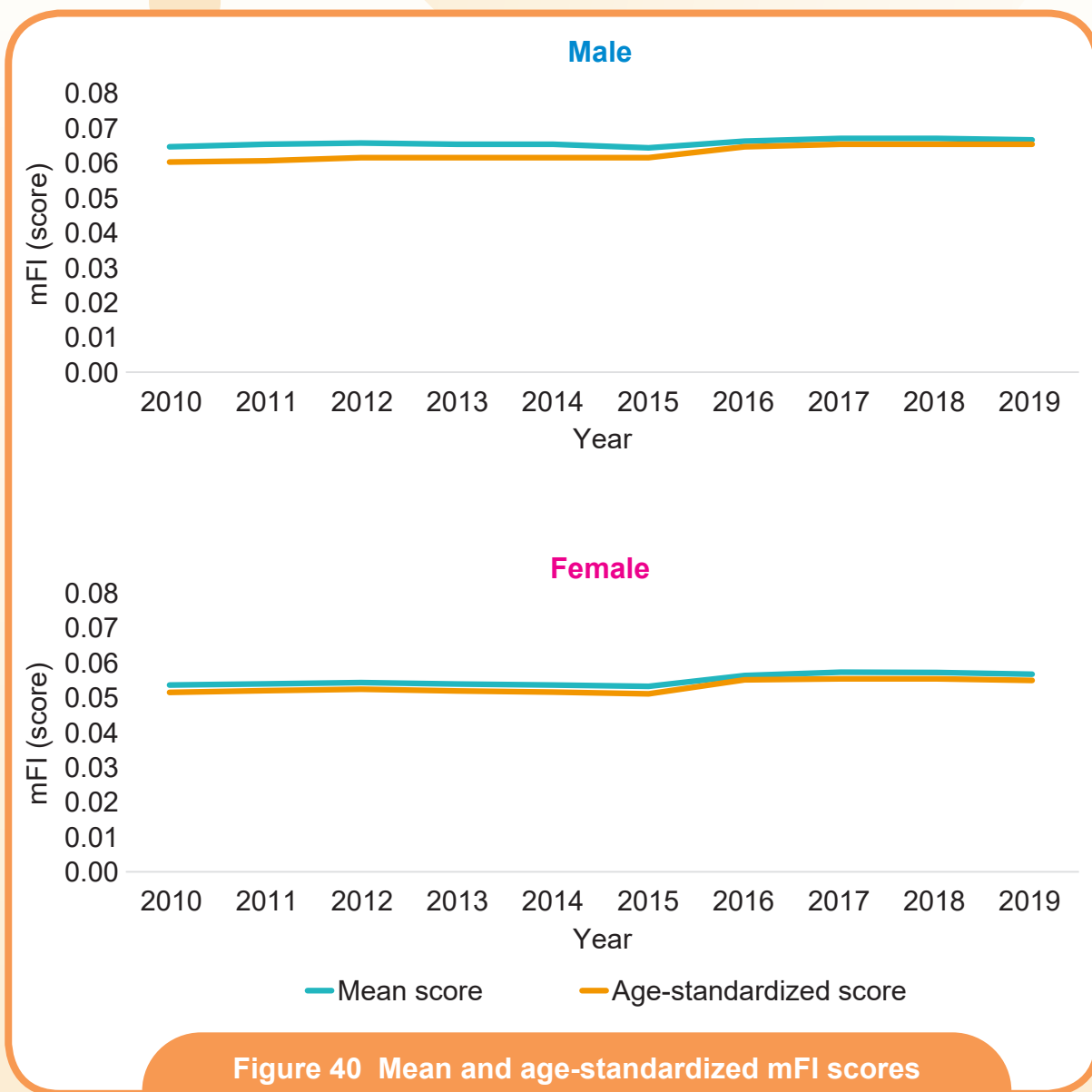


Figure 40 Mean and age-standardized mFI scores among males and females from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The mFI scores varied between 0 and 1.

Note 3: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 4: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 5: Reference: Wen et al., PloS one, 12(11), e0187825, 2017.

Note 6: For further details, please refer to Appendix 34.

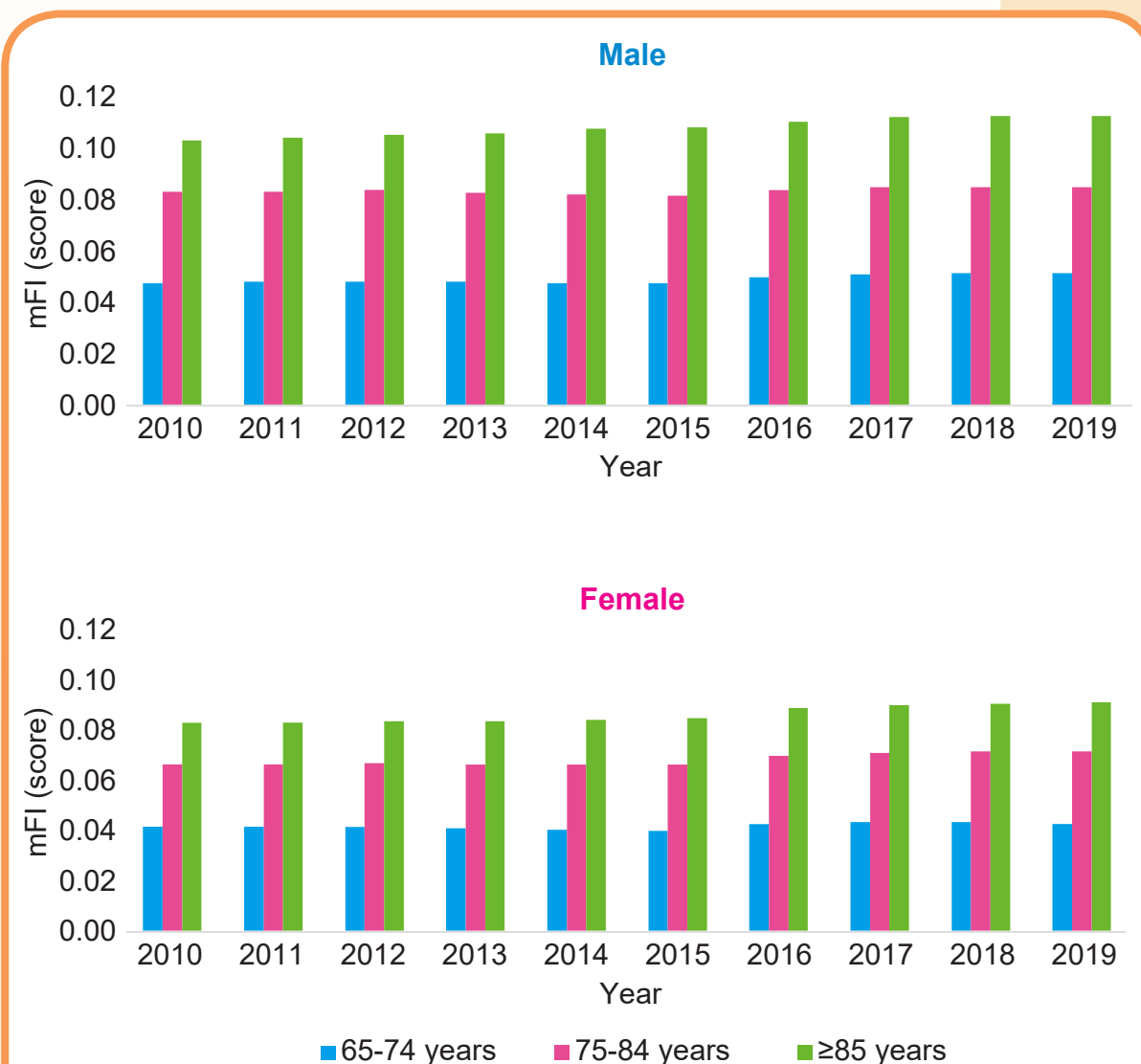


Figure 41 Mean mFI scores among males and females by age group from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The mFI scores varied between 0 and 1.

Note 3: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 4: Reference: Wen et al., PLoS one, 12(11), e0187825, 2017.

Note 5: For further details, please refer to Appendix 34.

8. Self-perceived health status

In 2005 and 2009, the majority of the population aged 65 years and older reported their current health status to be “Fair” (2005, 41.3%; 2009, 42.4%), whereas those that reported their current health status to be “Excellent” accounted for the lowest percentage (2005, 2.1%; 2009, 1.2%). In 2013 and 2017, the majority of the population aged 65 years and older reported their current health status to be “Fair” (2013, 46.3%; 2017, 45.7%), whereas those that reported their current health status to be “Very bad” accounted for the lowest percentage (2013, 3.5%; 2017, 1.8%; Figure 42).

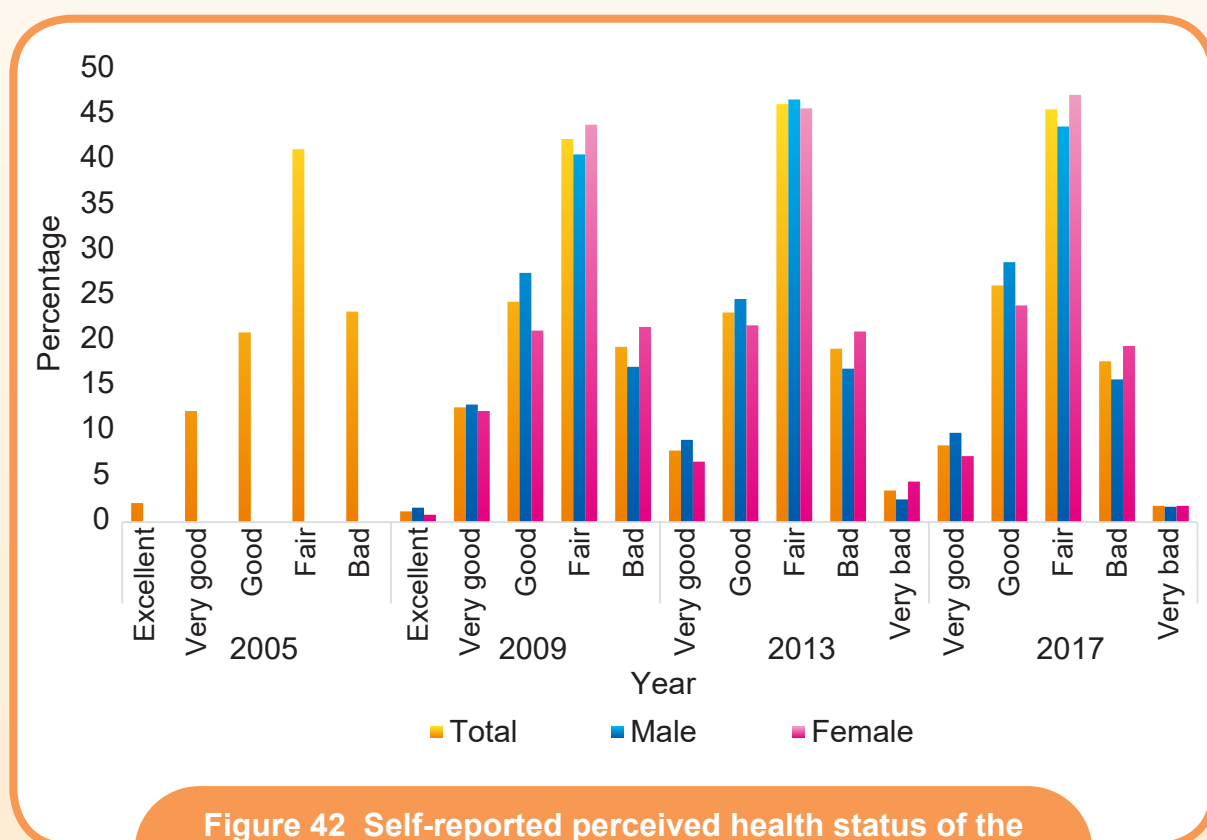


Figure 42 Self-reported perceived health status of the population aged 65 years and older from 2005 to 2017.

Source: National Health Interview Survey

Note 1: The self-perceived health status is extracted from the face-to-face interview. Individuals can answer on their own behalf. If the individual is unable to respond due to severe illness, physical weakness, or serious mental problem or mental disability, proxies would not answer these questions. The response is treated as missing.

Note 2: The values weighted to represent the whole population.

Note 3: Percentage = the number of people who self-reported perceived health status / the total population aged 65 years and older $\times 100\%$.

Note 4: For further details, please refer to Appendix 35.

9. Mobility, Activities of Daily Living, and Instrumental Activities of Daily Living

The percentage of individuals with mobility, Activities of Daily Living (ADLs), and Instrumental Activities of Daily Living (IADLs) disabilities gradually increased with age from 2005 to 2017. In the three age groups, the percentage of difficulties increased with age whether males or females (Table 13).

Table 13 Percentage of the population aged 65 years and older with issues in mobility, ADLs, and IADLs from 2005 to 2017.

Unit: People, Percentage

	2005		2009	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Mobility				
Total	2,708	56.5	2,893	50.4
Gender				
Male	1,338	44.8	1,246	39.9
Female	1,370	68.3	1,647	60.4
Age				
65–74 years	1,605	46.7	1,599	36.0
75–84 years	941	67.8	1,039	66.4
≥85 years	162	87.9	255	81.2
Gender*Age				
Male				
65–74 years	782	35.6	655	24.1
75–84 years	492	53.9	478	55.9
≥85 years	64	82.2	113	74.2
Female				
65–74 years	823	57.5	944	46.7
75–84 years	449	83.8	561	77.4
≥85 years	98	92.3	142	87.5

Continued Table 13 Percentage of the population aged 65 years and older with issues in mobility, ADLs, and IADLs from 2005 to 2017.

Unit: People, Percentage

	2013		2017	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Mobility				
Total	3,186	50.2	3,275	50.4
Gender				
Male	1,516	39.5	1,526	40.5
Female	1,670	59.8	1,749	58.9
Age				
65–74 years	1,706	37.8	1,853	35.1
75–84 years	1,153	61.3	1,052	66.3
≥85 years	327	81.3	370	86.3
Gender*Age				
Male				
65–74 years	810	26.1	895	26.3
75–84 years	542	50.1	475	53.1
≥85 years	164	72.5	156	82.0
Female				
65–74 years	896	47.9	958	42.7
75–84 years	611	70.8	577	77.1
≥85 years	163	91.5	214	89.8

Continued Table 13 Percentage of the population aged 65 years and older with issues in mobility, ADLs, and IADLs from 2005 to 2017.

Unit: People, Percentage

	2005		2009	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Activities of daily living (ADLs)				
Total	2,723	14.3	-	-
Gender				
Male	1,346	11.1	-	-
Female	1,377	17.7	-	-
Age				
65–74 years	1,610	7.6	-	-
75–84 years	949	21.0	-	-
≥85 years	164	42.6	-	-
Gender*Age				
Male				
65–74 years	784	6.5	-	-
75–84 years	498	15.8	-	-
≥85 years	64	28.4	-	-
Female				
65–74 years	826	8.6	-	-
75–84 years	451	27.1	-	-
≥85 years	100	53.4	-	-

**Continued Table 13 Percentage of the population aged 65 years and older
with issues in mobility, ADLs, and IADLs from 2005 to 2017.**

Unit: People, Percentage

	2013		2017	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Activities of daily living (ADLs)				
Total	3,200	15.7	3,282	18.9
Gender				
Male	1,523	13.6	1,530	15.4
Female	1,677	17.7	1,752	21.9
Age				
65–74 years	1,710	7.0	1,858	8.2
75–84 years	1,161	21.4	1,054	28.0
≥85 years	329	44.4	370	49.2
Gender*Age				
Male				
65–74 years	813	6.9	898	7.1
75–84 years	545	17.0	476	22.6
≥85 years	165	35.6	156	39.9
Female				
65–74 years	897	7.1	960	9.2
75–84 years	616	25.1	578	32.4
≥85 years	164	54.3	214	56.0

Continued Table 13 Percentage of the population aged 65 years and older with issues in mobility, ADLs, and IADLs from 2005 to 2017.

Unit: People, Percentage

	2005		2009	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Instrumental activities of daily living (IADLs)				
Total	2,713	41.6	-	-
Gender				
Male	1,342	31.3	-	-
Female	1,371	52.0	-	-
Age				
65–74 years	1,606	29.0	-	-
75–84 years	945	55.5	-	-
≥85 years	162	85.3	-	-
Gender*Age				
Male				
65–74 years	782	19.7	-	-
75–84 years	497	42.8	-	-
≥85 years	63	78.3	-	-
Female				
65–74 years	824	37.9	-	-
75–84 years	448	70.3	-	-
≥85 years	99	90.7	-	-

Continued Table 13 Percentage of the population aged 65 years and older with issues in mobility, ADLs, and IADLs from 2005 to 2017.

Unit: People, Percentage

	2013		2017	
	Completed samples	Percentage of difficulties	Completed samples	Percentage of difficulties
Instrumental activities of daily living (IADLs)				
Total	3,183	37.6	3,253	39.8
Gender				
Male	1,514	32.4	1,509	34.5
Female	1,669	42.2	1,744	44.3
Age				
65–74 years	1,700	20.6	1,845	22.6
75–84 years	1,156	53.5	1,044	56.1
≥85 years	327	76.4	364	85.7
Gender*Age				
Male				
65–74 years	806	16.2	887	18.9
75–84 years	544	47.1	469	48.5
≥85 years	164	66.8	153	80.5
Female				
65–74 years	894	24.4	958	25.7
75–84 years	612	58.9	575	62.3
≥85 years	163	87.3	211	90.1

Source: National Health Interview Survey

Note 1: Identification criteria for mobility impairments: When a participant indicates that a mobility item (i.e., bending down, kneeling or squatting, walking from room to room, climbing 10 steps of stairs, walking 400 m, grasping things with fingers, carrying a 4.5-kg item in one hand, raising arms over one's head, and turning a key by hand to perform an unlocking action) is "difficult" (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as "difficult." If a participant indicates that all the abilities of a set of mobility items are "not difficult" to perform, that ability type is regarded as "not difficult."



- Note 2: Criteria for ADLs difficulties: When a participant indicates that any ADLs item (i.e., feeding down, bathing, dressing, going to toilet, moving in and out of bed, ambulating) is “difficult” (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as “difficult.” If a participant indicates that all the abilities of a set of ADLs items are “not difficult” to perform, that ability type is regarded as “not difficult.”
- Note 3: Identification criteria for IADLs disability: When a participant indicates that any IADLs item (i.e., preparing meals, shopping, using a telephone, taking medication, housekeeping, doing laundry, managing finances) is “difficult” (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as “difficult.” If a participant indicates that all the abilities of a set of IADLs items are “not difficult” to perform, that ability type is regarded as “not difficult.”
- Note 4: The respondent answered was “not difficult” for all the abilities, continue on to financial items of IADLs questionnaire, also ADLs questionnaire in 2009. The result could be underestimate of the percentage of ADLs and IADLs, so the difficult parts will not show the results of 2009.
- Note 5: Percentage of individuals with mobility impairments = the number of people who have mobility impairments / the number of completed samples aged 65 years and older $\times 100\%$.
- Note 6: Percentage of individuals with ADLs difficulties = the number of people who have ADLs difficulties / the number of completed samples aged 65 years and older $\times 100\%$.
- Note 7: Percentage of individuals with IADLs disability = the number of people who have IADLs disability / the number of completed samples aged 65 years and older $\times 100\%$.
- Note 8: Because the content of the questionnaires from 2005 to 2017 is the same, only the 2005 Questionnaire is presented in the annual report. For the 2005 Questionnaire, please refer to p.177–179.



10. Cognitive impairment

Males achieved higher mean scores than females on the Mini-Mental State Examination (MMSE) from 2005 to 2017. The MMSE mean scores decreased with age (Table 14).

Table 14 Mini-Mental State Examination mean scores among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE)

	2005		2009	
	Completed samples	Mean score (standard error)	Completed samples	Mean score (standard error)
Total	2,415	23.2(0.1)	2,572	23.5(0.1)
Gender				
Male	1,223	24.8(0.1)	1,127	24.8(0.1)
Female	1,192	21.4(0.2)	1,445	22.3(0.1)
Age				
65–74 years	1,514	23.7(0.1)	1,531	24.2(0.1)
75–84 years	804	22.7(0.2)	877	22.8(0.2)
≥85 years	97	19.6(0.7)	164	20.8(0.5)
Gender*Age				
Male				
65–74 years	743	25.2(0.2)	634	25.2(0.2)
75–84 years	433	24.6(0.2)	412	24.4(0.2)
≥85 years	47	21.0(1.0)	81	23.1(0.6)
Female				
65–74 years	771	22.1(0.2)	897	23.2(0.2)
75–84 years	371	20.3(0.3)	465	20.9(0.2)
≥85 years	50	18.0(0.9)	83	18.6(0.7)

Continued Table 14 Mini-Mental State Examination mean scores among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE)

	2013		2017	
	Completed samples	Mean score (standard error)	Completed samples	Mean score (standard error)
Total	2,786	23.7(0.1)	2,853	25.6(0.1)
Gender				
Male	1,329	25.0(0.1)	1,356	26.6(0.1)
Female	1,457	22.5(0.1)	1,497	24.7(0.1)
Age				
65–74 years	1,599	24.7(0.1)	1,750	26.9(0.1)
75–84 years	984	22.3(0.2)	881	23.7(0.2)
≥85 years	203	21.5(0.4)	222	22.3(0.4)
Gender*Age				
Male				
65–74 years	753	25.8(0.1)	846	27.6(0.1)
75–84 years	469	23.8(0.2)	409	25.1(0.2)
≥85 years	107	23.9(0.4)	101	24.1(0.6)
Female				
65–74 years	846	23.8(0.2)	904	26.2(0.1)
75–84 years	515	21.0(0.2)	472	22.5(0.3)
≥85 years	96	18.0(0.5)	121	20.8(0.5)

Source: National Health Interview Survey

Note: MMSE scoring criteria:

- (1) MMSE items comprise the assessment of temporal orientation, spatial orientation, immediate memory, attention and calculation, delayed recall, names, verbal repetition, comprehension, reading, writing, drawing, and awareness.
- (2) Attention and calculation ability (ability to count down from 100 by sevens for a total of five times): One point is given for each correct answer. If the interviewer prompts the examinee by providing the correct answer for a count, no points are given.
- (3) Names, comprehension, reading, writing, and drawing: Examinees are not scored if they have blindness, have upper limb dysfunction, exhibit illiteracy or the inability to write, or exhibit the inability to see clearly or have low literacy.

Cognitive impairment was determined according to each person's MMSE score and education level. The percentage of males with possible cognitive impairment was greater than the percentage of females with possible cognitive impairment only in the 75–84 age group in 2013 (male, 39.9%; female, 26.0%) and 2017 (male, 26.5%; female, 24.7%). Across all other age groups, the percentage of females with possible cognitive impairment was greater than that of males with possible cognitive impairment. The percentage of adults aged 85 years and older with possible cognitive impairment peaked in 2009 (male, 41.1%; female, 52.7%; Table 15).

Table 15 Percentage of the population aged 65 years and older with possible cognitive impairment from 2005 to 2017.

Unit: People, Percentage

	2005		2009	
	Completed samples	Percentage of possible cognitive impairment	Completed samples	Percentage of possible cognitive impairment
Total	2,415	24.8	1,721	33.2
Gender				
Male	1,223	22.7	961	29.8
Female	1,192	27.0	760	38.4
Age				
65–74 years	1,514	22.4	1,070	29.0
75–84 years	804	27.0	567	39.9
≥85 years	97	42.4	84	45.2
Gender*Age				
Male				
65–74 years	743	20.4	555	26.6
75–84 years	433	24.6	348	33.8
≥85 years	47	40.6	58	41.1
Female				
65–74 years	771	24.5	515	32.2
75–84 years	371	30.1	219	51.0
≥85 years	50	44.4	26	52.7

Continued Table 15 Percentage of the population aged 65 years and older with possible cognitive impairment from 2005 to 2017.

Unit: People, Percentage

	2013		2017	
	Completed samples	Percentage of possible cognitive impairment	Completed samples	Percentage of possible cognitive impairment
Total	2,786	25.5	2,853	19.0
Gender				
Male	1,329	27.4	1,356	17.2
Female	1,457	23.8	1,497	20.7
Age				
65–74 years	1,599	20.8	1,750	14.5
75–84 years	984	32.5	881	25.5
≥85 years	203	31.3	222	31.1
Gender*Age				
Male				
65–74 years	753	19.7	846	11.5
75–84 years	469	39.9	409	26.5
≥85 years	107	30.6	101	28.5
Female				
65–74 years	846	21.8	904	17.2
75–84 years	515	26.0	472	24.7
≥85 years	96	32.3	121	33.4

Source: National Health Interview Survey

Note 1: Judgment criteria for cognitive impairment: According to the report of the Dementia Epidemiological Research Project, which was conducted (from 2011 to 2013) by the Taiwan Alzheimer's Disease Association and commissioned by the Ministry of Health and Welfare, cognitive impairment is defined as follows:

- (1) An educated individual having a total MMSE score of less than 25 points.
- (2) An uneducated individual having a total MMSE score of less than 14 points.

Note 2: Percentage of individuals with possible cognitive impairment = the number of people with possible cognitive impairment / the number of completed samples aged 65 years and older × 100%.

11. Depressive tendencies

In this report, depressive tendencies were measured using the Center for Epidemiological Studies Depression Scale (CES-D). In all age groups, females generally achieved higher mean scores than males. In different years, only in the ≥85 age group in 2013, the percentage of males (12.6%) with possible depressive tendencies was higher than females (10.5%), and the percentage of females with possible depressive tendencies was higher than males in the rest of the groups (Table 16).

Table 16 CES-D mean scores and percentage with possible depressive tendencies among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE), Percentage

	The weighted number of completed samples	Mean score (standard error)	Percentage with possible depressive tendencies
2005			
Total	2,099	5.8(0.1)	18.0
Gender			
Male	1,076	5.3(0.2)	15.4
Female	1,023	6.3(0.2)	20.6
Age			
65–74 years	1,313	5.7(0.2)	18.9
75–84 years	696	5.9(0.2)	17.1
≥85 years	90	6.5(0.7)	13.8
Gender*Age			
Male			
65–74 years	644	5.1(0.2)	14.8
75–84 years	385	5.8(0.3)	16.6
≥85 years	46	5.4(0.9)	13.4
Female			
65–74 years	669	6.3(0.2)	22.9
75–84 years	311	6.1(0.3)	17.6
≥85 years	44	7.7(1.0)	14.1

Continued Table 16 CES-D mean scores and percentage with possible depressive tendencies among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE), Percentage

	The weighted number of completed samples	Mean score (standard error)	Percentage with possible depressive tendencies
2009			
Total	2,405	4.9(0.1)	13.7
Gender			
Male	1,184	4.5(0.2)	11.9
Female	1,221	5.3(0.2)	15.6
Age			
65–74 years	1,457	4.7(0.2)	12.8
75–84 years	804	5.3(0.2)	16.5
≥85 years	144	5.0(0.4)	8.0
Gender*Age			
Male			
65–74 years	689	4.3(0.2)	10.8
75–84 years	422	4.1(0.4)	14.8
≥85 years	74	4.7(0.6)	6.8
Female			
65–74 years	769	5.1(0.2)	14.7
75–84 years	382	5.7(0.3)	18.2
≥85 years	70	5.3(0.6)	9.0

Continued Table 16 CES-D mean scores and percentage with possible depressive tendencies among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE), Percentage

	The weighted number of completed samples	Mean score (standard error)	Percentage with possible depressive tendencies
2013			
Total	2,286	4.2(0.1)	11.2
Gender			
Male	1,073	3.7(0.2)	7.4
Female	1,213	4.8(0.2)	14.6
Age			
65–74 years	1,340	3.8(0.1)	9.1
75–84 years	779	4.9(0.2)	14.5
≥85 years	167	5.6(0.9)	11.7
Gender*Age			
Male			
65–74 years	622	3.3(0.2)	6.9
75–84 years	354	3.8(0.2)	6.6
≥85 years	97	5.3(1.5)	12.6
Female			
65–74 years	718	4.2(0.2)	11.1
75–84 years	425	5.7(0.3)	21.1
≥85 years	70	5.9(0.8)	10.5

Continued Table 16 CES-D mean scores and percentage with possible depressive tendencies among people aged 65 years and older from 2005 to 2017.

Unit: People, Mean score (SE), Percentage

	The weighted number of completed samples	Mean score (standard error)	Percentage with possible depressive tendencies
2017			
Total	2,406	4.2(0.1)	11.1
Gender			
Male	1,125	3.9(0.2)	10.1
Female	1,282	4.6(0.2)	11.9
Age			
65–74 years	1,499	3.9(0.1)	10.1
75–84 years	709	4.7(0.2)	13.2
≥85 years	198	5.3(0.4)	9.8
Gender*Age			
Male			
65–74 years	704	3.6(0.2)	10.0
75–84 years	326	4.1(0.3)	10.9
≥85 years	95	4.9(0.7)	8.8
Female			
65–74 years	795	4.1(0.2)	10.2
75–84 years	384	5.2(0.3)	15.2
≥85 years	103	5.7(0.5)	10.6

Source: National Health Interview Survey

Note 1: CES-D scoring criteria:

- (1) The scale contains 10 items, and the maximum obtainable score is 30 points.
- (2) Unanswered items are excluded from calculations.

Note 2: CES-D scores of <10 indicate no possible depressive tendencies; scores of ≥10 indicate possible depressive tendencies.

Note 3: Values are all calculated by applying nationally representative weights. The rounding difference was used.

Note 4: Percentage with possible depressive tendencies = the weighted samples with possible depressive tendencies / the weighted number of completed samples × 100%.

Note 5: Because the content of the questionnaires from 2005 to 2017 is the same, only the 2005 Questionnaire is presented in the annual report. For the 2005 Questionnaire, please refer to p.180.

12. EuroQol instrument

In this report, quality of life was measured using the EuroQol instrument (EQ-5D). Females had lower quality of life scores on average than males, with mean scores of 0.8 among females and 0.9 among males. The mean quality of life scores also declined with age: 0.9 in the 65–74 age group, 0.8 in the 75–84 age group, and 0.7 in the ≥85 age group (Table 17).

**Table 17 Mean scores and standard deviations of quality of life in 2017
(calculated using Taiwan-based norm).**

Unit: People, Mean score, SD

Year		2017 (using Taiwan-based norm)		
		Completed samples	Mean score	Standard deviation
Total		2,906	0.9	0.3
Gender	Male	1,374	0.9	0.2
	Female	1,532	0.8	0.3
Age	65–74 years	1,763	0.9	0.2
	75–84 years	906	0.8	0.3
	≥85 years	237	0.7	0.4

Source: National Health Interview Survey

Note: For the 2017 Questionnaire, please refer to p.181–183.



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Chapter 4
Preventive Health
Care and
Behavior

Preventive Health Care and Behavior

Preventive health care and behaviors among the older population were evaluated on the basis of cancer screenings, vaccinations, BMI, dietary diversity, weekly recreational physical activity, smoking, drinking, and betel nut chewing habits.

Colorectal cancer was the third leading cause of death by malignant tumors among males and females aged 65 years and older. The Health Promotion Administration subsidizes FIT for adults aged 50–74 years every 2 years. The utilization of FIT among adults aged 60–64 and 65–69 years declined. Females are more likely to utilize the services than males from 2016 to 2020.

Vaccination data in this report include pneumococcal vaccination and influenza vaccination rates. 0.6%–1.5% of the population aged 65 years and older received the pneumococcal vaccination, and 25.6%–38.6% received the influenza vaccination from 2010 to 2019.

The BMI of the population aged 65 years and older remained $<25 \text{ kg/m}^2$. The diversity of dietary intake was based on Dietary Diversity Scores in the six major food groups; the mean score was higher among males, indicating better nutritional balance. Males demonstrated more weekly recreational physical activity on average than their female counterparts across all age groups from 2005 to 2017.

The prevalence of current cigarette smoking among males declined from 2005 to 2017. Among males aged 65–74 years, the prevalence of current cigarette smoking decreased from 33.7% in 2005 to 18.8% in 2017, a 14.9 decrease in percentage points. Among males aged 75–84 years, the prevalence of current cigarette smoking declined from 22.9% in 2005 to 8.8% in 2017, a 14.1 decrease in percentage points. Among males aged 85 years and older, the prevalence of current cigarette smoking declined from 20.5% in 2005 to 6.3% in 2017, a 14.2 decrease in percentage points. Current cigarette smoking status was lower among females and has continually declined over time. The prevalence of current cigarette smoking declined from 2.8% in 2005 to 1.8% in 2017 among females aged 65–74 years, a decrease of 1 percentage point. Among females aged 75–84 years, it declined from 1.9% in 2005 to 1.0% in 2017, a 0.9 percentage point difference. Among females aged 85 years and older, the prevalence of current cigarette smoking dropped from 3.6% in 2005 to 0.8% in 2017, a difference of 2.8 percentage points. Males are also more likely to engage in drinking and betel nut chewing than their female counterparts.

1. Fecal immunochemical testing (FIT)

According to the 2019 Cancer Registry Annual Report, the median age of onset among females was 56 years for breast cancer, 57 years for cervical cancer, 58 years for oral cancer, and 66 years for colorectal cancer in 2019. Because these median ages were all under 65 years, only fecal immunochemical testing (FIT) were included in this report.

The utilization rates of FIT among the populations aged 60–64 and 65–69 years demonstrated downward trends from 2016 to 2020. Females utilized the service more than males, and adults aged 65–69 years used the service more than those aged 60–64 years (Figure 43).

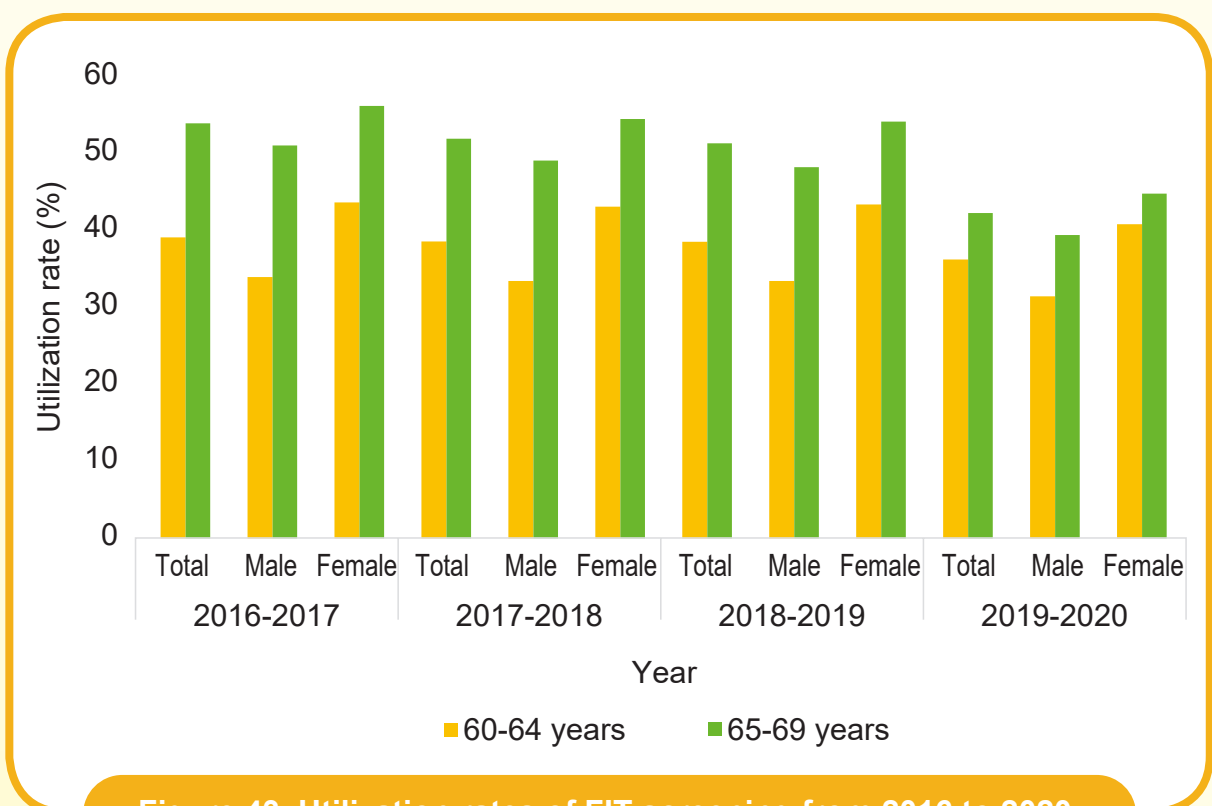


Figure 43 Utilization rates of FIT screening from 2016 to 2020.

Source: Health Promotion Administration, Ministry of Health and Welfare:

<https://www.hpa.gov.tw/Pages/List.aspx?nodeid=118>

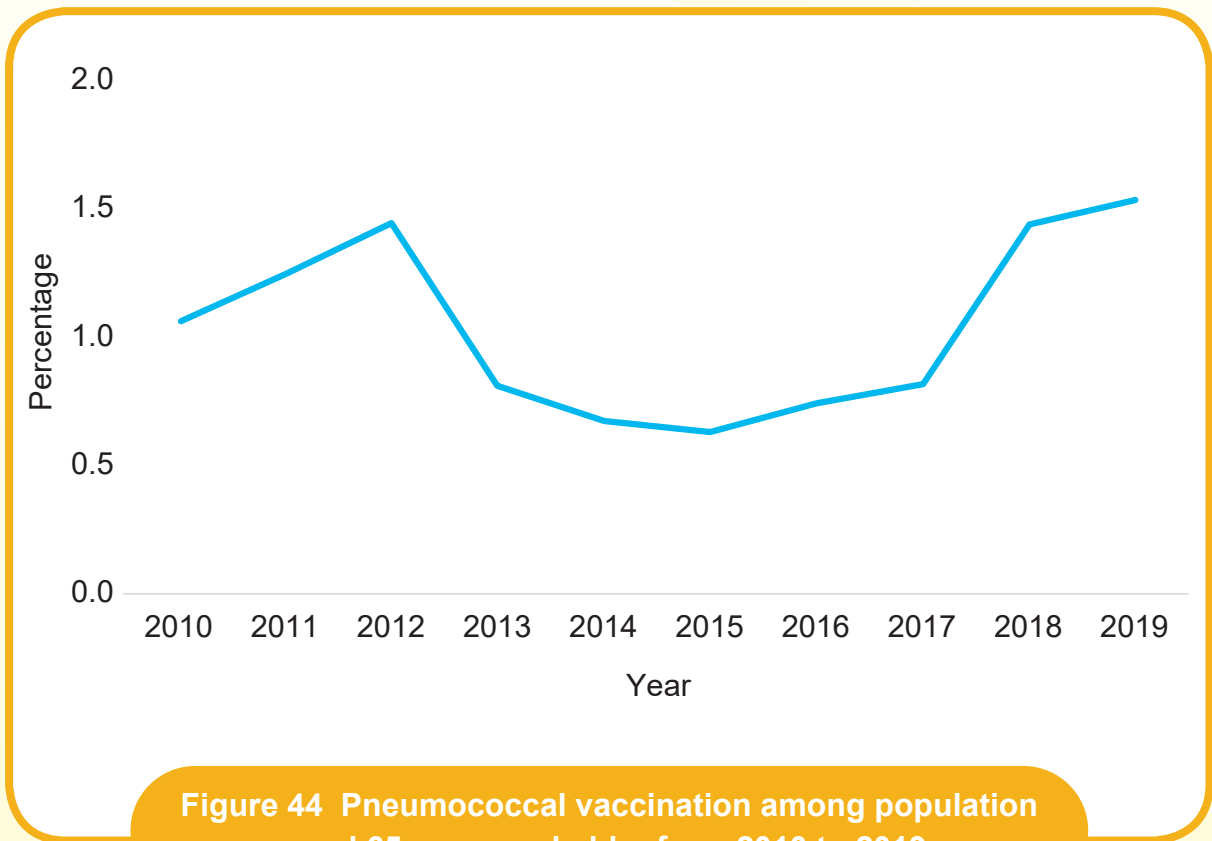
Note 1: Percentage of eligible adults who received FIT in the past 2 years (once every 2 years for those eligible for colorectal cancer).

Note 2: (Number of eligible adults in the age group who received FIT in the past 2 years / the mid-year population in the age group in the first year) × 100%.

Note 3: For further details, please refer to Appendix 36.

2. Pneumococcal vaccination

The percentage of the population aged 65 years and older who received pneumococcal vaccines was between 0.6% and 1.5% from 2010 to 2019 (Figure 44).



Source: National Health Insurance Research Database

Note 1: Pneumococcal vaccination (%) = the number of adults aged 65 years and older who received pneumococcal vaccines / the mid-year population aged 65 years and older $\times$ 100%.

Note 2: An individual is considered to have received the pneumococcal vaccine based on the National Health Insurance (NHI) code K000492206.

Note 3: Data for this report were obtained from the NHIRD by querying for PPV23. Based on the different levels of diligence in reporting data among hospitals, errors may be present.

Note 4: For further details, please refer to Appendix 37.

3. Influenza vaccination

The percentage of the population aged 65 years and older who received influenza vaccines was between 25.6% and 38.6% from 2010 to 2019 (Figure 45).

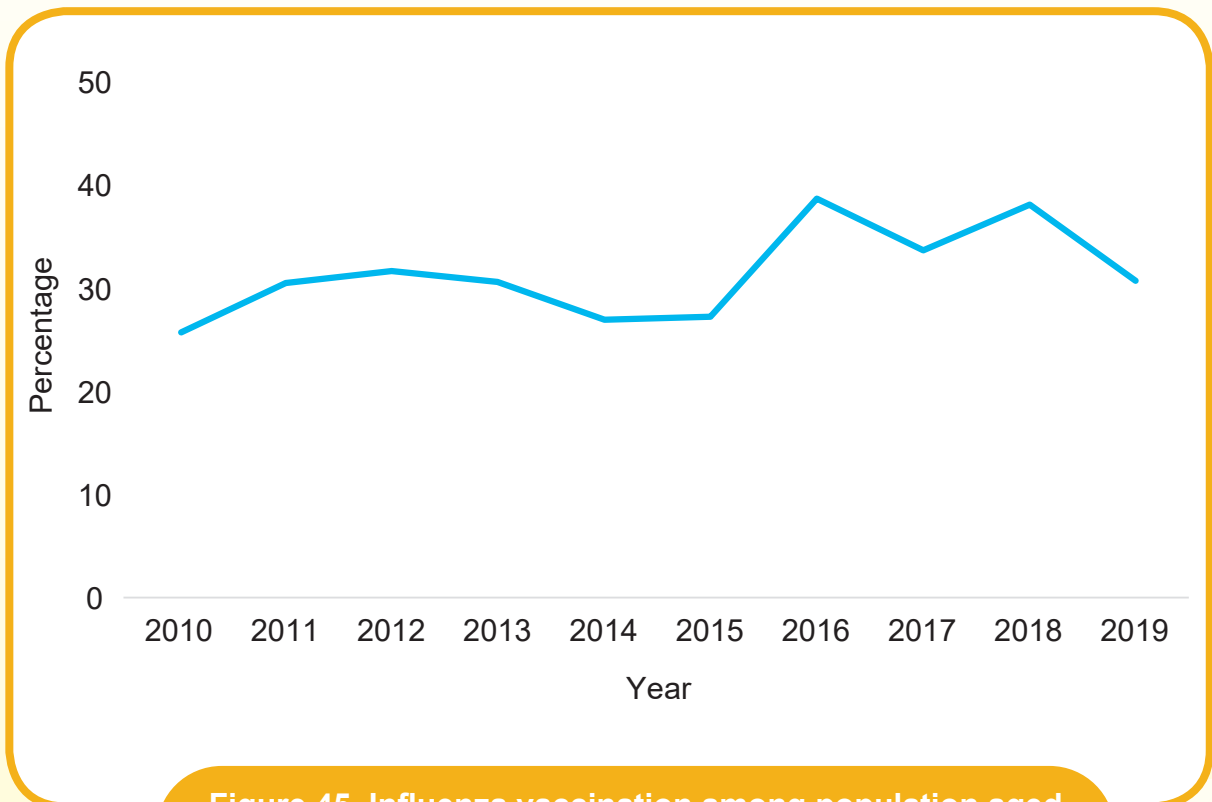


Figure 45 Influenza vaccination among population aged 65 years and older from 2010 to 2019.

Source: National Health Insurance Research Database

Note 1: Influenza vaccination (%) = the number of adults aged 65 years and older who received influenza vaccines / the mid-year population aged 65 years and older $\times$ 100%.

Note 2: An individual is considered to have received the influenza vaccine based on the receipt of outpatient pharmaceutical codes K000453277, K000889206, J000113277, and K000523206 for the influenza vaccine; pharmaceutical codes J000138206 and K001036206 were included since 2019.

Note 3: The 2016 government-funded influenza vaccination program was expanded from 3 million doses to 6 million doses to include junior high school students, high school students, vocational school students, 5-year junior college students (grades 10-12), 6-month postpartum mothers, high-risk adults with chronic diseases under the age of 50, and healthy adults aged 50-64 years. All vaccines were distributed at the end of December, with record highs in terms of the purchase amount and vaccination rate.

Note 4: Data for this report were obtained from the NHIRD and were compared with data on influenza vaccination obtained from the Taiwan Centers for Disease Control Influenza Vaccination Information System (IVIS). Cases are underreported by 50,000 to 540,000 each year, which may be attributable to the following:

- (1) Vaccinations are determined by pharmaceutical codes, and some influenza vaccines may have been omitted from the definition, resulting in underreporting.
- (2) Hospitals may have entered the wrong pharmaceutical code in their reports.
- (3) Hospitals may have neglected to fill in the pharmaceutical code when administering influenza vaccinations.
- (4) Other reasons for data retrieval gaps.

Note 5: For further details, please refer to Appendix 38.

4. Body mass index (BMI)

The body mass index (BMI) values of females were higher than those of males (female, 25.3 ± 0.3 ; male, 24.0 ± 0.2) from 2005 to 2008, but the BMI values of females were lower than those of males (female, 24.7 ± 0.2 ; male, 24.8 ± 0.2) from 2013 to 2016. According to age stratification, the BMI values decreased with age (Table 18).

Table 18 Body mass index values of individuals aged 65 years and older between 2005 and 2008 and between 2013 and 2016.

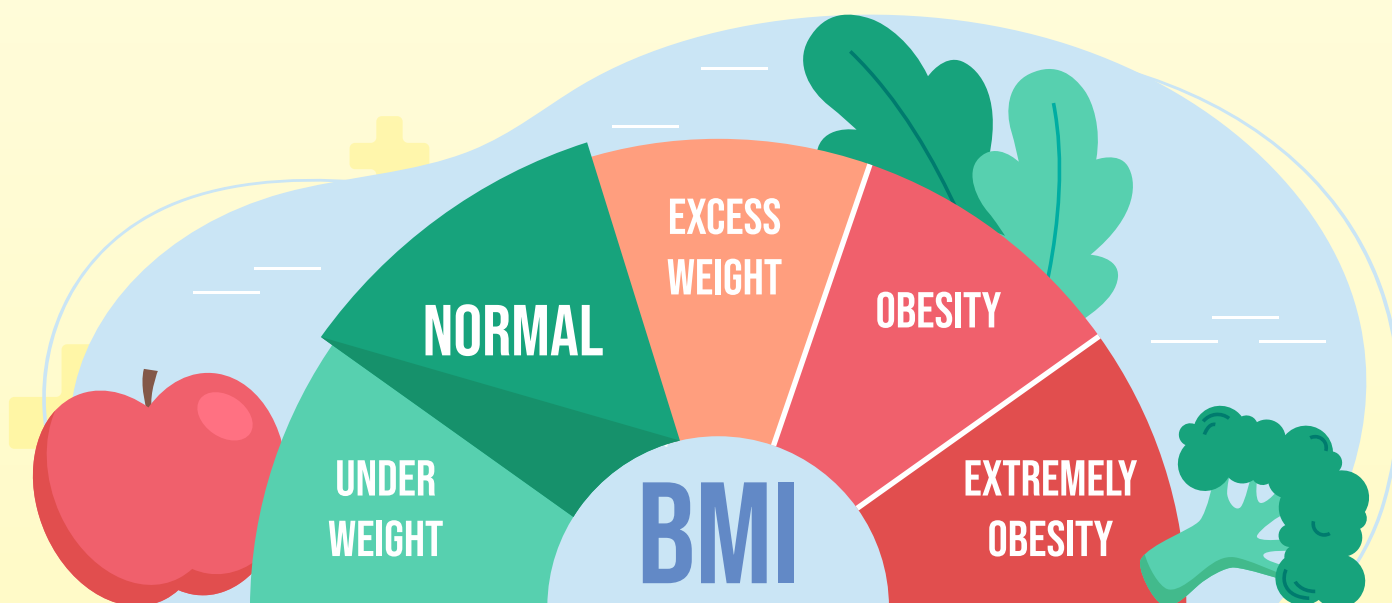
Unit: Mean (SE)

		2005–2008 (N = 937)	2013–2016 (N = 1,033)
Total		24.7(0.2)	24.7(0.1)
Gender	Male	24.0(0.2)	24.8(0.2)
	Female	25.3(0.3)	24.7(0.2)
Age	65–74 years	25.0(0.2)	24.8(0.2)
	75–84 years	24.2(0.3)	24.6(0.3)
	≥85 years	24.4(0.7)	24.1(0.6)

Source of data: Nutrition and Health Survey in Taiwan

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: BMI = weight (kg) / height square (m^2).



5. Dietary diversity score (DDS)

The mean scores of males were higher than those of females (male, 4.73 ± 0.06 ; female, 4.64 ± 0.06), indicating a more favorable dietary balance among males relative to females from 2005 to 2008. By age stratification, the mean scores were lower in the older age groups. The mean scores of males were higher than those of females (male, 4.85 ± 0.04 ; female, 4.84 ± 0.06), and among the age groups, the oldest age group had the highest mean score from 2013 to 2016 (Table 19).

Table 19 Dietary diversity scores of individuals aged 65 years and older between 2005 and 2008 and between 2013 and 2016.

Unit: Mean (SE)

		2005-2008 (N = 937)	2013-2016 (N = 1,033)
Total		4.68(0.04)	4.84(0.03)
Gender	Male	4.73(0.06)	4.85(0.04)
	Female	4.64(0.06)	4.84(0.06)
Age	65–74 years	4.71(0.05)	4.87(0.04)
	75–84 years	4.67(0.07)	4.78(0.08)
	≥85 years	4.28(0.29)	4.94(0.13)

Source of data: Nutrition and Health Survey in Taiwan

Note 1: Values are all calculated by applying nationally representative weights.

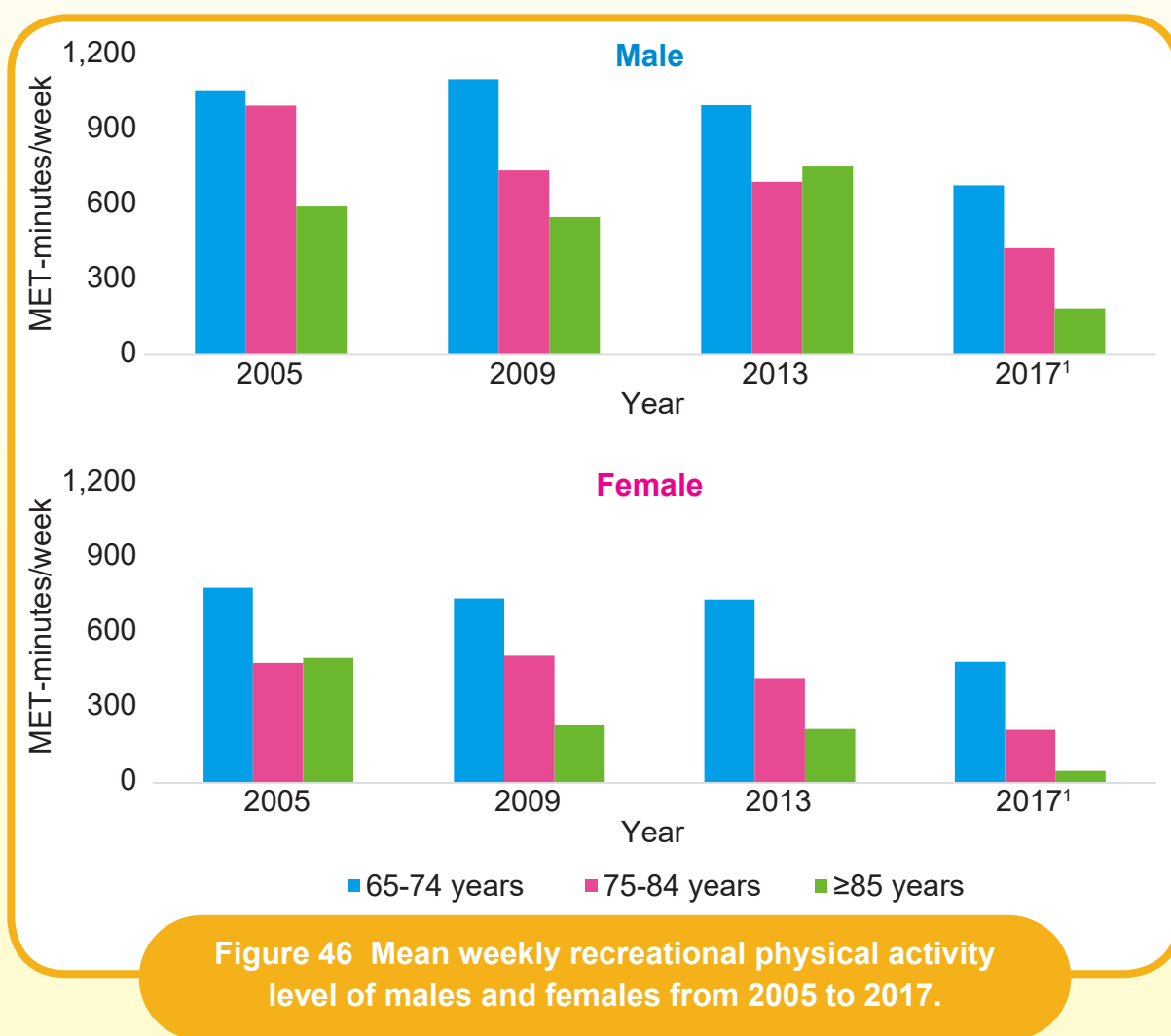
Note 2: The dietary diversity score (DDS) is used to measure dietary intake among six major food groups: whole grains, proteins (e.g., beans, fish, eggs, and meat), vegetables, fruits, dairy, and oils and fats (including nuts and seeds). The DDS ranges from 0 to 6; one point is awarded for half a bowl of each food group. Higher scores indicate healthier diet.

Note 3: For more information on DDS, please refer to the following literature: Lee, M.S.; Huang, Y.C.; Su, H.H.; Lee, M.Z.; Wahlqvist, M.L. A simple food quality index predicts mortality in elderly Taiwanese. *J. Nutr. Health Aging.* 2011, 15, 815–821.



6. Weekly recreational physical activity

The mean weekly recreational physical activity levels of the males in all age groups were higher than those of the females in the corresponding age groups from 2005 to 2017. The mean weekly recreational physical activity level of the 65–74 age group was higher than those of the 75–84 and ≥85 age groups. The mean weekly recreational physical activity level among males in the 65–74 age group was 1,057 in 2005, 1,100 in 2009, 997 in 2013, and 677 in 2017; the mean weekly recreational physical activity level among females in the 65–74 age group was 779 in 2005, 735 in 2009, 731 in 2013, and 478 in 2017 (Figure 46).



Source: National Health Interview Survey

Note 1: (1) Weekly recreational physical activity levels in 2005, 2009, and 2013 = MET of recreational sports × weekly recreational sports (min).

(2) The weekly recreational physical activity level in 2017 is calculated using the following equation: (number of minutes of moderate recreational sports per week × 4) + (number of minutes of vigorous recreational sports per week × 8).

(3) Reference source for the method: WHO. Global Physical Activity Questionnaire (GPAQ) Analysis Guide. https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/gpaq-analysis-guide.pdf?sfvrsn=1e83d571_2

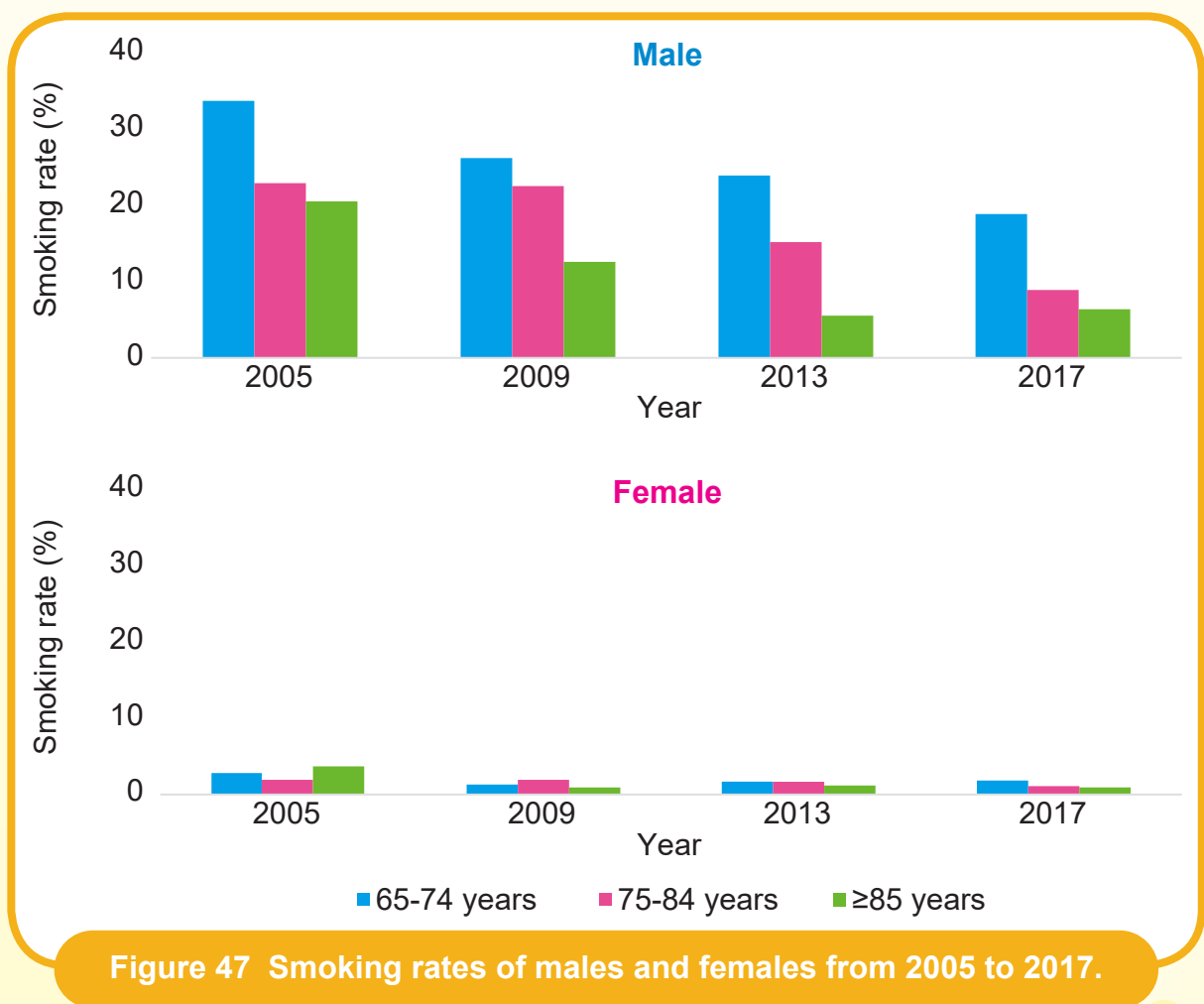
Note 2: Values are all calculated by applying nationally representative weights. The rounding difference was used.

Note 3: For the Metabolic Equivalent of Task (MET) of physical activities, please refer to p.176.

Note 4: For further details, please refer to Appendix 39.

7. Smoking

The smoking rates of males were higher than those of females from 2005 to 2017. Among the males, smoking rates tended to gradually decrease with age. The smoking rates of males in the 65–74, 75–84, and ≥85 age groups were 18.8%–33.7%, 8.8%–22.9%, and 5.4%–20.5%, respectively. The smoking rates of females were generally below 10.0% (Figure 47).



Source: National Health Interview Survey

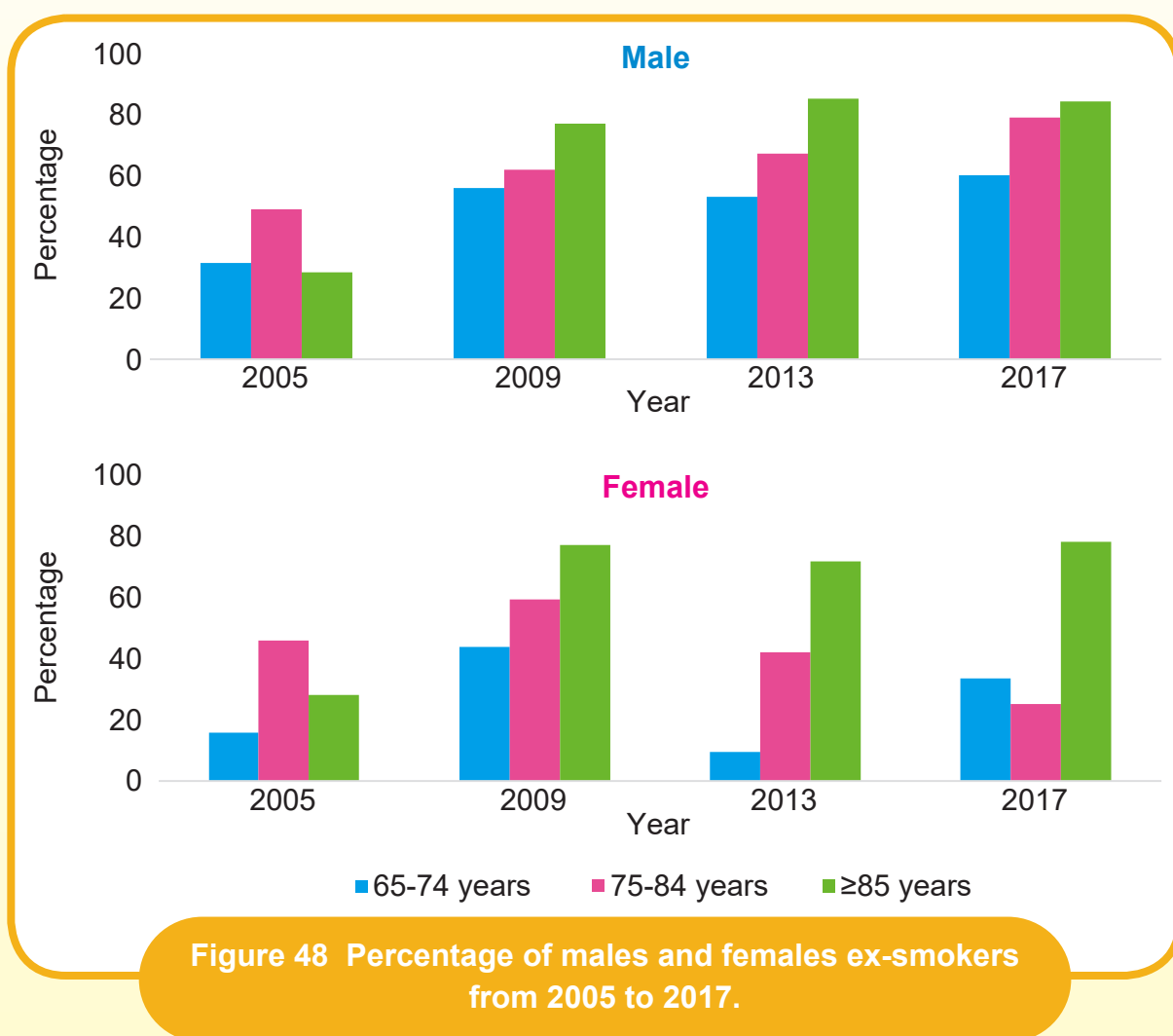
Note 1: A smoker is defined as an individual who has smoked more than five packs of cigarettes and currently smokes daily or occasionally.

Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Smoking rate = the weighted number of smokers / the weighted number of completed samples × 100%.

Note 4: For further details, please refer to Appendix 40.

The percentage of males who were ex-smokers was higher than the percentage of females who were ex-smokers from 2005 to 2017. Among the males, the percentage of ex-smokers gradually increased with age. The percentage of males who were ex-smokers was 31.8%–61.1% in the 65–74 age group, 49.6%–80.3% in the 75–84 age group, and 28.7%–86.6% in the ≥85 age group. Among the females, the percentage of ex-smokers was 9.1%–43.8% in the 65–74 age group, 25.1%–59.5% in the 75–84 age group, and 28.1%–78.3% in the ≥85 age group (Figure 48).



Source: National Health Interview Survey

Note 1: An ex-smoker is defined as an individual who has smoked more than five packs of cigarettes and has quit smoking.

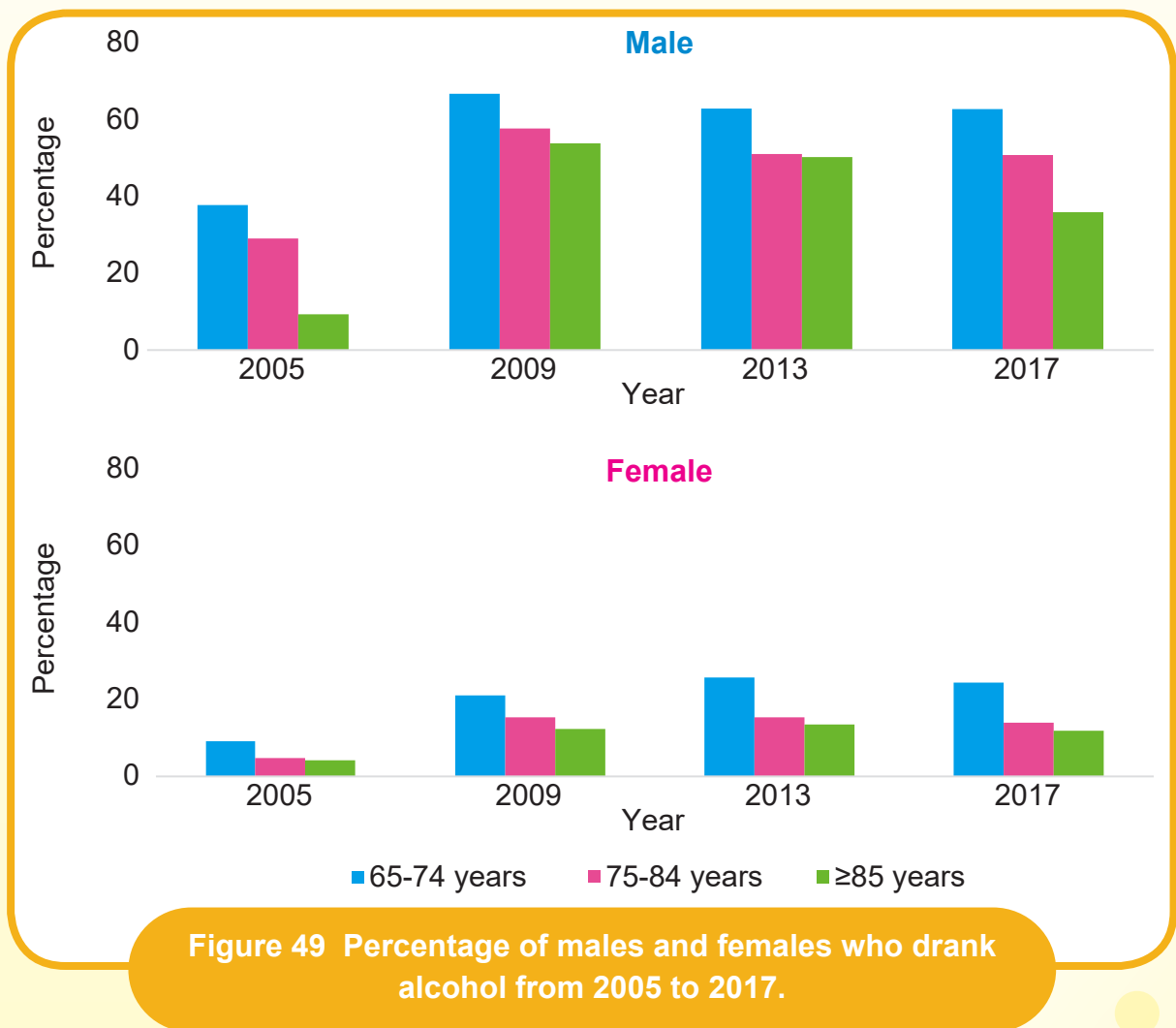
Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Percentage of ex-smokers = the weighted number of people who have smoked / (the weighted number of people who have smoked + the weighted number of current smokers) × 100%.

Note 4: For further details, please refer to Appendix 40.

8. Alcohol drinking

The percentage of males who drank alcohol was higher than the percentage of females who drank alcohol from 2005 to 2017. Regardless of gender, the percentage of individuals who drank alcohol gradually decreased with age. The percentage of males who drank alcohol was 37.4%–66.5%, 28.7%–57.5%, and 9.0%–53.6% in the 65–74, 75–84, and ≥85 age groups, respectively. In addition, the percentage of females who drank alcohol was 9.0%–25.7%, 4.7%–15.3%, and 4.2%–13.4% in the 65–74, 75–84, and ≥85 age groups, respectively (Figure 49).



Source: National Health Interview Survey

Note 1: An individual who drinks alcohol is defined as an individual who answers “yes” to the question “Do you drink alcohol?” (including occasional or social drinking) in the 2005 questionnaire. The options for the most recent drink include less than once a month, once or twice a month, once a week, once every two or three days, and (almost) every day. An individual who answers “yes” to the question “Have you ever drunk alcohol?” (including occasional or social drinking) in the 2009–2017 questionnaires. The options for the most recent drink include the past seven days, more than one week to one month, more than one month to six months, more than half a year to one year, and more than one year.

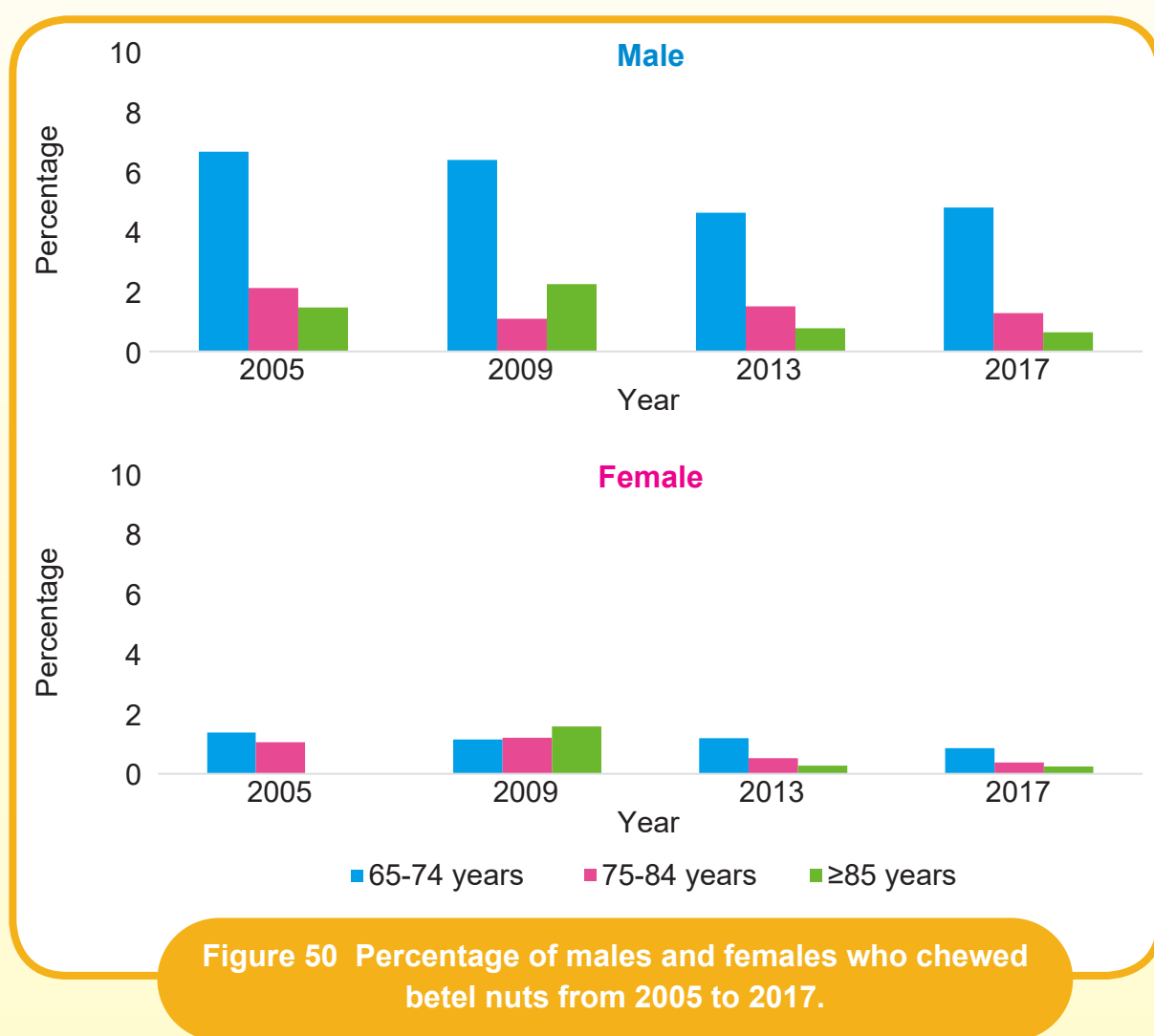
Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Percentage of people who drink alcohol = the weighted number of drinkers / the weighted number of completed samples × 100%.

Note 4: For further details, please refer to Appendix 41.

9. Betel nut chewing

The percentage of males who chewed betel nuts was higher than the percentage of females who chewed betel nuts from 2005 to 2017. Regardless of gender, except for 2009, the percentage of individuals who chewed betel nuts gradually decreased with age. The percentage of males who chewed betel nuts was 4.6%–6.7%, 1.0%–2.1%, and 0.5%–2.2% in the 65–74, 75–84, and ≥85 age groups, respectively; the percentage of females who chewed betel nuts was less than 1.6% (Figure 50).



Source: National Health Interview Survey

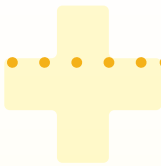
Note 1: An individual who chews betel nuts is defined as an individual who has chewed betel nuts in the previous 6 months.

Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Percentage of people who chew betel nuts = the weighted number of individuals who currently chew betel nuts / the weighted number of completed samples × 100%.

Note 4: For further details, please refer to Appendix 42.

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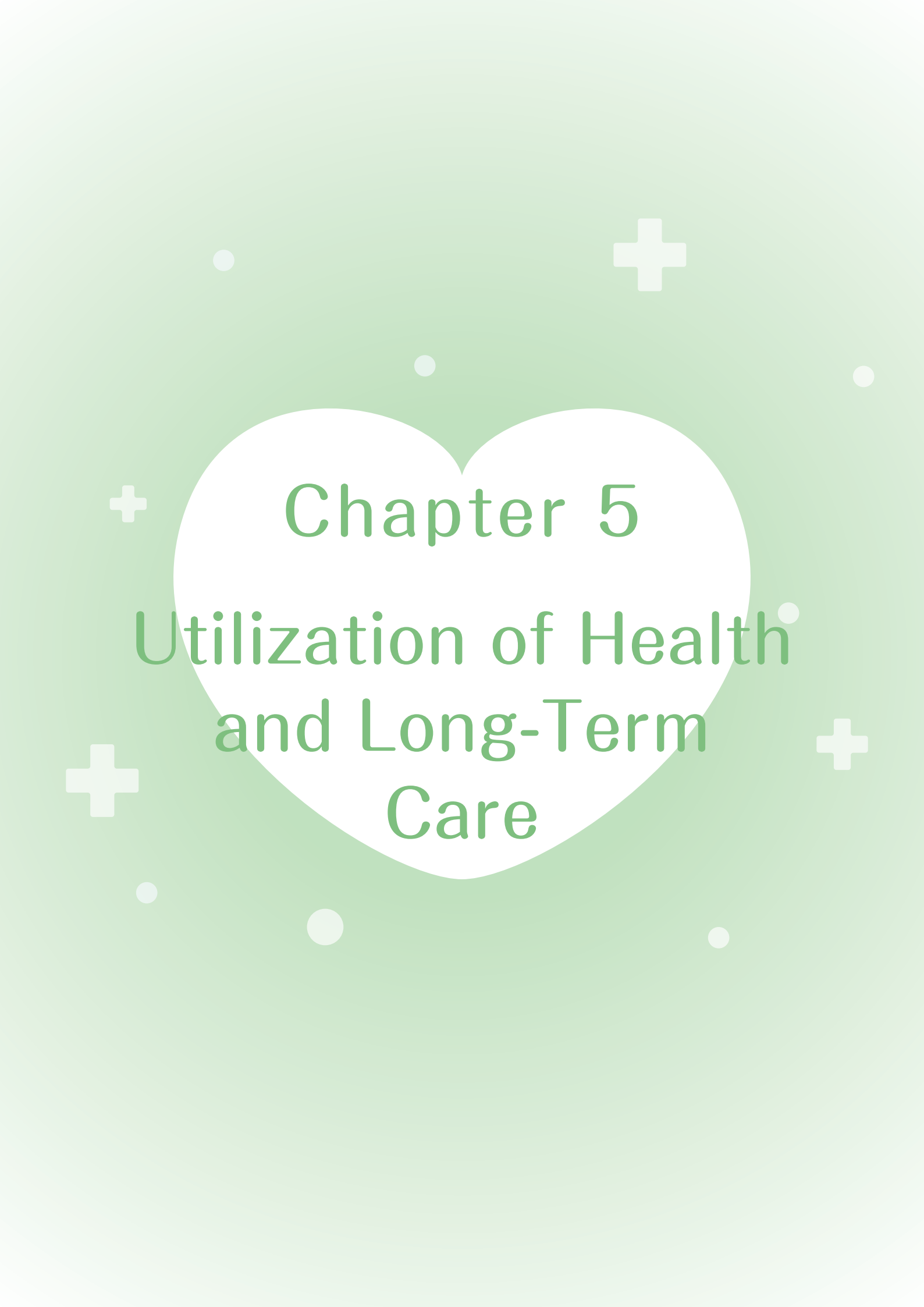
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Chapter 5

Utilization of Health and Long-Term Care

Utilization of Health and Long-Term Care

Health-care utilization among the older population was analyzed based on statistics on health insurance and medical use released by the Ministry of Health and Welfare. The outpatient visit rates exceeded 90,000 per 100,000 population with slightly more females than males from 2011 to 2020. The outpatient visits were 99,655 per 100,000 population aged 65–74 years, it was 100,578 in people aged 75–84 years, 110,715 in people aged 85 years and older in 2020. For hospitalization, it was 14,418 per 100,000 population aged 65–74 years, 22,317 in people aged 75–84 years, 35,639 in people aged 85 years and older. It was higher in males than females, and the highest occurred in population aged 85 years and older.

Based on data from the Ministry of Health and Welfare in 2021, Nantou County has the highest coverage rate for long-term care services for the older population at 83.8%; Lienchiang County has the lowest at 17.4%. Long-term care service institutions mostly offer home-based services (1,388); institutional residential long-term care services established according to *Long-Term Care Services Act* were the fewest (38). Community-based services are mostly day care institutions (600), and group homes are the fewest (19). Long-term care service institutions with residential services include senior citizens' welfare institutions, general nursing homes, accommodation-type institutions with disabilities, psychiatric nursing homes, institutional residential service institutions established under *Long-Term Care Services Act*, and veterans' homes. New Taipei City has the highest number of senior citizens' welfare institutions (214), general nursing homes (82), and psychiatric nursing homes (9). The city with the highest number of accommodation-type institutions with disabilities is Taoyuan City (26). Both New Taipei City and Taoyuan City have the highest number of institutional residential service institutions established under *Long-Term Care Services Act* (6 each). Tainan City has the highest number of veterans' homes (3). Both the numbers of licensed beds and open beds were the highest in senior citizens' welfare institutions (licensed beds, 61,532 beds; open beds, 61,532 beds). Psychiatric nursing homes had the highest admission rate (92%), whereas institutional residential service institutions established under *Long-Term Care Services Act* had the lowest (65%). 250,377 individuals used home-based long-term care services, 22,967 individuals used day care services, 10,073 individuals used small-size multi-function services, 1,879 individuals used institutional residential services, 1,411 individuals used adult foster care services, and 232 individuals used group homes services. New Taipei City had the highest estimated and confirmed cases of dementia (estimated cases, 45,833 individuals; confirmed cases, 26,737 individuals). The dementia diagnostic rate was the highest in Hualien County (85.3%) and lowest in Kinmen County (50.2%).

1. Utilization of outpatient visits under the National Health Insurance (NHI)

The outpatient visit rates exceeded 90,000 per 100,000 population from 2011 to 2020. Stratified by age, the outpatient visit rate was the highest among those aged 85 years and older from 2016 to 2020 (Figure 51). Outpatient visits by females were slightly higher than those by males (Appendix 43).

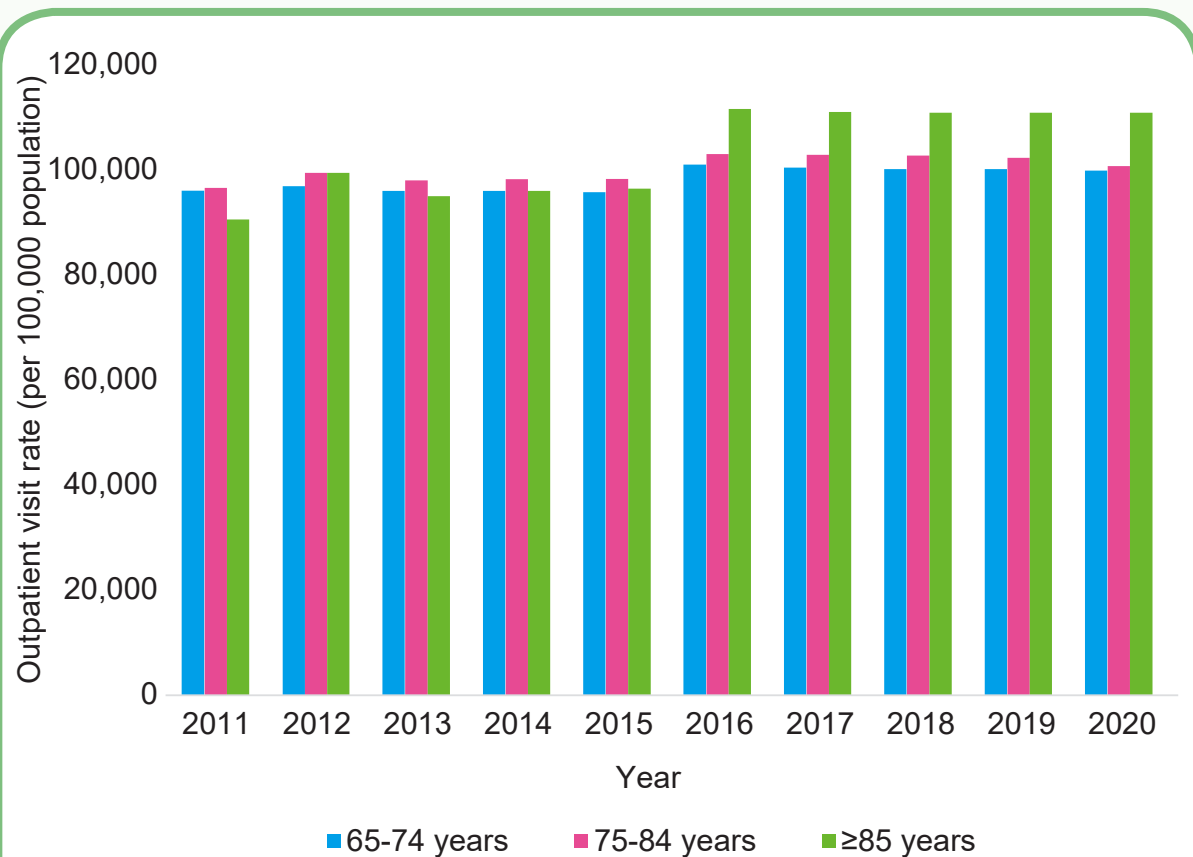


Figure 51 Outpatient health insurance visit rate for individuals aged 65 years and older from 2011 to 2020.

Source: National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/dos/lp-5103-113.html>

Note 1: Outpatient health insurance visit rate = the number of outpatients / the mid-year population × 100,000.

Note 2: For further details, please refer to Appendix 43.

2. Utilization of inpatient visits under the National Health Insurance (NHI)

The inpatient visit rates were the highest among people aged 85 years and older, followed by those aged 75–84 and 65–74 years from 2011 to 2020 (Figure 52). Males were more likely to be admitted as inpatients than females (Appendix 44).



Figure 52 Inpatient health insurance visit rate for individuals aged 65 years and older from 2011 to 2020.

Source: National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/dos/lp-5103-113.html>

Note 1: Inpatient health insurance visit rate = the number of inpatients / the mid-year population × 100,000.

Note 2: For further details, please refer to Appendix 44.

3. Users of long-term care services

The percentage of long-term care service users among the population increased with age, with 67.8% of the population aged 75 years and older using long-term care services in 2021. Overall, a higher percentage of females (57.6%) than males (42.4%) used long-term care services. Among the various levels of long-term care case-mix system (i.e., Levels 2–8), Level 4 (18.7%) and Level 6 (11.0%) accounted, respectively, for the highest and lowest percentage of long-term care service users. Long-term care service users from general households (80.3%), who hold disability certificates (50.8%), who do not live alone (87.5%), and who do not hire a foreign caregiver (83.9%) formed the majority (Table 20).

Table 20 Demographic characteristics of long-term care service users in 2021.

Unit: People, Percentage			
		Number of people	Percentage
Total number of people		388,866	100.0
Age	≤19 years	5,263	1.4
	20–49 years	13,198	3.4
	50–64 years	32,965	8.5
	65–74 years	73,845	19.0
	≥75 years	263,594	67.8
	Missing values	1	0.0
Gender	Male	164,987	42.4
	Female	223,879	57.6
Ethnicity	Non-indigenous peoples	375,678	96.6
	Indigenous peoples	13,157	3.4
	Missing values	31	0.0
Long-term care case-mix system	1, 1a, 1b	512	0.1
	2	54,232	13.9
	3	58,981	15.2
	4	72,777	18.7
	5	60,781	15.6
	6	42,661	11.0
	7	43,590	11.2
	8	55,332	14.2

Continued Table 20 Demographic characteristics of long-term care service users in 2021.

Unit: People, Percentage

		Number of people	Percentage
Economic status	General households	312,373	80.3
	Low- and middle-income households	30,013	7.7
	Low-income households	46,480	12.0
Possession of disability certificate	Yes	197,684	50.8
	No	191,151	49.2
	Missing values	31	0.0
Living alone	Yes	48,470	12.5
	No	340,331	87.5
	Missing values	65	0.0
Hired foreign caregivers	Yes	62,572	16.1
	No	326,256	83.9
	Missing values	38	0.0

Source: Long-term care management information platform of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: Long-term care service users refer to the number of people who use long-term care payment and benefits, including care and professional services, transportation services, auxiliary appliance and home accessibility improvement services, and respite services.

Note 2: The long-term care case-mix system is based on the degree of disability, which is divided into 1–8 levels. Among them, the disability level 2–8 can be based on the Rules on the Application for Long-Term Care Service Benefits, and the payment and benefits amount of long-term care services is determined according to the degree of disability.

Note 3: The long-term care case-mix system Level 1 is for the non-incapacitated older people, 1a is for the demented and non-incapacitated, and 1b is for the older people with frailty. This table is the result of the assessment by Long-Term Care Management Centers. Therefore, fewer people with Level 1, 1a, and 1b, and does not represent the total number of such people in the country.

Note 4: The sum of people distributed by age, ethnicity, whether they hold disability certificate, whether they live alone, or whether they hire a foreign caregiver is not equal to the total population because there may be missing values in these fields.

4. Number of individuals who required long-term care services

The number of new applicants and existing long-term care service users was the highest in New Taipei City (new applicants, 25,277 individuals; existing service users, 51,560 individuals) relative to other counties and cities in 2021. The number of evaluated applicants was the highest in Kaohsiung City (45,800 individuals); Lienchiang County had the lowest number of new applicants (19 individuals), evaluated applicants (44 individuals), and existing service users (44 individuals); Figure 53).

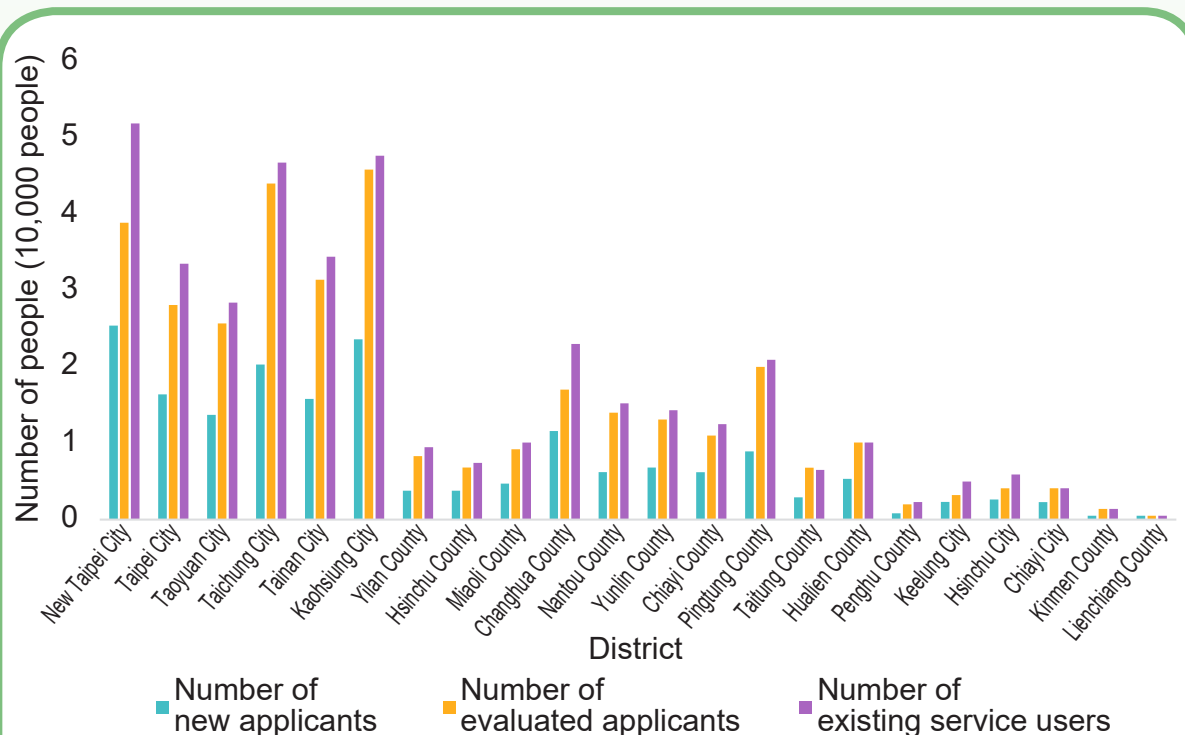


Figure 53 Number of long-term care service users in each county and city in 2021.

Source: Long-term care management information platform of the Ministry of Health and Welfare:
<https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: New applicants indicate that the users have applied for long-term care services during the given year and who did not use long-term care services during the previous year.

Note 2: Evaluated applicants include the number of new evaluation and old case re-evaluation.

Note 3: Existing service users refer to the number of people that can be serviced.

Note 4: For further details, please refer to Appendix 45.

5. Long-term care service coverage rate

Nantou County had the highest coverage rate for long-term care services (83.8%) followed by Hualien County (79.2%); Lienchiang County had the lowest coverage rate (17.4%) in 2021 (Figure 54).

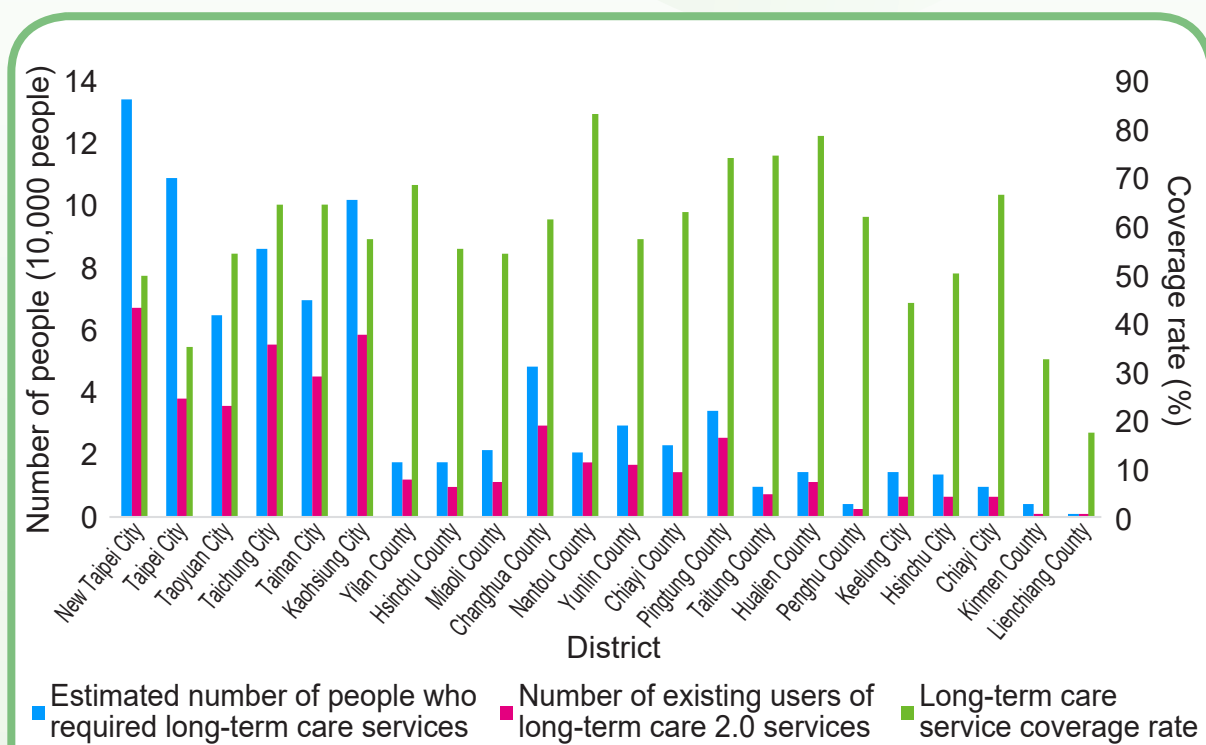


Figure 54 Long-term care service coverage rate in each county and city in 2021.

Source: Long-term care management information platform of the Ministry of Health and Welfare:
<https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: The estimated demand for long-term care services includes adults aged 65 years and older with physical or mental incapacity, citizens with mental or physical disability and incapacity, indigenous peoples aged 55 years and older with physical or mental incapacity, adults aged 50 years and older with dementia and without disability, and the infirm older people.

Note 2: The number of people using Long-Term Care Plan 2.0 services is determined as the sum of people receiving long-term care payment and benefits, and the number of residential and community-based service users (service recipients who have dementia but do not have a disability and infirm older people are not included). Service recipients of day care, adult foster care, and small-size multi-function services are included among those who receive long-term care payment and benefits; therefore, community-based services in this instance only include group homes.

Note 3: Coverage rate = the number of existing users of long-term care 2.0 service (service recipients who have dementia but do not have a disability and infirm older people are not included) / the estimated number of people who required long-term care services × 100%.

Note 4: Coverage rate of Lienchiang County (estimated number of people requiring long-term care services, 385; number of existing users of long-term care 2.0 services, 67).

Note 5: For further details, please refer to Appendix 46.

6. Number of long-term care service institutions

Long-term care service institutions are established in accordance with *Long-Term Care Services Act* that include home-based, community-based, institutional residential, and comprehensive services. The majority of long-term care service institutions offered home-based services (1,388), whereas those that provided institutional residential services were the fewest (38) in 2021. Community-based services—including day care, adult foster care, small-size multi-function, and group homes—were offered by 999 institutions, the majority of which were day care service providers (600); group homes formed the minority (19; Figure 55).

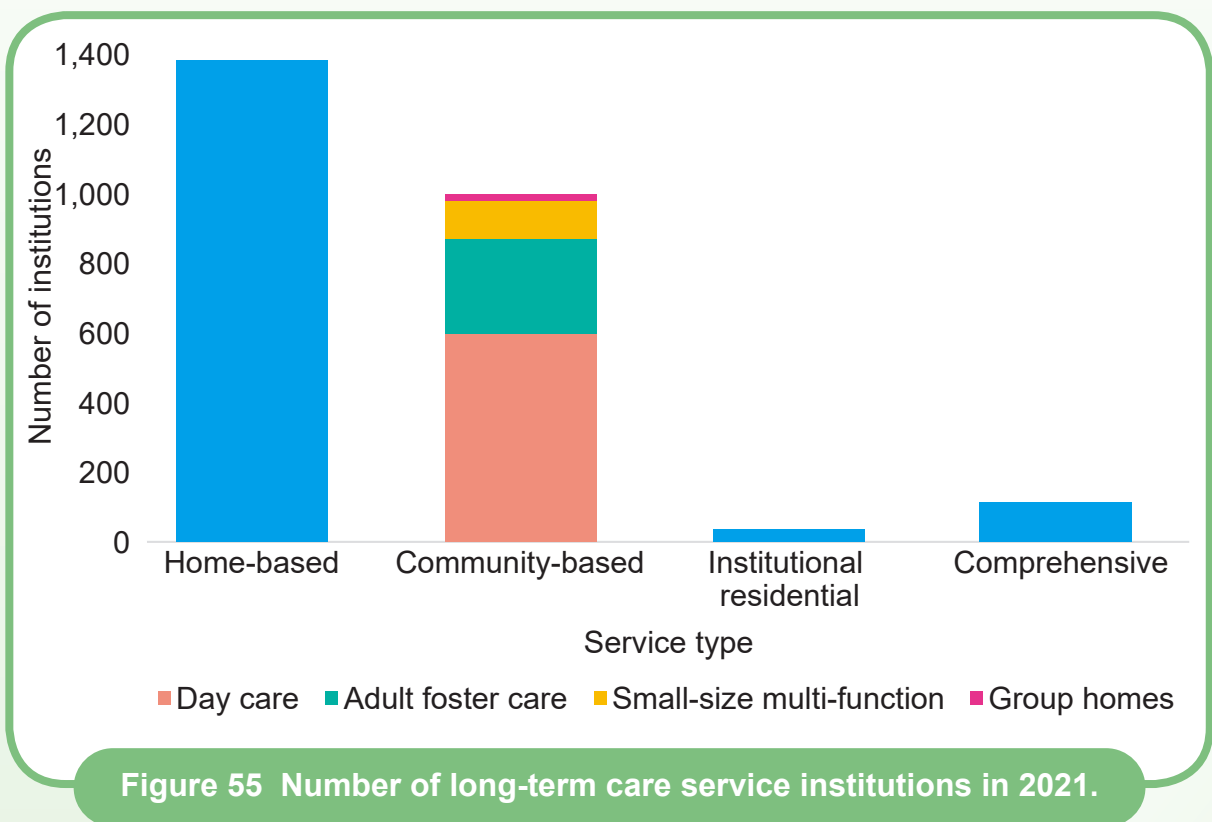


Figure 55 Number of long-term care service institutions in 2021.

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://ltcpap.mohw.gov.tw/molc/auth/login?targetUri=%2F>

Note 1: Home-based service long-term care institutions are established in accordance with *Long-Term Care Services Act* that offer home services, which refers to long-term care services provided by a long-term caregiver in the home of the service recipient.

Note 2: Community-based services include day care institutions, adult foster care institutions, small-size multi-function institutions, and group homes. Only day care, adult foster care, and small-size multi-function institutions by contract are included in these statistics; small-size multi-function institutions by contract must be annotated as such in the long-term care institutions and management systems for personnel.

Note 3: Long-term care institutions that offer institutional residential services only includes those that are licensed and offer institutional residential services in accordance with regulations such as *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act* and comprehensive long-term care institutions that offer institutional residential services.

Note 4: Long-term care institutions that offer comprehensive services include those that offer services in two or more service categories: home services, community services, or residential services. Institutions offering comprehensive services may be counted repeatedly according to the categories of service they offer.

Note 5: For further details, please refer to Appendix 47; the number of community-based service long-term care institutions, please refer to Table 21.

7. Number of home-based service long-term care institutions

Taichung City had the highest number of home-based service long-term care institutions (270) followed by Kaohsiung City (206); Lienchiang County had the lowest number of home-based service long-term care institutions in 2021 (1; Figure 56).

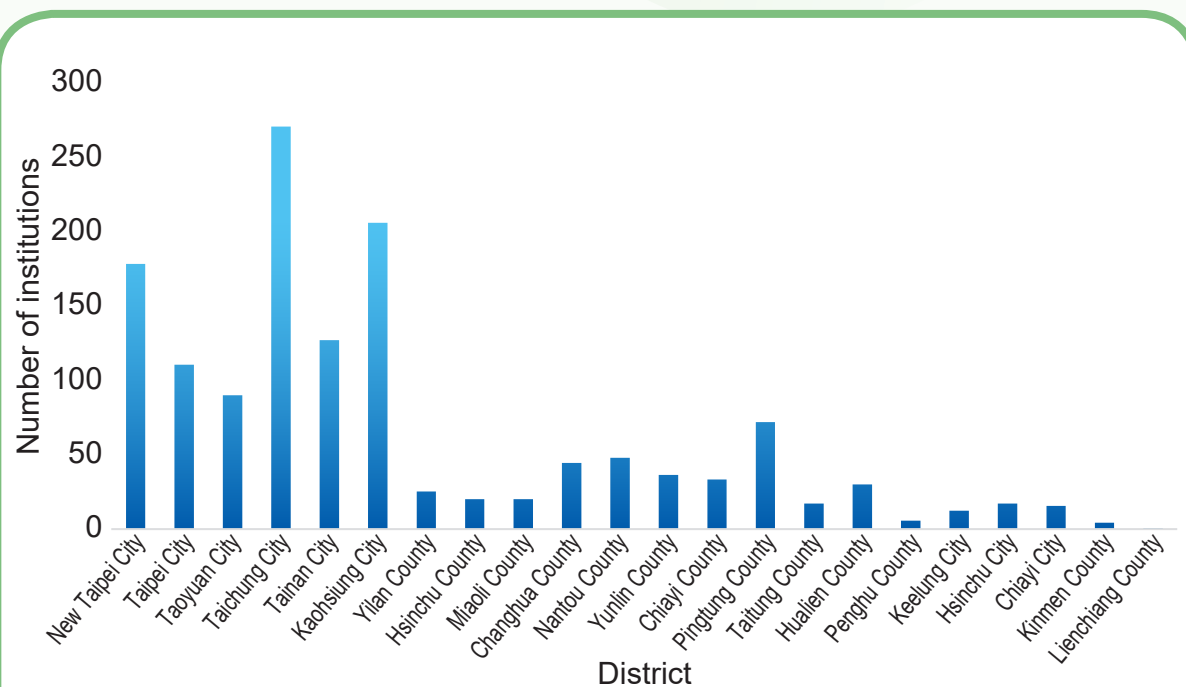


Figure 56 Number of home-based service long-term care institutions in each county and city in 2021.

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: Home-based service long-term care institutions are established in accordance with *Long-Term Care Services Act* that offer home services, which refers to long-term care services provided by a long-term caregiver in the home of the service recipient.

Note 2: For further details, please refer to Appendix 47.

8. Number of community-based service long-term care institutions

The community-based service long-term care institutions provided day care, adult foster care, group homes, and small-size multi-function services. Among the counties and cities, Taichung City had the highest number of day care institutions (88), whereas Lienchiang County had the fewest (1). The highest number of adult foster care institutions was in Yunlin County (42), and the highest number of group homes was in New Taipei City (3). Both Taichung City and Tainan City had 15 small-size multi-function institutions, the highest number per municipality in 2021 (Table 21).

Table 21 Number of community-based service long-term care institutions in each county and city in 2021.

Unit: Number

	Day care	Adult foster care	Group homes	Small-size multi-function
Total	600	276	19	104
New Taipei City	54	11	3	5
Taipei City	34	6	1	8
Taoyuan City	47	5	0	7
Taichung City	88	25	2	15
Tainan City	67	18	1	15
Kaohsiung City	66	32	2	10
Yilan County	27	2	1	5
Hsinchu County	15	4	1	2
Miaoli County	14	6	1	1
Changhua County	34	12	0	8
Nantou County	16	25	1	3

Continued Table 21 Number of community-based service long-term care institutions in each county and city in 2021.

Unit: Number

	Day care	Adult foster care	Group homes	Small-size multi-function
Yunlin County	27	42	1	3
Chiayi County	18	15	0	2
Pingtung County	45	29	1	2
Taitung County	6	13	1	9
Hualien County	11	19	1	3
Penghu County	6	3	0	1
Keelung City	6	3	1	2
Hsinchu City	3	3	0	1
Chiayi City	11	2	1	2
Kinmen County	4	1	0	0
Lienchiang County	1	0	0	0

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note: Only day care, adult foster care, and small-size multi-function institutions by contract are included in these statistics; small-size multi-function institutions by contract must be annotated as such in the long-term care institutions and management systems for personnel.

9. Number of residential service long-term care institutions

The residential service long-term care institutions include senior citizens' welfare institutions, general nursing homes, accommodation-type institutions with disabilities, psychiatric nursing homes, institutional residential service institutions established under *Long-Term Care Services Act*, and veterans' homes. New Taipei City had the highest number of senior citizens' welfare institutions (214), general nursing homes (82), and psychiatric nursing homes (9); Taoyuan City had the highest number of accommodation-type institutions with disabilities (26). Both New Taipei City and Taoyuan City had the highest number of institutional residential service institutions established under *Long-Term Care Services Act* (6 each). Tainan City had the highest number of veterans' homes in 2021 (3; Table 22).

Table 22 Number of residential service long-term care institutions in each county and city in 2021.

Unit: Number

	Total	Senior citizens' welfare institutions	General nursing homes	Accommodation-type institutions with disabilities	Psychiatric nursing homes	Institutional residential service institutions established under <i>Long-Term Care Services Act</i>	Veterans' homes
Total	1,899	1,081	541	174	49	38	16
New Taipei City	328	214	82	15	9	6	2
Taipei City	145	98	19	22	1	5	0
Taoyuan City	157	68	49	26	6	6	2
Taichung City	151	66	67	11	5	2	0
Tainan City	219	117	76	20	3	0	3
Kaohsiung City	241	155	64	10	6	4	2
Yilan County	60	40	8	8	2	2	0
Hsinchu County	42	18	16	6	2	0	0
Miaoli County	36	15	13	8	0	0	0
Changhua County	106	54	41	6	1	2	2
Nantou County	45	19	14	5	3	4	0
Yunlin County	63	43	13	4	2	0	1

Continued Table 22 Number of residential service long-term care institutions in each county and city in 2021.

Unit: Number

	Total	Senior citizens' welfare institutions	General nursing homes	Accommodation-type institutions with disabilities	Psychiatric nursing homes	Institutional residential service institutions established under <i>Long-Term Care Services Act</i>	Veterans' homes
Chiayi County	52	28	14	8	1	1	0
Pingtung County	92	56	22	7	2	4	1
Taitung County	22	13	4	4	0	0	1
Hualien County	34	17	5	5	5	1	1
Penghu County	7	4	2	1	0	0	0
Keelung City	38	27	9	2	0	0	0
Hsinchu City	21	9	8	3	0	0	1
Chiayi City	35	17	14	2	1	1	0
Kinmen County	3	2	0	1	0	0	0
Lienchiang County	2	1	1	0	0	0	0

Source: Ministry of Health and Welfare

Note 1: Senior citizens' welfare institutions include long-term care, nursing, caring for dementia senior citizens, and domiciliary care institutions. The service recipients of the senior citizens' welfare institutions must be over 65 years old, but if those who are over 60 years old and under 65 years old voluntarily bear the expenses, the senior citizens' welfare institutions may provide long-term care, maintenance or other services depending on the internal facilities.

Note 2: General nursing homes do not have age restrictions and mainly provide care to severely ill older people discharged from the hospital, such as patients requiring nasogastric tubes, urinary catheters, tracheostomy tubes or those who are not severely ill but still require inpatient nursing and health care.

Note 3: Accommodation-type institutions with disabilities are venues that provide residential services to disabled people who require round-the-clock life care, training, or night-time care services.

Note 4: Psychiatric nursing homes do not have age restrictions and mainly provide care to mental health patients whose symptoms of mental illness are stable and chronic and who require life care.

Note 5: Institutional residential service institutions established under *Long-Term Care Services Act* include only licensed long-term care institutions that offer institutional residential services in accordance with regulations such as *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act* and comprehensive long-term care institutions that offer institutional residential services.

Note 6: Admission into veterans' homes is granted to (1) veterans receiving fully government-paid or partially government-paid home-care placement, whose spouse is aged 50 years and older or whose parents are aged 60 years and older, and who has no fixed occupation and (2) the family members and survivors of veterans and the general public who are aged 65 years and older. (For more information, please see Article 4, Paragraph 1, Subparagraph 1 of the VAC Regulations on Applying for Self-Paid Home-Care Placement in Veterans' Homes.)

Note 7: Data as of end of December 2021.

10. Residential service resources

Both the numbers of licensed beds and open beds were the highest in senior citizens' welfare institutions (licensed beds, 61,532 beds; open beds, 61,532 beds) in 2021. Psychiatric nursing homes had the highest admission rate (92%), whereas institutional residential service institutions established under *Long-Term Care Services Act* had the lowest (65%; Figure 57).

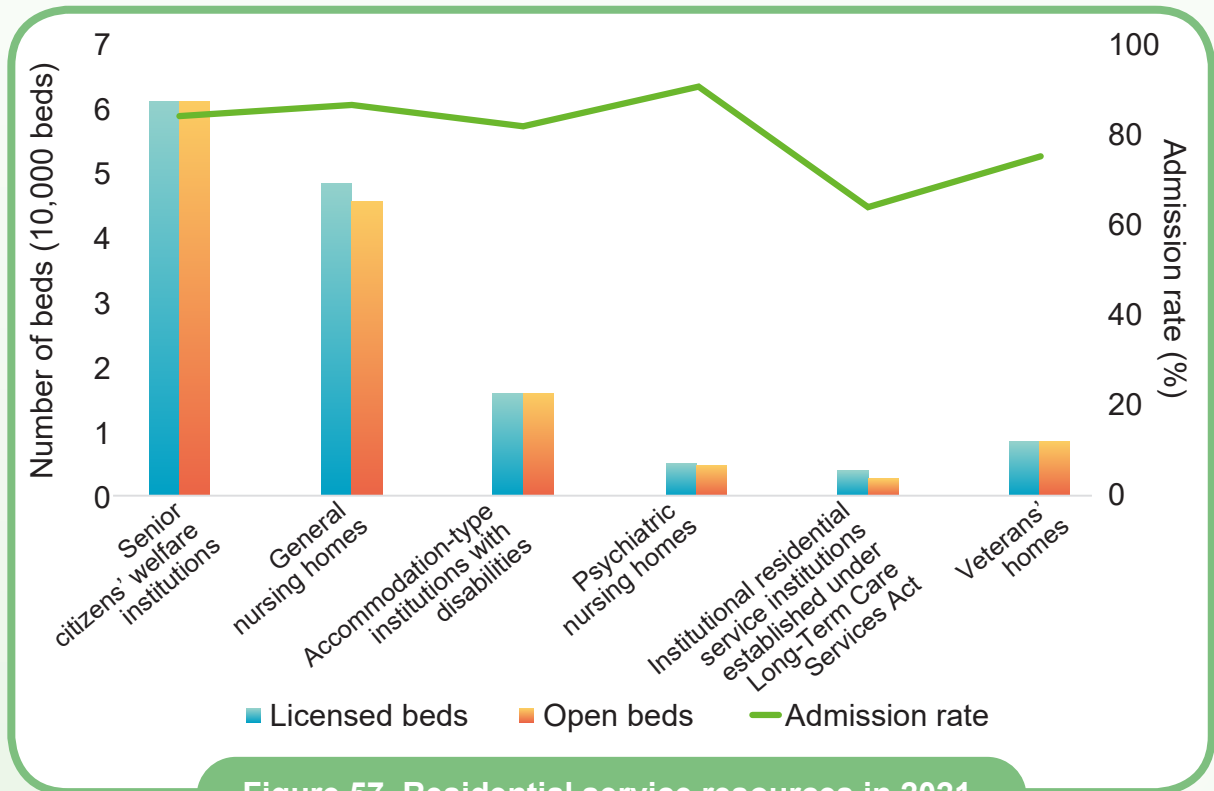


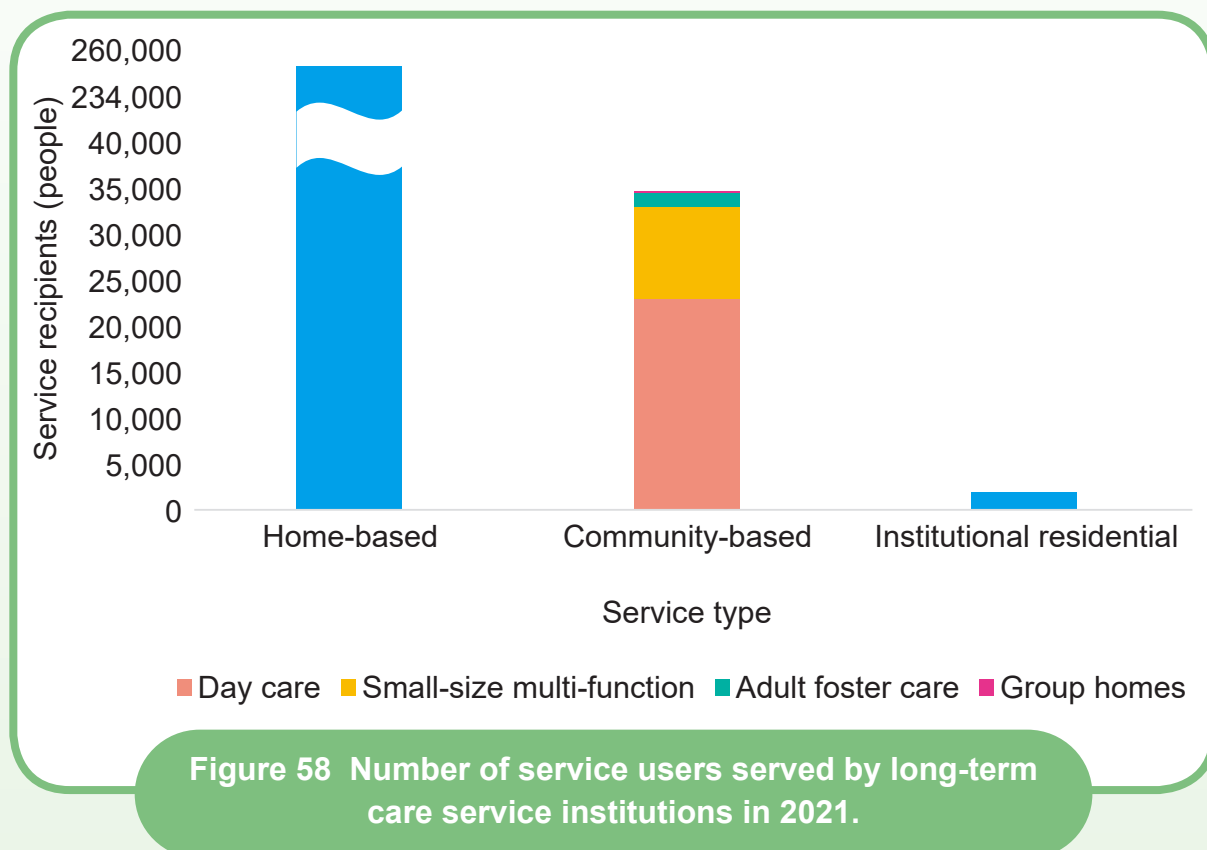
Figure 57 Residential service resources in 2021.

Source: Ministry of Health and Welfare

Note: For further details, please refer to Appendix 48.

11. Number of service users served by long-term care service institutions

The number of service users served by long-term care service institutions was the highest for home-based services (250,377 individuals) followed by day care (22,967 individuals); the number of service users served was the lowest for group homes in 2021 (232 individuals; Figure 58).



Source: Expense audit platform and long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: In accordance with *Standards for Establishment of Long-Term Care Service Institutions*, small-size multi-function institutions can offer multiple long-term care services such as home services, temporary housing, and day care. The number of small-size multi-function service users refers to the number of people served by such institutions. The number of home and day care service users served by small-size multi-function institutions is counted repeatedly in the number of service users served by home-based and day care institutions.

Note 2: The number of service users served by institutional residential service institutions only counts the number of residential institutions that have been established and licensed in accordance with *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act*. (Excludes senior citizens' welfare institutions, veterans' homes, nursing homes, and accommodation-type institutions with disabilities.)

Note 3: For further details, please refer to Appendix 49.

12. Long-term care workforce

The long-term care workforce included care worker, home care service supervisor, care manager, and case manager of community integrated service center. The majority of the long-term care workforce are care workers (total, 74,601 individuals; male, 11,562 individuals; female, 63,039 individuals), and care managers form the minority (total, 1,302 individuals; male, 112 individuals; female, 1,190 individuals) in 2021 (Figure 59).

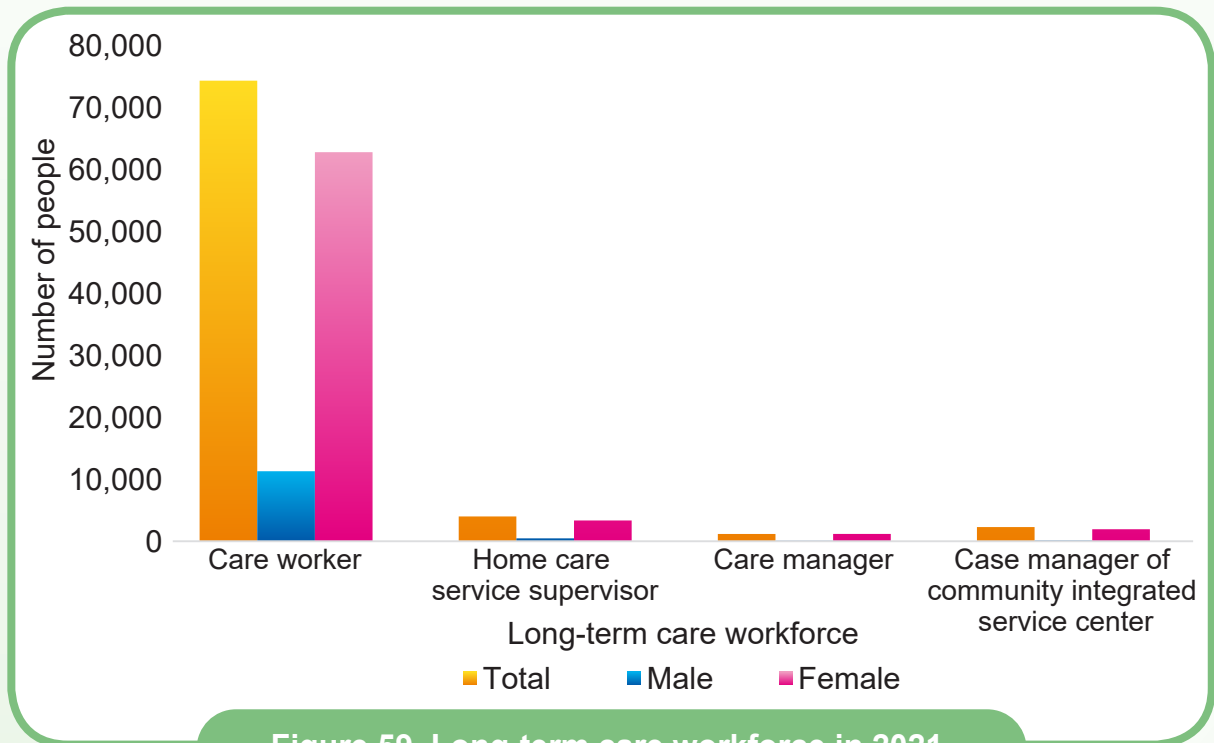


Figure 59 Long-term care workforce in 2021.

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: Long-term care personnel refer to personnel who have been trained and certified by *Long-Term Care Services Act* and have been certified to provide long-term care services. According to Article 2 of *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*, the five categories of long-term care personnel, if they have been trained and certified to obtain long-term care personnel certification documents, shall comply with the provisions of Article 19, Paragraph 1 of *Long-Term Care Services Act*. Only after registered in or reporting support to a long-term care institution can the service be provided.

Note 2: Anyone certified as long-term care personnel may register as long-term care personnel, which may lead to repeated values among profession types. Possible repeated values are because *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*. There is no restriction on long-term care personnel practicing registration is limited to one place. At present, only care specialists must be employed full-time; other personnel are not required to be employed full-time.

Note 3: The number of personnel in these four categories is based on registrations retrieved from the long-term care institutions and management information systems for long-term care personnel.

Note 4: The types of institutions where care workers work in comprise institutions established under *Long-Term Care Services Act* that offer home-based, community-based, institutional residential and comprehensive services, and senior citizens' welfare institutions, nursing homes, accommodation-type institutions with disabilities, and veterans' homes established under other laws and regulations.

Note 5: Care managers refer to care management specialist and care management supervision.

Note 6: Medical personnel who obtain certification through the above-mentioned methods are eligible for long-term care personnel.

Note 7: For further details, please refer to Appendix 50.

13. Dementia diagnosis and service rate

New Taipei City had the highest estimated and confirmed cases of dementia (estimated cases, 45,833 individuals; confirmed cases, 26,737 individuals) in 2021. The dementia diagnostic rate was the highest in Hualien County (85.3%) and lowest in Kinmen County (50.2%; Table 23).

Table 23 Dementia diagnostic rate in each county and city in 2021.

Unit: People, Percentage

	Estimated cases (A)	Confirmed cases (B)	Diagnostic rate (B/A)
Total	306,039	199,271	65.1
New Taipei City	45,833	26,737	58.3
Taipei City	40,821	22,482	55.1
Taoyuan City	23,011	12,447	54.1
Taichung City	29,799	19,081	64.0
Tainan City	25,695	17,172	66.8
Kaohsiung City	34,907	24,517	70.2
Yilan County	6,879	5,743	83.5
Hsinchu County	6,562	3,471	52.9
Miaoli County	8,313	5,025	60.5
Changhua County	18,320	14,677	80.1
Nantou County	7,971	6,342	79.6
Yunlin County	11,634	9,780	84.1
Chiayi County	9,360	7,397	79.0
Pingtung County	11,918	8,088	67.9
Taitung County	3,155	1,920	60.9
Hualien County	4,728	4,031	85.3
Penghu County	1,662	851	51.2
Keelung City	5,111	3,020	59.1
Hsinchu City	4,883	2,512	51.4
Chiayi City	3,616	3,042	84.1
Kinmen County	1,724	865	50.2
Lienchiang County	137	71	51.8

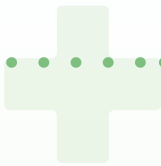
Source: Ministry of Health and Welfare

Note 1: The number of estimated cases of dementia is based on December 2021 census data published by the Ministry of the Interior and dementia prevalence rates. (Population ages 50–64 × 0.10% + population ages 65–69 × 3.40% + population 70–74 × 3.46% + population 75–79 × 7.19% + population 80–84 × 13.03% + population 85–89 × 21.92% + population 90 and older × 36.88%.)

Note 2: Confirmed number of dementia cases was calculated as the sum of dementia cases retrieved from systems established by the Ministry of Health and Welfare while eliminating those who are deceased. Confirmed cases by municipality are determined on the basis of the household registration of the case patient.

Note 3: Target diagnostic rates of dementia from 2021 to 2025 are 57%, 60%, 63%, 67%, and 70%, in that order.

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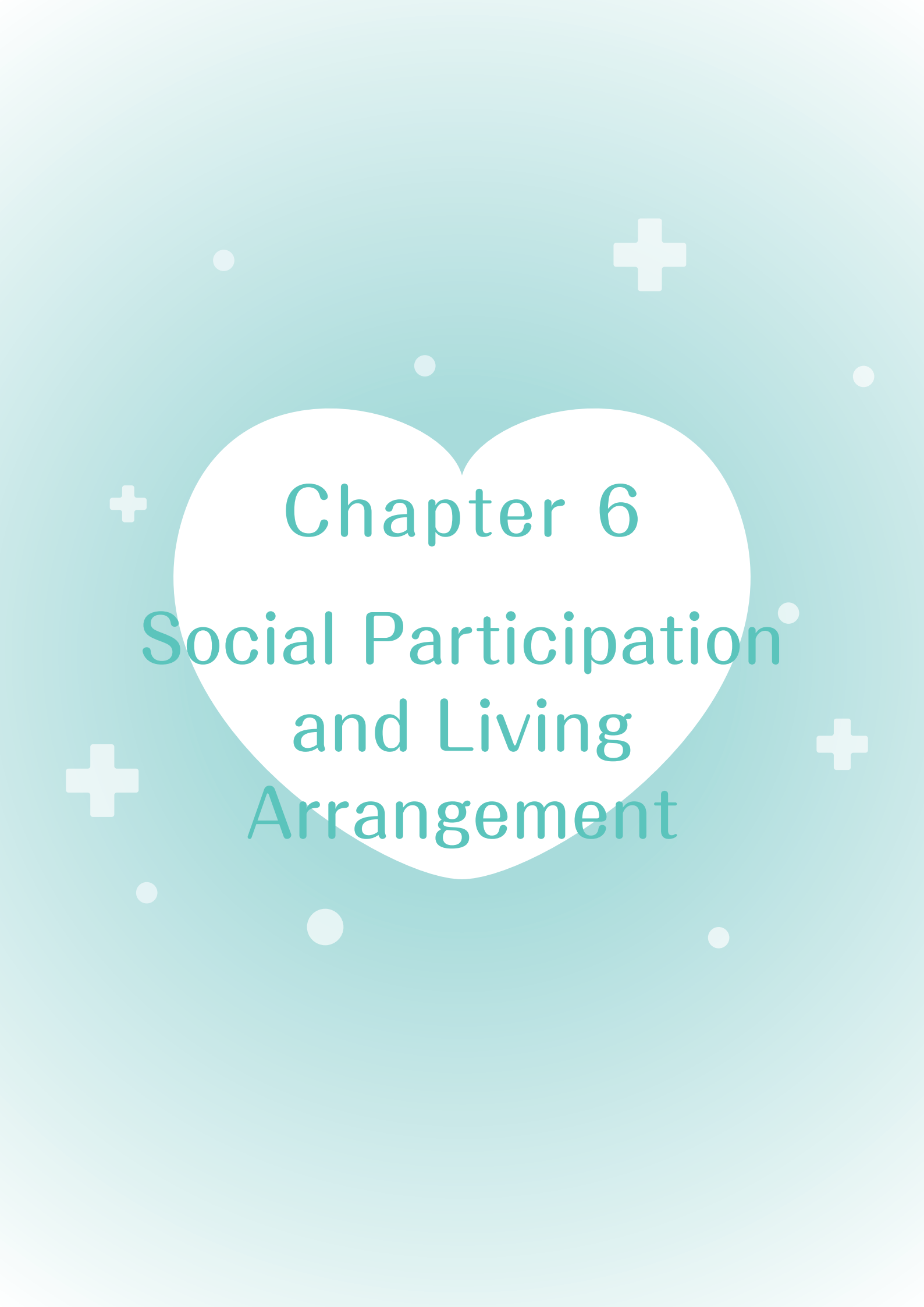
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Chapter 6

Social Participation and Living Arrangement

Social Participation and Living Arrangement

We used older people living alone booked for caring, living arrangements, and social participation as indicators of older people's levels of social participation and living conditions.

The percentage of people aged ≥ 65 years living alone booked for caring declined from 1.9% (48,053) in 2012 to 1.1% (42,929) in 2021. Housing units with only one older person living alone accounted for 71.2%–76.1% of the housing units with only older people. In addition, the percentage of individuals aged ≥ 65 years living with family members was the highest (2005, 61.1%; 2009, 68.5%; 2013, 64.2%; 2017, 66.4%), whereas the percentage of those living with other relatives or friends was the lowest (2005, 0.8%; 2009, 0.8%; 2013, 0.6%; 2017, 1.0%) from 2005 to 2017.

The majority of people aged ≥ 65 years (over 85% of males and over 81% of females) did not serve as volunteers from 2005 to 2017. Regarding religious activities and neighborhood activities, more than 60% and 70% of the older people did not participate in religious activities and neighborhood activities, respectively.



1. Older people living alone booked for caring

The percentage of people aged ≥ 65 years living alone booked for caring exhibited a downward trend from 1.9% in 2012 to 1.1% in 2021 (42,929 people; Figure 60).

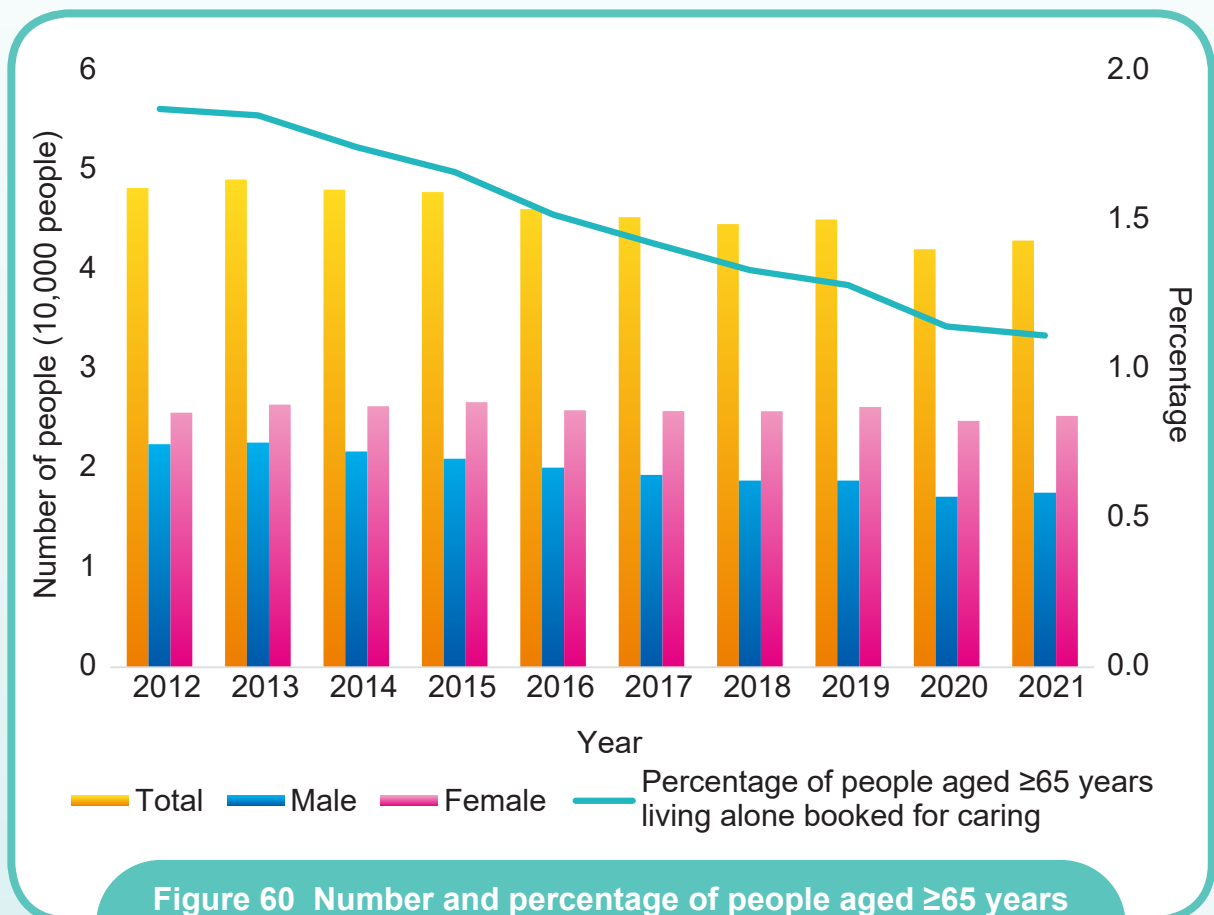


Figure 60 Number and percentage of people aged ≥ 65 years living alone booked for caring from 2012 to 2021.

Source: Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

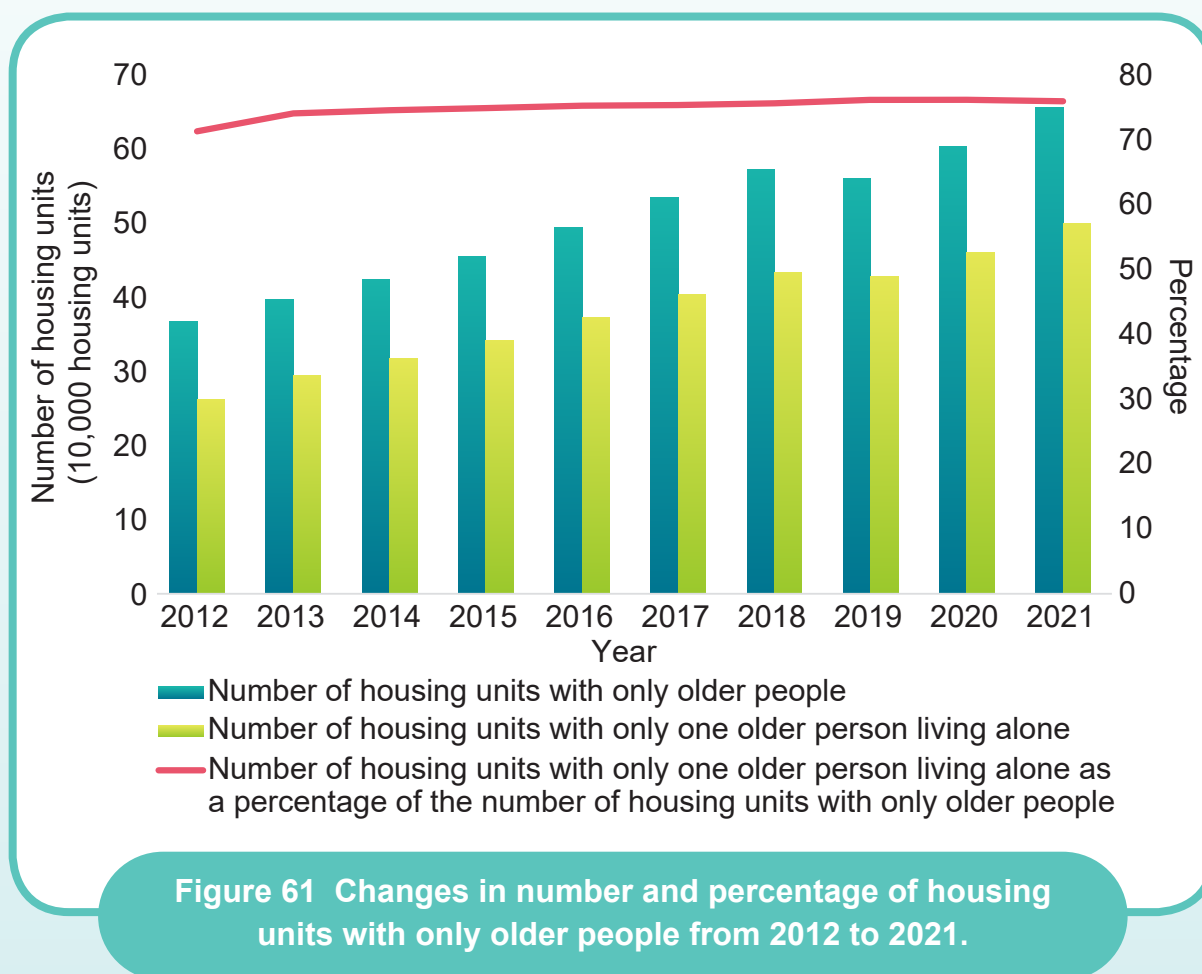
Note 1: Older people living alone booked for caring refers to people aged 65 years and older who have no lineal descendants or whose lineal descendants do not live in the same county or city and who live alone, whose co-residents are unable to care for them, couples aged 65 years and older living together, or who booked for caring through visits and assessments by interviewers from the Social Affairs Bureau (Department) of each county (city) government.

Note 2: Percentage = the number of people aged ≥ 65 years living alone booked for caring / the mid-year population aged 65 years and older $\times 100\%$.

Note 3: For further details, please refer to Appendix 51.

2. Changes in number of housing units with only older people

The number of housing units with only older people rose from 366,207 to 656,027, and the number of housing units with only one older person living alone rose from 260,812 in 2012 to 498,697 in 2021. The number of housing units with only one older person living alone as a percentage of the number of housing units with only older people was between 71.2% and 76.1% (Figure 61).



Source: Real Estate Information Platform, Ministry of the Interior: <https://pip.moi.gov.tw/V3/E/SCRE0401.aspx>

Note 1: Number of housing units with only one older person living alone as a percentage of the number of housing units with only older people = the number of housing units with only one older person living alone / the number of housing units with only older people $\times$ 100%.

Note 2: For further details, please refer to Appendix 52.

3. Living arrangements

The primary living arrangement of participants aged 65 years and older was living with family members (2005, 61.1%; 2009, 68.5%; 2013, 64.2%; 2017, 66.4%), and the percentage of participants living only with other relatives or friends was the lowest (2005, 0.8%; 2009, 0.8%; 2013, 0.6%; 2017, 1.0%) from 2005 to 2017.

Stratified by gender, the percentage of males living with family members was the highest (2005, 55.9%; 2009, 62.1%; 2013, 60.6%; 2017, 63.8%) and that of those living with other relatives or friends was the lowest (2005, 0.8%; 2009, 0.7%; 2013, 0.7%; 2017, 1.1%). The family composition of females was similar to that of males. Most females lived with family members (2005, 66.3%; 2009, 74.5%; 2013, 67.5%; 2017, 68.6%), and the percentage of females living with other relatives or friends was the lowest (2005, 0.7%; 2009, 1.0%; 2013, 0.6%; 2017, 1.0%; Figure 62).

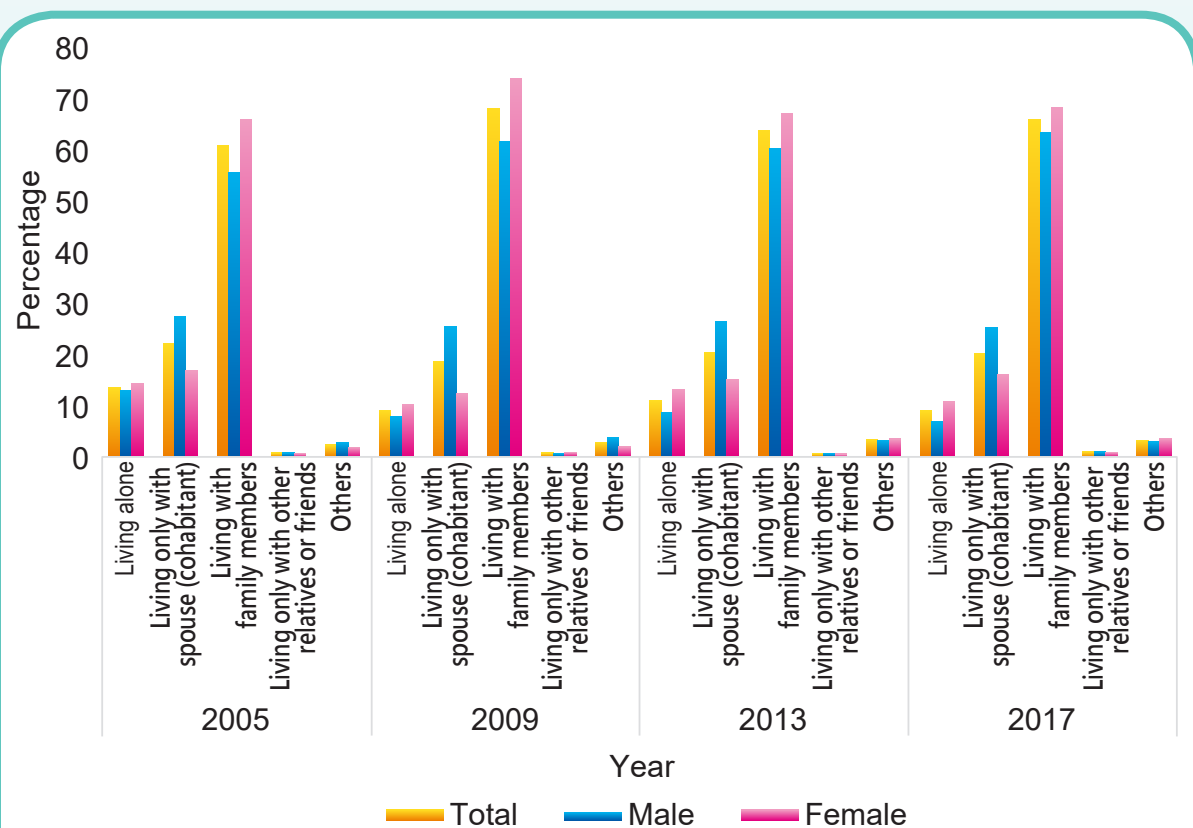


Figure 62 Family composition of individuals aged 65 years and older from 2005 to 2017.

Source: Senior Citizen Condition Survey: <https://dep.mohw.gov.tw/DOS/lp-5095-113.html>

Note 1: "Living only with spouse (cohabitant)" includes those living with their spouse (cohabitant) and other non-linear relatives.

Note 2: "Living with family members" includes two-generation families or three- or multi-generation families.

Note 3: "Others" includes those living in nursing homes and long-term care institutions or with foreign caregivers.

Note 4: For further details, please refer to Appendix 53.

4. Social participation

8.1%–12.3% of people aged 65 years and older responded that they served as volunteers from 2005 to 2017. Stratified by age, those aged 65–74 years accounted for the highest percentage of volunteers (11.3%–16.8%), and this percentage has been increasing. Stratified by gender, in 2005 and 2009, more males than females served as volunteers; in 2013 and 2017, more females than males served as volunteers. A total of 11.7%–14.3% of males aged 65–74 years reported to be serving as volunteers, with percentages of 4.0%–8.6% and 0.7%–5.4% for males aged 75–84 years and ≥85 years, respectively. A total of 10.8%–18.9% of females aged 65–74 years reported to be serving as volunteers, with percentages of 4.4%–8.3% and 0%–2.8% for females aged 75–84 years and ≥85 years, respectively. The 65–74 age group had the highest percentage of participants, both males and females, who responded positively. With an increase in age, the percentage of participants serving as volunteers decreased (Figure 63).



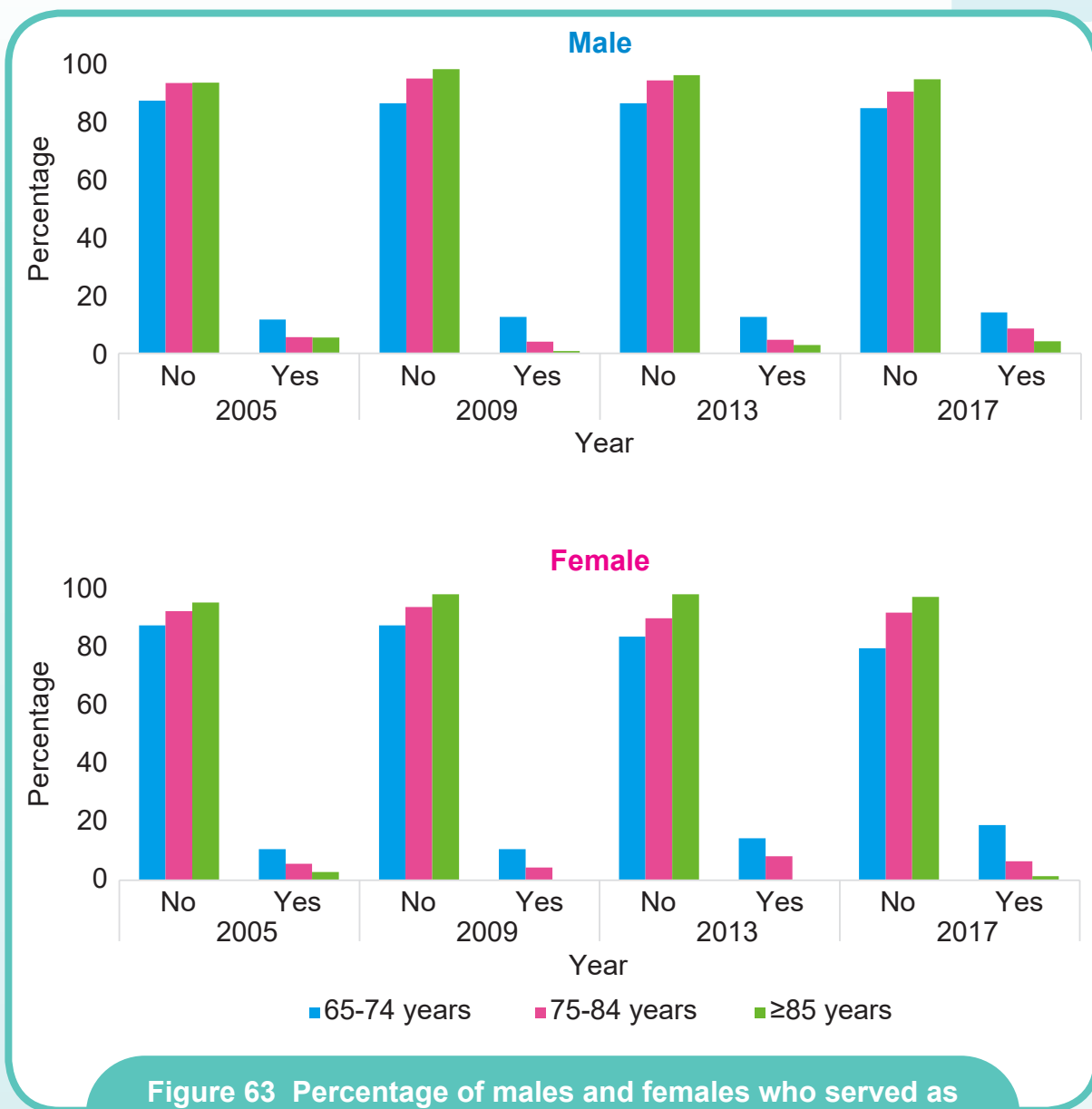


Figure 63 Percentage of males and females who served as volunteers from 2005 to 2017.

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of volunteers = the weighted number of volunteers / the weighted number of completed samples × 100%.

Note 3: Respondents who indicated that they have never served as a volunteer are regarded as non-volunteers, whereas those who indicated that they have rarely, occasionally, or often served as a volunteer are regarded as volunteers.

Note 4: For further details, please refer to Appendix 54.

From 2005 to 2017, the percentage of people aged 65 years and older who responded that they occasionally or regularly participated in religious activities was 15.1%–21.6% and 8.4%–11.9%, respectively. Stratified by age, the highest percentage of occasional participation (17.6%–27.6%) was noted in the 65–74 age group. The percentage of those who regularly participated in religious activities was higher (9.3%) in the 75–84 age group than in the 65–74 age group (9.2%) in 2005. The percentage was the highest in the 65–74 age group (10.3%–14.6%) from 2009 to 2017. Stratified by gender, more males (15.2%) participated occasionally in religious activities than did females (15.0%) in 2017; in the remaining study years, more females than males participated occasionally in religious activities (female, 22.7% in 2005; 19.8% in 2009; 17.6% in 2013; male, 20.4% in 2005; 16.4% in 2009; 15.9% in 2013). Regarding regular participation, except in 2013, in which the percentage of males (12.1%) who regularly participated in religious activities was higher than that of females (11.1%), in the remaining study years, more females than males regularly participated in religious activities (female, 9.9% in 2005; 10.2% in 2009; 13.0% in 2017; male, 8.1% in 2005; 6.4% in 2009; 10.6% in 2017). A total of 17.2%–27.5% of males aged 65–74 years responded as participating occasionally and 8.2%–13.8% of them responded as participating regularly in religious activities. A total of 18.0%–27.6% of females aged 65–74 years responded as participating occasionally and 10.1%–16.8% of them responded as participating regularly in religious activities. The percentage of both males and females participating in religious activities both occasionally and regularly declined with advancing age, except for females in 2005 (Figure 64).



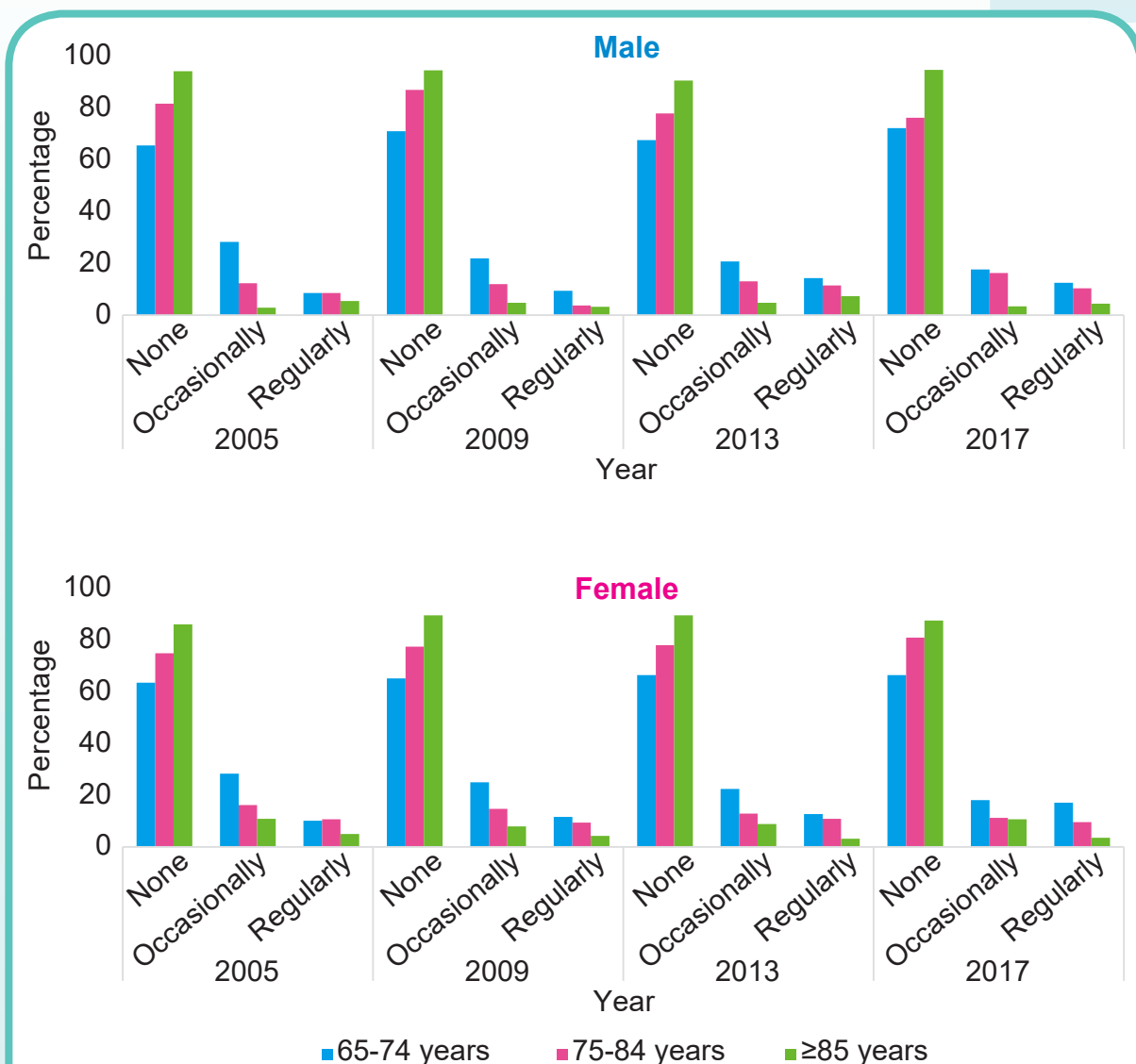


Figure 64 Percentage of males and females who participated in religious activities from 2005 to 2017.

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of religious activity participation = the weighted number of people who participate in religious activities / the weighted number of completed samples × 100%.

Note 3: For further details, please refer to Appendix 55.

From 2005 to 2017, the percentage of people aged 65 years and older who responded that they occasionally or regularly participated in community or neighborhood group activities was 11.1%–14.5% and 10.8%–11.7%, respectively. Stratified by age, the highest percentages of occasional and regular participation in community or neighborhood group activities were observed in the 65–74 age group. Stratified by gender, except in 2017, in which the percentage of females (15.0%) who occasionally participated in community or neighborhood group activities was higher than that of males (13.9%), in the other study years, the percentage was higher among males than among females. Moreover, except in 2009, in which a higher percentage of females (11.9%) regularly participated in community or neighborhood group activities than males (10.9%), in the other study years, the percentage was higher among males than among females. Furthermore, except in 2013, in which the highest percentage of occasional participation was noted in the 75–84 age group (15.8%), in the other study years, the percentage was the highest in the 65–74 age group, with the percentage declining with advancing age. Except for 2017, in which the highest percentage (15.3%) of regular participation was observed in the 75–84 age group, in the other study years, the percentage was the highest in the 65–74 age group. Among the three age groups, the 65–74 age group had the highest percentage of females participating in community or neighborhood group activities occasionally or regularly, with the percentage declining with advancing age (Figure 65).



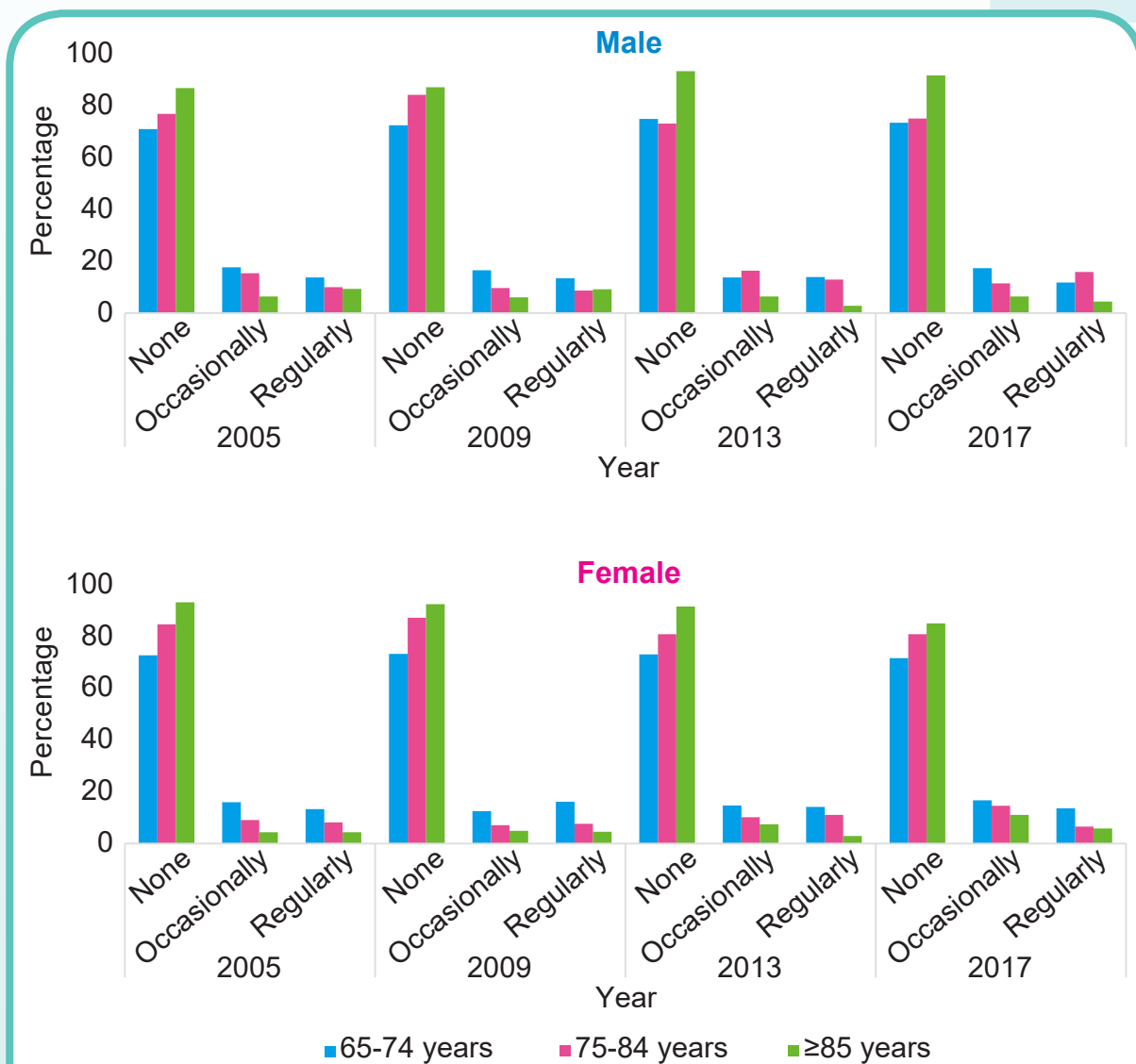


Figure 65 Percentage of males and females who participated in community or neighborhood activities from 2005 to 2017.

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of community or neighborhood activities participation = the weighted number of people who participate in community or neighborhood activities / the weighted number of completed samples × 100%.

Note 3: For further details, please refer to Appendix 56.

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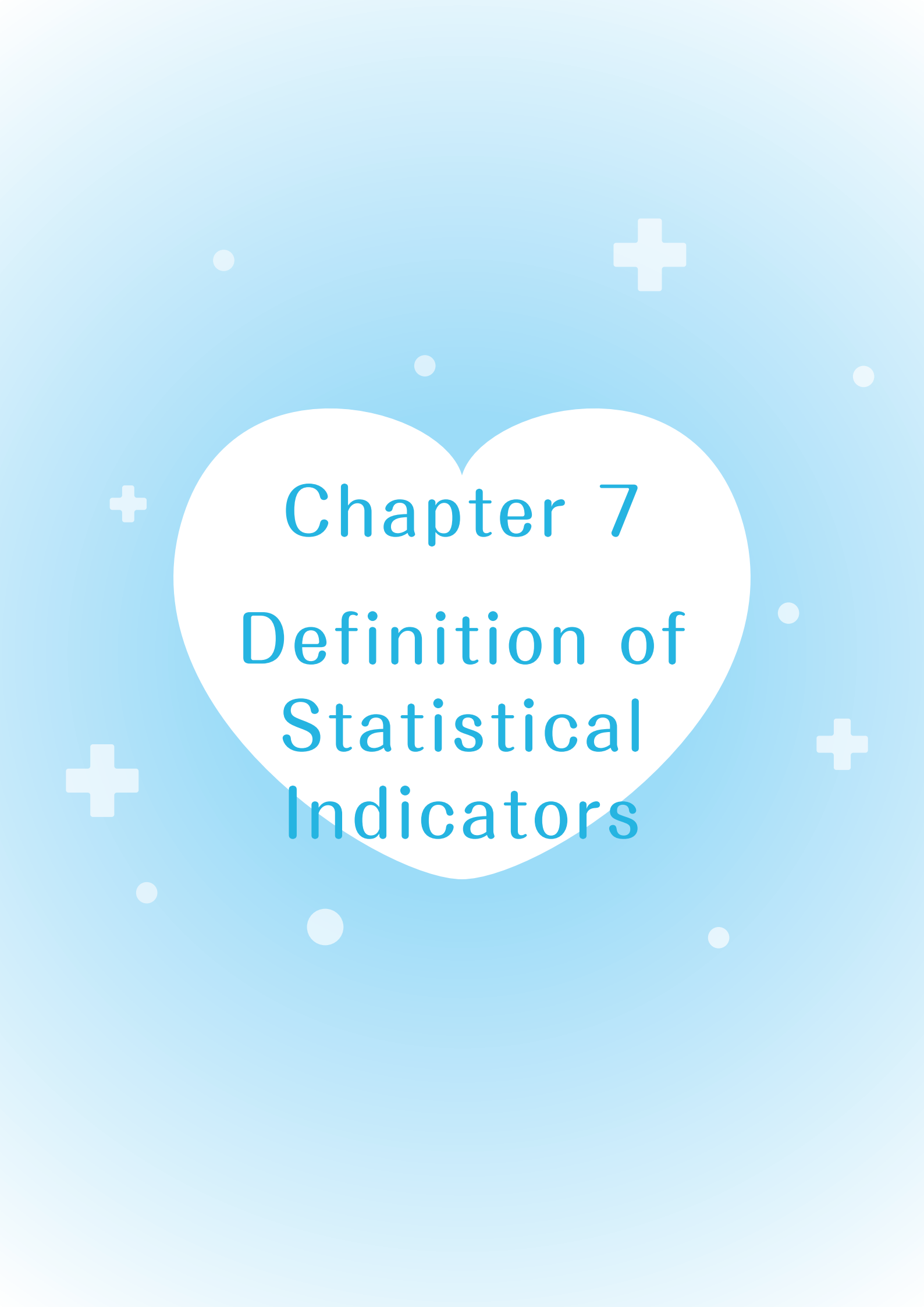
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Chapter 7

Definition of Statistical Indicators

Chapter 1 Demographics

I. The older population

(1) Definition:

1. The 1960–2020 year-end population data were retrieved from the Department of Household Registration, Ministry of the Interior.
2. The 2030–2050 projections are based on the NDC medium scenario projections. The medium scenario assumes that the active promotion of population policies by the government will halt the declining total fertility rate and result in a slight increase in population by 1.2 people by 2045.
3. The older population is defined as people aged 65 years and older.

(2) Source:

1. Department of Household Registration, Ministry of the Interior:
<https://www.ris.gov.tw/app/portal/346>, download date 12/03/2021.
2. National Development Council:
<https://pop-proj.ndc.gov.tw/download.aspx?uid=70&pid=70>, download date 12/03/2021.

II. Population distribution in townships

(1) Calculation formula:

Percentage of older population in each township of Taiwan = the population in a specific age group in each township / the total population in each township × 100%.

(2) Source:

Socioeconomic Geographic Information System:
https://segis.moi.gov.tw/STAT/Web/Platform/QueryInterface/STAT_QueryInterface.aspx?Type=0, download date 13/07/2022.

III. Marital status

(1) Definition:

1. “Unmarried” refers to individuals who have never been married.
2. “Currently married” refers to officially married individuals whose spouse is still alive and divorced or widowed individuals who remarried and whose spouse is still alive.
3. “Divorced / Terminated marriage” refers to individuals who legally terminated their marriage and have not remarried.
4. “Widowed” refers to individuals who have not remarried after their spouse died or was declared dead.

(2) Calculation formula:

Percentage = the number of individuals with marital status (stratified by gender and age group) / the year-end population (stratified by gender and age group) $\times$ 100%.

(3) Source:

Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel, download date 10/03/2022.

IV. Educational attainment

(1) Calculation formula:

1. Percentage = the number of individuals with educational attainment / the mid-year population aged 65 years and older $\times$ 100%.

2. Percentage = the number of individuals with a primary school graduation and under by age group / the mid-year population aged 65 years and older by age group $\times$ 100%.

(2) Source:

Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel, download date 10/03/2022.

V. Indigenous peoples aged 55 years and older

(1) Calculation formula:

1. Percentage = the population of indigenous peoples (general population) aged 55 years and older / the mid-year population of indigenous peoples (general population) $\times$ 100%.

2. Percentage = the population of indigenous peoples aged 55 years and older by ethnic group / the population of indigenous peoples by ethnic group $\times$ 100%.

3. Percentage = the population of indigenous peoples aged 55 years and older by age group in each ethnic group / the population of indigenous peoples by ethnic group $\times$ 100%.

(2) Source:

1. Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>, download date 10/03/2022.

2. Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel, download date 10/03/2022.

VI. Veteran population

Source:

Veterans Affairs Council:

<https://www.vac.gov.tw/cp-2009-2898-1.html>, download date 06/09/2022.

Chapter 2 Economic Status

I. Low-income households

(1) Calculation formula:

Percentage = the number of individuals aged 65 years and older in low-income households / the mid-year population aged 65 years and older $\times$ 100%.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>, download date 16/03/2022.

II. Mid or low-income older people receiving the living allowance

(1) Calculation formula:

Percentage = the number of individuals aged 65 years and older receiving the living allowance / the mid-year population aged 65 years and older $\times$ 100%.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>, download date 16/03/2022.

III. Beneficiaries under national pension

(1) Definition:

The National Pension Program offers three annuity payments, including the old-age pension, disability pension, and survivor pension, as well as two lump sum benefits, including the maternity benefits and funeral benefits. This report only considered the old-age basic guaranteed pension payments, old-age pension payments, disability pension payments, disability basic guaranteed pension payments, and survivor pension payments.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/dos/cp-5223-62358-113.html>, download date 05/09/2022.

IV. The employed

(1) Calculation formula:

Percentage = the number of employed individuals aged 65 years and older / the mid-year population aged 65 years and older $\times$ 100%.

(2) Source:

Yearbook of Manpower Survey Statistics: <https://www.stat.gov.tw/ct.asp?xItem=37200&ctNode=517&mp=4>, download date 31/03/2022.

V. Average monthly living expenses

(1) Definition:

“Available living expenses” refers to the amount of money one may spend on food, clothing, housing, transportation, education, and entertainment in a month after deductions for consumer durables and other non-recurring expenses.

(2) Source:

2005, 2009, 2013, 2017 Senior Citizen Condition Survey:
<https://dep.mohw.gov.tw/DOS/lp-5095-113.html>, download date 09/11/2021.

Chapter 3 Health Status

I. Life expectancy

(1) Definition:

1. Life expectancy at birth refers to the average number of years a newborn infant is expected to live.
2. Life expectancy at age 65 refers to the average number of years that an individual is expected to live after reaching age 65.

(2) Source:

Statistical Information Network, Ministry of the Interior:
<https://statis.moi.gov.tw/micst/stmain.jsp?sys=100>, download date 06/09/2022.

II. Healthy life expectancy

(1) Definition:

Healthy life expectancy at birth refers to the expected number of years an individual remains healthy and does not depend on others. The survival curves for disease, functional disorder, and death were analyzed to calculate the healthy life survival rates and life expectancy without chronic disease for each age group.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/DOS/cp-5082-55400-113.html>, download date 06/09/2022.

III. Leading causes of death

(1) Calculation formula:

Crude death rate = the number of deaths for each cause of death / the mid-year population $\times 100,000$.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/lp-5069-113.html>, download date 09/11/2021.

IV. Leading cancer causes of death

(1) Calculation formula:

Crude death rate = the number of deaths from cancer / the mid-year population $\times$ 100,000.

(2) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/lp-5069-113.html>, download date 09/11/2021.

V. Charlson comorbidity index (CCI)

(1) Definition:

1. This annual report used Deyo's CCI (Deyo et al., 1992) as the comorbidity index and weights defined by Chu and Wu (2010). Through CD and DD of NHIRD to understand the disease profile of each patient in that year; the patient was determined to have the disease if three records of outpatient visits or one record of inpatient visit related to that disease in the past year was available, and multiplied by the weight of the disease to obtain the CCI score for each person, and then the mean score was calculated. The diagnostic codes and the weights of the diseases are presented in Table 24.

2. Age-standardized prevalence rates, age-standardized CCI scores:

Based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older having each CCI disease / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

(4) References:

1. Deyo, R. A., Cherkin, D. C., & Ciol, M. A. (1992). Adapting a clinical comorbidity index for use with ICD-9-CM administrative databases. *Journal of clinical epidemiology*, 45(6), 613–619.

[https://doi.org/10.1016/0895-4356\(92\)90133-8](https://doi.org/10.1016/0895-4356(92)90133-8)

2. 朱育增、吳肖琪（2010）。回顧與探討次級資料適用之共病測量方法。台灣公共衛生雜誌，29(1)，8-21。

<https://doi.org/10.6288/TJPH2010-29-01-02>

[Chu, Y. C., & Wu, S. C. (2010). A Review of claims-based Comorbidity Measures. *Taiwan Journal of Public Health*, 29(1), 8-21, 2010.]

Table 24 ICD-9 and ICD-10 code definition for CCI.

Comorbidities	Weights	ICD-9	ICD-10
Myocardial infarction	1	410.xx, 412	I21.x, I22.x, I25.2
Congestive heart failure	1	428.x	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5–I42.9, I43.x, I50.x, P29.0
Peripheral vascular disease	1	441.x, 443.9, 785.4, V43.4, 38.48(P)	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9
Cerebrovascular disease	1	430-437.x, 438	G45.x, G46.x, H34.0, I60.x–I69.x
Dementia	1	290.x	F00.x–F03.x, F05.1, G30.x, G31.1
Chronic pulmonary disease	1	490-496, 500-505, 506.4	I27.8, I27.9, J40.x–J47.x, J60.x–J67.x, J68.4, J70.1, J70.3
Rheumatologic disease	1	710.0-710.1, 710.4, 714.0-714.2, 714.81, 725	M05.x, M06.x, M31.5, M32.x–M34.x, M35.1, M35.3, M36.0
Peptic ulcer disease	1	531.0x–531.3x, 531.4x–531.7x, 531.9, 532.0x–532.3x, 532.4x–532.7x, 532.9, 533.0x–533.3x, 533.4x–533.7x, 533.9, 534.0x–534.3x, 534.4x–534.7x, 534.9	K25.x–K28.x

Continued Table 24 ICD-9 and ICD-10 code definition for CCI.

Comorbidities	Weights	ICD-9	ICD-10
Mild liver disease	1	571.2, 571.4x, 571.5, 571.6	B18.x, K70.0–K70.3, K70.9, K71.3– K71.5, K71.7, K73.x, K74.x, K76.0, K76.2–K76.4, K76.8, K76.9, Z94.4
Diabetes	1	250.0x-250.3x, 250.7x	E10.0, E10.1, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9
Diabetes with chronic complications	2	250.4x-250.6x	E10.2–E10.5, E10.7, E11.2–E11.5, E11.7, E12.2–E12.5, E12.7, E13.2– E13.5, E13.7, E14.2–E14.5, E14.7
Hemiplegia or paraplegia	2	342.x, 344.1	G04.1, G11.4, G80.1, G80.2, G81.x, G82.x, G83.0–G83.4, G83.9
Renal disease	2	582.x, 583.0- 583.7, 585, 586, 588.x	I12.0, I13.1, N03.2–N03.7, N05.2– N05.7, N18.x, N19.x, N25.0, Z49.0– Z49.2, Z94.0, Z99.2
Any malignancy, including leukemia and lymphoma	2	140.x-172.x, 174.x-195.x, 200.xx-208.xx	C00.x–C26.x, C30.x–C34.x, C37.x– C41.x, C43.x, C45.x–C58.x, C60.x– C76.x, C81.x–C85.x, C88.x, C90.x– C97.x
Moderate or severe liver disease	3	456.0-456.2x, 572.2-572.8	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7
Metastatic solid tumor	6	196.x-199.x	C77.x–C80.x
Acquired immune deficiency syndrome (AIDS)	6	042.x-044.x	B20.x–B22.x, B24.x

Note: (P) represents the treatment procedure code; x is any number.

VI. Chronic diseases

Stroke

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for stroke are 430–438, and the ICD-10-CM codes are I60–I69.
4. Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by stroke / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Intracranial hemorrhagic stroke

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for intracranial hemorrhagic stroke are 430–432, and the ICD-10-CM codes are I60–I62.
4. Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by intracranial hemorrhagic stroke / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Ischemic stroke

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for ischemic stroke are 433–435, and the ICD-10-CM codes are I63, I65–I66, G45.0, G45.1, G45.2, G45.8, G45.9, G46.0, G46.1, G46.2 and I67.84.
4. Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by ischemic stroke / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Coronary heart disease

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for coronary heart disease are 410–414, and the ICD-10-CM codes are I20–I25.
4. Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by coronary heart disease / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Chronic obstructive pulmonary disease

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for chronic obstructive pulmonary disease are 491–494, 496 and 510, and the ICD-10-CM codes are J41–J45 and J47.
4. Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by chronic obstructive pulmonary disease / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Psychosomatic disorders

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for psychosomatic disorder are 306.x, and the ICD-10-CM codes are F45.x.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by psychosomatic disorder / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Insomnia

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for insomnia are 307.4x and 780.5x, and the ICD-10-CM codes are G47.x and F51.x.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by insomnia / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Depression

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.
2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for depression are 296.2x, 296.3x, 300.4 and 311, and the ICD-10-CM codes are F32.1–F32.9, F33.1–F33.9 and F34.1.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by depression / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Anxiety

(1) Definition:

1. Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

2. The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.
3. The ICD-9-CM codes for anxiety are 300.xx (not including 300.3 or 300.4), and the ICD-10-CM codes are F40.x and F41.x.

(2) Calculation formula:

Crude prevalence = the number of people aged 65 years and older affected by anxiety / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

Hypertension

(1) Definition:

1. Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, systolic blood pressure was over 220 mmHg or under 70 mmHg, and diastolic blood pressure was under 50 mmHg or over 120 mmHg.
2. Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose systolic blood pressure was ≥ 140 mmHg, whose diastolic blood pressure was ≥ 90 mmHg, or who reported a history of hypertension were determined to have hypertension.
3. This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

(2) Calculation formula:

1. Percentage of population with hypertension = the number of people aged 65 years and older with hypertension / the number of people who received checkups $\times$ 100%.
2. Percentage of population with a history of hypertension = the number of people aged 65 years and older with a history of hypertension / the number of people aged 65 years and older with hypertension $\times$ 100%.

(3) Source:

Adult Preventive Health Service Databases.

Diabetes

(1) Definition:

1. Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, and blood sugar was below 5 mg/dL or over 4,000 mg/dL.
2. Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose blood sugar was ≥ 126 mg/dL or who reported a history of diabetes were determined to have diabetes.
3. This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

(2) Calculation formula:

1. Percentage of population with diabetes = the number of people aged 65 years and older with diabetes / the number of people who received checkups $\times 100\%$.
2. Percentage of population with a history of diabetes = the number of people aged 65 years and older with a history of diabetes / the number of people aged 65 years and older with diabetes $\times 100\%$.

(3) Source:

Adult Preventive Health Service Databases.

Hyperlipidemia

(1) Definition:

1. Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, total cholesterol was below 7 mg/dL or over 705 mg/dL, and triglycerides were below 7 mg/dL or over 5,680 mg/dL.
2. Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose total cholesterol was ≥ 200 mg/dL, whose triglycerides were ≥ 150 mg/dL, or who reported a history of hyperlipidemia were determined to have hyperlipidemia.
3. This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

(2) Calculation formula:

1. Percentage of population with hyperlipidemia = the number of people aged 65 years and older with hyperlipidemia / the number of people who received checkups $\times 100\%$.
2. Percentage of population with a history of hyperlipidemia = the number of people aged 65 years and older with a history of hyperlipidemia / the number of people aged 65 years and older with hyperlipidemia $\times 100\%$.

(3) Source:

Adult Preventive Health Service Databases.

VII. Multimorbidity frailty index (mFI)

(1) Definition:

1. The frailty index was quantified using the mFI index proposed by Wen et al. (2017). The mFI selects 32 disease codes to assess frailty, which represents the presence or absence of 32 diseases in binary form: the presence of a disease is represented as 1, and the absence is represented as 0. Through CD and DD of NHIRD to understand the disease profile of each patient in that year; the patient was determined to have the disease if three records of outpatient visits or one record of inpatient visit related to that disease in the past year was available. The mFI score for each person was calculated, and the mean was then taken. The diagnostic codes of the diseases are presented in Table 25.

2. Age-standardized mFI scores:

Based on the world standard population from 2000 and in 5-year age groups.

(2) Calculation formula:

mFI = the number of deficits a patient has / the number of total deficit items (32).

(3) Source:

National Health Insurance Research Database.

(4) Reference:

Wen, Y. C., Chen, L. K., & Hsiao, F. Y. (2017). Predicting mortality and hospitalization of older adults by the multimorbidity frailty index. *PLoS one*, 12(11), e0187825.

<https://doi.org/10.1371/journal.pone.0187825>

Table 25 ICD-9 and ICD-10 code definition for mFl.

Deficits	ICD-9	ICD-10
Other and unspecified anemias	285	D46, D62, D63, D64
Senile and presenile organic psychotic conditions	290	F01, F03, F05
Parkinson's disease	332	G20, G21
Other disorders of eyelids	374	H02
Vertiginous syndromes and other disorders of vestibular system	386	H81, H82, H83
Hypertensive heart disease	402	I11
Other forms of chronic ischemic heart disease	414	I25
Cardiac dysrhythmias	427	I46, I47, I48, I49, R00
Heart failure	428	I50
Occlusion of cerebral arteries	434	I63, I66
Other and ill-defined cerebrovascular disease	437	G45, G46, I67, I68
Late effects of cerebrovascular disease	438	I69
Pneumonia, organism unspecified	486	J18
Chronic bronchitis	491	J41, J42, J44
Asthma	493	J44, J45
Chronic airways obstruction, not elsewhere classified	496	J44
Diseases of esophagus	530	J86, K20, K21, K22, K23
Gastric ulcer	531	K25, K31, K56

Continued Table 25 ICD-9 and ICD-10 code definition for mFI.

Deficits	ICD-9	ICD-10
Duodenal ulcer	532	K26, K56
Disorders of function of stomach	536	K30, K31, K92, K94, R11
Other noninfectious gastroenteritis and colitis	558	K52, K92
Functional digestive disorders, not elsewhere classified	564	K58, K59, K91
Chronic renal failure	585	N18
Other disorders of urethra and urinary tract	599	N13, N36, N39, R31
Hyperplasia of prostate	600	N40, N42
Other cellulitis and abscess	682	K12, L02, L03, L98
Contact dermatitis and other eczema	692	L23, L24, L25, L30, L55, L56, L57, L58, L59
Pruritus and related conditions	698	L28, L29, L98
Other disorders of bone and cartilage	733	H61, M48, M80, M81, M84, M85, M87, M89, M94, S02, S12, S22, S32, S42, S49, S52, S59, S62, S72, S79, S82, S89, S92
General symptoms	780	E03, F51, G40, G47, G93, L74, R40, R41, R42, R44, R45, R50, R52, R53, R55, R56, R61, R68
Symptoms involving cardiovascular system	785	H49, I96, R00, R01, R09, R57, R59, R65
Symptoms involving urinary system	788	N23, N39, R30, R32, R33, R34, R35, R36, R39

VIII. Self-perceived health status

(1) Definition:

1. The self-perceived health status is extracted from the face-to-face interview. Individuals can answer on their own behalf. If the individual is unable to respond due to severe illness, physical weakness, or serious mental problem or mental disability, proxies would not answer these questions. The response is treated as missing.
2. The values weighted to represent the whole population.

(2) Calculation formula:

Percentage = the number of people who self-reported perceived health status / the total population aged 65 years and older $\times$ 100%.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

IX. Mobility, Activities of Daily Living, and Instrumental Activities of Daily Living

(1) Definition:

1. Identification criteria for mobility impairments: When a participant indicates that a mobility item (i.e., bending down, kneeling or squatting, walking from room to room, climbing 10 steps of stairs, walking 400 m, grasping things with fingers, carrying a 4.5-kg item in one hand, raising arms over one's head, and turning a key by hand to perform an unlocking action) is "difficult" (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as "difficult." If a participant indicates that all the abilities of a set of mobility items are "not difficult" to perform, that ability type is regarded as "not difficult."
2. Criteria for ADLs difficulties: When a participant indicates that any ADLs item (i.e., feeding down, bathing, dressing, going to toilet, moving in and out of bed, ambulating) is "difficult" (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as "difficult." If a participant indicates that all the abilities of a set of ADLs items are "not difficult" to perform, that ability type is regarded as "not difficult."
3. Identification criteria for IADLs disability: When a participant indicates that any IADLs item (i.e., preparing meals, shopping, using a telephone, taking medication, housekeeping, doing laundry, managing finances) is "difficult" (slightly difficult, very difficult, or impossible) to perform, the ability type in question is regarded as "difficult." If a participant indicates that all the abilities of a set of IADLs items are "not difficult" to perform, that ability type is regarded as "not difficult."

(2) Calculation formula:

1. Percentage of individuals with mobility impairments = the number of people who have mobility impairments / the number of completed samples aged 65 years and older $\times 100\%$.
2. Percentage of individuals with ADLs difficulties = the number of people who have ADLs difficulties / the number of completed samples aged 65 years and older $\times 100\%$.
3. Percentage of individuals with IADLs disability = the number of people who have IADLs disability / the number of completed samples aged 65 years and older $\times 100\%$.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

X. Cognitive impairment

(1) Definition:

1. MMSE scoring criteria:

- i. MMSE items comprise the assessment of temporal orientation, spatial orientation, immediate memory, attention and calculation, delayed recall, names, verbal repetition, comprehension, reading, writing, drawing, and awareness.
- ii. Attention and calculation ability (ability to count down from 100 by sevens for a total of five times): One point is given for each correct answer. If the interviewer prompts the examinee by providing the correct answer for a count, no points are given.
- iii. Names, comprehension, reading, writing, and drawing: Examinees are not scored if they have blindness, have upper limb dysfunction, exhibit illiteracy or the inability to write, or exhibit the inability to see clearly or have low literacy.

2. Judgment criteria for cognitive impairment: According to the report of the Dementia Epidemiological Research Project, which was conducted (from 2011 to 2013) by the Taiwan Alzheimer's Disease Association and commissioned by the Ministry of Health and Welfare, cognitive impairment is defined as follows:

- i. An educated individual having a total MMSE score of less than 25 points.
- ii. An uneducated individual having a total MMSE score of less than 14 points.

(2) Calculation formula:

Percentage of individuals with possible cognitive impairment = the number of people with possible cognitive impairment / the number of completed samples aged 65 years and older $\times 100\%$.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

XI. Depressive tendencies

(1) Definition:

1. CES-D scoring criteria:

- i. The scale contains 10 items, and the maximum obtainable score is 30 points.
- ii. Unanswered items are excluded from calculations.

2. CES-D scores of <10 indicate no possible depressive tendencies; scores of ≥10 indicate possible depressive tendencies.

3. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

Percentage with possible depressive tendencies = the weighted samples with possible depressive tendencies / the weighted number of completed samples × 100%.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

XII. EuroQol instrument

Source:

2017 National Health Interview Survey.

Chapter 4 Preventive Health Care and Behavior

I. Fecal immunochemical testing (FIT)

(1) Definition:

Adults eligible for preventive FIT in the past 2 years (once every 2 years for those eligible for colorectal cancer).

(2) Calculation formula:

Utilization rate (%) = (Number of eligible adults in the age group who received FIT in the past 2 years / the mid-year population in the age group in the first year) × 100%.

(3) Source:

Health Promotion Administration, Ministry of Health and Welfare:

<https://www.hpa.gov.tw/Pages/List.aspx?nodeid=118>, download date 19/08/2022.

II. Pneumococcal vaccination

(1) Definition:

1. An individual is considered to have received the pneumococcal vaccine based on the National Health Insurance (NHI) code K000492206.
2. Data for this report were obtained from the NHIRD by querying for PPV23. Based on the different levels of diligence in reporting data among hospitals, errors may be present.

(2) Calculation formula:

Pneumococcal vaccination (%) = the number of adults aged 65 years and older who received pneumococcal vaccines / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

III. Influenza vaccination

(1) Definition:

1. An individual is considered to have received the influenza vaccine based on the receipt of outpatient pharmaceutical codes K000453277, K000889206, J000113277, and K000523206 for the influenza vaccine; pharmaceutical codes J000138206 and K001036206 were included since 2019.
2. The 2016 government-funded influenza vaccination program was expanded from 3 million doses to 6 million doses to include junior high school students, high school students, vocational school students, 5-year junior college students (grades 10-12), 6-month postpartum mothers, high-risk adults with chronic diseases under the age of 50, and healthy adults aged 50–64 years. All vaccines were distributed at the end of December, with record highs in terms of the purchase amount and vaccination rate.
3. Data for this report were obtained from the NHIRD and were compared with data on influenza vaccination obtained from the Taiwan Centers for Disease Control Influenza Vaccination Information System (IVIS). Cases are underreported by 50,000 to 540,000 each year, which may be attributable to the following:
 - i. Vaccinations are determined by pharmaceutical codes, and some influenza vaccines may have been omitted from the definition, resulting in underreporting.
 - ii. Hospitals may have entered the wrong pharmaceutical code in their reports.
 - iii. Hospitals may have neglected to fill in the pharmaceutical code when administering influenza vaccinations.
 - iv. Other reasons for data retrieval gaps.

(2) Calculation formula:

Influenza vaccination (%) = the number of adults aged 65 years and older who received influenza vaccines / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

National Health Insurance Research Database.

IV. Body mass index (BMI)

(1) Definition:

Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

BMI = weight (kg) / height square (m^2).

(3) Source of data:

2005–2008, 2013–2016 Nutrition and Health Survey in Taiwan.

V. Dietary diversity score (DDS)

(1) Definition:

1. The dietary diversity score (DDS) is used to measure dietary intake among six major food groups: whole grains, proteins (e.g., beans, fish, eggs, and meat), vegetables, fruits, dairy, and oils and fats (including nuts and seeds). The DDS ranges from 0 to 6; one point is awarded for half a bowl of each food group. Higher scores indicate healthier diet.

2. Values are all calculated by applying nationally representative weights.

3. For more information on DDS, please refer to the following literature:

Lee, M.S.; Huang, Y.C.; Su, H.H.; Lee, M.Z.; Wahlqvist, M.L. A simple food quality index predicts mortality in elderly Taiwanese. *J. Nutr. Health Aging*. 2011, 15, 815–821.

(2) Source of data:

2005–2008, 2013–2016 Nutrition and Health Survey in Taiwan.

VI. Weekly recreational physical activity

(1) Definition:

1. Reference source for the method: WHO. Global Physical Activity Questionnaire (GPAQ) Analysis Guide. https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/gpaq-analysis-guide.pdf?sfvrsn=1e83d571_2

2. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

1. Weekly recreational physical activity levels in 2005, 2009, and 2013 = MET of recreational sports $\times$ weekly recreational sports (min).

2. The weekly recreational physical activity level in 2017 is calculated using the following equation: (number of minutes of moderate recreational sports per week $\times 4$) + (number of minutes of vigorous recreational sports per week $\times 8$).

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

VII. Smoking

(1) Definition:

1. A smoker is defined as an individual who has smoked more than five packs of cigarettes and currently smokes daily or occasionally.
2. An ex-smoker is defined as an individual who has smoked more than five packs of cigarettes and has quit smoking.
3. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

1. Smoking rate = the weighted number of smokers / the weighted number of completed samples $\times 100\%$.
2. Percentage of ex-smokers = the weighted number of people who have smoked / (the weighted number of people who have smoked + the weighted number of current smokers) $\times 100\%$.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

VIII. Alcohol drinking

(1) Definition:

1. An individual who drinks alcohol is defined as an individual who answers “yes” to the question “Do you drink alcohol?” (including occasional or social drinking) in the 2005 questionnaire. The options for the most recent drink include less than once a month, once or twice a month, once a week, once every two or three days, and (almost) every day. An individual who answers “yes” to the question “Have you ever drunk alcohol?” (including occasional or social drinking) in the 2009–2017 questionnaires. The options for the most recent drink include the past seven days, more than one week to one month, more than one month to six months, more than half a year to one year, and more than one year.
2. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

Percentage of people who drink alcohol = the weighted number of drinkers / the weighted number of completed samples $\times 100\%$.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

IX. Betel nut chewing

(1) Definition:

1. An individual who chews betel nuts is defined as an individual who has chewed betel nuts in the previous 6 months.
2. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

Percentage of people who chew betel nuts = the weighted number of individuals who currently chew betel nuts / the weighted number of completed samples $\times$ 100%.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

Chapter 5 Utilization of Health and Long-Term Care

I. Utilization of outpatient visits under the National Health Insurance (NHI)

(1) Calculation formula:

Outpatient health insurance visit rate = the number of outpatients / the mid-year population $\times$ 100,000.

(2) Source:

National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/dos/lp-5103-113.html>, download date 04/03/2022.

II. Utilization of inpatient visits under the National Health Insurance (NHI)

(1) Calculation formula:

Inpatient health insurance visit rate = the number of inpatients / the mid-year population $\times$ 100,000.

(2) Source:

National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/dos/lp-5103-113.html>, download date 04/03/2022.

III. Users of long-term care services

(1) Definition:

1. Long-term care service users refer to the number of people who use long-term care payment and benefits, including care and professional services, transportation services, auxiliary appliance and home accessibility improvement services, and respite services.

2. The long-term care case-mix system is based on the degree of disability, which is divided into 1–8 levels. Among them, the disability level 2–8 can be based on the Rules on the Application for Long-Term Care Service Benefits, and the payment and benefits amount of long-term care services is determined according to the degree of disability.
3. The long-term care case-mix system Level 1 is for the non-incapacitated older people, 1a is for the demented and non-incapacitated, and 1b is for the older people with frailty. This table is the result of the assessment by Long-Term Care Management Centers. Therefore, fewer people with Level 1, 1a, and 1b, and does not represent the total number of such people in the country.
4. The sum of people distributed by age, ethnicity, whether they hold disability certificate, whether they live alone, or whether they hire a foreign caregiver is not equal to the total population because there may be missing values in these fields.

(2) Source:

Long-term care management information platform of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

IV. Number of individuals who required long-term care services

(1) Definition:

1. New applicants indicate that the users have applied for long-term care services during the given year and who did not use long-term care services during the previous year.
2. Evaluated applicants include the number of new evaluation and old case re-evaluation.
3. Existing service users refer to the number of people that can be serviced.

(2) Source:

Long-term care management information platform of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

V. Long-term care service coverage rate

(1) Definition:

1. The estimated demand for long-term care services includes adults aged 65 years and older with physical or mental incapacity, citizens with mental or physical disability and incapacity, indigenous peoples aged 55 years and older with physical or mental incapacity, adults aged 50 years and older with dementia and without disability, and the infirm older people.

2. The number of people using Long-Term Care Plan 2.0 services is determined as the sum of people receiving long-term care payment and benefits, and the number of residential and community-based service users (service recipients who have dementia but do not have a disability and infirm older people are not included). Service recipients of day care, adult foster care, and small-size multi-function services are included among those who receive long-term care payment and benefits; therefore, community-based services in this instance only include group homes.

(2) Calculation formula:

Coverage rate = the number of existing users of long-term care 2.0 service (service recipients who have dementia but do not have a disability and infirm older people are not included) / the estimated number of people who required long-term care services $\times 100\%$.

(3) Source:

Long-term care management information platform of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

VI. Number of long-term care service institutions

(1) Definition:

1. Home-based service long-term care institutions are established in accordance with *Long-Term Care Services Act* that offer home services, which refers to long-term care services provided by a long-term caregiver in the home of the service recipient.
2. Community-based services include day care institutions, adult foster care institutions, small-size multi-function institutions, and group homes. Only day care, adult foster care, and small-size multi-function institutions by contract are included in these statistics; small-size multi-function institutions by contract must be annotated as such in the long-term care institutions and management systems for personnel.
3. Long-term care institutions that offer institutional residential services only includes those that are licensed and offer institutional residential services in accordance with regulations such as *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act* and comprehensive long-term care institutions that offer institutional residential services.
4. Long-term care institutions that offer comprehensive services include those that offer services in two or more service categories: home services, community services, or residential services. Institutions offering comprehensive services may be counted repeatedly according to the categories of service they offer.

(2) Source:

Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare:

<https://ltcpap.mohw.gov.tw/molc/auth/login?targetUri=%2F>, download date 06/06/2022.

VII. Number of home-based service long-term care institutions

(1) Definition:

Home-based service long-term care institutions are established in accordance with *Long-Term Care Services Act* that offer home services, which refers to long-term care services provided by a long-term caregiver in the home of the service recipient.

(2) Source:

Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

VIII. Number of community-based service long-term care institutions

(1) Definition:

Only day care, adult foster care, and small-size multi-function institutions by contract are included in these statistics; small-size multi-function institutions by contract must be annotated as such in the long-term care institutions and management systems for personnel.

(2) Source:

Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

IX. Number of residential service long-term care institutions

(1) Definition:

1. Senior citizens' welfare institutions include long-term care, nursing, caring for dementia senior citizens, and domiciliary care institutions. The service recipients of the senior citizens' welfare institutions must be over 65 years old, but if those who are over 60 years old and under 65 years old voluntarily bear the expenses, the senior citizens' welfare institutions may provide long-term care, maintenance or other services depending on the internal facilities.
2. General nursing homes do not have age restrictions and mainly provide care to severely ill older people discharged from the hospital, such as patients requiring nasogastric tubes, urinary catheters, tracheostomy tubes or those who are not severely ill but still require inpatient nursing and health care.

3. Accommodation-type institutions with disabilities are venues that provide residential services to disabled people who require round-the-clock life care, training, or night-time care services.
4. Psychiatric nursing homes do not have age restrictions and mainly provide care to mental health patients whose symptoms of mental illness are stable and chronic and who require life care.
5. Institutional residential service institutions established under *Long-Term Care Services Act* include only licensed long-term care institutions that offer institutional residential services in accordance with regulations such as *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act* and comprehensive long-term care institutions that offer institutional residential services.
6. Admission into veterans' homes is granted to
 - i. Veterans receiving fully government-paid or partially government-paid home-care placement, whose spouse is aged 50 years and older or whose parents are aged 60 years and older, and who has no fixed occupation.
 - ii. The family members and survivors of veterans and the general public who are aged 65 years and older. (For more information, please see Article 4, Paragraph 1, Subparagraph 1 of the VAC Regulations on Applying for Self-Paid Home-Care Placement in Veterans' Homes.)
7. Data as of end of December 2021.

(2) Source:

Ministry of Health and Welfare.

X. Residential service resources

Source:

Ministry of Health and Welfare.

XI. Number of service users served by long-term care service institutions

(1) Definition:

1. In accordance with *Standards for Establishment of Long-Term Care Service Institutions*, small-size multi-function institutions can offer multiple long-term care services such as home services, temporary housing, and day care. The number of small-size multi-function service users refers to the number of people served by such institutions. The number of home and day care service users served by small-size multi-function institutions is counted repeatedly in the number of service users served by home-based and day care institutions.

2. The number of service users served by institutional residential service institutions only counts the number of residential institutions that have been established and licensed in accordance with *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act*. (Excludes senior citizens' welfare institutions, veterans' homes, nursing homes, and accommodation-type institutions with disabilities.)

(2) Source:

Expense audit platform and long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

XII. Long-term care workforce

(1) Definition:

1. Long-term care personnel refer to personnel who have been trained and certified by *Long-Term Care Services Act* and have been certified to provide long-term care services. According to Article 2 of *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*, the five categories of long-term care personnel, if they have been trained and certified to obtain long-term care personnel certification documents, shall comply with the provisions of Article 19, Paragraph 1 of *Long-Term Care Services Act*. Only after registered in or reporting support to a long-term care institution can the service be provided.
2. Anyone certified as long-term care personnel may register as long-term care personnel, which may lead to repeated values among profession types. Possible repeated values are because *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*. There is no restriction on long-term care personnel practicing registration is limited to one place. At present, only care specialists must be employed full-time; other personnel are not required to be employed full-time.
3. The number of personnel in these four categories is based on registrations retrieved from the long-term care institutions and management information systems for long-term care personnel.
4. The types of institutions where care workers work in comprise institutions established under *Long-Term Care Services Act* that offer home-based, community-based, institutional residential and comprehensive services, and senior citizens' welfare institutions, nursing homes, accommodation-type institutions with disabilities, and veterans' homes established under other laws and regulations.

5. Care managers refer to care management specialist and care management supervision.
6. Medical personnel who obtain certification through the above-mentioned methods are eligible for long-term care personnel.

(2) Source:

Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>, download date 06/06/2022.

XIII. Dementia diagnosis and service rate

(1) Definition:

1. The number of estimated cases of dementia is based on December 2021 census data published by the Ministry of the Interior and dementia prevalence rates. (Population ages 50–64 $\times$ 0.10% + population ages 65–69 $\times$ 3.40% + population 70–74 $\times$ 3.46% + population 75–79 $\times$ 7.19% + population 80–84 $\times$ 13.03% + population 85–89 $\times$ 21.92% + population 90 and older $\times$ 36.88%.)
2. Confirmed number of dementia cases was calculated as the sum of dementia cases retrieved from systems established by the Ministry of Health and Welfare while eliminating those who are deceased. Confirmed cases by municipality are determined on the basis of the household registration of the case patient.
3. Target diagnostic rates of dementia from 2021 to 2025 are 57%, 60%, 63%, 67%, and 70%, in that order.

(2) Source:

Ministry of Health and Welfare.

Chapter 6 Social Participation and Living Arrangement

I. Older people living alone booked for caring

(1) Definition:

Older people living alone booked for caring refers to people aged 65 years and older who have no lineal descendants or whose lineal descendants do not live in the same county or city and who live alone, whose co-residents are unable to care for them, couples aged 65 years and older living together, or who booked for caring through visits and assessments by interviewers from the Social Affairs Bureau (Department) of each county (city) government.

(2) Calculation formula:

Percentage = the number of people aged ≥ 65 years living alone booked for caring / the mid-year population aged 65 years and older $\times$ 100%.

(3) Source:

Department of Statistics, Ministry of Health and Welfare:

<https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>, download date 06/04/2022.

II. Changes in number of housing units with only older people

(1) Calculation formula:

Number of housing units with only one older person living alone as a percentage of the number of housing units with only older people = the number of housing units with only one older person living alone / the number of housing units with only older people $\times 100\%$.

(2) Source:

Real Estate Information Platform, Ministry of the Interior:

<https://pip.moi.gov.tw/V3/E/SCRE0401.aspx>, download date 31/03/2022.

III. Living arrangements

(1) Definition:

1. “Living only with spouse (cohabitant)” includes those living with their spouse (cohabitant) and other non-lineal relatives.
2. “Living with family members” includes two-generation families or three- or multi-generation families.
3. “Others” includes those living in nursing homes and long-term care institutions or with foreign caregivers.

(2) Source:

2005, 2009, 2013, 2017 Senior Citizen Condition Survey:

<https://dep.mohw.gov.tw/DOS/lp-5095-113.html>, download date 13/04/2022.

IV. Social participation

(1) Definition:

1. Respondents who indicated that they have never served as a volunteer are regarded as non-volunteers, whereas those who indicated that they have rarely, occasionally, or often served as a volunteer are regarded as volunteers.
2. Values are all calculated by applying nationally representative weights.

(2) Calculation formula:

1. Percentage of volunteers = the weighted number of volunteers / the weighted number of completed samples $\times 100\%$.
2. Percentage of religious activity participation = the weighted number of people who participate in religious activities / the weighted number of completed samples $\times 100\%$.

3. Percentage of community or neighborhood activities participation = the weighted number of people who participate in community or neighborhood activities / the weighted number of completed samples $\times$ 100%.

(3) Source:

2005, 2009, 2013, 2017 National Health Interview Survey.

Metabolic Equivalent of Task (MET) of physical activities

Physical activity	MET	Physical activity	MET
Strolling	3.5	Golf	4.5
Jogging	6	Badminton	4.5
Brisk walking	6	Table tennis	4
Skiping rope	10	Croquet	4
Swimming	6	Tennis	7
Gymnastics	4	Cue sports	2.5
Arm swings	4	Basketball	6
Yoga	4	Other ball games	5.5
Wai Dan Gong	4	Aerobic dance and dance pad	6
Nei Dan Gong	4	Folk and ballroom dance	5.5
Falun Gong	4	Cycling	4
Yuanji dance	4	Hiking	8
Tai chi	4	Weight training	8
Xiang Gong	4	Stair climbing	8
Other forms of qigong	4	Hula hooping	4.5
Soccer	7	Others	3

Source:

1. Ainsworth, B., Haskell, W. L., Herrmann, S. D., Meckes, N., Bassett, D. R., Tudor-Locke, C., Greer, J. L., Vezina, J., Whitt-Glover, M. C., & Leon, A. S. (2011). 2011 compendium of physical activities: A second update of codes and MET values. *Medicine and science in sports and exercise*, 43(8), 1575-1581.

2. Compendium of Physical Activities

<https://sites.google.com/site/compendiumofphysicalactivities/corrected-mets>

Note: 1 MET is defined as 1 kcal/kg/h (expenditure of 1 kilocalorie per kilogram of body weight per hour).

Mobility, Activities of Daily Living (ADLs), Instrumental Activities of Daily Living (IADLs) Questionnaire in 2005.

Activity ability ADLs

B19a. Do you have difficulty doing the following activities alone “**without the help of others and without the support of auxiliary tools**”? **【If the answer is yes, continue on to B19b, B19c and B19e】**

B19b. What causes this activity to be difficult?

B19c. Are you using auxiliary tools? **【If the answer is yes, continue on to B19d】**

B19d. What auxiliary tool do you mainly use?

B19e. Do you have assistance? **【If the answer is yes, continue on to B19f】**

B19f. Who provides you with assistance?

	B19a. Do you have difficulty doing the following activities alone “ without the help of others and without the support of auxiliary tools ”?				B19b. What causes this activity to be difficult?		B19c. Are you using auxiliary tools?		B19d. What auxiliary tool do you mainly use?	B19e. Do you have assistance?		B19f. Who provides you with assistance?
	0. No difficulty	1. Some difficulty	2. Extremely difficult	3. Can't do it at all	Write the cause	* Cause code	0. No	1. Yes	※ Auxiliary tool code	0. No	1. Yes	◎ Assistance provider code
1. Eating	0	1	2	3			0	1		0	1	
2. Wash yourself	0	1	2	3			0	1		0	1	
3. Put on/take off clothes	0	1	2	3			0	1		0	1	
4. Going to the bathroom	0	1	2	3			0	1		0	1	
5. Getting on/off bed	0	1	2	3			0	1		0	1	
6. Walking around indoors	0	1	2	3			0	1		0	1	

*** Cause code:**

01. Chronic disease, such as stroke 02. Accidental injury 03. Old age
04. Physically weakening 05. Congenital malformation or pathological change
06. Amputation 07. Other (Please specify) 08. Don't know why

※ Auxiliary tool code:

01. Walking stick 02. Walking aid 03. Wheel chair 04. Electric vehicle
05. Shifting machine 06. Bed handrails 07. Braces 08. Commode chair
09. Urinal, bedpan 10. Shower chair 11. Eating assistance 12. Clothing assistance
13. Writing/reading assistance

◎ Assistance provider code:

01. Spouse 02. Son 03. Daughter-in-law 04. Daughter 05. Son-in-law
06. Grandson 07. Granddaughter 08. Parents 09. Brother 10. Sister
11. Grandparents-in-law 12. Parents-in-law 13. Grandfather 14. Grandmother
15. Granddaughter-in-law 16. Grandson-in-law 17. Friend 18. Hired nurse
19. Other relatives 20. Other _____

IADLs and mobility

B20a. Do you have difficulty with the following activities “**without the help of others and without the support of auxiliary tools**” because of old age or health problems? 【 This questions asks about **ability, not if the case actually did it**. If the case never did the activity, ask: **If you had to.....** 】

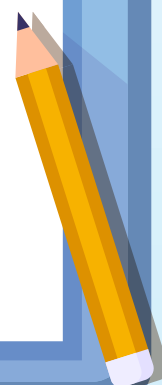
	B20a. Do you have difficulty doing the following activities alone because of old age or health problems?			
	0. No difficulty	1. Some difficulty	2. Extremely difficult	3. Can't do it at all
1. Cook food	0	1	2	3
2. Go out to buy things	0	1	2	3
3. Use the telephone (can make and receive phone calls)	0	1	2	3
4. Take medicine (can take medicine as told by yourself)	0	1	2	3
5. Easy chores (such as washing dishes, ironing clothes, taking out trash)	0	1	2	3
6. Wash clothes	0	1	2	3
7. Clean your home (heavy chores, including cleaning windows, mopping floors etc.)	0	1	2	3
8. Manage finances (be clear about and able to control your own finances)	0	1	2	3
9. Bend down or kneel down	0	1	2	3
10. Walk from one room to another	0	1	2	3
11. Climb stairs over ten steps	0	1	2	3
12. Walk 400 meters (equal to 1 circle around a standard parade ground or 2 circles around the parade ground of an elementary school)	0	1	2	3
13. Grab and hold things with your hands	0	1	2	3
14. Lift an object weighing 4.5 kilograms with one hand	0	1	2	3
15. Raise both arms over your head	0	1	2	3
16. Turn a key to open a lock with your hand	0	1	2	3

**Center for Epidemiological Studies Depression Scale (CES-D)
Questionnaire in 2005.**

F. Mental Health (CES-D)

**【★F1 ~ F10 are to be answered by the case only, go to section H if the
respondent is not the case】**

In the past week, did you feel.....	0 Never or rarely (less than 1 day)	1 Sometimes (1~2 days)	2 Often (3~4 days)	3 Almost always (5~7 days)
★F1. not hungry, have a bad appetite	0	1	2	3
★F2. in a bad mood, depressed	0	1	2	3
★F3. like things never went well	0	1	2	3
★F4. couldn't sleep (well)	0	1	2	3
★F5. happy	0	1	2	3
★F6. lonely	0	1	2	3
★F7. everyone was not friendly	0	1	2	3
★F8. life was good, enjoyed life	0	1	2	3
★F9. sad, sorrow	0	1	2	3
★F10. couldn't get motivated to do anything	0	1	2	3



EuroQol instrument (EQ-5D) Questionnaire in 2017.

★E. EQ-5D

Preface: I would like to ask you to tell me about your health status today. I will read out several options and ask you to tell me which one best suits your health status today.

【Attention interviewers: Please read each of the following sets of options one by one, and ask the respondent to indicate which statement best describes his/her health status today and tick the one box.】

【★E1-E6 are to be answered by the case only, go to section G if the respondent is not the case】

★E1. MOBILITY

- ☐ 1 I have no problems in walking about
- ☐ 2 I have slight problems in walking about
- ☐ 3 I have moderate problems in walking about
- ☐ 4 I have severe problems in walking about
- ☐ 5 I am unable to walk about

★E2. SELF-CARE

- ☐ 1 I have no problems washing or dressing myself
- ☐ 2 I have slight problems washing or dressing myself
- ☐ 3 I have moderate problems washing or dressing myself
- ☐ 4 I have severe problems washing or dressing myself
- ☐ 5 I am unable to wash or dress myself

★E3. USUAL ACTIVITIES (*e.g. work, study, housework, family or leisure activities*)

- ☐ 1 I have no problems doing my usual activities
- ☐ 2 I have slight problems doing my usual activities
- ☐ 3 I have moderate problems doing my usual activities
- ☐ 4 I have severe problems doing my usual activities
- ☐ 5 I am unable to do my usual activities

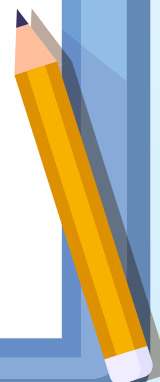
★E4. PAIN / DISCOMFORT

- ☐ 1 I have no pain or discomfort
- ☐ 2 I have slight pain or discomfort
- ☐ 3 I have moderate pain or discomfort
- ☐ 4 I have severe pain or discomfort
- ☐ 5 I have extreme pain or discomfort

★E5. ANXIETY / DEPRESSION

- ☐ 1 I am not anxious or depressed
- ☐ 2 I am slightly anxious or depressed
- ☐ 3 I am moderately anxious or depressed
- ☐ 4 I am severely anxious or depressed
- ☐ 5 I am extremely anxious or depressed

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★E6. Health status

To help people express how good or bad their health is, we have drawn a scale (kind of like a thermometer) where 100 means the best health you can imagine and 0 means the worst health you can imagine.

We'd like you to indicate on this scale how good or bad your health is today. Please draw a line from the box below to the point on the scale that best represents how healthy you are today.

【Please show the health status scale in the chart and ask the respondent to point out the point that best represents his/her health status today. The interviewer will then fill in the score.】

Score : _____

YOUR
HEALTH
TODAY

The best health
you can imagine



The worst health
you can imagine

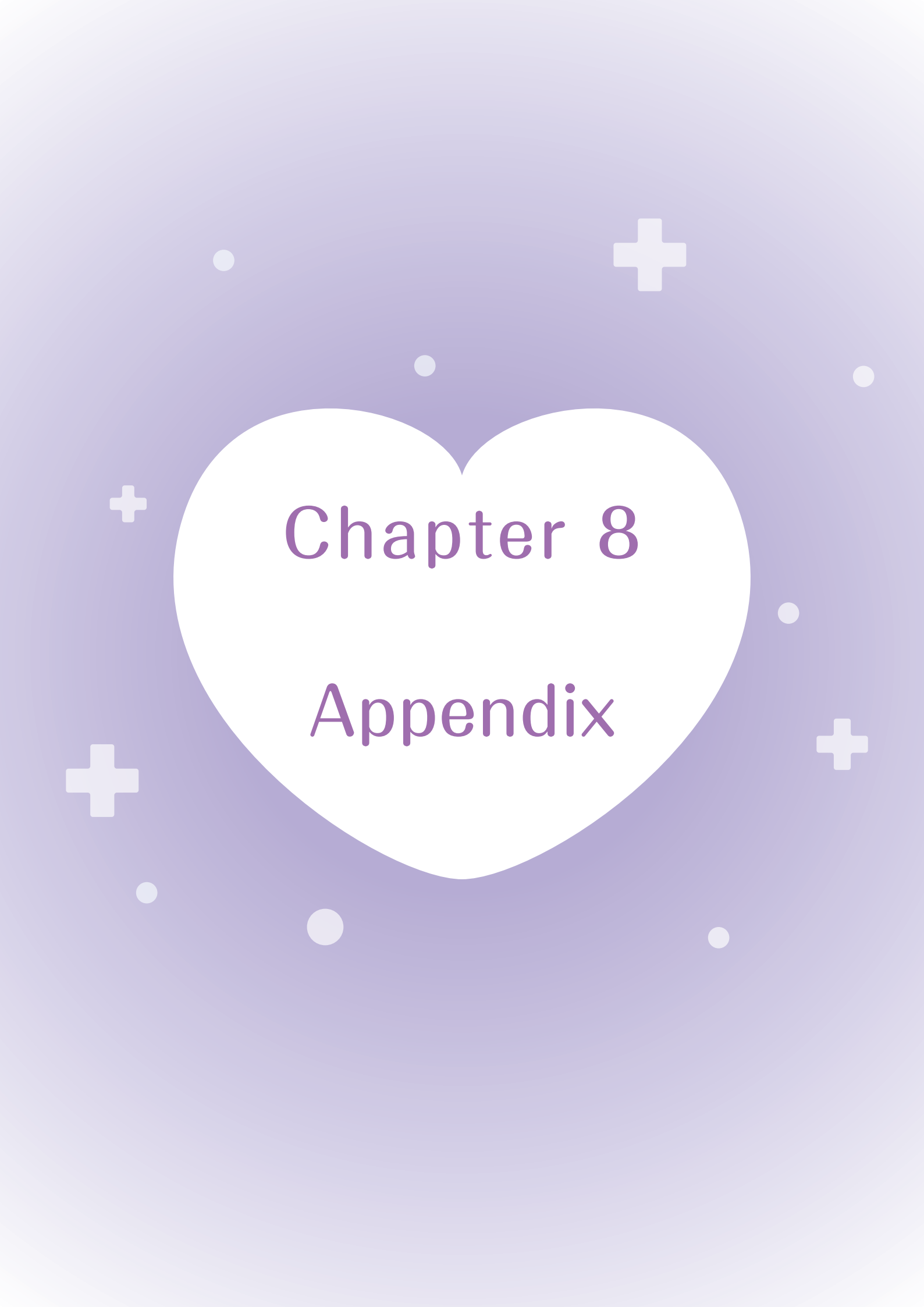
Afterword

The *2021 Annual Report on Aging and Long Term Care in Taiwan* is jointly issued by the Ministry of Health and Welfare (MOHW) and the National Health Research Institutes (NHRI). Its purpose is to reflect the health status of Taiwan's older population and the utilization of Long-Term Care 2.0, as well as to continuously monitor factors affecting the health of older people and the effectiveness of Long-Term Care 2.0.

This annual report is edited and produced by the MOHW Department of Long-Term Care and the “National Research Center on Aging and Long-Term Care Promoting Project” team of the NHRI. Throughout the process, we have received guidance from the MOHW's “National Research Center on Ageing and Long-Term Care Strategic and Planning Advisory Committee”, as well as assistance in review and correction from the annual report editing team. We extend our deepest gratitude to them. The multifaceted assistance from the Director-General of the Long-Term Care department and her team, as well as the manpower input from the NHRI Forum, Center of Biomedical Resources, and Institute of Population Health Sciences, are important factors in completing this annual report. We are honored to have the Minister of MOHW and the President of the NHRI write preface for the annual report. Sincere thanks are also extended to all units, experts who assisted in compiling this annual report, and colleagues of our “National Research Center on Aging and Long-Term Care Promoting Project” team.

The 2021 Annual Report on Aging and Long Term Care in Taiwan incorporates a range of government statistical figures, complemented by data from the nationally representative “National Health Interview Survey.” For the first time, this annual report has gathered data from various government departments, establishing a cross-departmental platform to encourage ongoing attention and discussion across all sectors aimed at enhancing the health, care, and environment of older people. This initiative supports research endeavors aimed at advancing improvements in both the physical and mental well-being of older people, thereby contributing to the overarching goal of promoting healthy aging.

Although the process of compiling the annual report has been rigorous, there may still be some flaws in the content. If there are any omissions in the figures or text of the annual report, we sincerely ask for readers' feedback, and we will promptly make corrections and amendments in the online version.



Chapter 8

Appendix

**Appendix 1 Population aged 65 years and older in Taiwan
from 1960 to 2050.**

Unit: 10,000 people

	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Total	27	43	77	127	192	249	379	557	671	745
Gender										
Male	11	19	38	68	101	119	173	248	291	319
Female	16	23	39	59	91	130	206	309	380	427
Age										
65–74 years	20	32	57	89	124	139	235	320	315	343
75–84 years	7	11	17	33	57	86	103	184	254	255
≥85 years			2	5	11	24	41	53	102	147
Gender*Age										
Male										
65–74 years	9	15	30	50	66	65	111	149	145	159
75–84 years	2	4	7	16	30	42	45	80	109	109
≥85 years			1	2	5	12	17	19	37	51
Female										
65–74 years	11	17	27	39	58	74	124	171	170	185
75–84 years	5	7	10	17	27	44	59	104	145	146
≥85 years			2	3	6	13	23	34	65	96

Source: 1. Department of Household Registration, Ministry of the Interior: <https://www.ris.gov.tw/app/portal/346>

2. National Development Council: <https://pop-proj.ndc.gov.tw/download.aspx?uid=70&pid=70>

Note 1: The 1960–2020 year-end population data were retrieved from the Department of Household Registration, Ministry of the Interior.

Note 2: The 2030–2050 projections are based on the NDC medium scenario projections. The medium scenario assumes that the active promotion of population policies by the government will halt the declining total fertility rate and result in a slight increase in population by 1.2 people by 2045.

Note 3: The 1960–1970 statistics did not further divide the age group of 75 years and older; consequently, for this period, the results for the age groups of 75–84 years and 85 years and older are combined in the table.

Note 4: The unit of this table is 10,000 people, and the rounding difference was used.

Appendix 2 Distribution of population aged 65 years and older by county and city in 2021.

Unit: People, Percentage

County and city	Total population	≥65 years	65–74 years	75–84 years	≥85 years
Total	23,375,314	3,939,033	2,488,416	1,035,967	414,650
New Taipei City	4,008,113	649,938	442,947	153,175	53,816
Taipei City	2,524,393	504,106	312,473	132,836	58,797
Taoyuan City	2,272,391	309,040	205,331	74,097	29,612
Taichung City	2,813,490	404,949	266,157	101,535	37,257
Tainan City	1,862,059	322,206	200,346	85,095	36,765
Kaohsiung City	2,744,691	481,439	315,888	123,400	42,151
Yilan County	450,692	81,088	46,537	24,459	10,092
Hsinchu County	575,580	76,664	44,245	22,709	9,710
Miaoli County	538,178	95,729	54,433	28,594	12,702
Changhua County	1,255,330	218,477	128,479	62,476	27,522
Nantou County	484,897	94,290	54,955	27,448	11,887
Yunlin County	670,132	132,022	72,060	42,094	17,868
Chiayi County	493,316	104,113	57,464	31,581	15,068
Pingtung County	804,440	151,173	92,229	42,725	16,219
Taitung County	213,386	38,726	23,346	10,899	4,481
Hualien County	321,358	58,813	35,989	16,133	6,691
Penghu County	106,340	18,823	10,856	5,201	2,766
Keelung City	363,977	67,246	43,666	16,879	6,701
Hsinchu City	452,640	61,570	38,460	16,365	6,745
Chiayi City	264,727	44,992	27,406	12,462	5,124
Kinmen County	141,539	21,806	13,912	5,417	2,477
Lienchiang County	13,645	1,823	1,237	387	199

**Continued Appendix 2 Distribution of population aged 65 years
and older by county and city in 2021.**

Unit: People, Percentage

County and city	Percentage of population aged ≥65 years	Percentage of population aged 65–74 years	Percentage of population aged 75–84 years	Percentage of population aged ≥85 years
Total	16.9	10.6	4.4	1.8
New Taipei City	16.2	11.1	3.8	1.3
Taipei City	20.0	12.4	5.3	2.3
Taoyuan City	13.6	9.0	3.3	1.3
Taichung City	14.4	9.5	3.6	1.3
Tainan City	17.3	10.8	4.6	2.0
Kaohsiung City	17.5	11.5	4.5	1.5
Yilan County	18.0	10.3	5.4	2.2
Hsinchu County	13.3	7.7	3.9	1.7
Miaoli County	17.8	10.1	5.3	2.4
Changhua County	17.4	10.2	5.0	2.2
Nantou County	19.4	11.3	5.7	2.5
Yunlin County	19.7	10.8	6.3	2.7
Chiayi County	21.1	11.6	6.4	3.1
Pingtung County	18.8	11.5	5.3	2.0
Taitung County	18.1	10.9	5.1	2.1
Hualien County	18.3	11.2	5.0	2.1
Penghu County	17.7	10.2	4.9	2.6
Keelung City	18.5	12.0	4.6	1.8
Hsinchu City	13.6	8.5	3.6	1.5
Chiayi City	17.0	10.4	4.7	1.9
Kinmen County	15.4	9.8	3.8	1.8
Lienchiang County	13.4	9.1	2.8	1.5

Source: Socioeconomic Geographic Information System:

https://segis.moi.gov.tw/STAT/Web/Platform/QueryInterface/STAT_QueryInterface.aspx?Type=0

Note: Percentage = the population in a specific age group in each county and city / the total population in each county and city × 100%.

Appendix 3 Marital status of population aged 65 years and older from 2014 to 2021.

Unit: 10,000 people

	2014	2015	2016	2017	2018	2019	2020	2021
Total	280.9	293.9	310.6	326.8	343.4	360.7	378.7	393.9
Unmarried	8.5	9.1	9.9	10.8	11.8	12.9	14.0	14.9
Currently married	171.3	179.0	189.4	199.1	209.1	219.6	230.5	239.4
Divorced / Terminated marriage	13.0	14.8	17.1	19.6	22.3	25.3	28.4	31.5
Widowed	88.1	91.0	94.2	97.2	100.1	102.9	105.8	108.2

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: “Unmarried” refers to individuals who have never been married.

“Currently married” refers to officially married individuals whose spouse is still alive and divorced or widowed individuals who remarried and whose spouse is still alive.

“Divorced / Terminated marriage” refers to individuals who legally terminated their marriage and have not remarried.

“Widowed” refers to individuals who have not remarried after their spouse died or was declared dead.

Note 2: The unit of this table is 10,000 people, and the rounding difference was used.

**Appendix 4 Percentage of population aged 65 years and older
with marital status by age group in 2021.**

Unit: Percentage

	Unmarried	Currently married	Divorced / Terminated marriage	Widowed
Total	3.8	60.8	8.0	27.5
Gender				
Male	3.6	76.5	8.6	11.3
Female	3.9	47.6	7.5	41.0
Age				
65–74 years	4.6	68.3	10.4	16.7
75–84 years	2.3	54.3	4.4	38.9
≥85 years	2.3	31.8	2.4	63.5
Gender*Age				
Male				
65–74 years	4.2	79.4	10.7	5.6
75–84 years	2.2	76.3	5.2	16.3
≥85 years	2.8	57.0	3.1	37.1
Female				
65–74 years	5.0	58.3	10.1	26.6
75–84 years	2.4	37.5	3.8	56.2
≥85 years	2.0	14.3	1.8	81.9

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note 1: “Unmarried” refers to individuals who have never been married.

“Currently married” refers to officially married individuals whose spouse is still alive and divorced or widowed individuals who remarried and whose spouse is still alive.

“Divorced / Terminated marriage” refers to individuals who legally terminated their marriage and have not remarried.

“Widowed” refers to individuals who have not remarried after their spouse died or was declared dead.

Note 2: Percentage = the number of individuals with marital status (stratified by gender and age group) / the year-end population (stratified by gender and age group) × 100%.

Note 3: Percentages are expressed up to the first decimal point. The rounding difference was used.

Appendix 5 Educational attainment of population aged 65 years and older from 2015 to 2021.

Unit: Percentage

	2015	2016	2017	2018	2019	2020	2021
Primary school graduated and under	64.5	62.8	60.6	58.5	56.3	53.9	50.9
Junior high school, senior high school graduated	25.1	26.3	27.4	28.6	30.0	31.7	33.9
University or college graduated and over	12.7	13.6	14.5	15.3	16.1	16.8	17.1

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panelNote: Percentage = the number of individuals with educational attainment / the mid-year population aged 65 years and older $\times 100\%$.

Appendix 6 Percentage of population aged 65 years and older with a primary school graduation and under from 2015 to 2021.

Unit: Percentage

	2015	2016	2017	2018	2019	2020	2021
Total	64.5	62.8	60.6	58.5	56.3	53.9	50.9
Gender							
Male	52.0	50.4	48.4	46.4	44.4	42.0	39.2
Female	75.3	73.5	71.0	68.8	66.4	63.9	60.7
Gender*Age							
Male							
65–74 years	45.9	43.9	41.4	39.2	37.1	34.8	31.5
75–84 years	63.2	62.6	61.4	59.5	57.2	54.4	52.3
≥85 years	51.5	51.1	51.4	52.3	53.6	54.9	56.0
Female							
65–74 years	66.9	64.7	61.6	58.8	56.2	53.6	49.7
75–84 years	85.5	84.2	82.8	81.1	79.0	76.5	74.9
≥85 years	86.1	85.6	85.3	85.4	85.4	85.4	84.8

Source: Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panelNote: Percentage = the number of individuals with a primary school graduation and under by age group / the mid-year population aged 65 years and older by age group $\times 100\%$.

**Appendix 7 Percentage of indigenous peoples and general population
aged 55 years and older from 2016 to 2021.**

Unit: Percentage

	2016	2017	2018	2019	2020	2021
Indigenous peoples aged ≥55 years	17.8	18.4	19.1	19.7	20.4	21.0
General population aged ≥55 years	27.3	28.2	29.1	30.1	30.9	31.7

Source: 1. Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

2. Department of Household Registration, Ministry of the Interior:

https://www.ris.gov.tw/info-popudata/app/awFastDownload/toMain_panel

Note: Percentage = the population of indigenous peoples (general population) aged 55 years and older / the mid-year population of indigenous peoples (general population) × 100%.

Appendix 8 Population and percentage of indigenous peoples aged 55 years and older by ethnic group in 2021.

Unit: People, Percentage

	Population of indigenous peoples aged ≥55 years	Percentage of indigenous peoples aged ≥55 years by ethnic group
Total	121,273	20.9
The Amis	49,863	23.0
The Atayal	16,401	17.5
The Paiwan	22,628	21.7
The Bunun	9,770	16.1
The Rukai	3,294	24.3
The Pinuyumayan	3,343	22.5
The Cou	1,538	23.0
The Saisiyat	1,209	17.7
The Yami	982	20.5
The Thao	169	20.4
The Kavalan	381	24.6
The Truku	5,418	16.3
The Sakizaya	351	33.8
The Sediq	2,057	19.1
The Hla' alua	57	13.0
The Kanakanavu	50	12.9
Others (unregistered)	3,762	35.4

Source: Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

Note: Percentage = the population of indigenous peoples aged 55 years and older by ethnic group / the population of indigenous peoples by ethnic group × 100%.

**Appendix 9 Percentage of indigenous peoples aged 55 years and older
by age group in each ethnic group in 2021.**

Unit: Percentage

	55–64 years	65–74 years	75–84 years	≥85 years
The Amis	12.3	7.2	2.7	0.8
The Atayal	10.2	5.2	1.7	0.4
The Paiwan	12.5	6.4	2.1	0.7
The Bunun	10.1	4.6	1.1	0.3
The Rukai	13.8	6.7	2.6	1.2
The Pinuyumayan	12.7	6.8	2.3	0.6
The Cou	13.2	6.6	2.5	0.7
The Saisiyat	10.3	5.3	1.7	0.4
The Yami	11.1	6.7	1.7	1.1
The Thao	12.6	6.2	1.4	0.2
The Kavalan	14.1	7.2	2.5	0.8
The Truku	9.8	4.8	1.3	0.4
The Sakizaya	15.1	9.7	6.0	3.0
The Sediq	10.6	6.1	1.8	0.5
The Hla' alua	8.2	3.9	0.5	0.5
The Kanakanavu	9.3	2.1	1.5	0.0
Others (unregistered)	20.2	11.3	3.0	1.0

Source: Council of Indigenous Peoples:

<https://www.cip.gov.tw/zh-tw/news/data-list/940F9579765AC6A0/index.html?cumid=940F9579765AC6A0>

Note: Percentage = the population of indigenous peoples aged 55 years and older by age group in each ethnic group / the population of indigenous peoples by ethnic group × 100%.

Appendix 10 Number of veterans from 2012 to 2021.

Unit: 10,000 people, Percentage

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		23.6	22.4	21.2	20.1	19.1	18.2	17.3	16.7	16.1	15.5
Gender	Male	22.5	21.4	20.2	19.1	18.1	17.2	16.3	15.8	15.2	14.6
	Female	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9
Age	65–74 years	3.0	3.2	3.5	3.8	4.4	4.9	5.3	5.7	6.2	6.4
	75–84 years	10.8	8.9	7.2	5.5	4.3	3.6	3.2	3.0	2.7	2.3
	≥85 years	9.8	10.3	10.6	10.8	10.4	9.7	8.8	8.1	7.3	6.8
Gender*Age											
Male											
	65–74 years	2.6	2.9	3.2	3.6	4.2	4.7	5.2	5.6	6.0	6.3
	75–84 years	10.3	8.4	6.6	4.9	3.8	3.1	2.7	2.5	2.2	1.9
	≥85 years	9.6	10.1	10.3	10.5	10.1	9.4	8.5	7.7	6.9	6.5
	Percentage of population aged 65–74 years	4.0	4.2	4.5	4.8	5.2	5.4	5.5	5.6	5.6	5.5
	Percentage of population aged 75–84 years	24.6	20.1	15.9	11.8	8.9	7.2	6.1	5.5	5.0	4.2
	Percentage of population aged ≥85 years	73.6	71.7	68.8	66.4	61.4	56.1	50.1	45.5	40.8	37.9
Female											
	65–74 years	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
	75–84 years	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4
	≥85 years	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4
	Percentage of population aged 65–74 years	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
	Percentage of population aged 75–84 years	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8	0.7
	Percentage of population aged ≥85 years	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5

Source: Veterans Affairs Council: <https://www.vac.gov.tw/cp-2009-2898-1.html>

Note 1: Percentage = the number of veterans (stratified by gender and age group) / the mid-year population (stratified by gender and age group) × 100%.

Note 2: The unit of this table is 10,000 people, and the rounding difference was used.

Appendix 11 Number and percentage of individuals aged 65 years and older in low-income households from 2012 to 2021.

Unit: 10,000 people, Percentage

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Individuals aged ≥65 years in low-income households	2.6	2.7	2.8	2.9	3.1	3.3	3.5	3.8	4.1	4.4
Percentage of population aged ≥65 years who are in low-income households	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

Note: Percentage = the number of individuals aged 65 years and older in low-income households / the mid-year population aged 65 years and older × 100%.

Appendix 12 Number and percentage of mid or low-income older people receiving the living allowance from 2012 to 2021.

Unit: 10,000 people, Percentage

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		12.1	12.1	12.2	12.4	12.8	13.4	14.4	15.7	17.3	18.6
Gender	Male	5.6	5.6	5.6	5.7	5.9	6.2	6.7	7.4	8.1	8.8
	Female	6.5	6.5	6.6	6.7	6.9	7.2	7.7	8.3	9.2	9.9
Percentage of population aged ≥65 years receiving the living allowance		4.7	4.6	4.4	4.3	4.2	4.2	4.3	4.5	4.7	4.8

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

Note 1: Percentage = the number of individuals aged 65 years and older receiving the living allowance / the mid-year population aged 65 years and older × 100%.

Note 2: The unit of this table is 10,000 people, and the rounding difference was used.

Appendix 13 Number of individuals aged 65 years and older receiving national pension payments from 2013 to 2021.

Unit: 10,000 people

		2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		124.0	131.1	138.2	146.1	153.6	160.6	166.7	172.1	176.1
Gender	Male	50.4	53.8	57.2	60.8	64.3	67.7	70.7	73.2	75.1
	Female	73.6	77.3	81.0	85.2	89.3	93.0	96.1	98.9	101.0

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/dos/cp-5223-62358-113.html>

Note 1: The National Pension Program offers three annuity payments, including the old-age pension, disability pension, and survivor pension, as well as two lump sum benefits, including the maternity benefits and funeral benefits. This report only considered the old-age basic guaranteed pension payments, old-age pension payments, disability pension payments, disability basic guaranteed pension payments, and survivor pension payments.

Note 2: The unit of this table is 10,000 people, and the rounding difference was used.

Appendix 14 Number and percentage of employed individuals aged 65 years and older from 2012 to 2021.

Unit: 10,000 people, Percentage

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		20.6	21.9	23.7	25.0	25.8	27.2	28.0	29.0	32.1	35.0
Gender	Male	15.0	15.8	17.0	18.0	18.9	20.2	20.1	20.5	23.1	23.9
	Female	5.6	6.1	6.8	7.1	6.9	7.0	8.0	8.5	9.1	11.0
Percentage of employed individuals in population aged ≥65 years		8.0	8.3	8.6	8.7	8.5	8.5	8.4	8.2	8.7	9.1

Source: Yearbook of Manpower Survey Statistics: <https://www.stat.gov.tw/ct.asp?xItem=37200&ctNode=517&mp=4>

Note 1: Percentage = the number of employed individuals aged 65 years and older / the mid-year population aged 65 years and older × 100%.

Note 2: The unit of this table is 10,000 people, and the rounding difference was used.

Appendix 15 Average monthly living expenses self-reported by individuals aged 65 years and older from 2005 to 2017.

Unit: NT\$

		2005	2009	2013	2017
Total		11,715	13,830	12,875	12,743
Gender	Male	13,003	15,407	14,066	13,714
	Female	10,160	12,012	11,716	11,916

Source: Senior Citizen Condition Survey: <https://dep.mohw.gov.tw/DOS/lp-5095-113.html>

Note: "Available living expenses" refers to the amount of money one may spend on food, clothing, housing, transportation, education, and entertainment in a month after deductions for consumer durables and other non-recurring expenses.

Appendix 16 Life expectancy at birth from 2012 to 2021.

Unit: Years

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		79.5	80.0	79.8	80.2	80.0	80.4	80.7	80.9	81.3	80.9
Gender	Male	76.4	76.9	76.7	77.0	76.8	77.3	77.6	77.7	78.1	77.7
	Female	82.8	83.4	83.2	83.6	83.4	83.7	84.1	84.2	84.8	84.3

Source: Statistical Information Network, Ministry of the Interior: <https://statis.moi.gov.tw/micst/stmain.jsp?sys=100>

Note: Life expectancy at birth refers to the average number of years a newborn infant is expected to live.

Appendix 17 Life expectancy at age 65 from 2012 to 2021.

Unit: Years

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		19.4	19.8	19.6	19.9	19.8	20.0	20.3	20.4	20.7	20.4
Gender	Male	17.8	18.1	17.9	18.2	18.0	18.2	18.4	18.6	18.8	18.4
	Female	21.1	21.5	21.3	21.7	21.5	21.7	22.1	22.2	22.7	22.3

Source: Statistical Information Network, Ministry of the Interior: <https://statis.moi.gov.tw/micst/stmain.jsp?sys=100>

Note: Life expectancy at age 65 refers to the average number of years that an individual is expected to live after reaching age 65.

Appendix 18 Healthy life expectancy at birth from 2011 to 2020.

Unit: Years

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total		70.8	71.6	71.8	71.6	71.9	71.8	72.1	72.3	72.4	73.3
Gender	Male	68.5	69.3	69.6	69.3	69.6	69.3	69.6	70.0	70.1	70.9
	Female	73.4	74.0	74.2	74.0	74.4	74.5	74.7	74.7	74.8	75.8

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/cp-5082-55400-113.html>

Note: Healthy life expectancy at birth refers to the expected number of years an individual remains healthy and does not depend on others. The survival curves for disease, functional disorder, and death were analyzed to calculate the healthy life survival rates and life expectancy without chronic disease for each age group.

**Appendix 19 Mean CCI scores among the population aged 65 years
and older from 2010 to 2019.**

Unit: Score

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	1.11	1.15	1.19	1.20	1.23	1.24	1.30	1.34	1.35	1.37
Gender										
Male	1.20	1.23	1.27	1.29	1.32	1.33	1.41	1.45	1.47	1.49
Female	1.04	1.07	1.11	1.13	1.15	1.16	1.21	1.25	1.26	1.27
Gender*Age										
Male										
65–74 years	1.01	1.04	1.07	1.09	1.11	1.12	1.19	1.23	1.24	1.26
75–84 years	1.42	1.45	1.50	1.52	1.56	1.58	1.69	1.75	1.78	1.82
≥85 years	1.57	1.61	1.66	1.69	1.72	1.76	1.91	1.97	2.02	2.04
Female										
65–74 years	0.90	0.92	0.95	0.96	0.98	0.98	1.01	1.04	1.04	1.04
75–84 years	1.23	1.26	1.31	1.33	1.36	1.38	1.46	1.51	1.54	1.57
≥85 years	1.33	1.36	1.41	1.43	1.47	1.50	1.60	1.66	1.70	1.74
Age standardization										
Total	1.08	1.12	1.16	1.18	1.20	1.22	1.29	1.33	1.34	1.35
Male	1.14	1.18	1.23	1.25	1.28	1.30	1.40	1.44	1.45	1.47
Female	1.02	1.05	1.10	1.11	1.13	1.14	1.20	1.23	1.24	1.25

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 4: References:

(1) Deyo, R. A., Cherkin, D. C., & Ciol, M. A. (1992). Adapting a clinical comorbidity index for use with ICD-9-CM administrative databases. *Journal of clinical epidemiology*, 45(6), 613–619.

[https://doi.org/10.1016/0895-4356\(92\)90133-8](https://doi.org/10.1016/0895-4356(92)90133-8)

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Appendix 20 Crude prevalence rate of each disease included in CCI from 2010 to 2019.

Unit: Prevalence (%)

	2010	2011	2012	2013	2014
Myocardial infarction	1.18	1.21	1.26	1.29	1.31
Congestive heart failure	4.73	4.80	4.79	4.68	4.61
Peripheral vascular disease	1.07	1.14	1.17	1.17	1.22
Cerebrovascular disease	12.50	12.62	12.70	12.65	12.49
Dementia	4.13	4.46	4.69	4.85	5.01
Chronic pulmonary disease	11.33	11.51	11.44	10.91	10.77
Rheumatologic disease	0.83	0.85	0.88	0.89	0.91
Peptic ulcer disease	10.59	10.72	10.84	10.57	10.49
Mild liver disease	3.98	3.94	4.00	4.01	3.96
Diabetes	19.85	20.49	21.10	21.46	21.88
Diabetes with chronic complications	4.57	4.95	5.51	5.93	6.37
Hemiplegia or paraplegia	0.60	0.60	0.60	0.59	0.59
Renal disease	4.42	5.02	5.90	6.38	6.97
Any malignancy, including leukemia and lymphoma	6.28	6.48	6.75	6.94	7.12
Moderate or severe liver disease	0.34	0.33	0.32	0.32	0.31
Metastatic solid tumor	1.26	1.27	1.27	1.28	1.29
Acquired immune deficiency syndrome (AIDS)	0.01	0.01	0.01	0.01	0.01

**Continued Appendix 20 Crude prevalence rate of each disease
included in CCI from 2010 to 2019.**

Unit: Prevalence (%)

	2015	2016	2017	2018	2019
Myocardial infarction	1.32	1.33	1.36	1.37	1.40
Congestive heart failure	4.56	5.89	5.92	5.83	5.75
Peripheral vascular disease	1.18	1.95	1.93	1.93	1.94
Cerebrovascular disease	12.24	11.59	11.40	11.34	11.14
Dementia	5.06	5.94	6.01	6.11	6.19
Chronic pulmonary disease	10.56	10.20	9.97	9.81	9.67
Rheumatologic disease	0.91	1.03	1.06	1.07	1.09
Peptic ulcer disease	10.37	9.96	9.83	9.44	9.17
Mild liver disease	3.95	5.90	6.13	6.21	6.38
Diabetes	22.16	22.97	22.92	22.69	22.84
Diabetes with chronic complications	6.67	7.10	8.02	8.38	8.69
Hemiplegia or paraplegia	0.56	0.66	0.64	0.63	0.64
Renal disease	7.32	7.66	8.15	8.49	8.68
Any malignancy, including leukemia and lymphoma	7.18	7.97	8.14	8.26	8.39
Moderate or severe liver disease	0.31	0.30	0.29	0.27	0.26
Metastatic solid tumor	1.31	1.22	1.26	1.29	1.31
Acquired immune deficiency syndrome (AIDS)	0.01	0.02	0.02	0.02	0.02

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: Crude prevalence = the number of people aged 65 years and older having each CCI disease / the mid-year population aged 65 years and older $\times 100\%$.

Note 4: Reference: Deyo, R. A., Cherkin, D. C., & Ciol, M. A. (1992). Adapting a clinical comorbidity index for use with ICD-9-CM administrative databases. *Journal of clinical epidemiology*, 45(6), 613–619.

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Appendix 21 Age-standardized prevalence rate of each disease included in CCI from 2010 to 2019.

Unit: Standardized prevalence (%)

	2010	2011	2012	2013	2014
Myocardial infarction	1.14	1.16	1.20	1.23	1.25
Congestive heart failure	4.35	4.35	4.30	4.17	4.11
Peripheral vascular disease	1.04	1.09	1.12	1.12	1.17
Cerebrovascular disease	11.89	11.91	11.93	11.87	11.74
Dementia	3.65	3.86	4.01	4.12	4.27
Chronic pulmonary disease	10.74	10.84	10.73	10.22	10.10
Rheumatologic disease	0.85	0.88	0.91	0.92	0.94
Peptic ulcer disease	10.43	10.54	10.67	10.39	10.32
Mild liver disease	4.14	4.12	4.20	4.20	4.14
Diabetes	20.06	20.75	21.40	21.76	22.17
Diabetes with chronic complications	4.59	4.97	5.55	5.97	6.42
Hemiplegia or paraplegia	0.58	0.58	0.58	0.57	0.56
Renal disease	4.28	4.85	5.69	6.14	6.71
Any malignancy, including leukemia and lymphoma	6.23	6.43	6.71	6.90	7.09
Moderate or severe liver disease	0.35	0.34	0.32	0.32	0.32
Metastatic solid tumor	1.24	1.24	1.24	1.26	1.27
Acquired immune deficiency syndrome (AIDS)	0.01	0.01	0.01	0.01	0.01

**Continued Appendix 21 Age-standardized prevalence rate of each
disease included in CCI from 2010 to 2019.**

Unit: Standardized prevalence (%)

	2015	2016	2017	2018	2019
Myocardial infarction	1.27	1.29	1.32	1.34	1.37
Congestive heart failure	4.09	5.43	5.52	5.47	5.43
Peripheral vascular disease	1.14	1.88	1.89	1.89	1.90
Cerebrovascular disease	11.55	11.04	10.95	10.96	10.81
Dementia	4.34	5.20	5.35	5.50	5.63
Chronic pulmonary disease	9.95	9.71	9.56	9.47	9.37
Rheumatologic disease	0.94	1.05	1.08	1.09	1.10
Peptic ulcer disease	10.22	9.85	9.75	9.37	9.12
Mild liver disease	4.11	6.10	6.29	6.34	6.50
Diabetes	22.41	23.24	23.16	22.90	23.03
Diabetes with chronic complications	6.71	7.17	8.09	8.44	8.74
Hemiplegia or paraplegia	0.54	0.64	0.63	0.62	0.63
Renal disease	7.06	7.35	7.87	8.23	8.45
Any malignancy, including leukemia and lymphoma	7.15	7.92	8.09	8.22	8.36
Moderate or severe liver disease	0.31	0.30	0.29	0.27	0.26
Metastatic solid tumor	1.28	1.21	1.25	1.28	1.31
Acquired immune deficiency syndrome (AIDS)	0.02	0.02	0.02	0.02	0.02

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Note 4: Reference: Deyo, R. A., Cherkin, D. C., & Ciol, M. A. (1992). Adapting a clinical comorbidity index for use with ICD-9-CM administrative databases. *Journal of clinical epidemiology*, 45(6), 613–619.

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Appendix 22 Number and prevalence of stroke among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	307,351	314,583	323,746	332,860	341,770
Gender					
Male	162,737	165,741	169,742	173,920	178,161
Female	144,614	148,842	154,004	158,940	163,609
Age					
65–74 years	127,824	128,035	130,162	133,273	137,139
75–84 years	136,033	138,582	141,151	142,876	143,590
≥85 years	43,494	47,966	52,433	56,711	61,041
Gender*Age					
Male					
65–74 years	68,682	69,201	70,644	72,893	75,506
75–84 years	73,291	73,126	73,289	72,961	72,428
≥85 years	20,764	23,414	25,809	28,066	30,227
Female					
65–74 years	59,142	58,834	59,518	60,380	61,633
75–84 years	62,742	65,456	67,862	69,915	71,162
≥85 years	22,730	24,552	26,624	28,645	30,814
Crude prevalence	12.4	12.5	12.6	12.6	12.4
Age-standardized prevalence	11.8	11.8	11.8	11.7	11.6

Continued Appendix 22 Number and prevalence of stroke among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	349,740	310,623	320,064	327,130	335,649
Gender					
Male	181,652	163,428	168,363	171,985	176,389
Female	168,088	147,195	151,701	155,145	159,260
Age					
65–74 years	140,021	123,277	129,743	134,246	139,808
75–84 years	144,693	126,539	127,575	128,876	130,044
≥85 years	65,026	60,807	62,746	64,008	65,797
Gender*Age					
Male					
65–74 years	77,784	71,280	75,557	78,652	82,599
75–84 years	71,485	62,440	62,484	62,912	63,376
≥85 years	32,383	29,708	30,322	30,421	30,414
Female					
65–74 years	62,237	51,997	54,186	55,594	57,209
75–84 years	73,208	64,099	65,091	65,964	66,668
≥85 years	32,643	31,099	32,424	33,587	35,383
Crude prevalence	12.2	10.3	10.0	9.8	9.5
Age-standardized prevalence	11.4	9.7	9.6	9.4	9.2

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for stroke are 430–438, and the ICD-10-CM codes are I60–I69.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by stroke / the mid-year population aged 65 years and older × 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Appendix 23 Number and prevalence of intracranial hemorrhagic stroke among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	23,789	24,507	25,840	27,104	28,304
Gender					
Male	13,254	13,635	14,321	14,998	15,641
Female	10,535	10,872	11,519	12,106	12,663
Age					
65–74 years	11,586	11,565	12,092	12,443	13,043
75–84 years	9,341	9,754	10,140	10,651	10,878
≥85 years	2,862	3,188	3,608	4,010	4,383
Gender*Age					
Male					
65–74 years	6,548	6,616	6,928	7,218	7,571
75–84 years	5,256	5,354	5,496	5,683	5,812
≥85 years	1,450	1,665	1,897	2,097	2,258
Female					
65–74 years	5,038	4,949	5,164	5,225	5,472
75–84 years	4,085	4,400	4,644	4,968	5,066
≥85 years	1,412	1,523	1,711	1,913	2,125
Crude prevalence	1.0	1.0	1.0	1.0	1.0
Age-standardized prevalence	0.9	0.9	1.0	1.0	1.0

Continued Appendix 23 Number and prevalence of intracranial hemorrhagic stroke among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	29,498	37,090	42,058	44,496	46,967
Gender					
Male	16,292	20,402	23,110	24,328	25,705
Female	13,206	16,688	18,948	20,168	21,262
Age					
65–74 years	13,537	16,758	19,275	20,704	22,184
75–84 years	11,244	14,055	15,544	16,202	16,824
≥85 years	4,717	6,277	7,239	7,590	7,959
Gender*Age					
Male					
65–74 years	7,919	10,110	11,658	12,494	13,530
75–84 years	5,880	7,133	7,870	8,139	8,479
≥85 years	2,493	3,159	3,582	3,695	3,696
Female					
65–74 years	5,618	6,648	7,617	8,210	8,654
75–84 years	5,364	6,922	7,674	8,063	8,345
≥85 years	2,224	3,118	3,657	3,895	4,263
Crude prevalence	1.0	1.2	1.3	1.3	1.3
Age-standardized prevalence	1.0	1.2	1.3	1.3	1.3

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for intracranial hemorrhagic stroke are 430–432, and the ICD-10-CM codes are I60–I62.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by intracranial hemorrhagic stroke / the mid-year population aged 65 years and older × 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Appendix 24 Number and prevalence of ischemic stroke among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	175,492	181,617	187,742	194,618	200,744
Gender					
Male	94,338	97,151	100,050	103,440	106,486
Female	81,154	84,466	87,692	91,178	94,258
Age					
65–74 years	74,305	75,121	76,849	79,411	81,944
75–84 years	78,000	80,535	82,209	83,911	84,732
≥85 years	23,187	25,961	28,684	31,296	34,068
Gender*Age					
Male					
65–74 years	40,258	41,019	42,171	43,962	45,788
75–84 years	42,730	43,074	43,395	43,515	43,259
≥85 years	11,350	13,058	14,484	15,963	17,439
Female					
65–74 years	34,047	34,102	34,678	35,449	36,156
75–84 years	35,270	37,461	38,814	40,396	41,473
≥85 years	11,837	12,903	14,200	15,333	16,629
Crude prevalence	7.1	7.2	7.3	7.4	7.3
Age-standardized prevalence	6.8	6.8	6.9	6.9	6.9

**Continued Appendix 24 Number and prevalence of ischemic stroke
among the population aged 65 years and older from 2010 to 2019.**

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	206,988	206,779	218,056	226,249	236,065
Gender					
Male	109,232	108,947	114,596	118,723	123,422
Female	97,756	97,832	103,460	107,526	112,643
Age					
65–74 years	84,232	84,327	90,529	95,328	100,586
75–84 years	86,103	84,546	87,575	89,343	91,584
≥85 years	36,653	37,906	39,952	41,578	43,895
Gender*Age					
Male					
65–74 years	47,402	48,174	51,903	54,952	58,121
75–84 years	43,153	41,830	42,893	43,548	44,563
≥85 years	18,677	18,943	19,800	20,223	20,738
Female					
65–74 years	36,830	36,153	38,626	40,376	42,465
75–84 years	42,950	42,716	44,682	45,795	47,021
≥85 years	17,976	18,963	20,152	21,355	23,157
Crude prevalence	7.2	6.8	6.8	6.8	6.7
Age-standardized prevalence	6.8	6.5	6.6	6.5	6.5

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for ischemic stroke are 433–435, and the ICD-10-CM codes are I63, I65–I66, G45.0, G45.1, G45.2, G45.8, G45.9, G46.0, G46.1, G46.2 and I67.84.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by ischemic stroke / the mid-year population aged 65 years and older × 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Appendix 25 Number and prevalence of coronary heart disease among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	375,054	380,050	389,762	400,314	410,787
Gender					
Male	189,897	192,435	197,573	203,437	209,410
Female	185,157	187,615	192,189	196,877	201,377
Age					
65–74 years	182,435	182,074	186,240	191,179	197,923
75–84 years	152,740	154,354	155,436	156,788	156,684
≥85 years	39,879	43,622	48,086	52,347	56,180
Gender*Age					
Male					
65–74 years	89,426	90,416	93,800	98,054	103,491
75–84 years	80,650	79,927	79,138	78,287	76,620
≥85 years	19,821	22,092	24,635	27,096	29,299
Female					
65–74 years	93,009	91,658	92,440	93,125	94,432
75–84 years	72,090	74,427	76,298	78,501	80,064
≥85 years	20,058	21,530	23,451	25,251	26,881
Crude prevalence	15.2	15.2	15.2	15.1	14.9
Age-standardized prevalence	14.8	14.7	14.7	14.7	14.5

**Continued Appendix 25 Number and prevalence of coronary heart disease
among the population aged 65 years and older from 2010 to 2019.**

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	423,433	427,594	445,274	457,751	473,008
Gender					
Male	217,192	221,398	232,179	241,272	251,505
Female	206,241	206,196	213,095	216,479	221,503
Age					
65–74 years	204,537	208,993	223,422	233,715	244,739
75–84 years	158,659	156,233	158,104	159,048	161,828
≥85 years	60,237	62,368	63,748	64,988	66,441
Gender*Age					
Male					
65–74 years	109,283	114,224	124,097	132,235	140,841
75–84 years	76,610	74,766	75,330	76,059	77,912
≥85 years	31,299	32,408	32,752	32,978	32,752
Female					
65–74 years	95,254	94,769	99,325	101,480	103,898
75–84 years	82,049	81,467	82,774	82,989	83,916
≥85 years	28,938	29,960	30,996	32,010	33,689
Crude prevalence	14.7	14.1	14.0	13.7	13.4
Age-standardized prevalence	14.3	13.8	13.8	13.5	13.3

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for coronary heart disease are 410–414, and the ICD-10-CM codes are I20–I25.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by coronary heart disease / the mid-year population aged 65 years and older × 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Appendix 26 Number and prevalence of chronic obstructive pulmonary disease among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	253,371	259,792	264,016	261,049	267,427
Gender					
Male	155,813	157,781	159,240	156,485	158,646
Female	97,558	102,011	104,776	104,564	108,781
Age					
65–74 years	101,012	102,822	104,055	102,721	105,494
75–84 years	111,779	112,760	112,068	108,578	108,318
≥85 years	40,580	44,210	47,893	49,750	53,615
Gender*Age					
Male					
65–74 years	58,050	58,632	59,280	58,790	60,332
75–84 years	73,353	72,258	70,596	66,955	65,225
≥85 years	24,410	26,891	29,364	30,740	33,089
Female					
65–74 years	42,962	44,190	44,775	43,931	45,162
75–84 years	38,426	40,502	41,472	41,623	43,093
≥85 years	16,170	17,319	18,529	19,010	20,526
Crude prevalence	10.2	10.4	10.3	9.9	9.7
Age-standardized prevalence	9.6	9.7	9.6	9.2	9.0

Continued Appendix 26 Number and prevalence of chronic obstructive pulmonary disease among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	272,837	273,300	281,028	289,952	299,202
Gender					
Male	160,720	159,021	162,202	166,255	169,854
Female	112,117	114,279	118,826	123,697	129,348
Age					
65–74 years	108,767	111,641	118,177	125,562	133,350
75–84 years	107,718	104,613	105,039	106,088	107,369
≥85 years	56,352	57,046	57,812	58,302	58,483
Gender*Age					
Male					
65–74 years	62,336	63,588	67,418	71,351	75,532
75–84 years	63,846	60,753	60,123	60,319	60,525
≥85 years	34,538	34,680	34,661	34,585	33,797
Female					
65–74 years	46,431	48,053	50,759	54,211	57,818
75–84 years	43,872	43,860	44,916	45,769	46,844
≥85 years	21,814	22,366	23,151	23,717	24,686
Crude prevalence	9.5	9.0	8.8	8.7	8.5
Age-standardized prevalence	8.9	8.5	8.4	8.3	8.2

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for chronic obstructive pulmonary disease are 491–494, 496 and 510, and the ICD-10-CM codes are J41–J45 and J47.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by chronic obstructive pulmonary disease / the mid-year population aged 65 years and older × 100%.

Note 5: Age-standardized prevalence rates were based on the world standard population from 2000 and in 5-year age groups.

Appendix 27 Number and prevalence of psychosomatic disorders among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	11,230	10,823	10,871	10,614	10,635
Gender					
Male	3,881	3,734	3,742	3,501	3,485
Female	7,349	7,089	7,129	7,113	7,150
Age					
65–74 years	6,427	6,149	6,173	5,867	5,946
75–84 years	4,051	3,946	3,890	3,907	3,812
≥85 years	752	728	808	840	877
Gender*Age					
Male					
65–74 years	2,119	2,040	2,076	1,871	1,915
75–84 years	1,489	1,429	1,379	1,328	1,277
≥85 years	273	265	287	302	293
Female					
65–74 years	4,308	4,109	4,097	3,996	4,031
75–84 years	2,562	2,517	2,511	2,579	2,535
≥85 years	479	463	521	538	584
Crude prevalence	0.5	0.4	0.4	0.4	0.4

**Continued Appendix 27 Number and prevalence of psychosomatic disorders
among the population aged 65 years and older from 2010 to 2019.**

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	10,642	8,321	7,796	7,672	7,772
Gender					
Male	3,515	2,680	2,447	2,406	2,429
Female	7,127	5,641	5,349	5,266	5,343
Age					
65–74 years	5,870	4,803	4,652	4,598	4,751
75–84 years	3,867	2,861	2,532	2,437	2,367
≥85 years	905	657	612	637	654
Gender*Age					
Male					
65–74 years	1,925	1,563	1,494	1,466	1,529
75–84 years	1,277	895	751	747	707
≥85 years	313	222	202	193	193
Female					
65–74 years	3,945	3,240	3,158	3,132	3,222
75–84 years	2,590	1,966	1,781	1,690	1,660
≥85 years	592	435	410	444	461
Crude prevalence	0.4	0.3	0.2	0.2	0.2

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for psychosomatic disorder are 306.x, and the ICD-10-CM codes are F45.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by psychosomatic disorder / the mid-year population aged 65 years and older × 100%.

Appendix 28 Number and prevalence of insomnia among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	234,958	248,420	263,564	278,159	295,620
Gender					
Male	99,674	103,627	108,165	112,694	118,484
Female	135,284	144,793	155,399	165,465	177,136
Age					
65–74 years	125,675	132,294	140,353	148,726	159,622
75–84 years	87,349	91,604	95,688	98,972	102,409
≥85 years	21,934	24,522	27,523	30,461	33,589
Gender*Age					
Male					
65–74 years	48,738	51,002	53,798	57,108	61,248
75–84 years	40,725	41,206	41,479	41,262	41,538
≥85 years	10,211	11,419	12,888	14,324	15,698
Female					
65–74 years	76,937	81,292	86,555	91,618	98,374
75–84 years	46,624	50,398	54,209	57,710	60,871
≥85 years	11,723	13,103	14,635	16,137	17,891
Crude prevalence	9.5	9.9	10.3	10.5	10.7

Continued Appendix 28 Number and prevalence of insomnia among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	312,323	330,603	356,639	378,122	403,196
Gender					
Male	123,905	129,676	138,486	145,678	153,777
Female	188,418	200,927	218,153	232,444	249,419
Age					
65–74 years	169,150	181,562	200,312	216,162	234,009
75–84 years	106,989	110,467	115,089	119,417	124,757
≥85 years	36,184	38,574	41,238	42,543	44,430
Gender*Age					
Male					
65–74 years	64,839	69,784	76,814	82,798	89,091
75–84 years	42,350	42,439	43,370	44,676	46,325
≥85 years	16,716	17,453	18,302	18,204	18,361
Female					
65–74 years	104,311	111,778	123,498	133,364	144,918
75–84 years	64,639	68,028	71,719	74,741	78,432
≥85 years	19,468	21,121	22,936	24,339	26,069
Crude prevalence	10.9	10.9	11.2	11.3	11.5

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for insomnia are 307.4x and 780.5x, and the ICD-10-CM codes are G47.x and F51.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by insomnia / the mid-year population aged 65 years and older × 100%.

Appendix 29 Number and prevalence of depression among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	73,494	77,511	83,559	90,288	97,365
Gender					
Male	27,491	28,445	30,077	31,863	33,659
Female	46,003	49,066	53,482	58,425	63,706
Age					
65–74 years	41,091	42,602	45,856	49,878	53,971
75–84 years	26,444	28,194	29,997	31,555	33,326
≥85 years	5,959	6,715	7,706	8,855	10,068
Gender*Age					
Male					
65–74 years	13,918	14,315	15,232	16,538	17,826
75–84 years	10,933	11,187	11,427	11,485	11,562
≥85 years	2,640	2,943	3,418	3,840	4,271
Female					
65–74 years	27,173	28,287	30,624	33,340	36,145
75–84 years	15,511	17,007	18,570	20,070	21,764
≥85 years	3,319	3,772	4,288	5,015	5,797
Crude prevalence	3.0	3.1	3.3	3.4	3.5

Continued Appendix 29 Number and prevalence of depression among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	104,010	106,947	113,884	120,374	126,355
Gender					
Male	35,697	36,208	37,942	39,500	41,029
Female	68,313	70,739	75,942	80,874	85,326
Age					
65–74 years	57,717	59,270	64,294	68,957	73,026
75–84 years	35,189	35,688	36,843	38,227	39,614
≥85 years	11,104	11,989	12,747	13,190	13,715
Gender*Age					
Male					
65–74 years	19,189	19,795	21,330	22,758	24,137
75–84 years	11,838	11,551	11,592	11,842	12,007
≥85 years	4,670	4,862	5,020	4,900	4,885
Female					
65–74 years	38,528	39,475	42,964	46,199	48,889
75–84 years	23,351	24,137	25,251	26,385	27,607
≥85 years	6,434	7,127	7,727	8,290	8,830
Crude prevalence	3.6	3.5	3.6	3.6	3.6

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for depression are 296.2x, 296.3x, 300.4 and 311, and the ICD-10-CM codes are F32.1–F32.9, F33.1–F33.9 and F34.1.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by depression / the mid-year population aged 65 years and older × 100%.

Appendix 30 Number and prevalence of anxiety among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2010	2011	2012	2013	2014
Total	165,224	171,164	179,219	188,613	200,259
Gender					
Male	59,791	61,173	63,193	65,909	69,402
Female	105,433	109,991	116,026	122,704	130,857
Age					
65–74 years	96,519	99,131	103,428	109,252	116,974
75–84 years	57,501	59,588	61,838	63,752	66,215
≥85 years	11,204	12,445	13,953	15,609	17,070
Gender*Age					
Male					
65–74 years	32,069	32,915	34,319	36,367	39,031
75–84 years	23,019	23,076	23,096	23,071	23,367
≥85 years	4,703	5,182	5,778	6,471	7,004
Female					
65–74 years	64,450	66,216	69,109	72,885	77,943
75–84 years	34,482	36,512	38,742	40,681	42,848
≥85 years	6,501	7,263	8,175	9,138	10,066
Crude prevalence	6.7	6.8	7.0	7.1	7.3

Continued Appendix 30 Number and prevalence of anxiety among the population aged 65 years and older from 2010 to 2019.

Unit: People, Prevalence (%)

	2015	2016	2017	2018	2019
Total	211,666	193,581	208,291	219,029	231,678
Gender					
Male	72,695	65,663	69,952	73,498	76,917
Female	138,971	127,918	138,339	145,531	154,761
Age					
65–74 years	123,587	115,292	126,576	135,282	145,466
75–84 years	69,396	61,317	63,794	65,537	67,319
≥85 years	18,683	16,972	17,921	18,210	18,893
Gender*Age					
Male					
65–74 years	41,313	38,584	42,133	45,255	48,415
75–84 years	23,824	20,392	20,926	21,374	21,746
≥85 years	7,558	6,687	6,893	6,869	6,756
Female					
65–74 years	82,274	76,708	84,443	90,027	97,051
75–84 years	45,572	40,925	42,868	44,163	45,573
≥85 years	11,125	10,285	11,028	11,341	12,137
Crude prevalence	7.4	6.4	6.5	6.5	6.6

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 3: The ICD-9-CM codes for anxiety are 300.xx (not including 300.3 or 300.4), and the ICD-10-CM codes are F40.x and F41.x.

Note 4: Crude prevalence = the number of people aged 65 years and older affected by anxiety / the mid-year population aged 65 years and older × 100%.

Appendix 31 Number and percentage of the population aged 65 years and older with hypertension according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2012		2013		2014	
	Number of health checkups	Cases of hypertension	Number of health checkups	Cases of hypertension	Number of health checkups	Cases of hypertension
Total	743,484	462,215	777,849	481,829	818,656	505,561
Gender						
Male	334,914	203,894	346,669	211,153	360,815	219,971
Female	408,570	258,321	431,180	270,676	457,841	285,590
Age						
65–74 years	418,860	245,512	437,106	254,692	460,792	267,343
75–84 years	263,889	176,203	273,415	182,061	283,909	188,812
≥85 years	60,735	40,500	67,328	45,076	73,955	49,406
Gender*Age						
Male						
65–74 years	178,403	103,677	186,790	108,871	196,036	114,436
75–84 years	124,226	79,568	124,846	79,755	126,166	80,630
≥85 years	32,285	20,649	35,033	22,527	38,613	24,905
Female						
65–74 years	240,457	141,835	250,316	145,821	264,756	152,907
75–84 years	139,663	96,635	148,569	102,306	157,743	108,182
≥85 years	28,450	19,851	32,295	22,549	35,342	24,501
Medical history	-	301,943	-	318,346	-	335,843
Percentage of population with hypertension	62.2		61.9		61.8	
Percentage of population with a history of hypertension	65.3		66.1		66.4	

Continued Appendix 31 Number and percentage of the population aged 65 years and older with hypertension according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2015		2016		2017	
	Number of health checkups	Cases of hypertension	Number of health checkups	Cases of hypertension	Number of health checkups	Cases of hypertension
Total	853,439	522,072	871,355	529,426	941,334	568,864
Gender						
Male	372,924	225,645	377,925	227,860	405,492	244,689
Female	480,515	296,427	493,430	301,566	535,842	324,175
Age						
65–74 years	481,992	275,784	502,083	285,352	553,204	311,497
75–84 years	292,556	193,424	289,672	190,922	303,670	200,303
≥85 years	78,891	52,864	79,600	53,152	84,460	57,064
Gender*Age						
Male						
65–74 years	204,709	118,498	212,914	123,009	233,629	134,710
75–84 years	127,578	80,964	124,524	78,972	129,787	82,524
≥85 years	40,637	26,183	40,487	25,879	42,076	27,455
Female						
65–74 years	277,283	157,286	289,169	162,343	319,575	176,787
75–84 years	164,978	112,460	165,148	111,950	173,883	117,779
≥85 years	38,254	26,681	39,113	27,273	42,384	29,609
Medical history	-	339,949	-	337,725	-	360,676
Percentage of population with hypertension	61.2		60.8		60.4	
Percentage of population with a history of hypertension	65.1		63.8		63.4	

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, systolic blood pressure was over 220 mmHg or under 70 mmHg, and diastolic blood pressure was under 50 mmHg or over 120 mmHg.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose systolic blood pressure was ≥140 mmHg, whose diastolic blood pressure was ≥90 mmHg, or who reported a history of hypertension were determined to have hypertension.

Note 3: Percentage of population with hypertension = the number of people aged 65 years and older with hypertension / the number of people who received checkups × 100%.

Note 4: Percentage of population with a history of hypertension = the number of people aged 65 years and older with a history of hypertension / the number of people aged 65 years and older with hypertension × 100%.

Note 5: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Appendix 32 Number and percentage of the population aged 65 years and older with diabetes according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2012		2013		2014	
	Number of health checkups	Cases of diabetes	Number of health checkups	Cases of diabetes	Number of health checkups	Cases of diabetes
Total	759,476	194,781	796,258	208,686	836,526	221,995
Gender						
Male	342,035	85,464	354,998	91,262	368,843	97,108
Female	417,441	109,317	441,260	117,424	467,683	124,887
Age						
65–74 years	426,884	107,837	446,774	115,489	469,780	122,597
75–84 years	269,902	71,803	280,007	75,599	290,409	79,665
≥85 years	62,690	15,141	69,477	17,598	76,337	19,733
Gender*Age						
Male						
65–74 years	181,737	46,495	190,910	50,439	199,800	53,870
75–84 years	126,960	31,600	127,938	32,477	129,180	33,760
≥85 years	33,338	7,369	36,150	8,346	39,863	9,478
Female						
65–74 years	245,147	61,342	255,864	65,050	269,980	68,727
75–84 years	142,942	40,203	152,069	43,122	161,229	45,905
≥85 years	29,352	7,772	33,327	9,252	36,474	10,255
Medical history	-	126,766	-	134,282	-	143,110
Percentage of population with diabetes	25.6		26.2		26.5	
Percentage of population with a history of diabetes	65.1		64.3		64.5	

Continued Appendix 32 Number and percentage of the population aged 65 years and older with diabetes according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2015		2016		2017	
	Number of health checkups	Cases of diabetes	Number of health checkups	Cases of diabetes	Number of health checkups	Cases of diabetes
Total	870,255	234,660	884,227	238,768	948,755	252,046
Gender						
Male	380,674	102,658	383,385	104,796	408,578	110,858
Female	489,581	132,002	500,842	133,972	540,177	141,188
Age						
65–74 years	490,557	129,732	507,964	133,810	556,253	142,607
75–84 years	298,404	83,383	294,377	83,000	306,488	85,901
≥85 years	81,294	21,545	81,886	21,958	86,014	23,538
Gender*Age						
Male						
65–74 years	208,474	57,675	215,204	60,084	234,732	64,376
75–84 years	130,286	34,810	126,564	34,476	130,933	35,597
≥85 years	41,914	10,173	41,617	10,236	42,913	10,885
Female						
65–74 years	282,083	72,057	292,760	73,726	321,521	78,231
75–84 years	168,118	48,573	167,813	48,524	175,555	50,304
≥85 years	39,380	11,372	40,269	11,722	43,101	12,653
Medical history	-	149,020	-	150,150	-	160,762
Percentage of population with diabetes	27.0		27.0		26.6	
Percentage of population with a history of diabetes	63.5		62.9		63.8	

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, and blood sugar was below 5 mg/dL or over 4,000 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose blood sugar was ≥126 mg/dL or who reported a history of diabetes were determined to have diabetes.

Note 3: Percentage of population with diabetes = the number of people aged 65 years and older with diabetes / the number of people who received checkups × 100%.

Note 4: Percentage of population with a history of diabetes = the number of people aged 65 years and older with a history of diabetes / the number of people aged 65 years and older with diabetes × 100%.

Note 5: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Appendix 33 Number and percentage of the population aged 65 years and older with hyperlipidemia according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2012		2013		2014	
	Number of health checkups	Cases of hyperlipidemia	Number of health checkups	Cases of hyperlipidemia	Number of health checkups	Cases of hyperlipidemia
Total	763,306	432,887	798,940	452,272	840,625	470,305
Gender						
Male	343,727	167,018	356,320	173,483	370,818	179,219
Female	419,579	265,869	442,620	278,789	469,807	291,086
Age						
65–74 years	428,917	260,344	448,162	271,725	472,055	283,352
75–84 years	271,366	145,882	281,014	150,850	291,878	154,958
≥85 years	63,023	26,661	69,764	29,697	76,692	31,995
Gender*Age						
Male						
65–74 years	182,616	97,796	191,588	102,796	200,906	107,032
75–84 years	127,638	57,564	128,434	58,033	129,867	58,357
≥85 years	33,473	11,658	36,298	12,654	40,045	13,830
Female						
65–74 years	246,301	162,548	256,574	168,929	271,149	176,320
75–84 years	143,728	88,318	152,580	92,817	162,011	96,601
≥85 years	29,550	15,003	33,466	17,043	36,647	18,165
Medical history	-	53,091	-	61,237	-	71,928
Percentage of population with hyperlipidemia	56.7		56.6		55.9	
Percentage of population with a history of hyperlipidemia	12.3		13.5		15.3	

Continued Appendix 33 Number and percentage of the population aged 65 years and older with hyperlipidemia according to adult preventive health checkups from 2012 to 2017.

Unit: People, Percentage

	2015		2016		2017	
	Number of health checkups	Cases of hyperlipidemia	Number of health checkups	Cases of hyperlipidemia	Number of health checkups	Cases of hyperlipidemia
Total	871,814	481,508	886,647	488,728	948,976	527,480
Gender						
Male	381,233	181,636	384,658	183,951	408,702	196,925
Female	490,581	299,872	501,989	304,777	540,274	330,555
Age						
65–74 years	491,313	291,460	509,243	302,059	556,420	332,305
75–84 years	299,129	156,911	295,385	153,464	306,529	159,875
≥85 years	81,372	33,137	82,019	33,205	86,027	35,300
Gender*Age						
Male						
65–74 years	208,778	109,681	215,964	113,964	234,829	124,528
75–84 years	130,604	58,049	127,070	56,251	130,956	58,056
≥85 years	41,851	13,906	41,624	13,736	42,917	14,341
Female						
65–74 years	282,535	181,779	293,279	188,095	321,591	207,777
75–84 years	168,525	98,862	168,315	97,213	175,573	101,819
≥85 years	39,521	19,231	40,395	19,469	43,110	20,959
Medical history	-	76,627	-	81,420	-	92,379
Percentage of population with hyperlipidemia	55.2		55.1		55.6	
Percentage of population with a history of hyperlipidemia	15.9		16.7		17.5	

Source: Adult Preventive Health Service Databases

Note 1: Excluded incomplete information: gender, age, first screening data, screening year, or test data were missing, total cholesterol was below 7 mg/dL or over 705 mg/dL, and triglycerides were below 7 mg/dL or over 5,680 mg/dL.

Note 2: Based on self-reports or test values presented in the Adult Preventive Health Service Databases, patients whose total cholesterol was ≥200 mg/dL, whose triglycerides were ≥150 mg/dL, or who reported a history of hyperlipidemia were determined to have hyperlipidemia.

Note 3: Percentage of population with hyperlipidemia = the number of people aged 65 years and older with hyperlipidemia / the number of people who received checkups × 100%.

Note 4: Percentage of population with a history of hyperlipidemia = the number of people aged 65 years and older with a history of hyperlipidemia / the number of people aged 65 years and older with hyperlipidemia × 100%.

Note 5: This report only presents the number of adults aged 65 years and older who received checkups during that year. The statistics are therefore not nationally representative.

Appendix 34 Mean mFI scores among the population aged 65 years and older from 2010 to 2019.

Unit: Score

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	0.059	0.059	0.060	0.059	0.059	0.059	0.061	0.062	0.062	0.061
Gender										
Male	0.065	0.066	0.066	0.066	0.065	0.065	0.067	0.067	0.067	0.067
Female	0.053	0.054	0.054	0.054	0.053	0.053	0.056	0.057	0.057	0.057
Age										
65–74 years	0.044	0.044	0.045	0.045	0.045	0.045	0.044	0.044	0.046	0.047
75–84 years	0.074	0.075	0.075	0.075	0.075	0.075	0.074	0.073	0.077	0.078
≥85 years	0.089	0.091	0.093	0.094	0.095	0.095	0.096	0.096	0.100	0.101
Gender*Age										
Male										
65–74 years	0.048	0.048	0.049	0.048	0.048	0.048	0.050	0.052	0.052	0.052
75–84 years	0.084	0.084	0.084	0.083	0.083	0.082	0.084	0.085	0.085	0.086
≥85 years	0.104	0.105	0.106	0.106	0.108	0.109	0.111	0.113	0.113	0.113
Female										
65–74 years	0.042	0.042	0.042	0.041	0.041	0.040	0.043	0.044	0.043	0.043
75–84 years	0.067	0.067	0.067	0.067	0.067	0.067	0.070	0.072	0.072	0.072
≥85 years	0.084	0.084	0.084	0.084	0.084	0.085	0.089	0.090	0.091	0.091
Age standardization										
Total	0.056	0.056	0.057	0.056	0.056	0.056	0.059	0.060	0.060	0.060
Male	0.061	0.061	0.062	0.062	0.062	0.062	0.065	0.066	0.066	0.066
Female	0.052	0.052	0.052	0.052	0.051	0.051	0.055	0.056	0.055	0.055

Source: National Health Insurance Research Database

Note 1: Based on any of the ICD diagnosis columns of CD and DD, and meeting the definition of hospitalization once or more than three outpatient and emergency visits within one year, it is considered to be suffering from the disease.

Note 2: The mFI scores varied between 0 and 1.

Note 3: The ICD-9 was used from 2010 to 2015, and the ICD-10 was used from 2016 to 2019.

Note 4: Age-standardized scores were based on the world standard population from 2000 and in 5-year age groups.

Note 5: Reference: Wen, Y. C., Chen, L. K., & Hsiao, F. Y. (2017). Predicting mortality and hospitalization of older adults by the multimorbidity frailty index. PLoS one, 12(11), e0187825.

<https://doi.org/10.1371/journal.pone.0187825>

**Appendix 35 Self-reported perceived health status of the population
aged 65 years and older from 2005 to 2017.**

Unit: People, Percentage

	Completed samples	Excellent	Very good	Good	Fair	Bad
2005						
Total	2,489	2.1	12.3	21.0	41.3	23.3
Male	-	-	-	-	-	-
Female	-	-	-	-	-	-
2009						
Total	2,636	1.2	12.7	24.4	42.4	19.4
Male	1,148	1.6	13.0	27.6	40.7	17.2
Female	1,488	0.8	12.3	21.2	44.0	21.6
	Completed samples	Very good	Good	Fair	Bad	Very bad
2013						
Total	2,893	7.9	23.2	46.3	19.2	3.5
Male	1,378	9.1	24.7	46.8	17.0	2.5
Female	1,515	6.7	21.8	45.8	21.1	4.5
2017						
Total	2,955	8.5	26.2	45.7	17.8	1.8
Male	1,393	9.9	28.8	43.8	15.8	1.7
Female	1,562	7.3	24.0	47.3	19.5	1.8

Source: National Health Interview Survey

Note 1: The self-perceived health status is extracted from the face-to-face interview. Individuals can answer on their own behalf. If the individual is unable to respond due to severe illness, physical weakness, or serious mental problem or mental disability, proxies would not answer these questions. The response is treated as missing.

Note 2: The values weighted to represent the whole population.

Note 3: Percentage = the number of people who self-reported perceived health status / the total population aged 65 years and older × 100%.

Appendix 36 Utilization rates of FIT screening from 2016 to 2020.

Unit: Percentage

	2016-2017	2017-2018	2018-2019	2019-2020
Total				
60–64 years	39.1	38.6	38.5	36.3
65–69 years	54.0	52.0	51.5	42.3
Male				
60–64 years	34.2	33.6	33.4	31.5
65–69 years	51.3	49.2	48.4	39.6
Female				
60–64 years	43.7	43.3	43.4	40.8
65–69 years	56.3	54.6	54.4	44.8

Source: Health Promotion Administration, Ministry of Health and Welfare:

<https://www.hpa.gov.tw/Pages/List.aspx?nodeid=118>

Note 1: Percentage of eligible adults who received FIT in the past 2 years (once every 2 years for those eligible for colorectal cancer).

Note 2: (Number of eligible adults in the age group who received FIT in the past 2 years / the mid-year population in the age group in the first year) × 100%.

**Appendix 37 Number and percentage of pneumococcal vaccinations
among population aged 65 years and older from 2010 to 2019.**

Unit: People, Percentage

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	25,960	30,983	36,739	21,217	18,295	17,882	22,201	25,752	48,089	53,629
Gender										
Male	12,881	14,547	16,952	9,930	8,402	8,174	10,007	11,638	22,174	25,169
Female	13,079	16,436	19,787	11,287	9,893	9,708	12,194	14,114	25,915	28,460
Age										
65–74 years	3,811	10,556	17,763	5,098	5,405	5,278	8,344	12,163	9,356	7,378
75–84 years	19,210	17,759	16,526	13,752	11,285	11,024	12,129	11,903	35,366	42,975
≥85 years	2,939	2,668	2,450	2,367	1,605	1,580	1,728	1,686	3,367	3,276
Gender*Age										
Male										
65–74 years	1,747	4,637	8,061	2,356	2,431	2,470	3,749	5,572	4,431	3,647
75–84 years	9,596	8,513	7,657	6,364	5,167	4,911	5,448	5,285	16,313	20,117
≥85 years	1,538	1,397	1,234	1,210	804	793	810	781	1,430	1,405
Female										
65–74 years	2,064	5,919	9,702	2,742	2,974	2,808	4,595	6,591	4,925	3,731
75–84 years	9,614	9,246	8,869	7,388	6,118	6,113	6,681	6,618	19,053	22,858
≥85 years	1,401	1,271	1,216	1,157	801	787	918	905	1,937	1,871
Pneumococcal vaccination (%)	1.0	1.2	1.4	0.8	0.7	0.6	0.7	0.8	1.4	1.5

Source: National Health Insurance Research Database

Note 1: Pneumococcal vaccination (%) = the number of adults aged 65 years and older who received pneumococcal vaccines / the mid-year population aged 65 years and older × 100%.

Note 2: An individual is considered to have received the pneumococcal vaccine based on the National Health Insurance (NHI) code K000492206.

Note 3: Data for this report were obtained from the NHIRD by querying for PPV23. Based on the different levels of diligence in reporting data among hospitals, errors may be present.

Appendix 38 Number and percentage of influenza vaccinations among population aged 65 years and older from 2010 to 2019.

Unit: People, Percentage

	2010	2011	2012	2013	2014
Total	631,997	764,766	811,284	809,143	738,595
Gender					
Male	308,344	370,470	390,346	387,459	351,045
Female	323,653	394,296	420,938	421,684	387,550
Age					
65–74 years	311,285	374,038	393,858	389,099	354,609
75–84 years	262,812	313,523	329,223	326,330	292,388
≥85 years	57,900	77,205	88,203	93,714	91,598
Gender*Age					
Male					
65–74 years	140,066	169,198	180,045	179,801	164,275
75–84 years	137,864	160,012	163,143	157,627	137,893
≥85 years	30,414	41,260	47,158	50,031	48,877
Female					
65–74 years	171,219	204,840	213,813	209,298	190,334
75–84 years	124,948	153,511	166,080	168,703	154,495
≥85 years	27,486	35,945	41,045	43,683	42,721
Influenza vaccination (%)	25.6	30.5	31.6	30.6	26.8

**Continued Appendix 38 Number and percentage of influenza vaccinations
among population aged 65 years and older from 2010 to 2019.**

Unit: People, Percentage

	2015	2016	2017	2018	2019
Total	782,290	1,166,584	1,071,006	1,275,244	1,079,484
Gender					
Male	369,308	546,668	501,068	590,491	495,982
Female	412,982	619,916	569,938	684,753	583,502
Age					
65–74 years	373,719	603,488	565,317	676,203	606,872
75–84 years	307,365	419,201	372,765	438,686	358,418
≥85 years	101,206	143,895	132,924	160,355	114,194
Gender*Age					
Male					
65–74 years	174,201	283,201	266,815	317,580	279,216
75–84 years	141,875	189,446	167,285	194,923	160,412
≥85 years	53,232	74,021	66,968	77,988	56,354
Female					
65–74 years	199,518	320,287	298,502	358,623	327,656
75–84 years	165,490	229,755	205,480	243,763	198,006
≥85 years	47,974	69,874	65,956	82,367	57,840
Influenza vaccination (%)	27.2	38.6	33.6	38.1	30.7

Source: National Health Insurance Research Database

Note 1: Influenza vaccination (%) = the number of adults aged 65 years and older who received influenza vaccines / the mid-year population aged 65 years and older × 100%.

Note 2: An individual is considered to have received the influenza vaccine based on the receipt of outpatient pharmaceutical codes K000453277, K000889206, J000113277, and K000523206 for the influenza vaccine; pharmaceutical codes J000138206 and K001036206 were included since 2019.

Note 3: The 2016 government-funded influenza vaccination program was expanded from 3 million doses to 6 million doses to include junior high school students, high school students, vocational school students, 5-year junior college students (grades 10-12), 6-month postpartum mothers, high-risk adults with chronic diseases under the age of 50, and healthy adults aged 50–64 years. All vaccines were distributed at the end of December, with record highs in terms of the purchase amount and vaccination rate.

Note 4: Data for this report were obtained from the NHIRD and were compared with data on influenza vaccination obtained from the Taiwan Centers for Disease Control Influenza Vaccination Information System (IVIS). Cases are underreported by 50,000 to 540,000 each year, which may be attributable to the following:

- (1) Vaccinations are determined by pharmaceutical codes, and some influenza vaccines may have been omitted from the definition, resulting in underreporting.
- (2) Hospitals may have entered the wrong pharmaceutical code in their reports.
- (3) Hospitals may have neglected to fill in the pharmaceutical code when administering influenza vaccinations.
- (4) Other reasons for data retrieval gaps.

Appendix 39 Mean weekly recreational physical activity level of individuals aged 65 years and older from 2005 to 2017.

Unit: MET-minutes/week

	2005		2009	
	The weighted number of completed samples (people)	Mean score (standard error)	The weighted number of completed samples (people)	Mean score (standard error)
Total	2,330	836(30.3)	2,516	772(33.5)
Gender				
Male	1,173	1,009(51.0)	1,231	930(60.2)
Female	1,158	661(32.5)	1,285	621(33.3)
Age				
65–74 years	1,385	915(43.3)	1,476	908(50.8)
75–84 years	803	754(45.0)	855	624(43.3)
≥85 years	143	537(99.9)	186	376(60.2)
Gender*Age				
Male				
65–74 years	679	1,057(74.6)	699	1,100(95.7)
75–84 years	432	995(72.3)	444	736(65.1)
≥85 years	62	592(147.5)	88	550(111.6)
Female				
65–74 years	706	779(45.1)	776	735(45.7)
75–84 years	371	473(45.1)	410	503(56.8)
≥85 years	81	495(134.6)	98	222(49.6)

**Continued Appendix 39 Mean weekly recreational physical activity level of
individuals aged 65 years and older from 2005 to 2017.**

Unit: MET-minutes/week

	2013		2017	
	The weighted number of completed samples (people)	Mean score (standard error)	The weighted number of completed samples (people)	Mean score (standard error)
Total	2,453	715(30.1)	2,800	436(26.9)
Gender				
Male	1,147	868(51.7)	1,289	547(46.9)
Female	1,306	581(33.2)	1,511	342(28.4)
Age				
65–74 years	1,396	854(44.9)	1,619	571(38.3)
75–84 years	848	540(37.7)	875	303(43.5)
≥85 years	210	503(94.0)	306	105(45.6)
Gender*Age				
Male				
65–74 years	643	997(78.3)	757	677(64.0)
75–84 years	390	690(63.4)	393	425(82.3)
≥85 years	114	751(157.9)	139	187(98.0)
Female				
65–74 years	753	731(49.0)	862	478(42.9)
75–84 years	458	413(42.6)	481	204(39.1)
≥85 years	96	207(56.3)	167	36(15.8)

Source: National Health Interview Survey

Note 1: (1) Weekly recreational physical activity levels in 2005, 2009, and 2013 = MET of recreational sports × weekly recreational sports (min).

(2) The weekly recreational physical activity level in 2017 is calculated using the following equation: (number of minutes of moderate recreational sports per week × 4) + (number of minutes of vigorous recreational sports per week × 8).

(3) Reference source for the method: WHO. Global Physical Activity Questionnaire (GPAQ) Analysis Guide.

https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/gpaq-analysis-guide.pdf?sfvrsn=1e83d571_2

Note 2: Values are all calculated by applying nationally representative weights. The rounding difference was used.

Appendix 40 Percentage of smokers and ex-smokers aged 65 years and older from 2005 to 2017.

Unit: Percentage

	2005		2009		2013		2017	
	Smoker	Ex-smoker	Smoker	Ex-smoker	Smoker	Ex-smoker	Smoker	Ex-smoker
The weighted number of completed samples (people)	2,330		2,648		2,564		2,729	
Total	15.9	37.3	12.3	60.5	9.7	60.0	7.4	67.6
Gender								
Male	29.0	38.1	23.7	60.8	18.9	61.5	14.4	69.2
Female	2.5	26.6	1.4	54.8	1.6	32.5	1.4	40.1
Age								
65–74 years	17.9	30.8	13.0	56.3	12.0	51.9	9.7	59.4
75–84 years	13.2	49.4	12.4	62.8	7.8	66.6	4.5	78.4
≥85 years	10.9	28.6	6.4	78.3	3.4	85.4	3.3	84.9
Gender*Age								
Male								
65–74 years	33.7	31.8	26.2	56.9	23.9	53.5	18.8	61.1
75–84 years	22.9	49.6	22.5	63.0	15.1	68.3	8.8	80.3
≥85 years	20.5	28.7	12.5	78.3	5.4	86.6	6.3	85.6
Female								
65–74 years	2.8	15.6	1.3	43.8	1.6	9.1	1.8	33.5
75–84 years	1.9	46.0	1.8	59.5	1.6	42.1	1.0	25.1
≥85 years	3.6	28.1	0.9	77.3	1.1	71.6	0.8	78.3

Source: National Health Interview Survey

Note 1: (1) A smoker is defined as an individual who has smoked more than five packs of cigarettes and currently smokes daily or occasionally.

(2) An ex-smoker is defined as an individual who has smoked more than five packs of cigarettes and has quit smoking.

Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Smoking rate = the weighted number of smokers / the weighted number of completed samples × 100%.

Note 4: Percentage of ex-smokers = the weighted number of people who have smoked / (the weighted number of people who have smoked + the weighted number of current smokers) × 100%.

**Appendix 41 Percentage of individuals aged 65 years and older
who drank alcohol from 2005 to 2017.**

Unit: Percentage

	2005	2009	2013	2017
The weighted number of completed samples (people)	2,325	2,641	2,556	2,723
Total	20.0	39.6	38.0	36.2
Gender				
Male	32.7	62.1	57.3	55.9
Female	7.3	18.4	20.9	19.6
Age				
65–74 years	22.9	42.5	42.9	42.0
75–84 years	17.6	36.8	31.6	30.4
≥85 years	6.3	31.8	32.6	22.5
Gender*Age				
Male				
65–74 years	37.4	66.5	62.7	62.5
75–84 years	28.7	57.5	50.8	50.5
≥85 years	9.0	53.6	50.1	35.6
Female				
65–74 years	9.0	21.0	25.7	24.3
75–84 years	4.7	15.3	15.3	13.9
≥85 years	4.2	12.3	13.4	11.8

Source: National Health Interview Survey

Note 1: An individual who drinks alcohol is defined as an individual who answers “yes” to the question “Do you drink alcohol?” (including occasional or social drinking) in the 2005 questionnaire. The options for the most recent drink include less than once a month, once or twice a month, once a week, once every two or three days, and (almost) every day. An individual who answers “yes” to the question “Have you ever drunk alcohol?” (including occasional or social drinking) in the 2009–2017 questionnaires. The options for the most recent drink include the past seven days, more than one week to one month, more than one month to six months, more than half a year to one year, and more than one year.

Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Percentage of people who drink alcohol = the weighted number of drinkers / the weighted number of completed samples × 100%.

Appendix 42 Percentage of individuals aged 65 years and older who chewed betel nuts from 2005 to 2017.

Unit: Percentage

	2005	2009	2013	2017
The weighted number of completed samples (people)	2,330	2,648	2,564	2,729
Total	2.9	2.6	1.9	1.8
Gender				
Male	4.7	4.1	3.1	3.2
Female	1.2	1.2	0.9	0.6
Age				
65–74 years	4.0	3.6	2.8	2.7
75–84 years	1.6	1.1	0.9	0.7
≥85 years	0.6	1.9	0.5	0.4
Gender*Age				
Male				
65–74 years	6.7	6.4	4.6	4.8
75–84 years	2.1	1.0	1.5	1.2
≥85 years	1.4	2.2	0.7	0.5
Female				
65–74 years	1.4	1.1	1.2	0.8
75–84 years	1.0	1.2	0.5	0.4
≥85 years	0.0	1.6	0.3	0.2

Source: National Health Interview Survey

Note 1: An individual who chews betel nuts is defined as an individual who has chewed betel nuts in the previous 6 months.

Note 2: Values are all calculated by applying nationally representative weights.

Note 3: Percentage of people who chew betel nuts = the weighted number of individuals who currently chew betel nuts / the weighted number of completed samples × 100%.

**Appendix 43 Outpatient health insurance visit rate for individuals
aged 65 years and older from 2011 to 2020.**

Unit: Per 100,000 pop.

	2011	2012	2013	2014	2015
Total	95,529	97,846	96,456	96,517	96,391
Gender					
Male	94,978	97,312	95,889	95,958	95,844
Female	96,029	98,325	96,957	97,006	96,864
Age					
65–74 years	95,894	96,686	95,897	95,795	95,509
75–84 years	96,442	99,248	97,895	97,930	97,945
≥85 years	90,351	99,339	94,831	95,913	96,289
Gender*Age					
Male					
65–74 years	94,949	95,924	95,017	94,946	94,688
75–84 years	96,840	99,213	98,051	98,029	98,036
≥85 years	88,624	98,277	93,752	95,078	95,609
Female					
65–74 years	96,731	97,361	96,679	96,552	96,243
75–84 years	96,066	99,279	97,760	97,848	97,871
≥85 years	91,939	100,325	95,834	96,683	96,909

Continued Appendix 43 Outpatient health insurance visit rate for individuals aged 65 years and older from 2011 to 2020.

Unit: Per 100,000 pop.

	2016	2017	2018	2019	2020
Total	102,688	102,229	102,013	101,812	101,104
Gender					
Male	102,439	101,997	101,787	101,563	100,947
Female	102,901	102,426	102,206	102,021	101,236
Age					
65–74 years	100,825	100,288	100,067	100,015	99,655
75–84 years	102,855	102,692	102,647	102,132	100,578
≥85 years	111,398	110,853	110,576	110,788	110,715
Gender*Age					
Male					
65–74 years	100,475	99,992	99,737	99,659	99,444
75–84 years	102,881	102,830	102,981	102,553	100,984
≥85 years	110,994	110,284	109,990	110,126	110,273
Female					
65–74 years	101,138	100,554	100,363	100,334	99,843
75–84 years	102,835	102,585	102,392	101,809	100,267
≥85 years	111,760	111,343	111,061	111,309	111,045

Source: National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/dos/lp-5103-113.html>

Note: Outpatient health insurance visit rate = the number of outpatients / the mid-year population × 100,000.

**Appendix 44 Inpatient health insurance visit rate for individuals
aged 65 years and older from 2011 to 2020.**

Unit: Per 100,000 pop.

	2011	2012	2013	2014	2015
Total	21,527	21,334	20,866	20,824	20,826
Gender					
Male	23,373	23,102	22,619	22,534	22,544
Female	19,852	19,751	19,316	19,327	19,337
Age					
65–74 years	16,276	15,981	15,665	15,579	15,572
75–84 years	25,830	25,298	24,743	24,590	24,649
≥85 years	35,746	36,340	34,979	35,468	35,546
Gender*Age					
Male					
65–74 years	17,723	17,332	17,011	16,939	16,945
75–84 years	28,176	27,616	27,079	26,864	26,984
≥85 years	37,195	37,962	36,796	37,400	37,703
Female					
65–74 years	14,997	14,785	14,469	14,369	14,346
75–84 years	23,614	23,205	22,719	22,694	22,764
≥85 years	34,412	34,836	33,289	33,684	33,578

Continued Appendix 44 Inpatient health insurance visit rate for individuals aged 65 years and older from 2011 to 2020.

Unit: Per 100,000 pop.

	2016	2017	2018	2019	2020
Total	21,131	20,845	20,668	20,451	18,915
Gender					
Male	22,951	22,616	22,407	22,094	20,570
Female	19,567	19,334	19,193	19,066	17,527
Age					
65–74 years	15,556	15,404	15,324	15,294	14,418
75–84 years	24,543	24,432	24,436	24,255	22,317
≥85 years	39,215	38,851	38,739	38,536	35,639
Gender*Age					
Male					
65–74 years	17,158	17,016	16,917	16,905	16,063
75–84 years	26,809	26,678	26,768	26,396	24,440
≥85 years	41,625	41,343	41,384	41,226	38,622
Female					
65–74 years	14,123	13,961	13,899	13,855	12,950
75–84 years	22,758	22,691	22,645	22,615	20,692
≥85 years	37,066	36,701	36,550	36,417	33,408

Source: National Health Insurance Annual Statistics from Department of Statistics, Ministry of Health and Welfare:
<https://dep.mohw.gov.tw/dos/lp-5103-113.html>

Note: Inpatient health insurance visit rate = the number of inpatients / the mid-year population × 100,000.

**Appendix 45 Number of long-term care service users in
each county and city in 2021.**

Unit: People

District	New applicants	Evaluated applicants	Existing service users
Total	182,147	342,834	388,866
New Taipei City	25,277	38,891	51,560
Taipei City	16,349	27,892	33,481
Taoyuan City	13,606	25,698	28,267
Taichung City	20,296	43,758	46,598
Tainan City	15,632	31,202	34,303
Kaohsiung City	23,358	45,800	47,464
Yilan County	3,607	8,097	9,497
Hsinchu County	3,722	6,791	7,424
Miaoli County	4,487	9,185	10,084
Changhua County	11,640	16,890	23,027
Nantou County	6,017	13,895	15,030
Yunlin County	6,629	12,950	14,145
Chiayi County	6,181	10,986	12,309
Pingtung County	8,947	19,757	20,788
Taitung County	2,695	6,665	6,517
Hualien County	5,292	9,862	9,943
Penghu County	818	2,063	2,247
Keelung City	2,313	3,123	4,813
Hsinchu City	2,577	3,873	5,802
Chiayi City	2,133	4,081	4,163
Kinmen County	552	1,331	1,360
Lienchiang County	19	44	44

Source: Long-term care management information platform of the Ministry of Health and Welfare:
<https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: New applicants indicate that the users have applied for long-term care services during the given year and who did not use long-term care services during the previous year.

Note 2: Evaluated applicants include the number of new evaluation and old case re-evaluation.

Note 3: Existing service users refer to the number of people that can be serviced.

Appendix 46 Long-term care service coverage rate in each county and city in 2021.

Unit: 10,000 people, Coverage rate (%)

District	Estimated number of people who required long-term care services	Number of existing users of long-term care 2.0 services	Long-term care service coverage rate
Total	85.53	48.43	56.6
New Taipei City	13.46	6.73	50.0
Taipei City	10.98	3.87	35.3
Taoyuan City	6.55	3.57	54.5
Taichung City	8.69	5.61	64.6
Tainan City	7.00	4.53	64.7
Kaohsiung City	10.24	5.89	57.5
Yilan County	1.80	1.24	68.8
Hsinchu County	1.78	0.99	55.5
Miaoli County	2.17	1.18	54.4
Changhua County	4.83	2.99	62.0
Nantou County	2.12	1.78	83.8
Yunlin County	2.99	1.72	57.5
Chiayi County	2.32	1.47	63.1
Pingtung County	3.43	2.56	74.7
Taitung County	1.01	0.76	75.0
Hualien County	1.45	1.15	79.2
Penghu County	0.41	0.25	62.4
Keelung City	1.44	0.64	44.5
Hsinchu City	1.36	0.69	50.4
Chiayi City	0.98	0.65	66.7
Kinmen County	0.46	0.15	32.6
Lienchiang County	0.04	0.01	17.4

Source: Long-term care management information platform of the Ministry of Health and Welfare:

<https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: The estimated demand for long-term care services includes adults aged 65 years and older with physical or mental incapacity, citizens with mental or physical disability and incapacity, indigenous peoples aged 55 years and older with physical or mental incapacity, adults aged 50 years and older with dementia and without disability, and the infirm older people.

Note 2: The number of people using Long-Term Care Plan 2.0 services is determined as the sum of people receiving long-term care payment and benefits, and the number of residential and community-based service users (service recipients who have dementia but do not have a disability and infirm older people are not included). Service recipients of day care, adult foster care, and small-size multi-function services are included among those who receive long-term care payment and benefits; therefore, community-based services in this instance only include group homes.

Note 3: Coverage rate = the number of existing users of long-term care 2.0 service (service recipients who have dementia but do not have a disability and infirm older people are not included) / the estimated number of people who required long-term care services $\times 100\%$.

**Appendix 47 Number of long-term care service institutions
in each county and city in 2021.**

Unit: Number

District	Home-based	Community-based	Institutional residential	Comprehensive
Total	1,388	999	38	111
New Taipei City	179	73	6	4
Taipei City	111	49	5	1
Taoyuan City	90	59	6	14
Taichung City	270	130	2	30
Tainan City	127	101	0	4
Kaohsiung City	206	110	4	10
Yilan County	26	35	2	1
Hsinchu County	21	22	0	2
Miaoli County	20	22	0	2
Changhua County	44	54	2	10
Nantou County	48	45	4	7
Yunlin County	37	73	0	3
Chiayi County	34	35	1	1
Pingtung County	72	77	4	8
Taitung County	17	29	0	5
Hualien County	30	34	1	3
Penghu County	6	10	0	1
Keelung City	12	12	0	1
Hsinchu City	17	7	0	0
Chiayi City	16	16	1	3
Kinmen County	4	5	0	1
Lienchiang County	1	1	0	0

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://ltcpap.mohw.gov.tw/molc/auth/login?targetUri=%2F>

Note 1: Home-based service long-term care institutions are established in accordance with *Long-Term Care Services Act* that offer home services, which refers to long-term care services provided by a long-term caregiver in the home of the service recipient.

Note 2: Community-based services include day care institutions, adult foster care institutions, small-size multi-function institutions, and group homes. Only day care, adult foster care, and small-size multi-function institutions by contract are included in these statistics; small-size multi-function institutions by contract must be annotated as such in the long-term care institutions and management systems for personnel.

Note 3: Long-term care institutions that offer institutional residential services only includes those that are licensed and offer institutional residential services in accordance with regulations such as *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act* and comprehensive long-term care institutions that offer institutional residential services.

Note 4: Long-term care institutions that offer comprehensive services include those that offer services in two or more service categories: home services, community services, or residential services. Institutions offering comprehensive services may be counted repeatedly according to the categories of service they offer.

Appendix 48 Residential service resources in 2021.

Unit: Beds, Admission rate (%)

	Licensed beds	Open beds	Admission rate
Senior citizens' welfare institutions	61,532	61,532	85
General nursing homes	48,907	46,206	88
Accommodation-type institutions with disabilities	15,814	15,814	83
Psychiatric nursing homes	5,247	5,013	92
Institutional residential service institutions established under <i>Long-Term Care Services Act</i>	3,952	2,873	65
Veterans' homes	8,523	8,523	76

Source: Ministry of Health and Welfare

Appendix 49 Number of service users served by long-term care service institutions in 2021.

Unit: People

	Total	Home-based	Day care	Adult foster care	Group homes	Small-size multi-function	Institutional residential
Service recipients	286,939	250,377	22,967	1,411	232	10,073	1,879

Source: Expense audit platform and long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: In accordance with *Standards for Establishment of Long-term Care Service Institutions*, small-size multi-function institutions can offer multiple long-term care services such as home services, temporary housing, and day care. The number of small-size multi-function service users refers to the number of people served by such institutions. The number of home and day care service users served by small-size multi-function institutions is counted repeatedly in the number of service users served by home-based and day care institutions.

Note 2: The number of service users served by institutional residential service institutions only counts the number of residential institutions that have been established and licensed in accordance with *Long-Term Care Services Act* and *Institutional Long-Term Care Juridical Entities Act*. (Excludes senior citizens' welfare institutions, veterans' homes, nursing homes, and accommodation-type institutions with disabilities.)

Appendix 50 Long-term care workforce in 2021.

Unit: People

	Care worker	Home care service supervisor	Care manager	Case manager of community integrated service center
Total	74,601	4,049	1,302	2,519
Male	11,562	561	112	346
Female	63,039	3,488	1,190	2,173

Source: Long-term care institutions and management information systems for long-term care personnel of the Ministry of Health and Welfare: <https://1966.gov.tw/LTC/cp-6485-70119-207.html>

Note 1: Long-term care personnel refer to personnel who have been trained and certified by *Long-Term Care Services Act* and have been certified to provide long-term care services. According to Article 2 of *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*, the five categories of long-term care personnel, if they have been trained and certified to obtain long-term care personnel certification documents, shall comply with the provisions of Article 19, Paragraph 1 of *Long-Term Care Services Act*. Only after registered in or reporting support to a long-term care institution can the service be provided.

Note 2: Anyone certified as long-term care personnel may register as long-term care personnel, which may lead to repeated values among profession types. Possible repeated values are because *Long-Term Care Services Personnel Training Certification, Continuing Education and Registration Regulations*. There is no restriction on long-term care personnel practicing registration is limited to one place. At present, only care specialists must be employed full-time; other personnel are not required to be employed full-time.

Note 3: The number of personnel in these four categories is based on registrations retrieved from the long-term care institutions and management information systems for long-term care personnel.

Note 4: The types of institutions where care workers work in comprise institutions established under *Long-Term Care Services Act* that offer home-based, community-based, institutional residential and comprehensive services, and senior citizens' welfare institutions, nursing homes, accommodation-type institutions with disabilities, and veterans' homes established under other laws and regulations.

Note 5: Care managers refer to care management specialist and care management supervision.

Note 6: Medical personnel who obtain certification through the above-mentioned methods are eligible for long-term care personnel.

Appendix 51 Number and percentage of people aged ≥65 years living alone booked for caring from 2012 to 2021.

Unit: 10,000 people, Percentage

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total		4.81	4.91	4.80	4.77	4.60	4.52	4.46	4.50	4.20	4.29
Gender	Male	2.25	2.26	2.17	2.10	2.01	1.94	1.88	1.88	1.72	1.76
	Female	2.56	2.64	2.63	2.67	2.59	2.58	2.58	2.62	2.48	2.53
Percentage of people aged ≥65 years living alone booked for caring		1.9	1.9	1.7	1.7	1.5	1.4	1.3	1.3	1.1	1.1

Source: Department of Statistics, Ministry of Health and Welfare: <https://dep.mohw.gov.tw/DOS/cp-5337-62357-113.html>

Note 1: Older people living alone booked for caring refers to people aged 65 years and older who have no lineal descendants or whose lineal descendants do not live in the same county or city and who live alone, whose co-residents are unable to care for them, couples aged 65 years and older living together, or who booked for caring through visits and assessments by interviewers from the Social Affairs Bureau (Department) of each county (city) government.

Note 2: Percentage = the number of people aged ≥65 years living alone booked for caring / the mid-year population aged 65 years and older × 100%.

Note 3: The unit of this table is 10,000 people, and the rounding difference was used.

**Appendix 52 Changes in number and percentage of housing units
with only older people from 2012 to 2021.**

Unit: 10,000 housing-units, Percentage

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of housing units with only older people	36.6	39.7	42.4	45.5	49.4	53.4	57.3	56.0	60.4	65.6
Number of housing units with only one older person living alone	26.1	29.4	31.6	34.1	37.2	40.3	43.3	42.7	45.9	49.9
Number of housing units with only one older person living alone as a percentage of the number of housing units with only older people	71.2	74.0	74.5	74.9	75.2	75.4	75.6	76.1	76.1	76.0

Source: Real Estate Information Platform, Ministry of the Interior: <https://pip.moi.gov.tw/V3/E/SCRE0401.aspx>

Note: Number of housing units with only one older person living alone as a percentage of the number of housing units with only older people = the number of housing units with only one older person living alone / the number of housing units with only older people × 100%.

Appendix 53 Family composition of individuals aged 65 years and older from 2005 to 2017.

Unit: Percentage

	Living alone	Living only with spouse (cohabitant)	Living with family members	Living only with other relatives or friends	Others
2005					
Total	13.7	22.2	61.1	0.8	2.3
Male	13.0	27.6	55.9	0.8	2.8
Female	14.3	16.8	66.3	0.7	1.9
2009					
Total	9.2	18.8	68.5	0.8	2.8
Male	7.9	25.6	62.1	0.7	3.7
Female	10.3	12.4	74.5	1.0	1.9
2013					
Total	11.1	20.6	64.2	0.6	3.4
Male	8.8	26.7	60.6	0.7	3.3
Female	13.3	15.2	67.5	0.6	3.5
2017					
Total	9.0	20.4	66.4	1.0	3.3
Male	6.9	25.4	63.8	1.1	2.9
Female	10.8	16.1	68.6	1.0	3.6

Source: Senior Citizen Condition Survey: <https://dep.mohw.gov.tw/DOS/lp-5095-113.html>

Note 1: "Living only with spouse (cohabitant)" includes those living with their spouse (cohabitant) and other non-linear relatives.

Note 2: "Living with family members" includes two-generation families or three- or multi-generation families.

Note 3: "Others" includes those living in nursing homes and long-term care institutions or with foreign caregivers.

Note 4: Percentages are expressed up to the first decimal point. The rounding difference was used.

Appendix 54 Percentage of individuals aged 65 years and older who served as volunteers from 2005 to 2017.

Unit: Percentage

	2005		2009		2013		2017	
	No	Yes	No	Yes	No	Yes	No	Yes
The weighted number of completed samples (people)	2,329		2,649		2,564		2,731	
Total	91.0	9.0	91.9	8.1	89.9	10.1	87.7	12.3
Gender								
Male	90.7	9.3	91.5	8.5	91.2	8.8	88.5	11.5
Female	91.3	8.7	92.2	7.8	88.8	11.2	87.0	13.0
Age								
65–74 years	88.7	11.3	88.3	11.7	86.2	13.8	83.2	16.8
75–84 years	94.3	5.7	95.8	4.2	93.4	6.6	92.6	7.4
≥85 years	94.6	5.4	99.7	0.3	98.5	1.5	97.6	2.4
Gender*Age								
Male								
65–74 years	88.3	11.7	87.3	12.7	87.3	12.7	85.7	14.3
75–84 years	94.4	5.6	96.0	4.0	95.4	4.6	91.4	8.6
≥85 years	94.6	5.4	99.3	0.7	97.2	2.8	95.8	4.2
Female								
65–74 years	89.1	10.9	89.2	10.8	85.2	14.8	81.1	18.9
75–84 years	94.2	5.8	95.6	4.4	91.7	8.3	93.6	6.4
≥85 years	97.2	2.8	100.0	0.0	100.0	0.0	99.1	0.9

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of volunteers = the weighted number of volunteers / the weighted number of completed samples × 100%.

Note 3: Respondents who indicated that they have never served as a volunteer are regarded as non-volunteers, whereas those who indicated that they have rarely, occasionally, or often served as a volunteer are regarded as volunteers.

Appendix 55 Percentage of individuals aged 65 years and older who participated in religious activities from 2005 to 2017.

Unit: Percentage

	2005			2009		
	None	Occasionally	Regularly	None	Occasionally	Regularly
The weighted number of completed samples (people)	2,329			2,650		
Total	69.4	21.6	9.0	73.4	18.2	8.4
Gender						
Male	71.5	20.4	8.1	77.1	16.4	6.4
Female	67.4	22.7	9.9	70.0	19.8	10.2
Age						
65–74 years	63.3	27.6	9.2	66.6	23.1	10.3
75–84 years	76.9	13.8	9.3	80.7	13.0	6.3
≥85 years	87.8	7.2	5.0	90.0	6.3	3.7
Gender*Age						
Male						
65–74 years	64.1	27.5	8.2	69.5	21.4	9.1
75–84 years	79.9	11.9	8.2	85.1	11.6	3.3
≥85 years	92.2	2.6	5.1	92.6	4.5	2.9
Female						
65–74 years	62.3	27.6	10.1	63.9	24.6	11.5
75–84 years	73.4	16.0	10.6	76.1	14.5	9.4
≥85 years	84.4	10.8	4.8	87.8	7.9	4.3

Continued Appendix 55 Percentage of individuals aged 65 years and older who participated in religious activities from 2005 to 2017.

Unit: Percentage

	2013			2017		
	None	Occasionally	Regularly	None	Occasionally	Regularly
The weighted number of completed samples (people)	2,565			2,790		
Total	71.6	16.8	11.6	73.0	15.1	11.9
Gender						
Male	72.0	15.9	12.1	74.2	15.2	10.6
Female	71.2	17.6	11.1	72.0	15.0	13.0
Age						
65–74 years	65.6	21.2	13.2	67.7	17.6	14.6
75–84 years	76.3	12.8	10.9	77.2	13.2	9.6
≥85 years	88.3	6.4	5.3	88.9	7.2	3.8
Gender*Age						
Male						
65–74 years	66.1	20.1	13.8	70.7	17.2	12.1
75–84 years	76.2	12.8	11.1	74.5	15.7	9.8
≥85 years	88.7	4.3	7.1	92.7	3.1	4.2
Female						
65–74 years	65.3	22.1	12.6	65.2	18.0	16.8
75–84 years	76.5	12.8	10.7	79.4	11.1	9.5
≥85 years	87.9	8.8	3.2	85.8	10.7	3.5

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of religious activity participation = the weighted number of people who participate in religious activities / the weighted number of completed samples × 100%.

Note 3: Percentages are expressed up to the first decimal point. The rounding difference was used.

Appendix 56 Percentage of individuals aged 65 years and older who participated in community or neighborhood activities from 2005 to 2017.

Unit: Percentage

	2005			2009		
	None	Occasionally	Regularly	None	Occasionally	Regularly
The weighted number of completed samples (people)	2,329			2,650		
Total	74.7	14.1	11.2	77.5	11.1	11.4
Gender						
Male	72.6	15.7	11.7	76.4	12.7	10.9
Female	76.8	12.6	10.6	78.4	9.6	11.9
Age						
65–74 years	70.7	16.3	13.1	71.6	13.9	14.5
75–84 years	79.2	12.1	8.8	84.3	8.0	7.7
≥85 years	89.0	4.9	6.1	88.5	5.2	6.4
Gender*Age						
Male						
65–74 years	69.7	17.1	13.3	71.0	16.0	13.0
75–84 years	75.5	14.9	9.6	82.6	9.2	8.2
≥85 years	85.1	6.0	8.9	85.5	5.7	8.8
Female						
65–74 years	71.6	15.6	12.9	72.2	12.0	15.8
75–84 years	83.5	8.7	7.7	86.1	6.7	7.2
≥85 years	91.9	4.1	4.0	91.2	4.7	4.2

Continued Appendix 56 Percentage of individuals aged 65 years and older who participated in community or neighborhood activities from 2005 to 2017.

Unit: Percentage

	2013			2017		
	None	Occasionally	Regularly	None	Occasionally	Regularly
The weighted number of completed samples (people)	2,565			2,790		
Total	75.6	12.6	11.7	74.7	14.5	10.8
Gender						
Male	74.8	13.3	11.9	74.4	13.9	11.7
Female	76.3	12.1	11.6	75.0	15.0	10.1
Age						
65–74 years	72.7	13.8	13.5	71.2	16.5	12.3
75–84 years	76.0	12.5	11.5	77.0	12.8	10.2
≥85 years	91.0	6.5	2.5	86.6	8.6	4.9
Gender*Age						
Male						
65–74 years	73.4	13.2	13.4	71.9	16.7	11.3
75–84 years	71.7	15.8	12.5	73.7	11.0	15.3
≥85 years	91.6	6.0	2.4	89.9	6.0	4.1
Female						
65–74 years	72.1	14.3	13.6	70.6	16.3	13.2
75–84 years	79.6	9.7	10.6	79.7	14.2	6.1
≥85 years	90.2	7.1	2.7	83.8	10.7	5.5

Source: National Health Interview Survey

Note 1: Values are all calculated by applying nationally representative weights.

Note 2: Percentage of community or neighborhood activities participation = the weighted number of people who participate in community or neighborhood activities / the weighted number of completed samples × 100%.

Note 3: Percentages are expressed up to the first decimal point. The rounding difference was used.

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