Strategic Policy, Planning and Performance Report

Public Health Intelligence

Subject:	Jersey Mortality Statistics 2020
Date of report:	01 October 2021

Introduction

The numbers of deaths occurring in calendar year 2020[1], and their distribution by age, sex, and cause of death are presented. Age-standardised mortality rates (ASMRs) have been calculated to enable comparisons across time and between jurisdictions. Information on the data sources and processing are given in the notes section of this report.

Summary

In 2020:

- there were 750 Jersey residents recorded as having died, comprising 390 deaths of males and 360 deaths of females[2]; this was the lowest number of recorded deaths since 2014
- the crude mortality rate[3] was 6.9 deaths per 1,000 population
- the age-standardised mortality rate (ASMR) for Jersey was 733 per 100,000 population, significantly lower than the overall ASMR for England in 2020 (1,044 per 100,000)
- the average (mean) age at death for Jersey residents was 79 years; an increase of 12 years since 1960 (67 years)
- Neoplasms (Cancers) and diseases of the circulatory system have remained as the leading two causes of death since 2007, and in 2020 accounted for 60% of all deaths
- deaths where COVID-19 was recorded as the underlying cause of death[4] accounted for 7% of all deaths in Jersey, and 12% of all deaths in England and Wales[5]
- the proportion of deaths attributed to Dementia and Alzheimer's Disease was 13% in 2019, this decreased to 7% in 2020
- there were 110 deaths of individuals of working age (aged 16-64 years), of whom around three-fifths (57%) were male
- around a third (32%) of all deaths were of people below 75 years of age
- in total, around 1,740 years of life of males and 1,220 years of life of females were lost (YOLL)[6]

[1] Annual numbers of actual deaths include those that were registered in Jersey, plus deaths that occurred abroad to Jersey residents where the body was repatriated to Jersey.
[2] Numbers of deaths are independently rounded throughout this report to the nearest 10 as there is still a small number of outstanding inquests for 2020 deaths (10).
[3] Crude mortality rate is defined as the number of deaths divided by the total population, multiplied by 1,000.
[4] Mortality statistics are based on a single underlying cause for each death. Causes of death recorded on death certificates are coded according to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision. Cause-of-death data are based on the underlying cause of death, which is the disease or condition responsible for initiating the chain of events leading to death.
[5] Office for National Statistics - Deaths due to COVID-19, registered in England and Wales:2020. available from www.ons.gov.uk.
[6] Years of life lost (YOLL) is a measure of premature mortality that quantifies the years **not** lived by individuals who die under 75 years of age (an arbitrary cut-off used to enable comparisons).

What the data is telling us?

Jersey recorded 750 deaths of residents in 2020, which was the lowest number of annual deaths since 2014. This stands in contrast to other jurisdictions, such as England and Wales, which due to the coronavirus pandemic, recorded the second highest number of deaths in a year since 1838, excluding world war years.

Jersey has seen big improvements in death rates over recent years, with age standardised mortality rates falling year on year, a downward trend that continued in 2020. This contrasts with England and Wales who recorded the highest death rate since 2008 and the highest year-on-year increase since 1943.

The new coronavirus (COVID-19) became the fourth leading cause of death In Jersey.

The attribution of deaths to COVID-19 will have changed over the course of the pandemic, partly because of changes in testing and potential under-recording of COVID-19 as a cause early in the pandemic.

Mitigation policies, including closure of nonessential businesses, restrictions on gatherings and movement, and stay-at-home-orders may have been critical to controlling the Covid-19 pandemic. These policies may have been successful at curbing transmission of COVID-19 among vulnerable groups and prevented potential other serious mental and physical ill health complications.

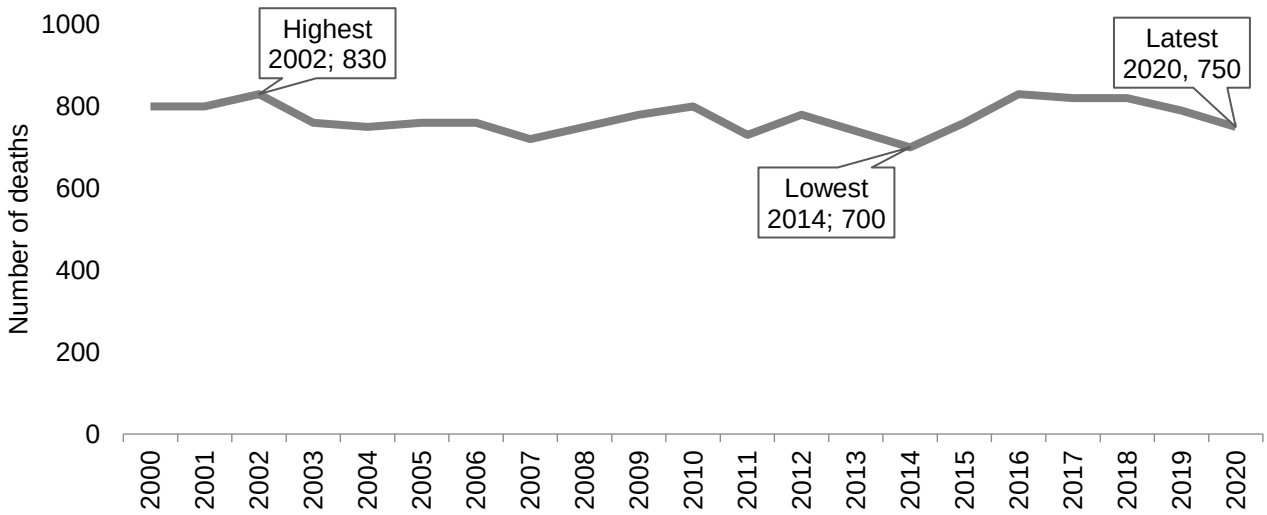
The number of people dying with from a Mental or behavioural disorder had been steadily increasing year on year. However, in 2020, the number registered as dying from illnesses such as dementia fell to the lowest number recorded since 2009. This is potentially due to two reasons; not all information on pre-existing conditions having been recorded on the death certificate, and reduced rates of diagnosis as a result of the pandemic interrupting access to health services.

Reductions in the numbers of deaths attributed to Ischaemic Heart Disease, lung cancers and chronic lower respiratory diseases were also observed in 2020.

Annual numbers of deaths

- In 2020, there were a total of 750 deaths of Jersey residents[7]

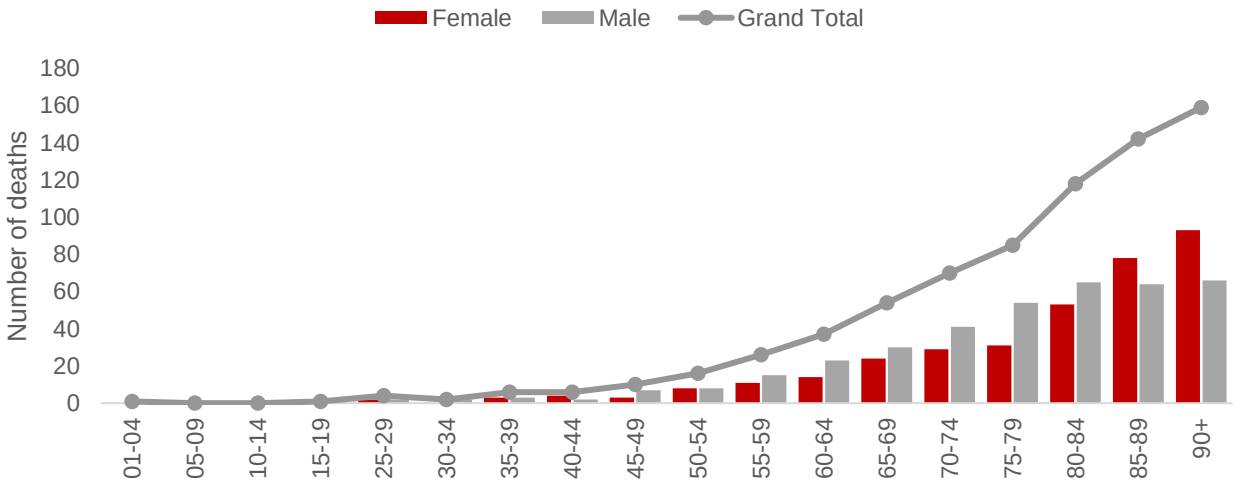
Figure 1: Annual number of deaths of Jersey residents, 2000–2020



Numbers of deaths by age and sex

- In 2020, there were 390 deaths of males and 360 deaths of females
- The proportion of male deaths to female deaths has not changed significantly since 2000
- Aside from those aged 40-44 years and 50-54 years, the number of deaths of males was greater than the number of deaths of females in each age group up to, and including, 80-84 years of age (see Figure 2); there were a greater number of deaths of females in the 85 years and over age groups

Figure 2: Numbers of deaths by age and sex, 2020



[7] Death statistics are compiled from information supplied when deaths are certified and registered as part of civil registration. Figures represent the number of deaths that occurred in the calendar year. Figures represent deaths which occurred in Jersey and elsewhere if usual residence was Jersey. The figures do not include the deaths of visitors i.e. individuals whose usual residence was outside of Jersey.

Infant and child deaths

- There have been fewer than five recorded deaths annually for children aged under one[8] which has been consistent since 2013
- As in the previous 13 years, in 2020 there had been fewer than five deaths in children aged between one and fifteen years

Working age deaths (aged 16-64 years of age)

- In 2020, there were 110 deaths of people of working age (aged 16-64 years), accounting for over one in seven (15%) of all deaths; 57% of these deaths were male

Premature deaths (under 75 years of age)

- There were 240 deaths of Jersey residents in 2020 before 75 years of age ('premature deaths')
- Premature deaths accounted for around one in three of all deaths in 2020 (32%)
- Around 2,960 years of life were lost[9] (YOLL) in 2020; three-fifths (59%; 1,740) were due to male premature death

Deaths of people aged 75 or over

- There were 510 deaths of people aged 75 or over in 2020, accounting for 68% of all deaths; this proportion was similar to that recorded over the last decade

Deaths of people aged 85 or over (old age deaths)

- There were 300 deaths of people aged 85 or over in 2020, accounting for 41% of all deaths; almost three-fifths (57%) of deaths in this age group were female, due to there being more females in this age category

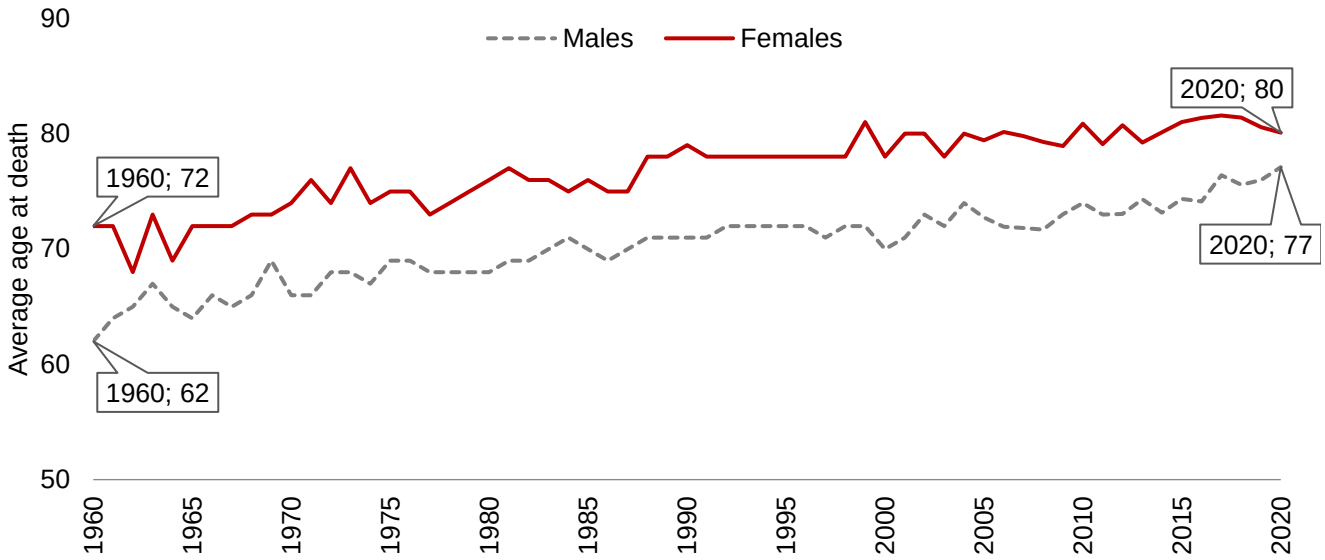
Average age of deaths

- The average (mean) age at death for Jersey residents was 79 years; an increase of 12 years since 1960 (67 years)
- The average (mean) age at death for women in 2020 was 80 years; the mean for men was 77 years
- The mean age at death for women has increased by 8 years (Figure 3) between 1960 and 2020 (from 72 to 80 years), and has increased by 15 years for men over the same time-period (62 to 77 years)

[8] Small numbers are not disclosed to ensure that information does not identify an individual.

[9] Years of Life Lost (YOLL) is a measure of premature mortality that quantifies the years **not** lived by individuals who die under 75 years of age (an arbitrary cut-off used to enable comparisons).

Figure 3: Mean average age of death, 1960-2020

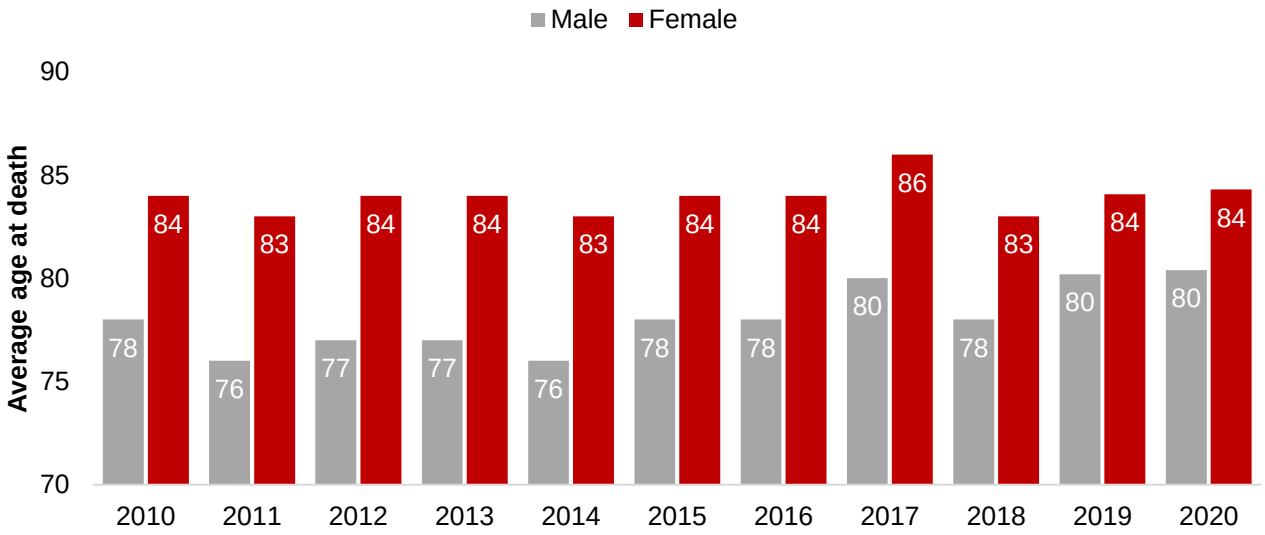


Median age of deaths

The median average of deaths in 2020 is the age at which half of deaths occurred below, and half occurred above.

- The median age of deaths in 2020 was 80 years for males, and 84 years for females (Figure 4)

Figure 4: Median age at death, Jersey 2010–2020, years

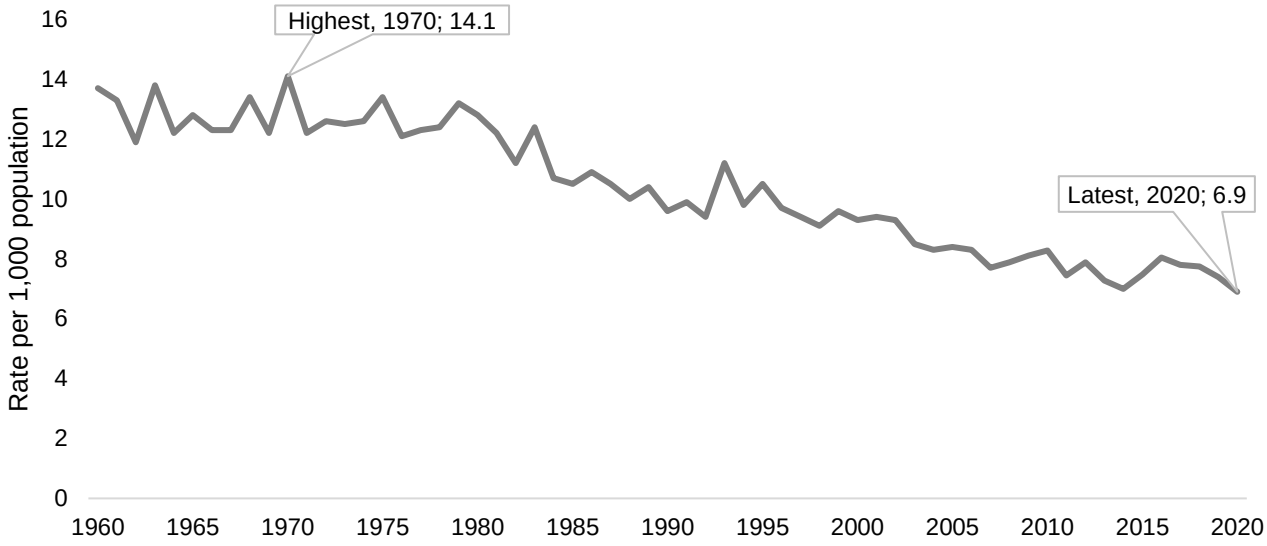


Crude mortality rates

The crude mortality rate refers to the number of deaths during a particular year, expressed per 1,000 of the mid-year resident population.

- the crude mortality rate has remained relatively stable since 2008
- the crude mortality rate decreased over time (6.9 per 1,000 in 2020) (see Figure 5); the latest rate was half that seen at the highest recorded point in 1970 (14.1 per 1,000)

Figure 5: Crude mortality rate (per 1,000 per population), Jersey residents, 1960-2020



Age-standardised mortality rate

The age-standardised mortality rate (ASMR) is calculated as a weighted average of the age-specific mortality rates per 100,000 persons, where the weights are the proportions of persons in the corresponding age groups of the European standard population (see notes). Age-standardised rates allow comparisons to be made across geographical areas and through time, without being affected by differences in the underlying age and sex structures of the population.

In 2020:

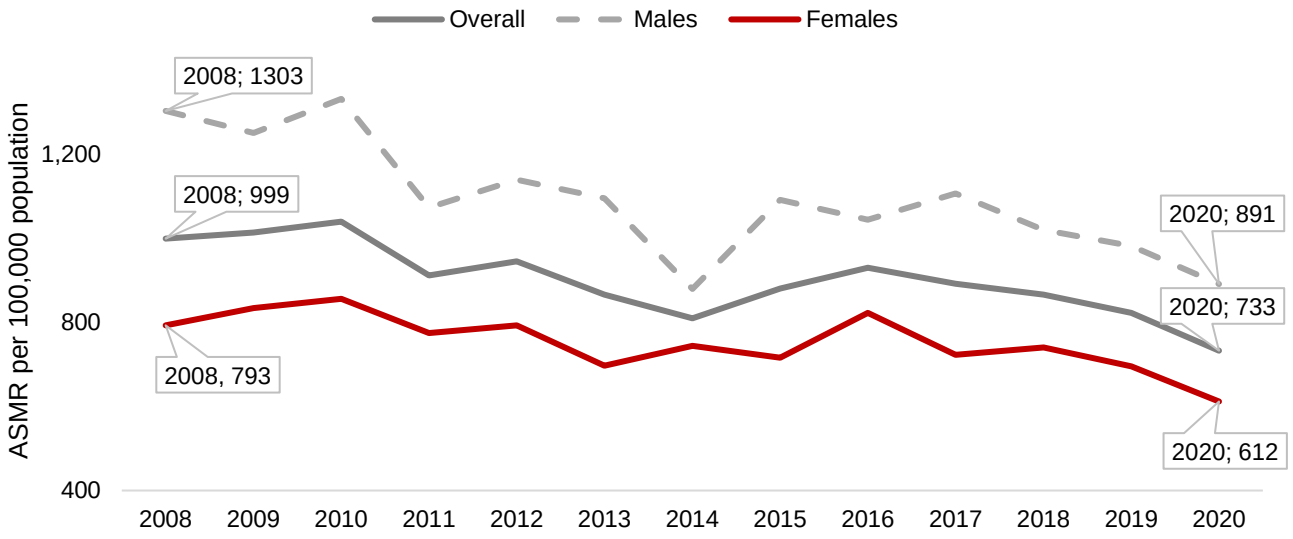
- the ASMR for Jersey was 733 per 100,000; the ASMR for males (891 per 100,000) was significantly higher than that for females (612)
- comparison with England shows that Jersey had a lower overall ASMR rate, and both lower male and female ASMR than all the English regions (see Table 1)

Table 1: Age-standardised mortality rates overall per 100,000 population, by sex, for Jersey, England and regions (2020)[10]

	Males	Females	Persons
Jersey[11]	**891**	**612**	**733**
England	**1,231**	**889**	**1,043**
North East	1,399	1,045	1,204
North West	1,392	1,024	1,192
Yorkshire and the Humber	1,358	968	1,140
East Midlands	1,277	921	1,081
West Midlands	1,336	950	1,123
East of England	1,144	826	969
London	1,171	812	975
South East	1,106	807	941
South West	1,098	791	927
Wales	1,297	964	1,115
Scotland[12]	1,423	1,042	1,212

- Since 2008, the overall ASMR for Jersey fell by 27%, from 999 in 2008 to 733 in 2020
- Between 2008 and 2020 the ASMR for males fell by 32% (from 1,303 to 891), while for females the ASMR decreased by 23% (from 793 to 612)

Figure 6: Age-standardised mortality rates per 100,000 population, by sex, for Jersey (2008-2020)

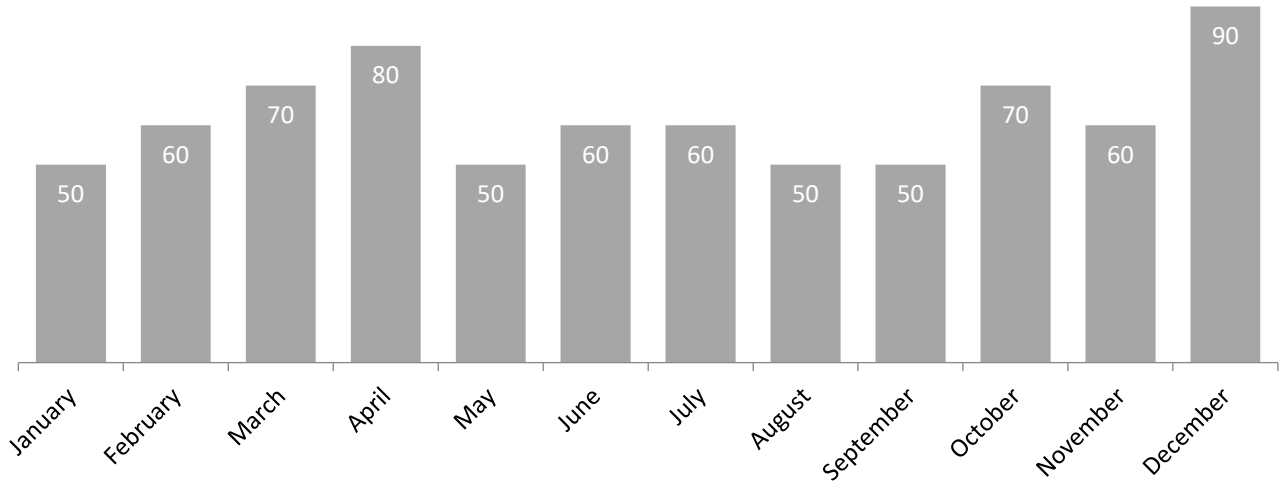


[10] Office for National Statistics, deaths registered in England and Wales: 2020, available from www.ons.gov.uk.
[11] Jersey figures are calculated for all deaths recorded as occurring in calendar year 2020, whilst figures for England and Wales are for deaths registered in 2020 (i.e., some of the deaths will have occurred in 2019 but were not registered until 2020).
[12] Figures for Scotland are for deaths registered in 2020.

Seasonality

- In 2020, there was a monthly variation in the number of deaths recorded; Deaths recorded in December[13] 2020 were statistically higher than those recorded in January, May, August, and September

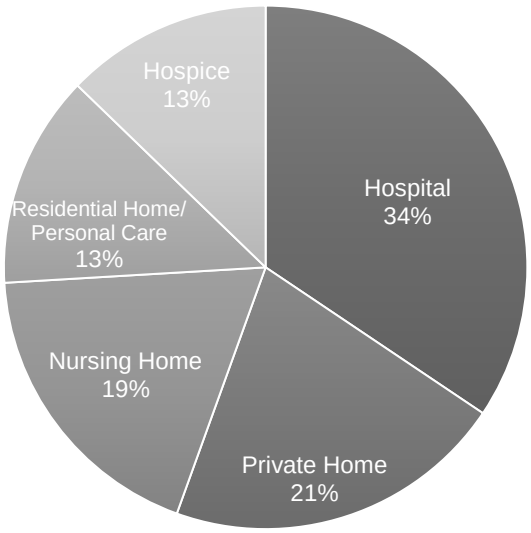
Figure 7: Deaths by month, 2020



Place of death

- Of the deaths of Jersey residents that occurred on-Island in 2020, one in three (34%) occurred in a hospital; one in five died in a private home (21%); one in four died in a nursing home (18%), one in eight in a residential/private care home (13%) and one in eight in Jersey Hospice (13%) (Figure 8)

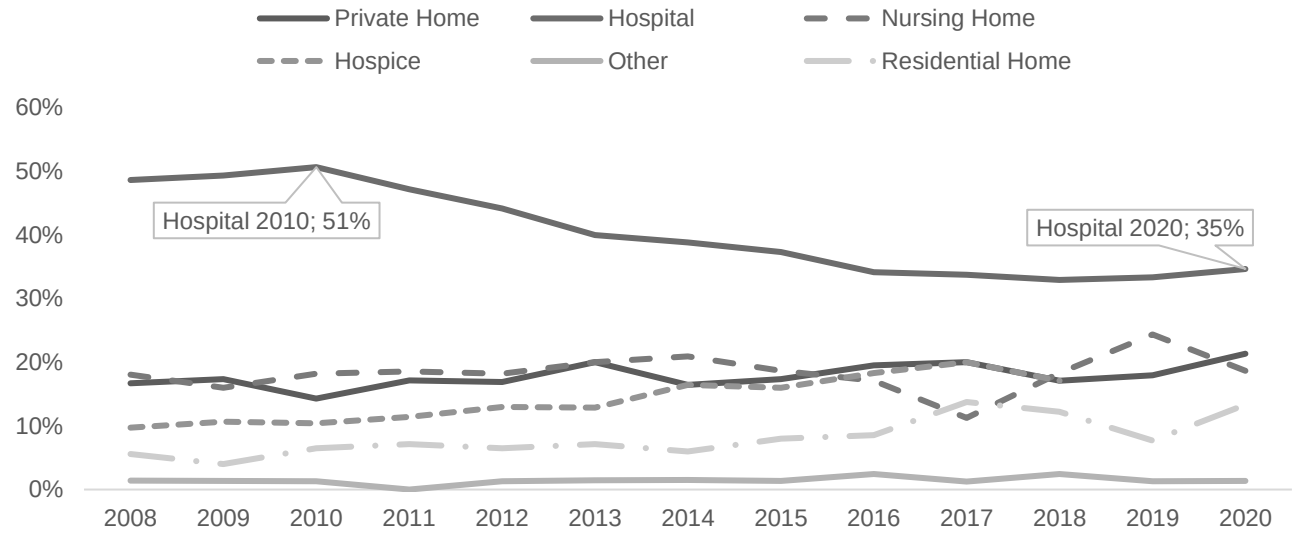
Figure 8: Location of on-Island deaths, 2020



[13] There were two waves of coronavirus (COVID-19) in 2020. The first wave of COVID-19 deaths started in March 2020 and ended at the end of May 2020. The second wave of COVID-19 deaths peaked in December following the emergence of the Alpha variant.

- Figure 9 shows that the proportion of deaths of Jersey residents occurring on-Island which took place in a hospital has decreased over recent years, from half (51%) of all deaths in 2010 to around a third (35%) in the latest year

Figure 9: Location of on-Island deaths, 2010 – 2020



Cause of death

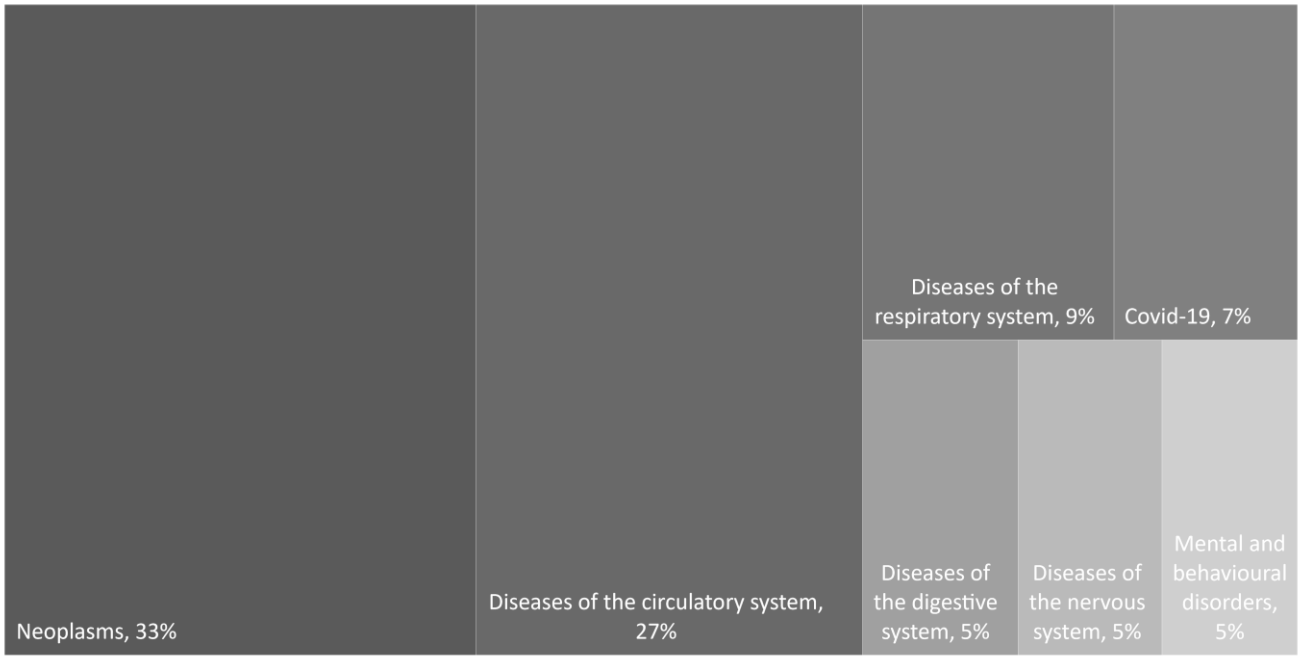
In the previous sections of this report, analysis included data from the deaths in Jersey of residents, plus deaths off-Island of residents who were repatriated (a total of 750 deaths). A small number of deaths were awaiting a coroner's verdict at the time of publication and have not been included in the remainder of this report as the cause of death has not been finalised. For the remaining 740 deaths[14], the underlying cause of death has been coded according to the International Classification of Diseases (ICD-10[15]).

- Most deaths of Jersey residents in 2020 were attributed to neoplasms (cancers), diseases of the circulatory system (cardiovascular diseases including stroke), respiratory disease and Coronavirus (COVID-19); altogether, these four causes accounted for three in four (76%) of all deaths in 2020 (Figure 10)

[14] Rounded to the nearest 10.

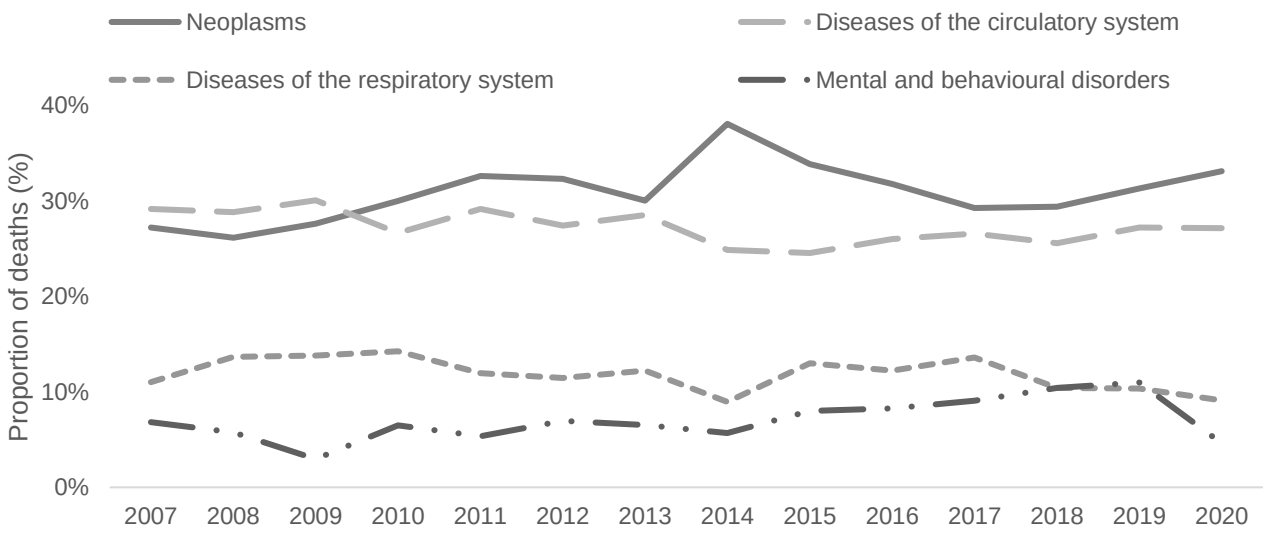
[15] Ranking causes of death is a useful method of describing patterns of mortality in a population and allows comparison over time and between populations. Cause of death coding is carried out by the Office for National Statistics, following the International Statistical Classification of Diseases and Related Health Problems, version 10 (ICD-10). This hierarchical classification system allows for analysis at different levels of detail. For the purpose of this report, the main causes of death are considered at the highest level of classification (known as chapters). Tabulations of the Leading causes are based on research presented by the World Health Organisation. The determination of groupings in this list is primarily driven by data from individual countries representing different regions of the world.

Figure 10: Main causes of death, 2020 *(Percentages may not add up to 100% due to rounding)*



- The two leading causes of death have remained the same since 2007, (cancer and diseases of the circulatory system) these two causes accounted for 60% of all deaths in 2020; cancer remains the main cause of death in Jersey, having exceeded the number of deaths from circulatory diseases for the first time in 2010 (Figure 11)
- Mental and behavioural disorders were the third leading cause of death in 2019; the proportion of deaths fell to the seventh leading cause in 2020, with a decrease from 12% of deaths in 2019 to 5% last year
- COVID-19 deaths were the fourth leading cause of death in 2020 and accounted for 7% of all deaths
- Cancer was the leading cause of death for the age groups between 50-54 years and 80-84 years (44% of deaths), whereas it was the second leading cause for those aged 75-99 years (20% of deaths)
- Diseases of the circulatory system were the leading cause of death for the age groups 75-99 years (33% of deaths)

Figure 11: Proportion of deaths caused by the four main disease groups, Jersey, 2010-2020



Causes of working age deaths (aged 16-64 years)

- The main cause of death at working age in Jersey was neoplasms (cancer), accounting for 44% of deaths; diseases of the circulatory system accounted for 19% of the age group (Table 2)

Table 2: Main causes of working age deaths (aged 16-64 years), 2020

Cause of death	*Proportion*
Neoplasms	44%
Diseases of the circulatory system	19%
Diseases of the digestive system	10%
External causes of morbidity and mortality	10%
COVID-19	4%
Diseases of the respiratory system	4%

Causes of death – aged 75 and over

- The leading cause of death for people aged 75 and over was diseases of the circulatory system, accounting for 30% of deaths for this age group; neoplasms (cancer) accounted for 26% (Table 3)

Table 3: Main causes of deaths (aged 75 years and over), 2020

Cause of death	*Proportion*
Diseases of the Circulatory system	30%
Neoplasms	26%
Diseases of the respiratory system	11%
COVID-19	8%
Mental and behavioural disorders	6%
Diseases of the nervous system	6%

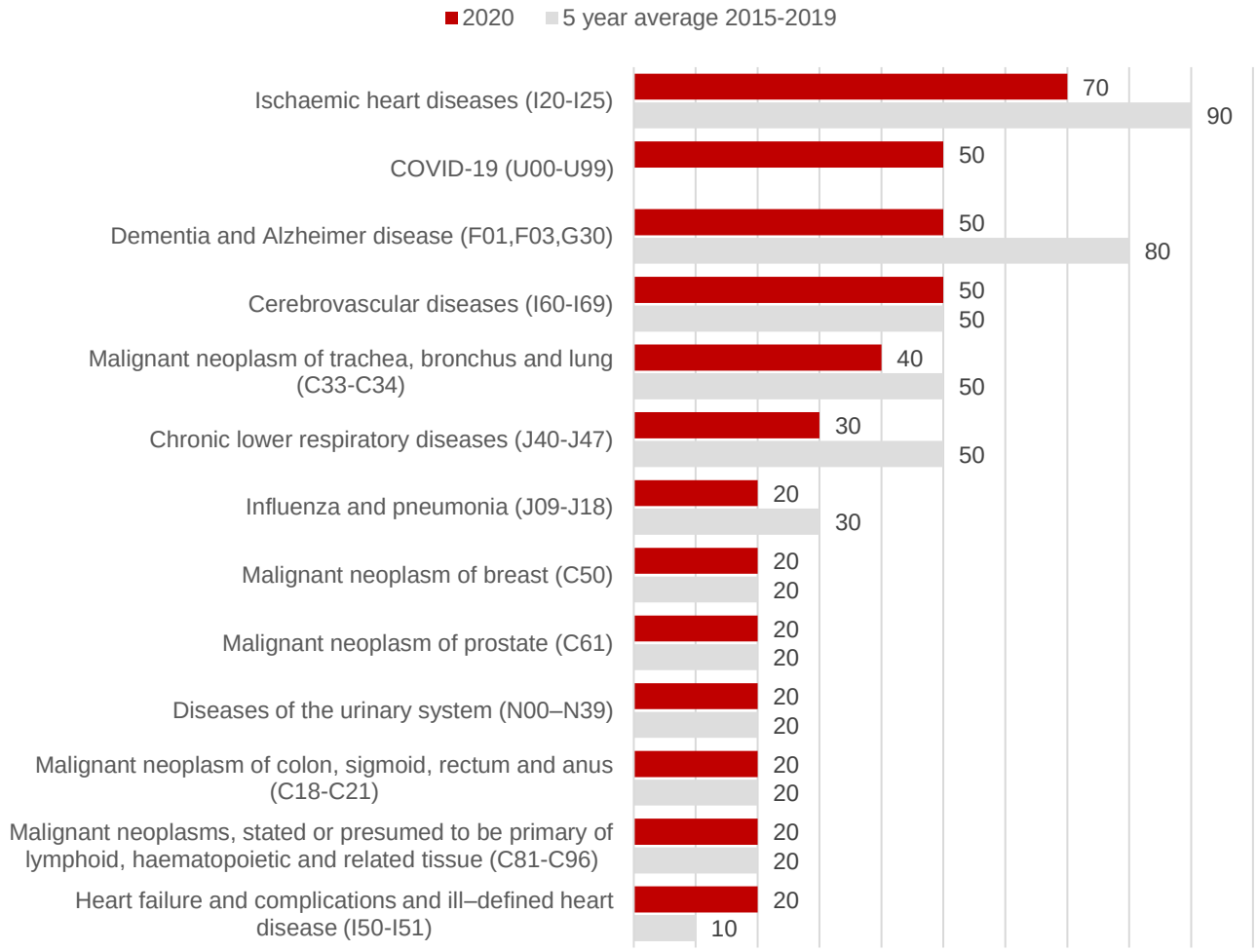
Leading causes of death

The leading cause of death groupings are based on a list developed by the World Health Organization (WHO). This categorises the underlying cause of death using the International Classification of Diseases, tenth edition (ICD-10) into groups that are epidemiologically more meaningful than single ICD-10 codes[16], for the purpose of comparing the most common causes of death in the population.

- the top 10 leading causes of death accounted for 45% of all deaths registered in Jersey in 2020
- Ischaemic heart disease (70), and Dementia and Alzheimer's disease (50) were the leading causes of deaths in 2020. While the number of deaths from these causes were lower when compared to the five-year average (2015-2019), the differences were not statistically significant

[16] This means that a mixture of levels of ICD-10 classification are used in this analysis, mainly level 2 and 3 of the hierarchical classification.

Figure 12: Leading causes of death Jersey, 2020 & five-year average number of deaths (2015-2019)



Leading causes of death by sex

In 2020:

- Ischaemic heart disease accounted for 12% of all male deaths
- Dementia and Alzheimer's disease accounted for 9% of all female deaths

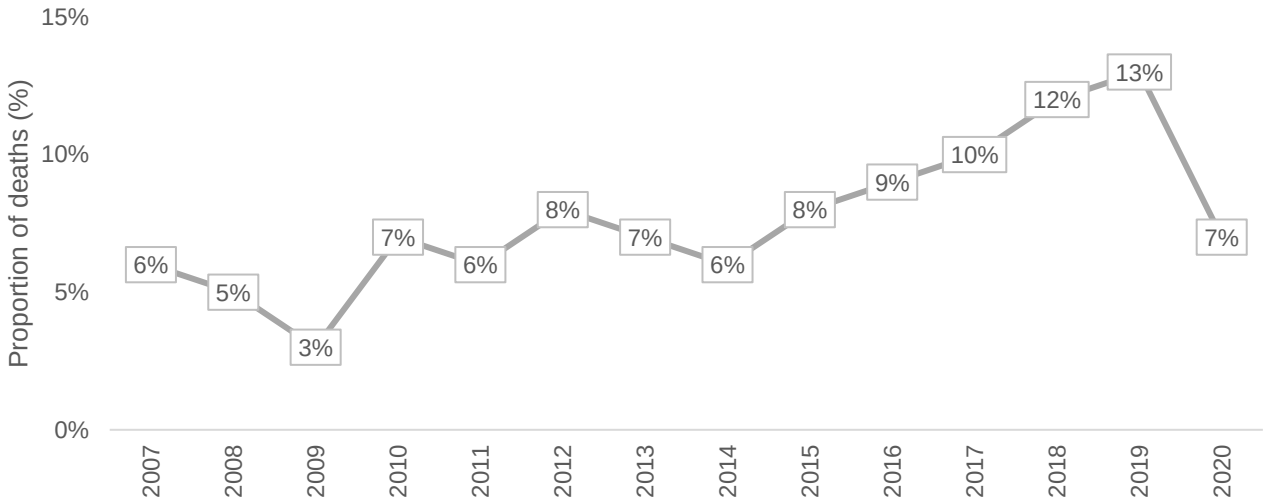
Table 4: Leading cause of deaths by sex, 2020

Cause of death	*Female*	*Male*	*Total*
Ischaemic heart diseases	7%	12%	10%
COVID-19	5%	8%	7%
Cerebrovascular diseases	6%	7%	7%
Dementia and Alzheimer's disease	9%	4%	7%
Malignant neoplasm of trachea, bronchus and lung	6%	5%	6%
Chronic lower respiratory disease	5%	4%	5%

Dementia deaths

- There were 50 deaths recorded with an underlying cause of dementia and Alzheimer's disease (all subtypes) in 2020; the proportion of deaths due to this cause increased from 3% in 2009 to 13% in 2019[17] and decreased to 7% in 2020 (Figure 12)
- A higher proportion of the deaths with underlying cause of dementia and Alzheimer's disease were female (69%) compared to male (31%)
- The age-standardised rate of deaths from Dementia and Alzheimer's disease increased from 53 per 100,000 persons in 2008 to 107 per 100,000 persons in 2019; in 2020 the age-standardised rate was 49 per 100,00 persons

Figure 13: Proportion of deaths with dementia or Alzheimer's as an underlying cause, 2007-2020



COVID-19 deaths

The first death involving COVID-19 was registered in March 2020.

The definition of coronavirus (COVID-19) regardless of whether it was the underlying cause or mentioned elsewhere on the death certificate, includes cases where the certifying doctor suspected the death involved COVID-19 but was not certain. A patient may have been clinically diagnosed COVID-19 based on symptoms, but this diagnosis may not have been confirmed because no test was available, or the test result inconclusive. Of the 49[18] deaths due to COVID-19 in 2020, 31% were classified as "suspected" COVID-19.

In April, at the height of the first wave of the pandemic, there were 10 deaths due to confirmed COVID-19 (20% of all COVID-19 deaths) and 10 deaths due to suspected COVID-19 (20% of all COVID-19 deaths) in Jersey. The proportion of deaths due to suspected COVID-19 may have been influenced by the availability of testing, which was limited at the beginning of the pandemic. Deaths due to suspected COVID-19 remained very low when confirmed COVID-19 deaths increased again later in the year, as testing was much more accessible.

[17] Updates to the coding framework used to code cause of death took place in 2011 and 2014. These updates were considered by Public Health England to partially (but not fully) contribute to the increase in the number of deaths with an underlying cause of dementia.
[18] As information about COVID-19 related deaths is already in the public domain, the numbers in this section have not been rounded to the nearest 10.

The number of deaths due to COVID-19 were highest in both April and December 2020 (20 deaths were recorded in each month respectively); this follows a similar trend in both England and Wales.

COVID-19 was mentioned on 55 death certificates in Jersey in 2020, with 49 of these being classified as COVID-19 being the underlying cause of death. Deaths where COVID-19 was recorded as the underlying cause of death accounted for 7% of all deaths in Jersey compared to 12% of all deaths in England and Wales.

In addition, there were also 5 patients who died within 60 days of a positive test where COVID-19 was not mentioned or classified on the death certificate[19].

There were 40 deaths (from any cause) within 28 days of a positive PCR Test and 44 deaths within 60 days of a positive PCR (including within 28 days).

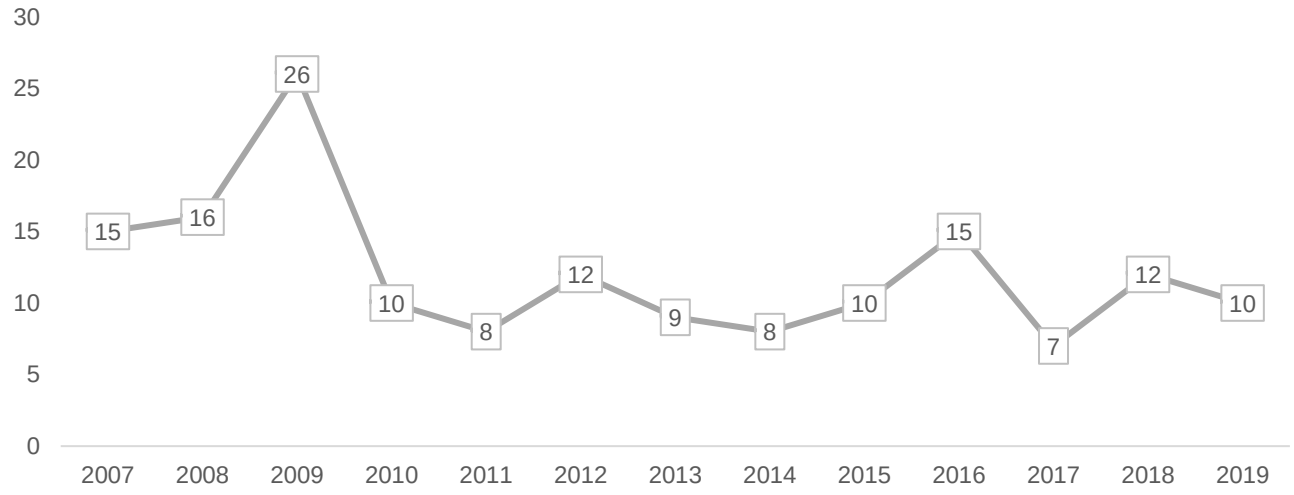
For deaths with COVID-19 as the underlying cause of the death:

- the age-standardised mortality rate (ASMR) was 49.1 deaths per 100,000 people
- the proportion of COVID-19 deaths were highest among people aged 80 years and over (69%)
- around three-fifths (61%) of COVID-19 deaths were males and 39% were females
- over half (55%) of these deaths occurred in hospitals, this was higher than England and Wales where 20% of all COVID-19 deaths occurred in hospitals[20]

Deaths by suicide

Due to a number of outstanding inquests, comprehensive information on deaths by suicide is only available up to 2019. Deaths are included here where the cause of death was recorded as 'intentional self-harm' or 'undetermined intent'. Figure 14 gives the number of suicides by year in Jersey since 2007.

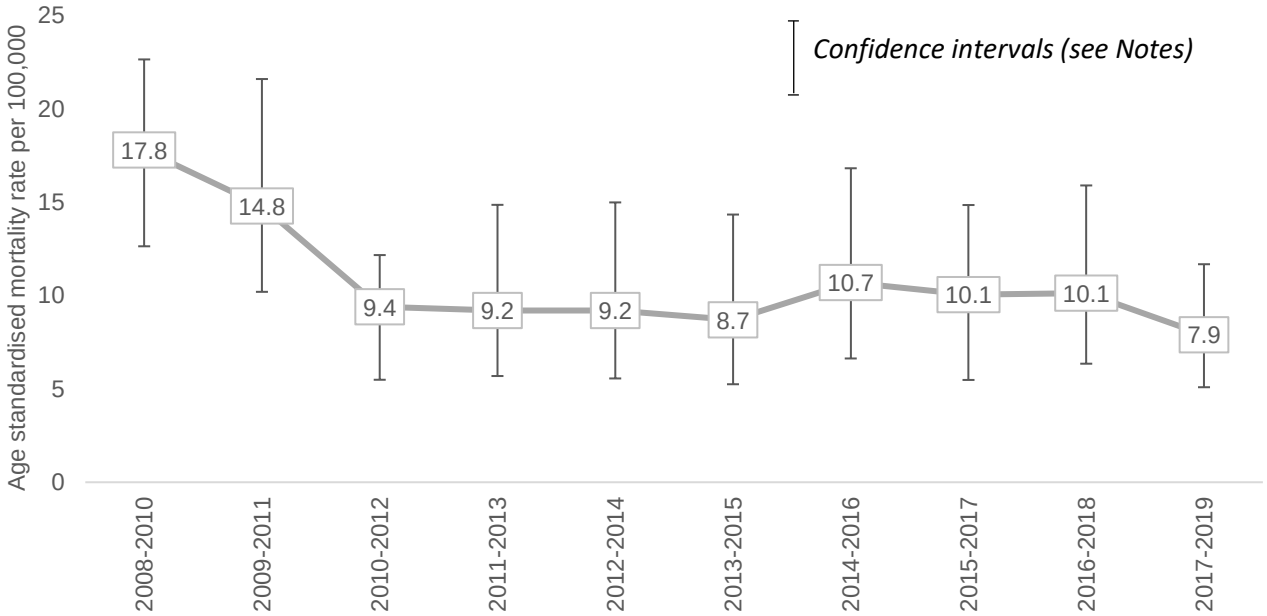
Figure 14: Number of deaths by suicide in Jersey, 2007 to 2019



[19] This may be due to these individuals having been classified by the contract tracing team as recovered from COVID-19 prior to their death.
[20] Office for National Statistics - Deaths due to COVID-19, registered in England and Wales:2020. Available from www.ons.gov.uk.

- In recent years there has been no change in the ASMR in terms of statistical significance. In 2017-2019, the rate for cause of death recorded as 'intentional self-harm' or 'undetermined intent in Jersey was 7.9 deaths per 100,000 population.

Figure 15: Age-standardised mortality rate per 100,000 population: cause of death recorded as 'intentional self-harm' or 'undetermined intent' (2008-2010 to 2017-2019). Rates are given for three-year periods due to the relatively small annual numbers.



Notes

Data sources

- The Marriage and Civil Status (Jersey) Law 2001 requires all deaths to be registered with the Superintendent Registrar within 5 days of the date of death, unless they have been referred to the Viscount. Data on deaths is compiled and clerically checked against other administrative sources to ensure that all deaths have been accurately detailed
- Cause of death is classified using the International Statistical Classification of Diseases, Injuries and Causes of Death (tenth revision, ICD-10). Coding of cause of death of Jersey registered deaths is undertaken by the Office for National Statistics on a quarterly basis

Methodology

- Crude rates were calculated as the number of deaths occurring in a year divided by the mid-year population estimate for that year, multiplied by 1,000
- The mid-year population estimate was calculated as the average of the two relevant end-year population estimates. This methodology assumes that half of births, deaths and migration occurs in the first half of the calendar year
- Age-standardised rates have been calculated using the 2013 European Standard Population. This allows comparisons of mortality rates across time and place excluding the impact of different underlying age and gender structures
- At the time of publication, a small number of inquests (10) were still outstanding for deaths occurring in calendar year 2020; therefore, numbers here should be treated as provisional
- All death numbers have been independently rounded to the nearest 10
- When the observed total number of deaths was fewer than 25, mortality rates were not calculated, as there were too few deaths to calculate directly standardised rates reliably

Confidence Intervals and statistical significance

- Confidence intervals have been used in this report to compare Jersey age standardised mortality rates. Calculations based on small numbers of events are often subject to random fluctuations. The confidence interval indicates the range within which the variation could be considered due to random fluctuations