



**Isle of Man  
Government**

*Reiltys Ellan Vannin*



# Mortality Report 2017

DEPARTMENT OF HEALTH AND SOCIAL CARE

February 2019

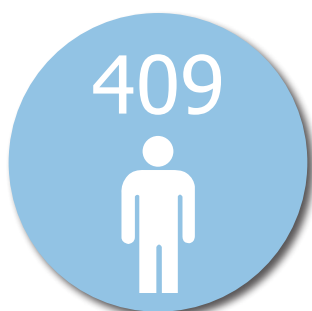


# Executive Summary

In 2017:

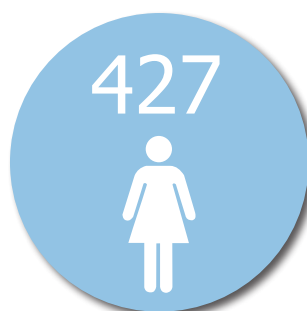
- There were **836 registered<sup>i</sup> deaths** on island comprising **409 males** and **427 females**
- the average age at death was **76 years** for **males** and **81 years** for **females**
- the age-standardised mortality rate (ASMR) for the **Isle of Man** was **953.5 per 100,000 population** very similar to the rate for England (958.8) and higher than the rate for Jersey (880)
- cancer and diseases of the circulatory system were the most common cause of death, accounting for **57% of all deaths** registered **during 2017**
- **40.8%** of deaths registered had died in their **usual place of residence**.

## 836 Deaths in 2017



average age  
at death

**76 years**



average age  
at death

**81 years**



**40.8**

died in in their usual  
place of residence

*i see background notes*



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# 1. Introduction

This is the first of an annual series of reports on the causes of deaths registered on the island and monitoring of trends in mortality rates.

Although we will look at data from individual years it is important to remember that our relatively small numbers may cause annual fluctuations. Therefore any annual changes should be considered in the context of wider mortality trends. Due to this, some of the data can only be presented as 3-year averages.

The aim of this report is to provide an overview of mortality rates over the last 12 years and analyses on top causes of death for island residents.

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## 2. Life expectancy

The Isle of Man life tables cover a 3 year period (2014, 2015, 2016 ) and provide period life expectancies for males and females by 5 year age bands (0 to 90+).

Life tables are produced using 3 consecutive years' worth of data to reduce the effect of annual fluctuations in the number of deaths, improving the accuracy of the estimation of expectation of life.

The tables are period life tables – period life expectancy is the average number of additional years a person would live if he or she experienced the age-specific mortality rates for the rest of their life. Therefore, it is not the number of years someone is actually likely to live because the death rates are likely to change over time.

### 2.1 Life expectancy at birth

Life expectancy at birth for men in the Isle of Man is 79.4 years and for women it is 83 years. This is assuming that mortality rates remain the same as they were in 2014-2016.

This compares to, and is statistically similar to, the England life expectancy of 79.5 years for men and 83.1 years for women (2014-2016)<sup>[1]</sup>

### 2.2 Life expectancy at older ages

Life expectancy at age 65 for men in the Isle of Man is 19.2 years and for women it is 21 years. This means that a man aged 65 could expect to live to age 84 and a woman to age 86.

This compares to, and is statistically similar to, the England life expectancy at age 65 of 18.8 years (living to age 83) and 21.1 years for women (living to age 86).



### 3. Total deaths

In 2017, there were a total of 836 deaths registered on island. This total represents a decrease of 2.3% compared to the previous year (856 in 2016). **Figure 1** shows the total annual deaths since 2006.

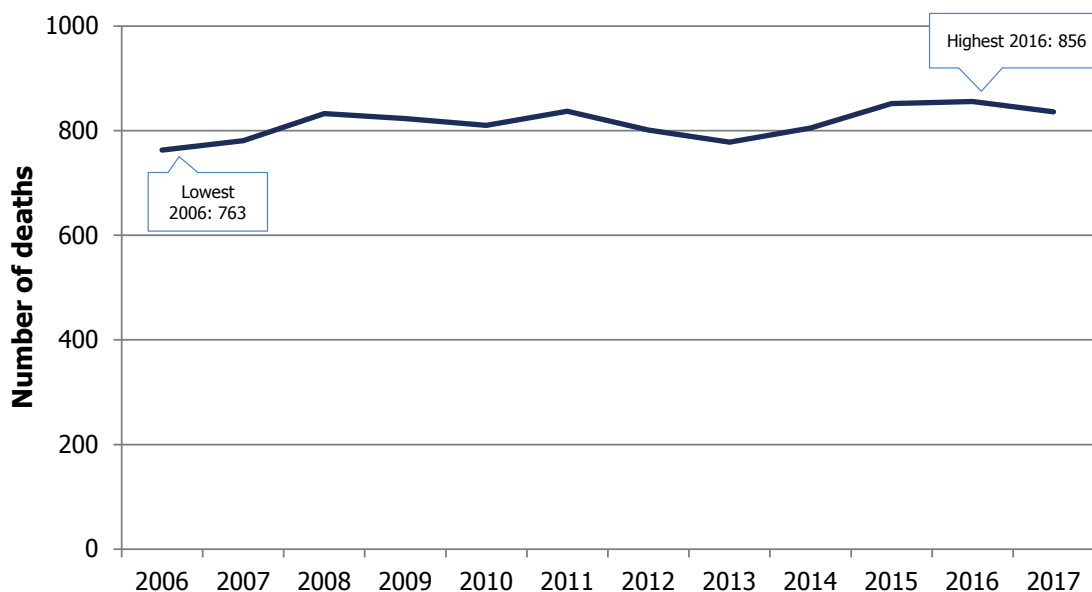


Figure 1: Annual number of deaths registered on the Isle of Man, 2006 – 2017

The number of deaths is generally increasing but only very slightly; 0.4% over the last ten years

The number of deaths is affected by the size and age structure of the population. As people are tending to live longer, the population is increasing in both size and age over time; therefore the number of deaths is expected to rise.

Deaths registered in England and Wales<sup>[2]</sup> show that consistently more female deaths are registered each year than males. However, for the island this is not the case (**Figure 2**) and ranges from 85 more females in 2007 to 61 more males in 2011 to equal numbers in 2016.

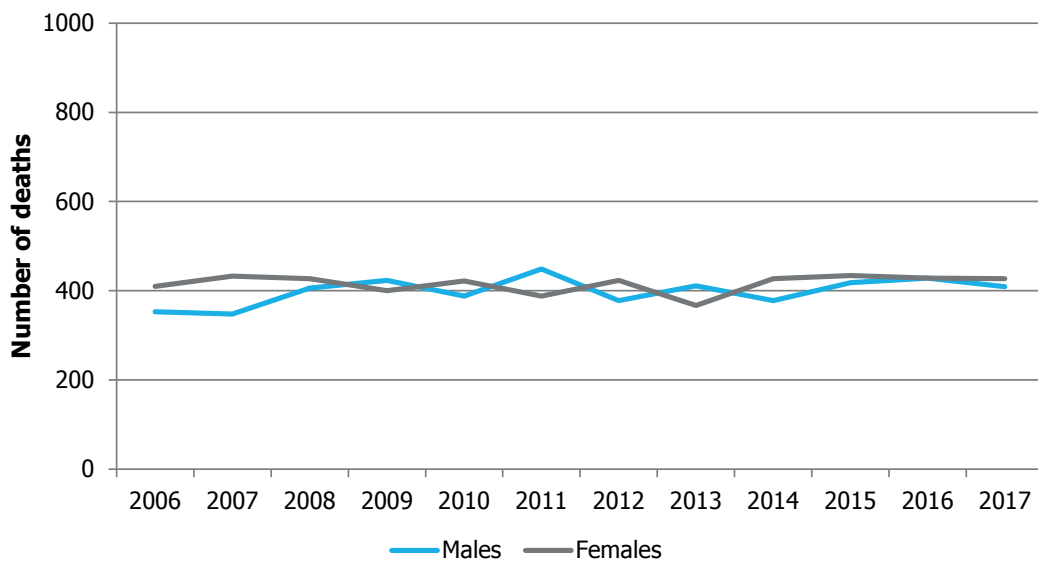


Figure 2: Deaths registered on the Isle of Man by sex, 2006 – 2017

In 2017, the average age at death of males was 76 years, 5 years below that of females (81 years).

The age and gender breakdown of the 2017 deaths is presented in **Figure 3**. The general trend in each age group up to 80 years of age is that the number of male deaths is greater than the number of deaths in females. In contrast, there were a greater number of deaths in females in the over 80 age groups, due to there being more females aged over 80 (driven by greater life expectancy).

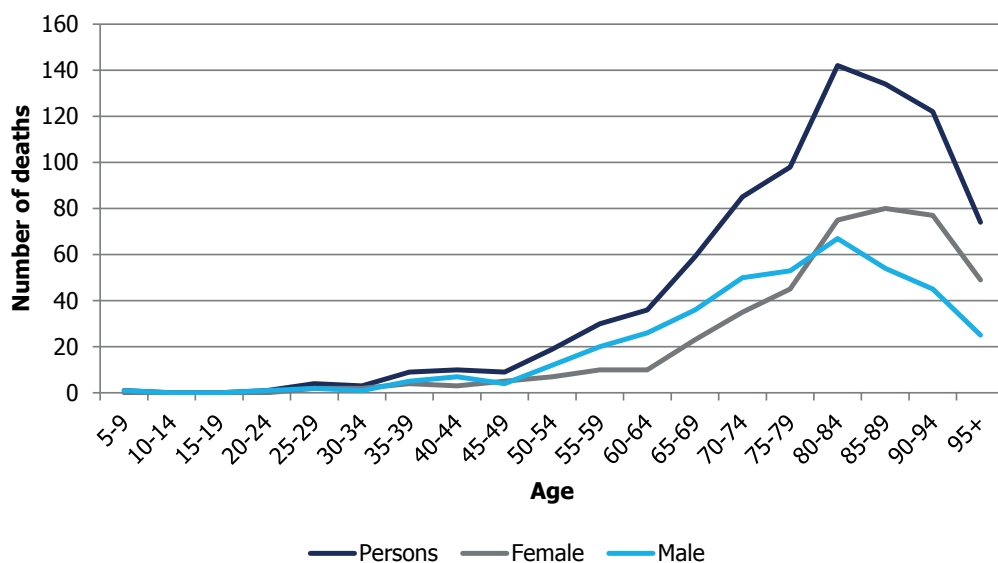


Figure 3: Registered deaths by age, 2017

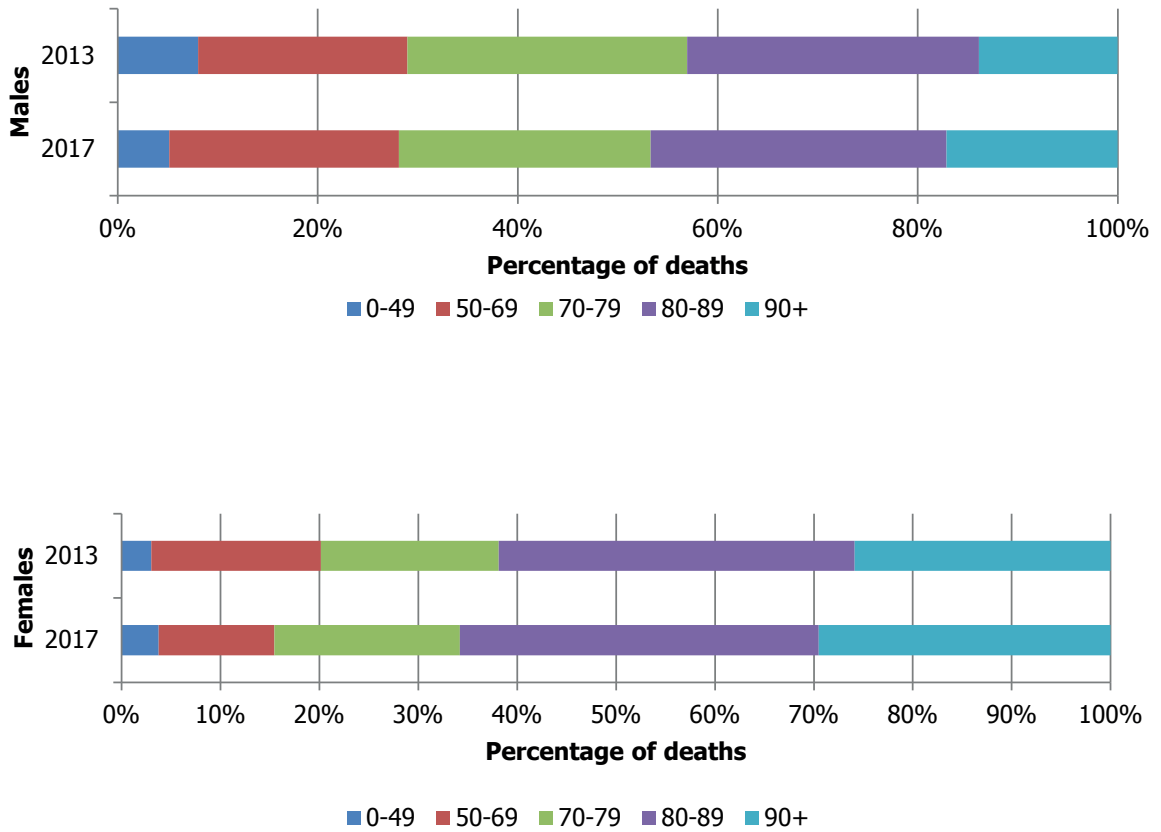


Figure 4: Proportion of deaths by age over the last 5 years

In both sexes the proportion of those dying over the age of 90 has increased in the last 5 years, as would be expected with increasing life expectancy.

## 4. Age standardised mortality rates

Age-standardised mortality rates (ASMRs) are a better measure of mortality than simply looking at the number of deaths, as they take into account the population size and age structure. In 2017, the ASMR for males was 1,104.4 deaths per 100,000 population compared to a rate of 834.5 deaths per 100,000 population for females (**Table 1**). This is very similar to that for England and Wales with an ASMR of 1,124.0 for males and an ASMR of 836.8 for females. Jersey has similar rate for males (1,091) but a much lower rate for females (716).<sup>[3]</sup>

Table 1: Age standardised mortality rate comparisons, 2017

Area	Male	Female
Isle of Man	1,104.0	834.5
England & Wales	1,124.0	836.8
Jersey	1,091.0	716.0

When we look at the ASMR for males and females over time we see that for the island our rates are not significantly changing (Tables 2 and 3, Figures 5 and 6).

Table 2: Age standardised mortality rates, Males, 2007-2017

Year	Rate	95% Confidence Interval	
		Lower Limit	Upper Limit
<b>2007</b>	1160.2	1038.3	1282.1
<b>2013</b>	1266.3	1143.9	1388.7
<b>2017</b>	1104.4	997.4	1211.5

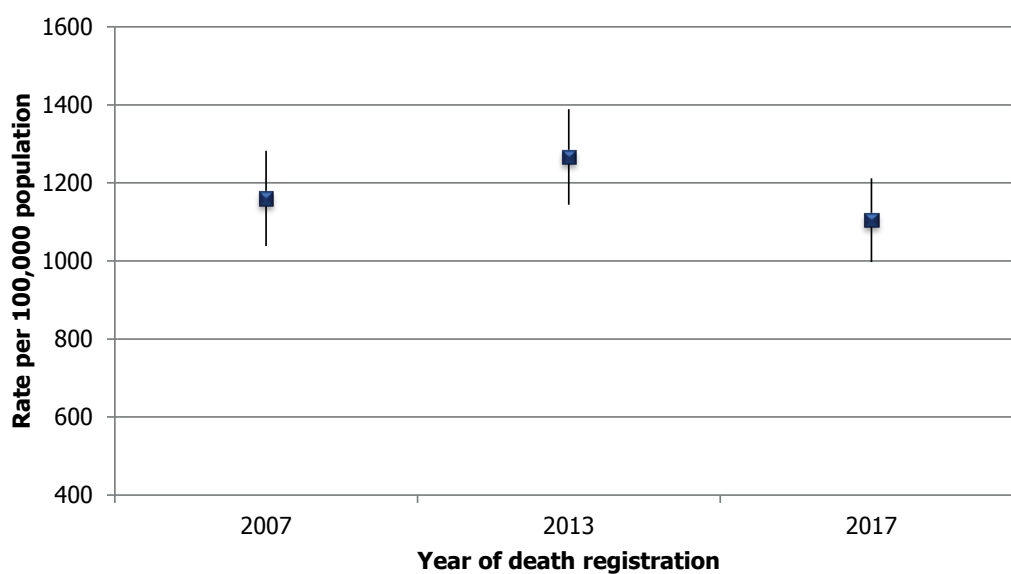


Figure 5: Age standardised mortality rates, Males, 2007-2017

Table 3: Age standardised mortality rates, Females, 2007-2017

Year	Rate	95% Confidence Interval	
		Lower Limit	Upper Limit
<b>2007</b>	937.5	849.2	1,025.8
<b>2013</b>	782.2	702.2	862.2
<b>2017</b>	834.5	755.4	913.7

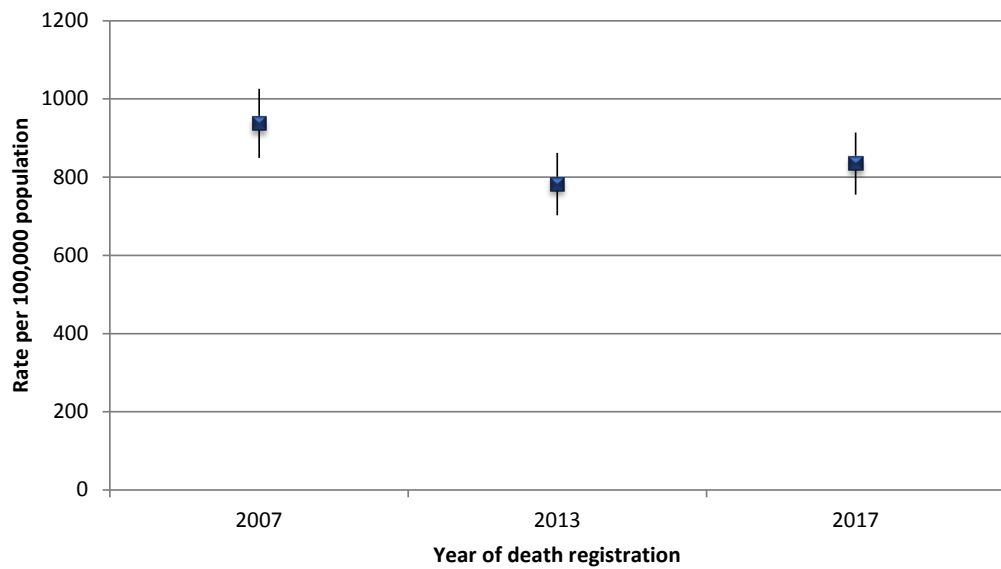


Figure 6: Age standardised mortality rates, Females, 2007-2017

## 4.1 Comparison to England

The Office for National Statistics (ONS) produce tables of ASMRs for all English regions, using this alongside our rates and confidence intervals we can see which areas we most 'look' like. When we also add in the ONS Area Description<sup>ii</sup> for each of the areas we see that a majority of similar areas to the island would be classified as 'Country Living' or 'Prosperous Towns' and are primarily in the East Midlands and West Midlands. **Table 4** shows some of these areas in more detail.

<sup>ii</sup> ONS Area Classifications <https://www.ons.gov.uk/methodology/geography/geographicalproducts/areaclassifications/2011areaclassifications>

Table 4: Age standardised mortality rates, comparisons to England - 2017<sup>iii</sup>

Area		Persons	Male	Female
<b>Isle of Man</b>		<b>953.5</b>	<b>1,104.4</b>	<b>834.5</b>
<b>England</b>		<b>958.8</b>	<b>1,115.9</b>	<b>831.7</b>
Town	Area Description			
Stockport	<i>Prosperous Towns</i>	940.9	1,071.3	831.5
Lancaster	<i>Larger Towns &amp; Cities</i>	1,009.9	1,182.8	882.3
Sefton	<i>Service Economy</i>	961.2	1,149.2	827.6
Selby	<i>Country Living</i>	941.5	1,065.7	857.2
South Derbyshire	<i>Country Living</i>	961.7	1,098.7	857.9
Kettering	<i>Urban Living</i>	836.6	1,035.6	859.1
South Staffordshire	<i>Prosperous Semi-rural</i>	953.4	1,124.9	825.8
Lichfield	<i>Prosperous Towns</i>	929.9	1,008.0	842.3
Canterbury	<i>Larger Towns &amp; Cities</i>	957.2	1,140.1	805.1
Forest of Dean	<i>Country Living</i>	954.5	1,087.7	852.5
<b>Jersey</b>		<b>880</b>	<b>1,091</b>	<b>716</b>

<sup>iii</sup> For all areas shown (except Jersey) we are statistically similar i.e. the ASMR for that area is within our confidence interval for our ASMR.

## 5. Main causes of death

Deaths in this section have been grouped into International Statistical Classification of Diseases and Related Health Problems 10th revision (ICD10) 'Chapters', also known as broad cause of death groups. There are five main broad cause groups; cancer, mental and behavioural disorders, diseases of the nervous system, diseases of the circulatory system and diseases of the respiratory system.

Three-year rolling averages have been used to even out some of the fluctuations the island's small numbers might produce. Looking at the five main broad causes of death in this way we can see that whilst cancer seems to be levelling out, mental and behavioural disorders have shown a consistent increase over the years (more than tripling in numbers between 2006-2008 and 2015-2017). Diseases of the nervous system and respiratory diseases have shown increases, whereas circulatory disease has shown a decrease across the years (**Figure 7, Table 5**).

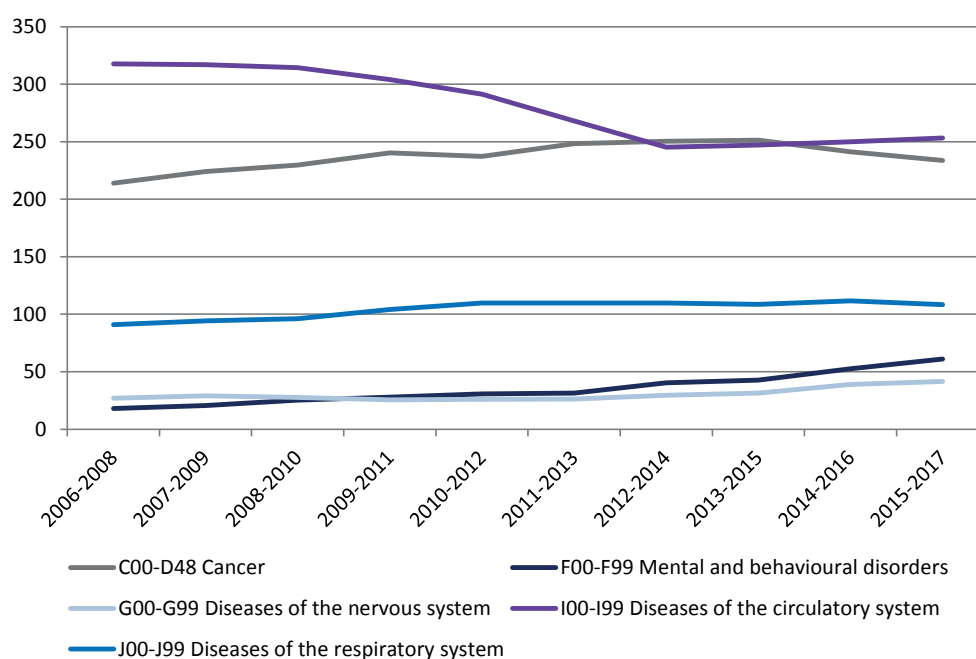


Figure 7: Broad causes of death by 3-year rolling average, Persons



Table 5: Broad causes of death by 3-year rolling average, Persons

3 Year Period	Cancer	Mental & behavioural disorders	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system
2006-2008	214	18	27	314	91
2007-2009	224	21	29	317	94
2008-2010	230	25	28	314	96
2009-2011	240	28	26	304	104
2010-2012	237	31	26	291	110
2011-2013	248	31	26	268	110
2012-2014	250	40	30	245	110
2013-2015	251	43	31	247	109
2014-2016	241	53	39	250	111
2015-2017	234	61	42	253	108

In 2017, the most frequent causes of death for the island were cancer, circulatory and respiratory diseases, which in total were responsible for 70% of all deaths (as shown in **Figure 8**). This matches what has been seen in Jersey and England and Wales.

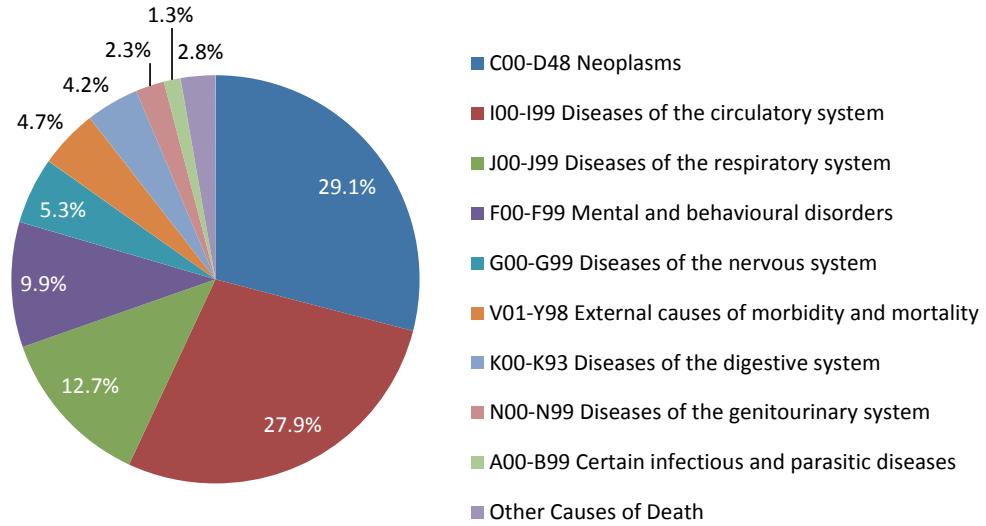


Figure 8: Top 10 causes of death on the Isle of Man by ICD Chapter, 2017

Cancer and diseases of the circulatory system remain the top two causes of death when we look at males and females separately, however whilst the third most common for males is respiratory disease, for females it is dementia<sup>iv</sup>. Figures 9 and 10 show this in more detail<sup>v</sup>.

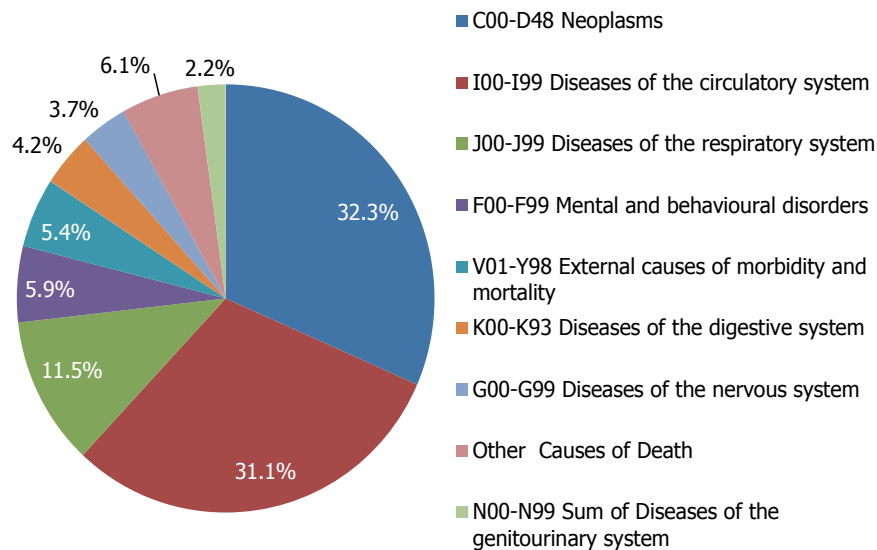


Figure 9: Top causes of death in males on the Isle of Man by ICD Chapter, 2017

<sup>iv</sup> In ICD10 classification this is shown under the chapter for Mental and behavioural disorders

<sup>v</sup> Numbers of deaths are too low to show top 10 causes so only those where the number is greater than 10 have been included

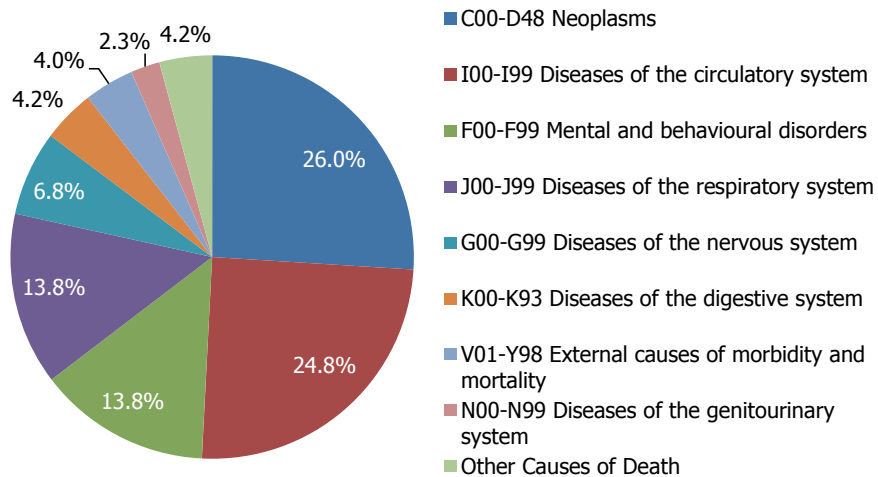


Figure 10: Top causes of death in females on the Isle of Man by ICD Chapter, 2017

As can be seen from the figures above almost two thirds of male deaths are attributed to neoplasms (cancer) and circulatory disease whereas for females this is only around a half of deaths. Significantly greater numbers of females died from mental and behavioural disorders than males (13.8% compared to 5.9%). Although greater number of females died from respiratory disease than males (13.8% compared to 11.5%) it was not a statistically significant difference.

## 5.1 Cancer

There were 243 deaths from cancer in 2017 representing 29.1% of all deaths; the most common cancer sites were the digestive organs (68 deaths representing 28% of all cancer deaths) and cancers of the respiratory and intrathoracic organs (61 deaths representing 25% of all cancer deaths).

For males the proportions of deaths from these two cancer sites reflects the overall totals however for females the situation is reversed and the most common cancer site was respiratory and intrathoracic organs with cancer of the digestive organs being the second most common. **Figures 11 and 12** show this in more detail.

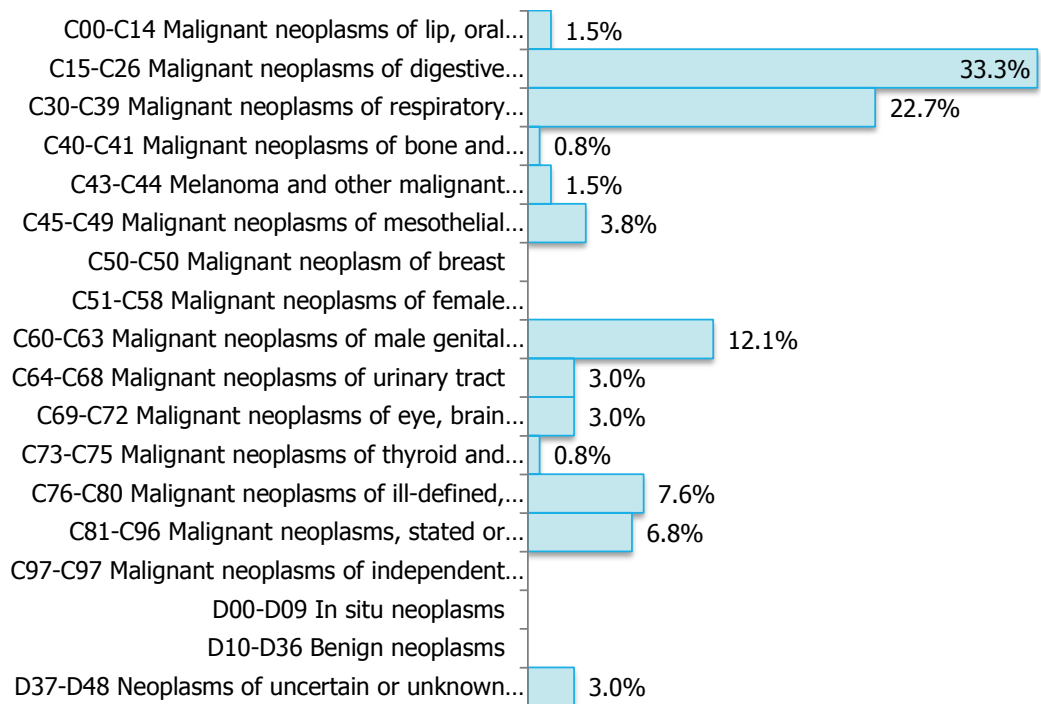


Figure 11: Deaths by cancer site, males, 2017

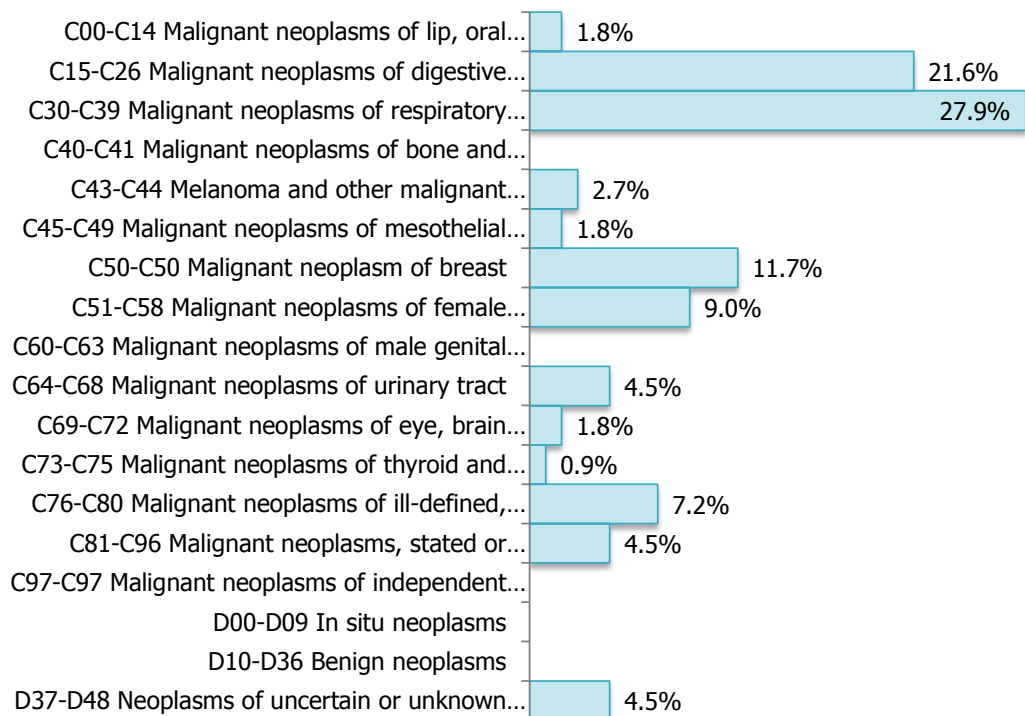


Figure 12: Deaths by cancer site, females, 2017

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Most deaths (63%) with a cause of cancer during 2017 occurred in those aged between 65 and 85 years old. Although there were greater numbers of female deaths due to cancer, 54% compared to 46% males, this was not a statistically significant difference.

## 5.2 Circulatory disease

In 2017, diseases of the circulatory system accounted for 233 deaths representing 28% of all deaths. Almost half (49%) of these deaths were due to Ischaemic heart disease.

Most deaths (63%) with a cause of circulatory disease during 2017 occurred in those aged between 75 and 95 years old. There were greater numbers of males dying from circulatory disease but it was not statistically different from the numbers of female deaths.

## 5.3 Respiratory disease

In 2017, diseases of the respiratory system were the cause of death for 106 people representing 12.7% of all deaths registered. Chronic lower respiratory disease was accountable for 40.6% of these deaths, closely followed by Influenza and Pneumonia (representing 37.7%).

## 5.4 Mental and behavioural disorders

There were 83 deaths attributed to mental and behavioural disorders registered in 2017 representing just fewer than 10% of all deaths.

Almost all of these deaths (98%) can be attributed to a cause of dementia, therefore in order to provide a more accurate picture of deaths attributed to dementia we have recalculated this to also include other degenerative diseases of the nervous system (i.e. Alzheimer's Disease).

This means that in 2017, 104 deaths were attributed to dementia and Alzheimer's Disease combined, representing 12.4% of all deaths registered.

76% of these were in females, significantly more than males, though as most occur in the over 80 year olds there are fewer males alive at this age than females.

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## 6. Place of death<sup>vi</sup>

Of the 836 deaths registered on the island in 2017, 42.5% were in the hospital and 15.7% were in hospice with only 40.8% in the usual place of residence. This is significantly lower than the current published rate for England of 45.8%.

## 7. Developments for future reports

Future reports will include trend data for ASMR by sex and top causes of death.

Age at death data analyses will be expanded to explore working age deaths and deaths in those aged over 75 years.

## 8. About the data

### 8.1 Background notes

All analyses are based on data provided by the Civil Registry. They represent deaths registered in a particular calendar year. This is not the same as date of death. In some cases where an inquest is involved deaths may not be registered until the following year or later.

The figures represented in this report represent deaths that occurred on the Isle of Man so will include those who are not normally resident on island. This therefore does not include those residents who died off-island and were not repatriated.

Mortality rates are calculated using population figures from the interim census in 2016.<sup>[4]</sup>

The data are compiled from weekly returns, cleaned and submitted to the Office for National Statistics (ONS) for cause coding. Cause of death is classified using the International Statistical Classification of Diseases and Related Health Problems (tenth revision, ICD-10).<sup>[5]</sup>

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<sup>vi</sup> usual place of residence is defined as home and care homes (local authority and non-local authority) including Ramsey Cottage Hospital.

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## 8.2 Comparisons

Where possible other jurisdictions have been used to benchmark Isle of Man data against to identify if trends here are broadly similar or not

- England and Wales<sup>[2]</sup>
- Jersey<sup>[3]</sup>

## 8.3 Methods

Age-standardised rates were calculated as the number of deaths occurring in a year divided by the census population figures and multiplied by 100,000. The rates have been standardised using the 2013 European Standard Population.

## 8.4 Data quality and accuracy

When the observed number of deaths is fewer than 25, mortality rates have not been calculated as the numbers are too low to calculate with any accuracy.

Confidence intervals have been used in this report to compare mortality rates. Confidence intervals are used to measure the imprecision of an estimate, specifically the random variation that would naturally occur in a mortality rate for a small population. The confidence interval gives the range of values within which the true value would lie and therefore enables benchmarking to other jurisdictions with more accuracy.

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## Glossary of terms

**Age Standardised Rate:** a rate that allows for differences in the age structure of populations to be taken into account and therefore allows valid comparisons to be made between geographical areas and through time.

**European Standard Population:** an artificial population structure which is used in the weighting of mortality or incidence data to produce age standardised rates (ASRs). It is a hypothetical population and assumes that the age structure is the same in both sexes, therefore allowing comparisons to be made between the sexes as well as between geographical areas.

## Acronyms and abbreviations

ASMR	Age-standardised mortality rates
ASR	Age Standardised Rate
ICD/ICD10	International Statistical Classification of Diseases and Related Health Problems 10th revision
ONS	Office for National Statistics



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