



DISEASE PROJECTIONS 2016-2036

Public Health Statistics Unit

States 
of Jersey

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What will the health of the Island look like in the future compared to now?

Overall population change



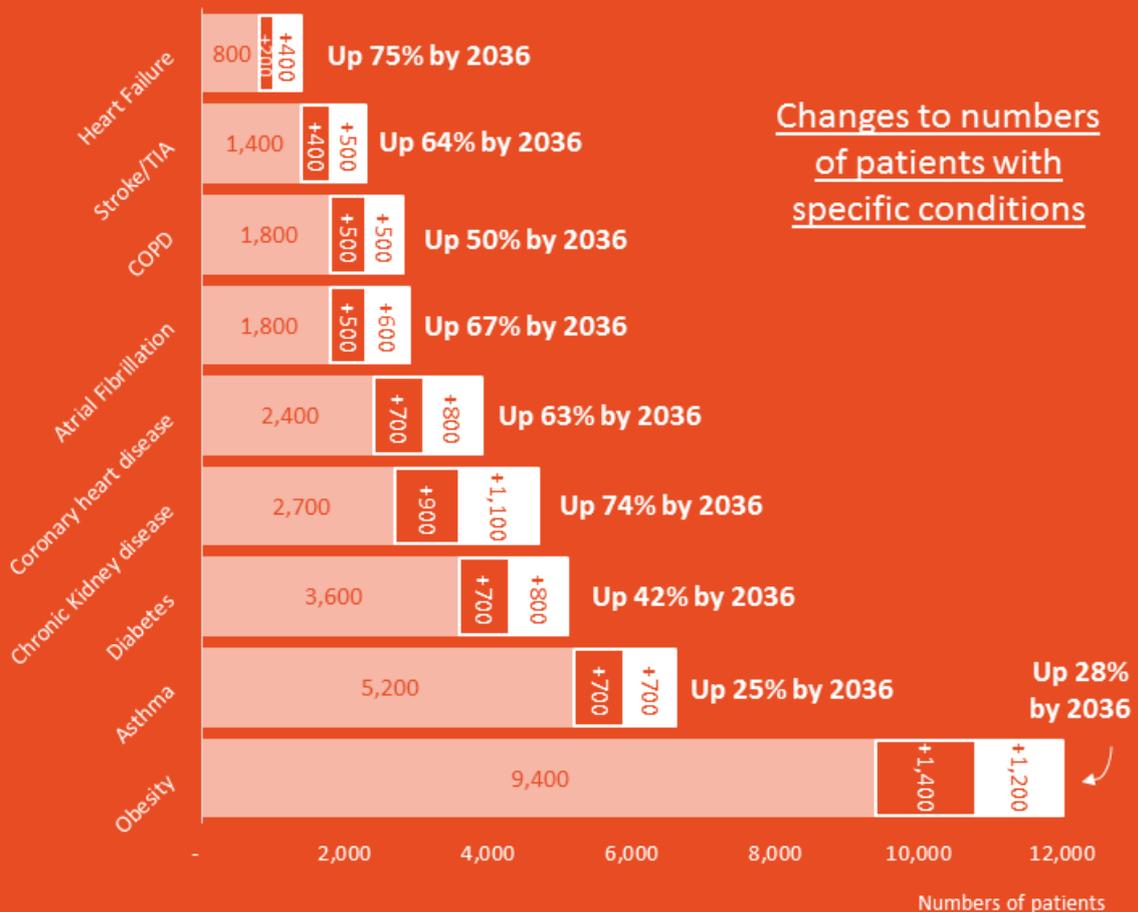
How these figures were calculated:

- GP data used to assess the current prevalence of diseases
- Population projections based on +1,000 net migration model
- Patterns of disease assumed to not change over time period

General practice staff



■ Patients in 2016 □ Increase by 2026 ■ Increase by 2036



SUMMARY

This report describes the potential level of occurrence of disease in Jersey, based on the current prevalence of disease combined with the projected future population, assuming the recent level of net inward migration continues. The results of this analysis demonstrate what may potentially happen if the current disease prevalence continues while the population increases and ages.

INTRODUCTION

This analysis by the Public Health Statistics Unit (PHSU) uses details from the recently published 2016 Population Projections¹ and current prevalence rates of a number of chronic diseases extracted from the Jersey General Practice (GP) Central Server. For details on data sources, accuracy and completeness, see the Background Notes section of this report.

The analysis is based on two primary assumptions:

1. That current patterns of disease prevalence will continue (i.e. no adjustments have been made for improvements or worsening in health conditions)
2. That net migration will continue at +1,000 people per annum over the next 20 years

The majority of data taken from the Jersey GP central server are taken from specific disease registers generated as part of the Jersey Quality Improvement Framework (JQIF) which incentivises GPs to accurately record patients that meet a set of disease-specific criteria as being on a particular disease register. As such, the quality of this data is deemed to be greater than those indicators and disease registers for which GPs are not incentivised to record. All general practice (also referred to as primary care) data is for year-end 2016. For more information on JQIF and the accuracy of GP central server data, see Background Notes section of this report.

Over the last four years (2012-2016), net migration has averaged +1,000 people per year into the Island. If this migration trend were to continue, it is estimated that Jersey's population would reach 130,000 by 2036.

This report considers each disease/condition in turn; the current pattern of prevalence in the population is shown, followed by the projected number of people with the disease or condition in the next 10 and 20 years. The age and gender specific prevalence rates have been multiplied by the projected population numbers for 2026 and 2036 to calculate future numbers of people with each condition or disease should current prevalence rates continue. The

¹ States of Jersey Statistics Unit, Jersey Resident Population Estimate 2016, published 23 June 2017 and Jersey Population Projection Report 2016, published 14 October 2016, available from www.gov.je

projected numbers are presented as population pyramids for each condition/disease. A summary table of the increases of all diseases and conditions is provided in Appendix 1.

A secondary analysis using a zero migration scenario² was also conducted to establish the extent to which the aging of the population or net inward migration drove the increases in numbers of each condition or disease. Results from this analysis showed that, within the timescales of the next 20 years, those diseases which affect mainly older age groups increase independently of migration, while those diseases which affect individuals across all age groups are affected by the migration scenario considered. For a comparison of results from both analysis see Appendix 2.

Throughout this report, all numbers have been independently rounded to the nearest 100 to reflect the level of uncertainty in the prevalence data which rely on accurate recording of diseases and conditions by GPs and general practices in Jersey.

MAIN FINDINGS

- if the current age-specific prevalence of diseases/conditions continued together with the currently observed level of net inward migration, it is estimated that Jersey would expect to see an increase in patients with a number of chronic and serious diseases and conditions
- the projected increase in population size and change in its age profile will be reflected in an increase in GP consultations:
 - it is estimated that there will be an additional 70,000 GP consultations each year by 2026, bringing the total to 502,000 (an increase of 16 per cent)
 - by 2036, it is estimated there will be an additional 143,000 consultations compared to 2016 (an increase of 33 per cent) bringing the number of consultations to 575,000 per year
- projections for each disease show that:
 - the number of people on the obesity register (people having a body mass index of 30 or more) is estimated to increase by more than a quarter (28 per cent) from 9,400 in 2016 to 12,000 in 2036, an increase of 2,600 people
 - the number of people with hypertension is projected to be around 21,400 in 2036, an increase of 6,700 (46 per cent) compared to 2016

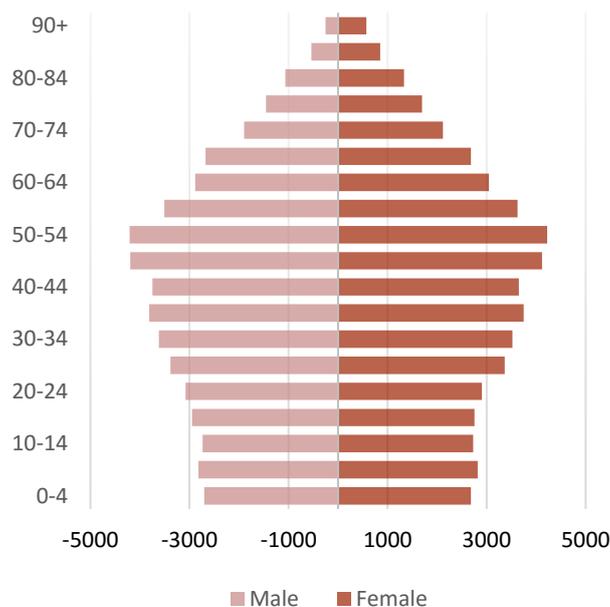
² This scenario posits that there is no inward or outward migration, no people move away or arrive from outside Jersey to live. The only changes in the population size and structure are through aging, births and deaths. For more information see the Jersey Population Projection 2016 report, available from www.gov.je

- the number of people with diabetes is estimated to increase from 3,600 in 2016 to 5,100 by 2036, an increase of 42 per cent
 - heart failure is estimated to affect an additional 600 patients by 2036, increasing from 800 in 2016 to 1,400 by 2036, an increase of 75 per cent
 - the number of people on the dementia register is estimated to double over the next 20 years, from 500 in 2016 to 1,000 in 2036
 - the number of people on the coronary heart disease register is estimated to increase by more than three-fifths (63 per cent) from 2,400 in 2016 to 3,900 in 2036
 - it is estimated that there will be an additional 900 patients on the stroke and transient ischaemic attack (TIA) register by 2036, an increase of 64 per cent, from 1,400 people in 2016 to 2,300 in 2036
 - the number of people with chronic kidney disease is estimated to increase from 2,700 on the register in 2016 to around 4,700 in two decades time, an increase of 74 per cent
 - the number of people with asthma is estimated to increase by a quarter (25 per cent) over the next two decades, increasing from 5,200 in 2016 to 6,600 in 2036
 - the number of patients requiring palliative care is estimated to almost double over the next two decades, from around 400 currently on the palliative care register to around 800 by 2036
- the effect of the aging of the current population was explored by considering an (artificial) migration scenario of no inward or outward migration. The results of this exploratory analysis gave similar increases to the +1,000 net migration scenario for those conditions affecting mainly older populations, such as coronary heart disease and chronic kidney disease, indicating that the aging of the population is driving the increases in the numbers of people with these conditions independent of net inward migration. However, net migration as well as the aging of the population influence those conditions that affect people across all age groups, such as asthma and obesity.

POPULATION PROJECTIONS

The 2016 Jersey Health Profile³ showed that morbidities accumulate throughout life and that people aged 65 years or over have worse health outcomes than people below this age. Jersey's current population contains more people aged 40-59 than any other age group (Figure 1). It is therefore important to consider the accumulation of morbidities in these individuals as they age, as this cohort is larger than the one that came before it.

FIGURE 1: POPULATION PYRAMID, YEAR-END 2016

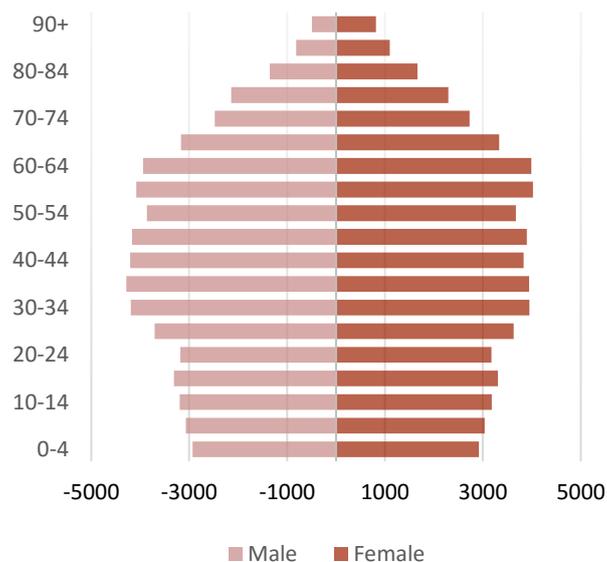


Source: Statistics Unit

In 2026, the projected population is 117,100, an overall increase of 12 per cent. The proportion of those aged 65 or over is projected to increase from around 16 per cent in 2016 to 19 per cent in 2026 (Figure 2).

³ Public Health Statistics Unit, Jersey Health Profile 2016, published 24 November 2016, available from www.gov.je

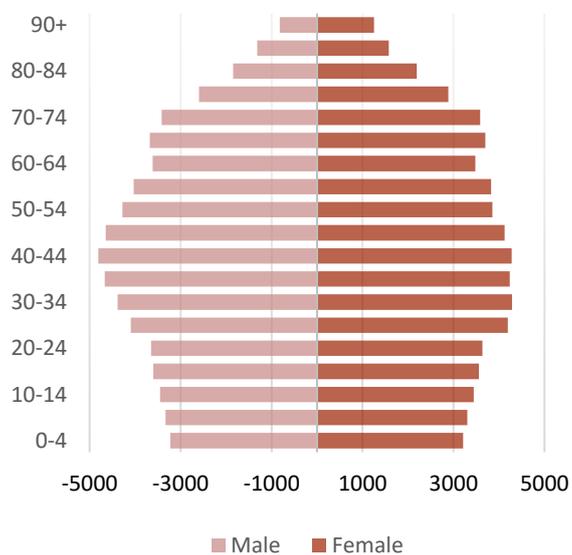
FIGURE 2: POPULATION PYRAMID, YEAR-END 2026



Source: Statistics Unit

By 2036, the population increases by another 11 per cent, to 130,000, under the +1,000 net migration scenario. Around one in five (22 per cent) of the population would be aged 65 or over (Figure 3).

FIGURE 3: POPULATION PYRAMID, YEAR-END 2036



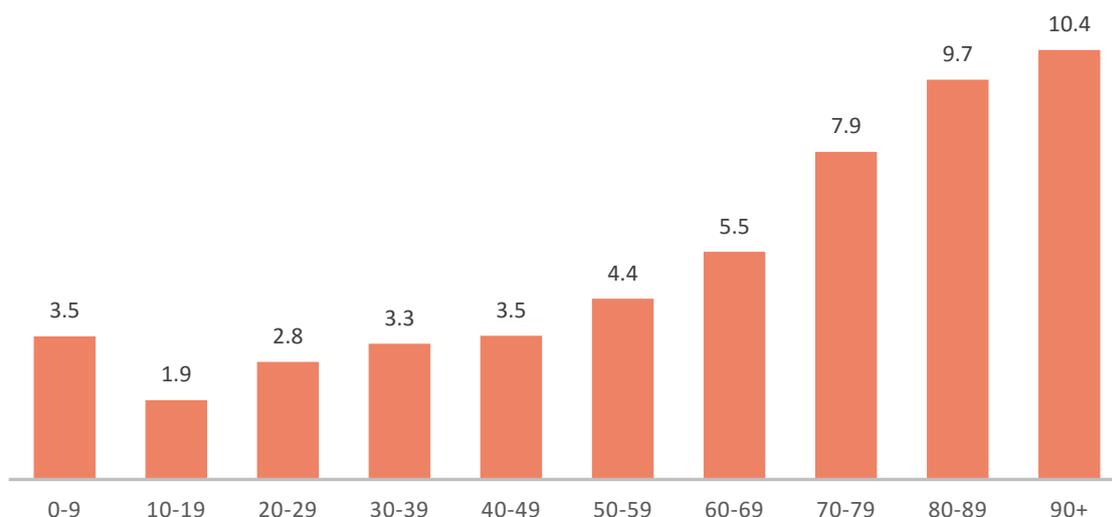
Source: Statistics Unit

Having a larger population of those aged 65 or over has implications for the health service, especially if these individuals have accumulated morbidities over their lifetime.

GENERAL PRACTICE (GP) CONSULTATIONS

This section considers current patterns of primary care use and projects this forward. In 2016, there were around 430,000 primary care consultations in GP practices in Jersey. This total gives an average (mean) of 4 primary care visits per resident each year, ranging from around 2 visits a year for those aged 10-19 years to around 10 or more annual visits a year for those aged 80 or over (Figure 4).

FIGURE 4: AVERAGE (MEAN) NUMBER OF PRIMARY CARE CONSULTATIONS PER YEAR, 2016



Source: PHSU

Using the age-specific consultation rate alongside the population projections, it is possible to model future patterns of primary care consultations based on the +1,000 net migration scenario and assuming current patterns of primary care use continue. In 10 years' time, 2026, there is projected to be 502,000 consultations, an increase of 70,000 compared to 2016 use, an increase of 16 per cent. By 2036, the number of annual consultations is projected to rise to 575,000, an increase of 33 per cent compared to 2016.

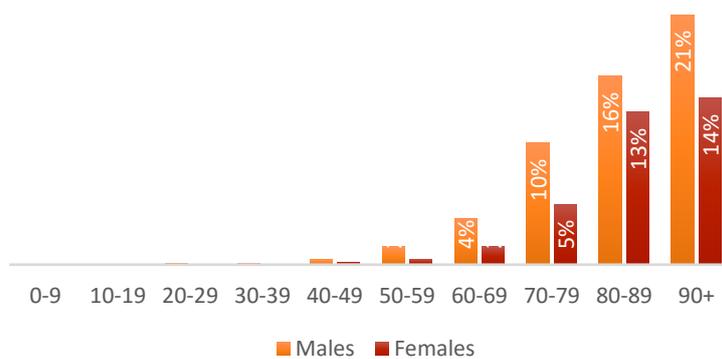
When considering the implications for the number of primary care staff, the increased number of consultations by 2026 is projected to require an extra 16 GPs on top of the 100 GPs currently working in the Island, while the number of consultations in 2036 will require 33 more GPs compared to now. This assumes that the current pattern of delivery of primary care continues. A programme of reform is currently underway run by the Health and Social Services Sustainable Primary Care Team.

ATRIAL FIBRILATION



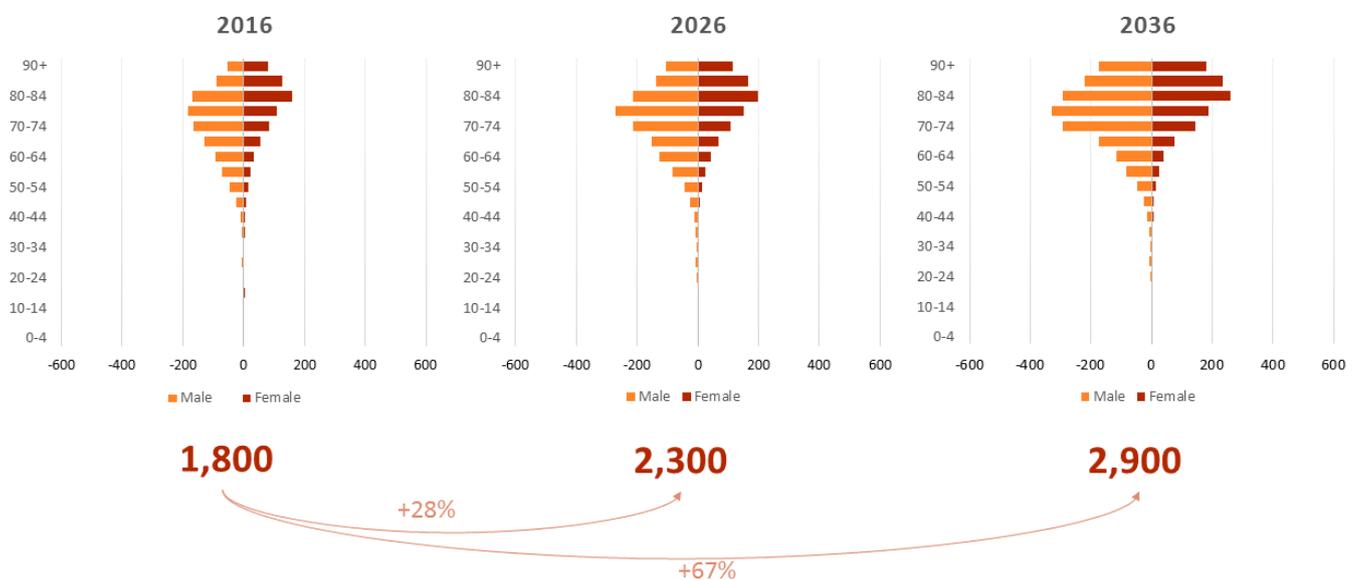
Atrial fibrillation refers to an abnormally fast or irregular heartbeat; in 2016, about 1,800 people have the condition, with 80 per cent of these aged 65 years or over (Figure 5). The number of people with atrial fibrillation is projected to increase by two-thirds (67 per cent) over the next twenty years.

FIGURE 5: ATRIAL FIBRILLATION PREVALENCE FOR EACH AGE AND GENDER 2016



The age and gender specific prevalence rates have been multiplied by the projected population numbers for 2026 and 2036 to calculate future numbers of atrial fibrillation patients should current prevalence rates continue.

FIGURE 6: PROJECTED NUMBERS OF MALES AND FEMALES WITH ATRIAL FIBRILLATION BY AGE



ASTHMA



This chronic lung disease inflames and narrows airways and is known to affect people at all ages (Figure 7). In 2016, more than 5,000 people in Jersey were recorded by GPs as being on the asthma register. This number is projected to increase by a quarter (25 per cent) by 2036 (Figure 8).

FIGURE 7: ASTHMA PREVALENCE FOR EACH AGE AND GENDER 2016

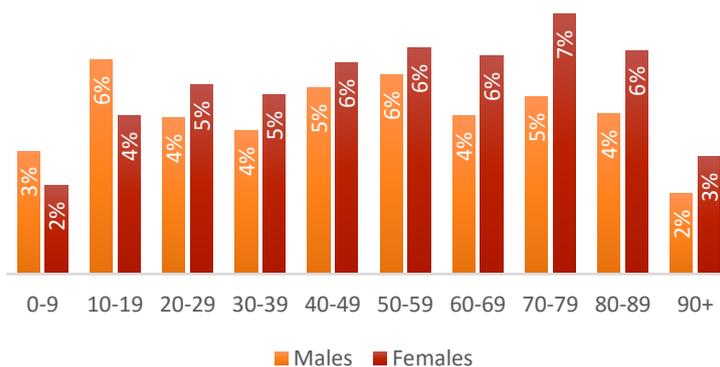
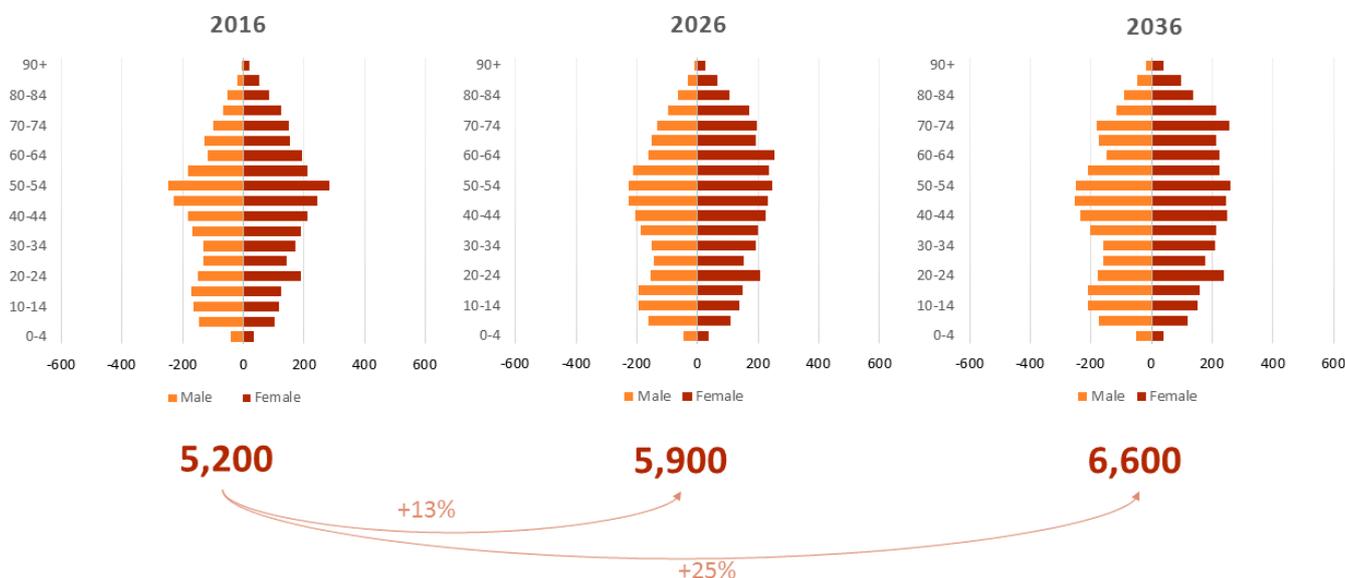


FIGURE 8: PROJECTED NUMBERS OF MALES AND FEMALES WITH ASTHMA BY AGE



CORONARY HEART DISEASE



Coronary heart disease (CHD), also known as ischaemic heart disease, relates to the build-up of fatty substances in the coronary arteries. This condition may lead to angina (chest pain), heart attacks and heart failure. Causes of CHD include smoking, high cholesterol levels, hypertension and diabetes. If current prevalence rates continue, an additional 1,500 Islanders are projected to have the condition in 20 years' time (Figure 10).

FIGURE 9: CORONARY HEART DISEASE PREVALENCE FOR EACH AGE AND GENDER 2016

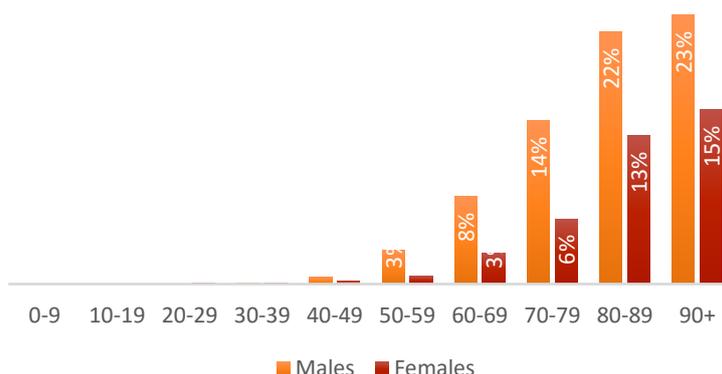
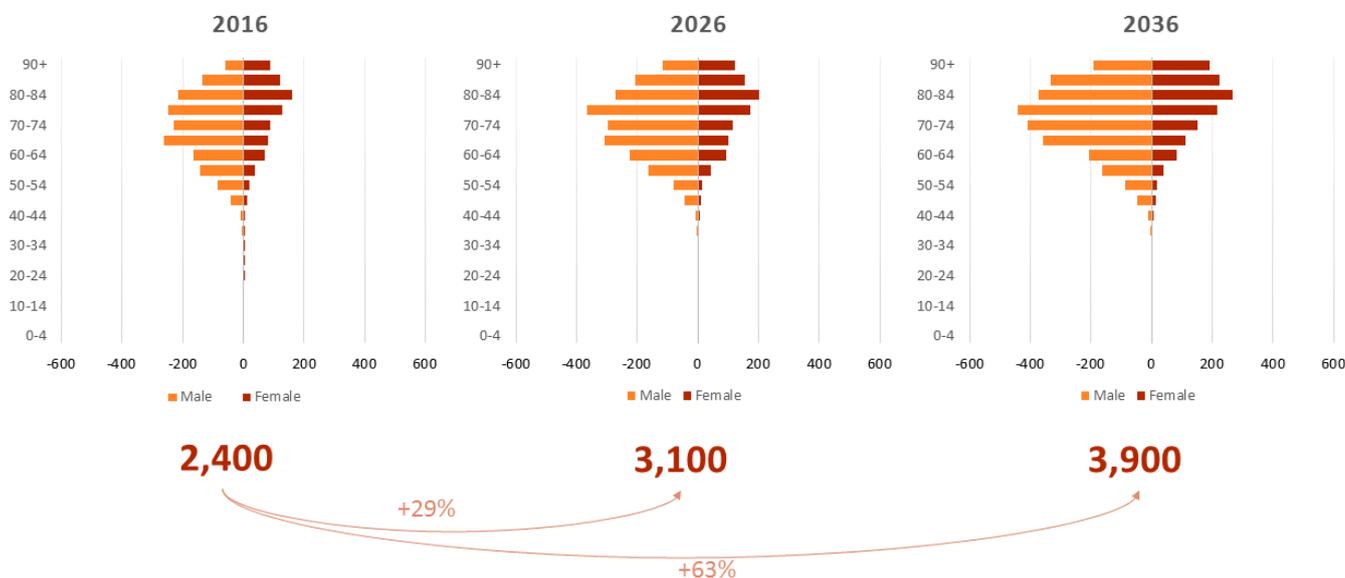


FIGURE 10: PROJECTED NUMBERS OF MALES AND FEMALES WITH CORONARY HEART DISEASE BY AGE



CHRONIC KIDNEY DISEASE



Kidney disease is often caused by conditions that put a strain on the kidneys, such as hypertension, high cholesterol, diabetes and kidney infections. More than a quarter of Islanders aged 80 or over are recorded by GPs as having the condition (Figure 11) although severity will vary. By 2036, chronic kidney disease would be affecting 2,000 more people than in 2016 under current population trends (Figure 12).

FIGURE 11: CHRONIC KIDNEY DISEASE PREVALENCE FOR EACH AGE AND GENDER 2016

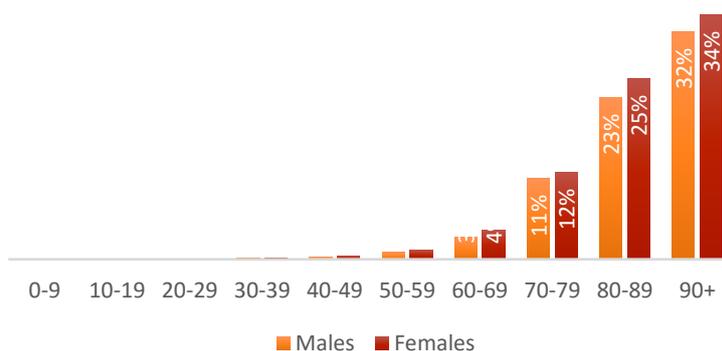
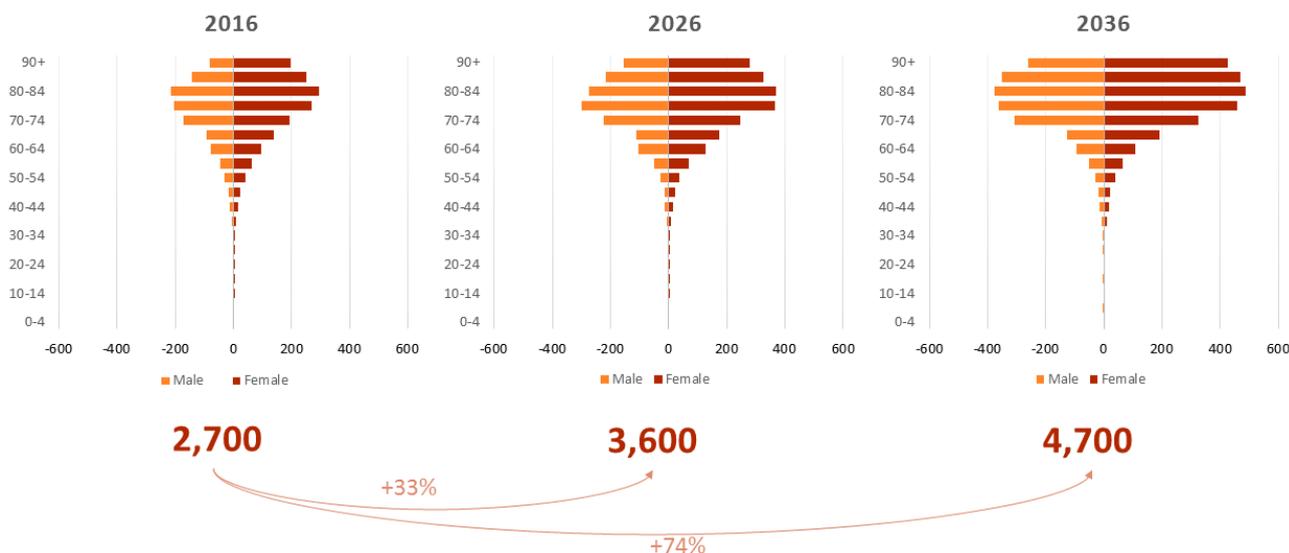


FIGURE 12: PROJECTED NUMBERS OF MALES AND FEMALES WITH CHRONIC KIDNEY DISEASE BY AGE



CHRONIC LIVER DISEASE



Cirrhosis and chronic liver disease affected around 800 Islanders in 2016; this is projected to rise by a quarter (25 per cent) by 2036. The main causes of liver disease include obesity, undiagnosed hepatitis infections and alcohol misuse⁴.

FIGURE 13: CHRONIC LIVER DISEASE PREVALENCE FOR EACH AGE AND GENDER 2016

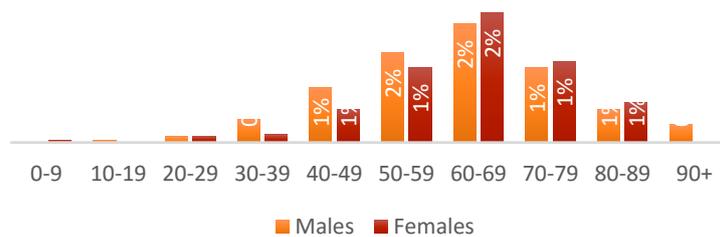
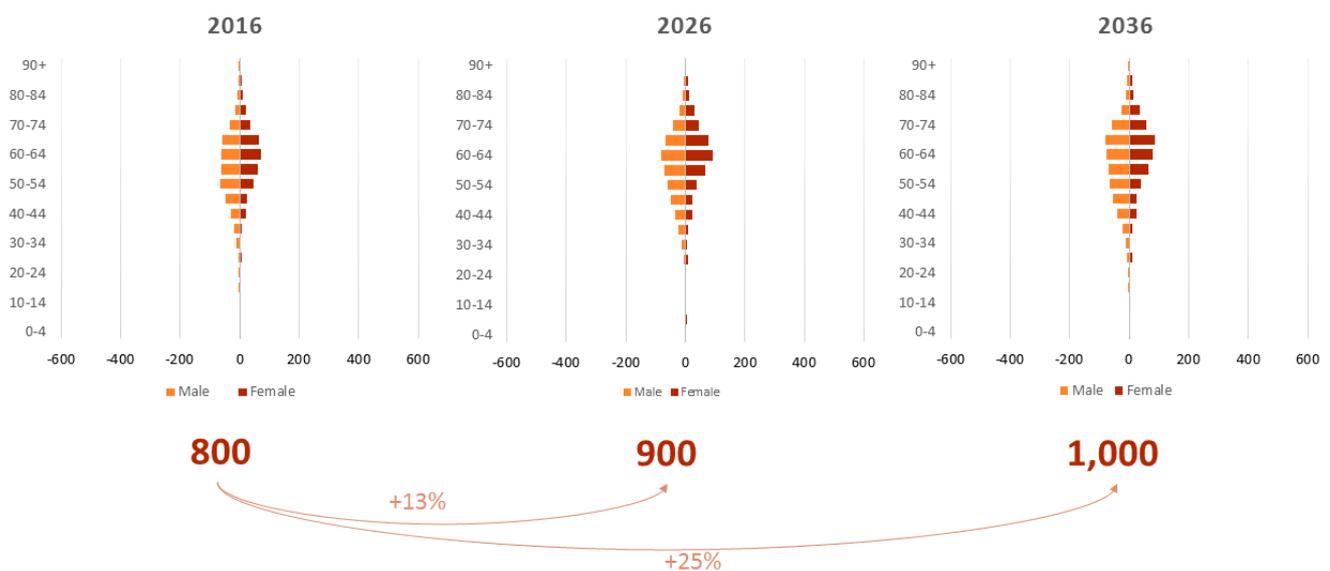


FIGURE 14: PROJECTED NUMBERS OF MALES AND FEMALES WITH CHRONIC LIVER DISEASE BY AGE



⁴ Alcohol misuse means drinking excessively – more than the lower-risk limits of alcohol. Persistent alcohol misuse increases the risk of serious health conditions, including heart disease, stroke, liver disease, some cancers and pancreatitis

CHRONIC OBSTRUCTIVE PULMONARY DISEASE



Chronic obstructive pulmonary disease (COPD) refers to a group of lung diseases which cause breathing difficulties; this group include emphysema and chronic bronchitis. COPD mainly affects middle-age and older adults who smoke tobacco. In 2016 about 2,000 people were on the COPD disease register; this is projected to increase by 50 per cent by 2036.

FIGURE 15: COPD PREVALENCE FOR EACH AGE AND GENDER 2016

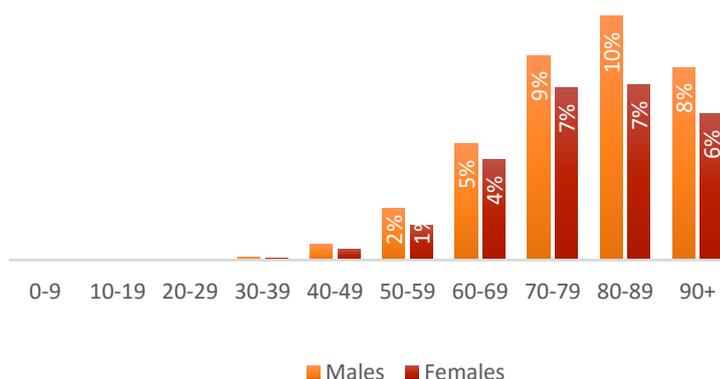
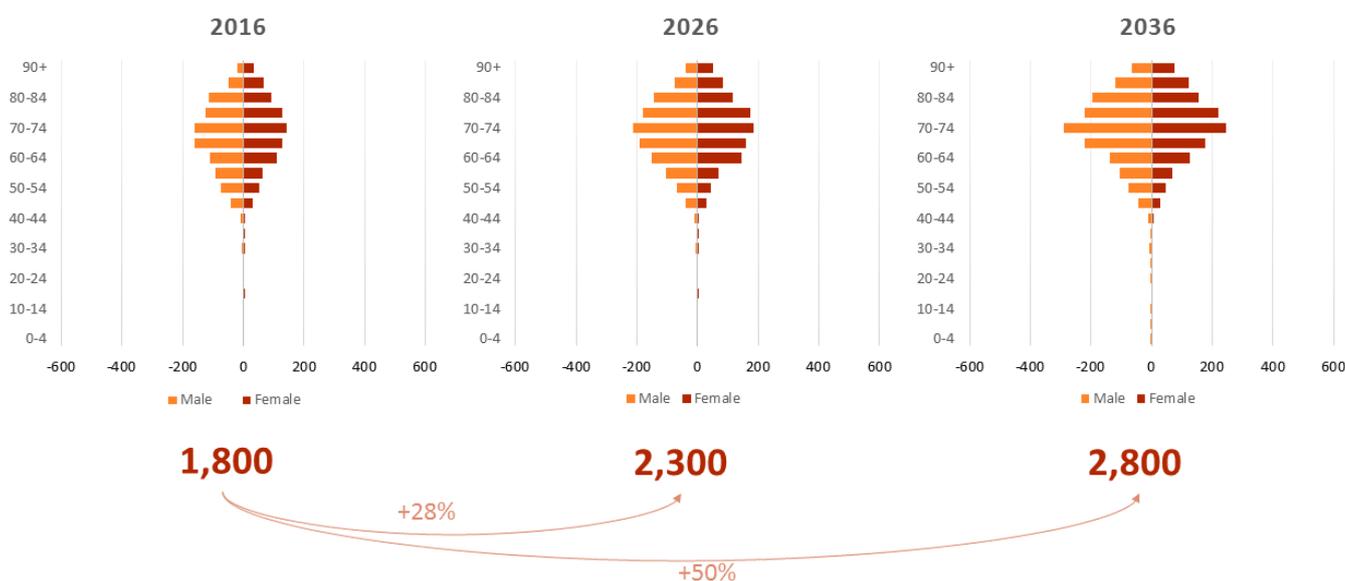


FIGURE 16: PROJECTED NUMBERS OF MALES AND FEMALES WITH COPD BY AGE



DEMENTIA



Dementia, including Alzheimer’s and vascular dementia, is more prevalent in older age groups (Figure 17). Currently (in 2016) around 500 people are on the dementia disease register, this is projected to double by 2036 (Figure 18).

FIGURE 17: DEMENTIA PREVALENCE FOR EACH AGE AND GENDER 2016

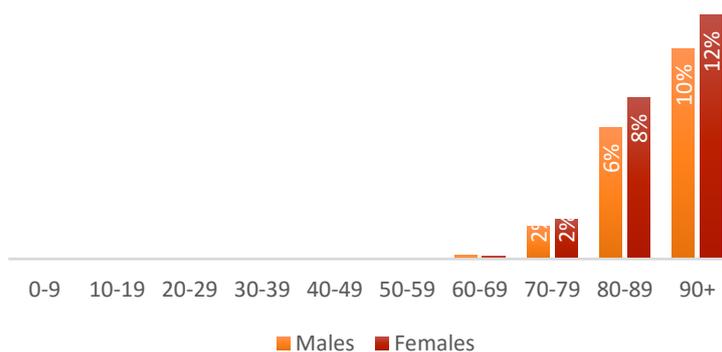
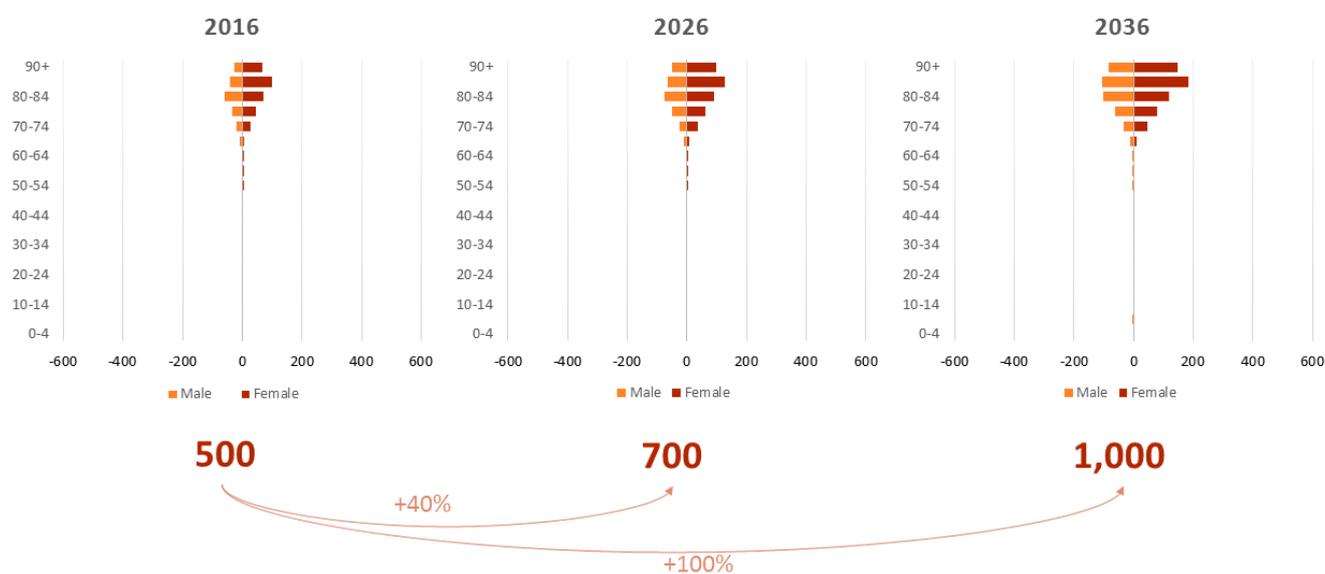


FIGURE 18: PROJECTED NUMBERS OF MALES AND FEMALES WITH DEMENTIA BY AGE



DIABETES



Type 1 diabetes refers to an immune system attack on insulin-producing cells in the body, whereas type 2 diabetes refers to insulin-resistance or an inability to produce enough insulin. Type 2 diabetes is often linked to lifestyle choices and is more prevalent than type 1. The prevalence of diabetes mellitus (types 1 and 2) in Jersey is projected to increase by 42 per cent in the next two decades (Figure 20).

FIGURE 19: DIABETES PREVALENCE FOR EACH AGE AND GENDER 2016

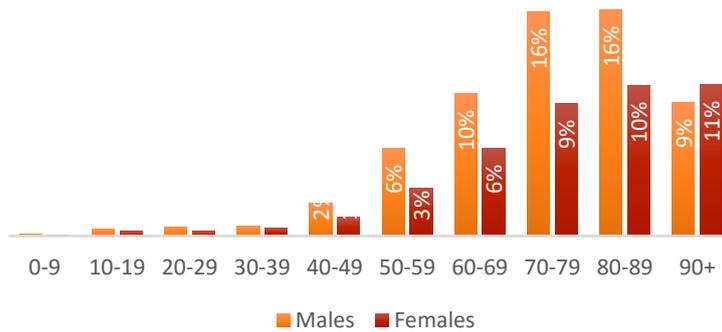
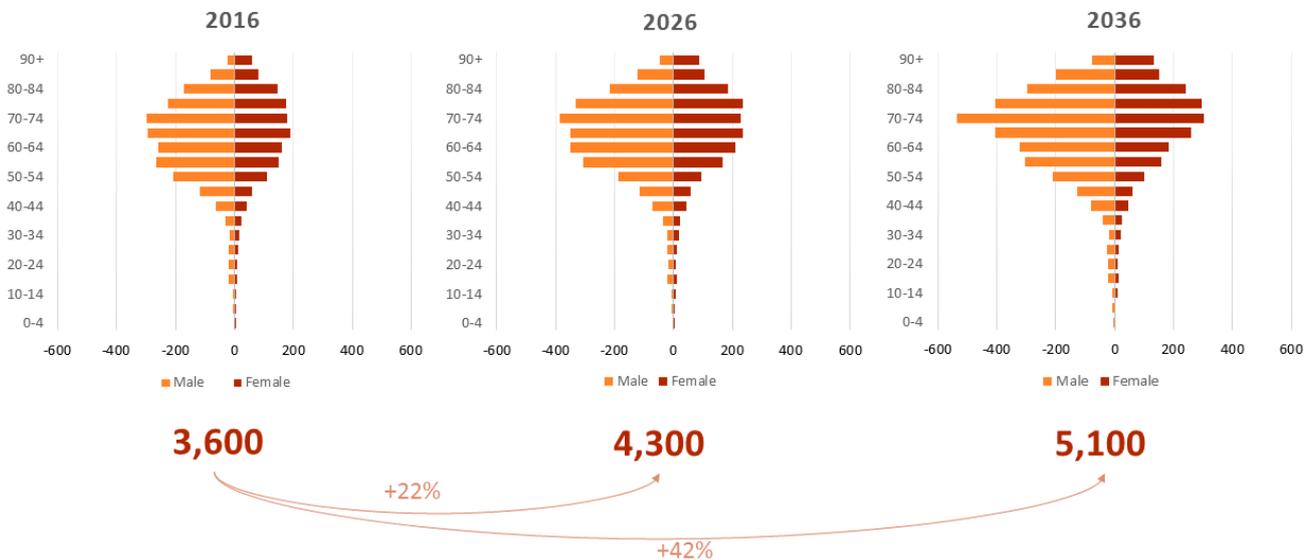


FIGURE 20: PROJECTED NUMBERS OF MALES AND FEMALES WITH DIABETES BY AGE



HEART FAILURE



Heart failure is more common in older people (Figure 21), around one in five males and one in ten females aged 90 or over were included on the heart failure disease register in 2016. The number of Islanders with the condition is projected to increase by around 600 people over the next 20 years (Figure 22).

FIGURE 21: HEART FAILURE PREVALENCE FOR EACH AGE AND GENDER 2016

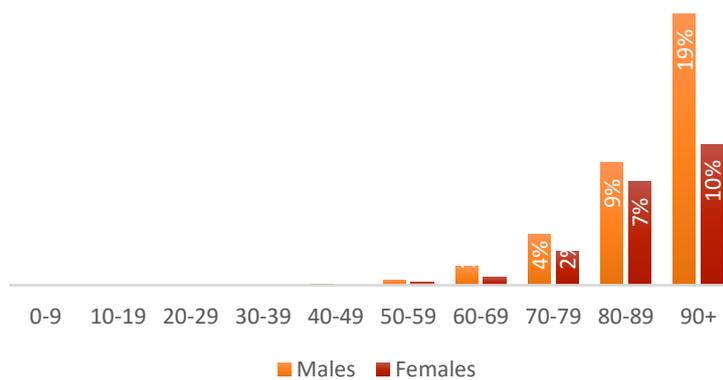
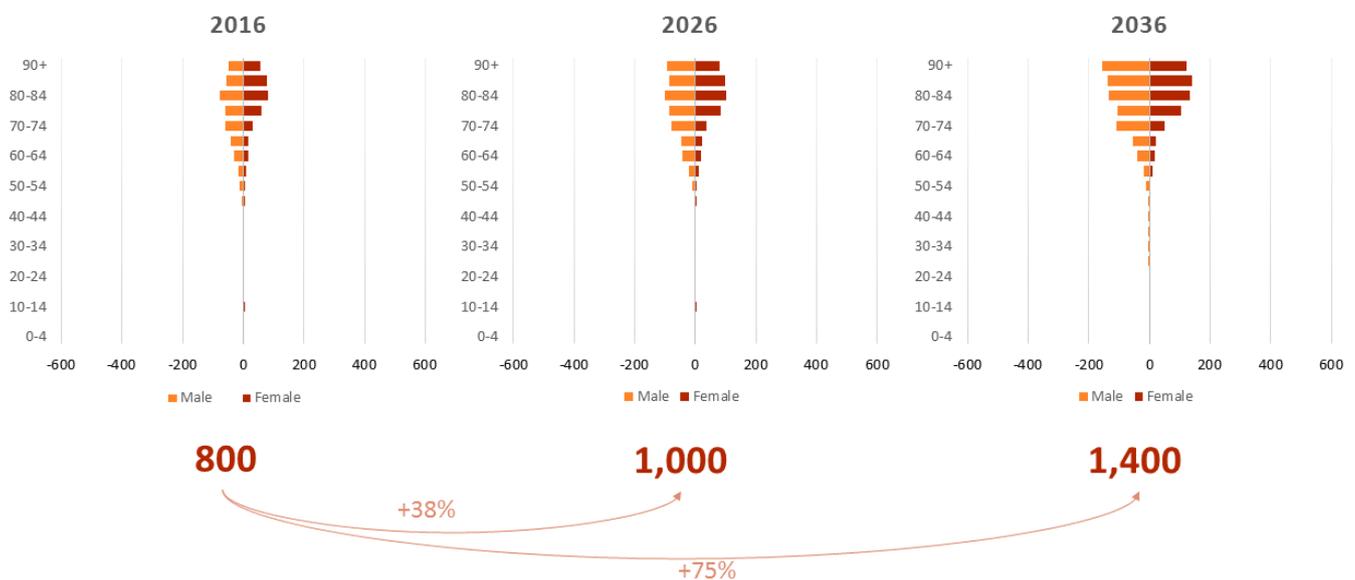


FIGURE 22: PROJECTED NUMBERS OF MALES AND FEMALES WITH HEART FAILURE BY AGE



HYPERTENSION



Untreated hypertension (high blood pressure) can increase the risk of serious conditions such as heart disease, kidney disease and strokes. In 2016 in Jersey, around 14,600 people were registered by GPs as having a high blood pressure, this number is projected to increase to over 20,000 people by 2036, a rise of 46 per cent (Figure 24).

FIGURE 23: HYPERTENSION PREVALENCE FOR EACH AGE AND GENDER 2016

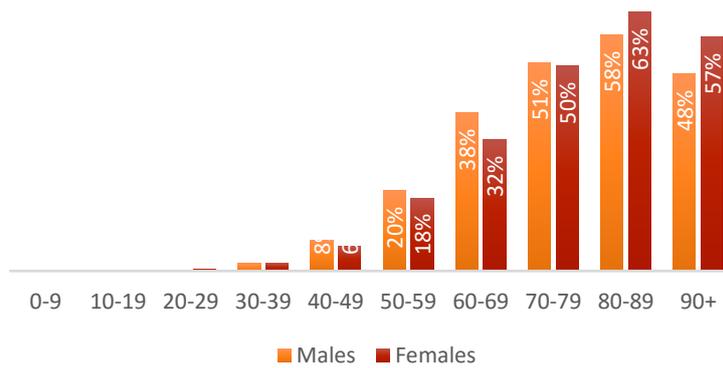
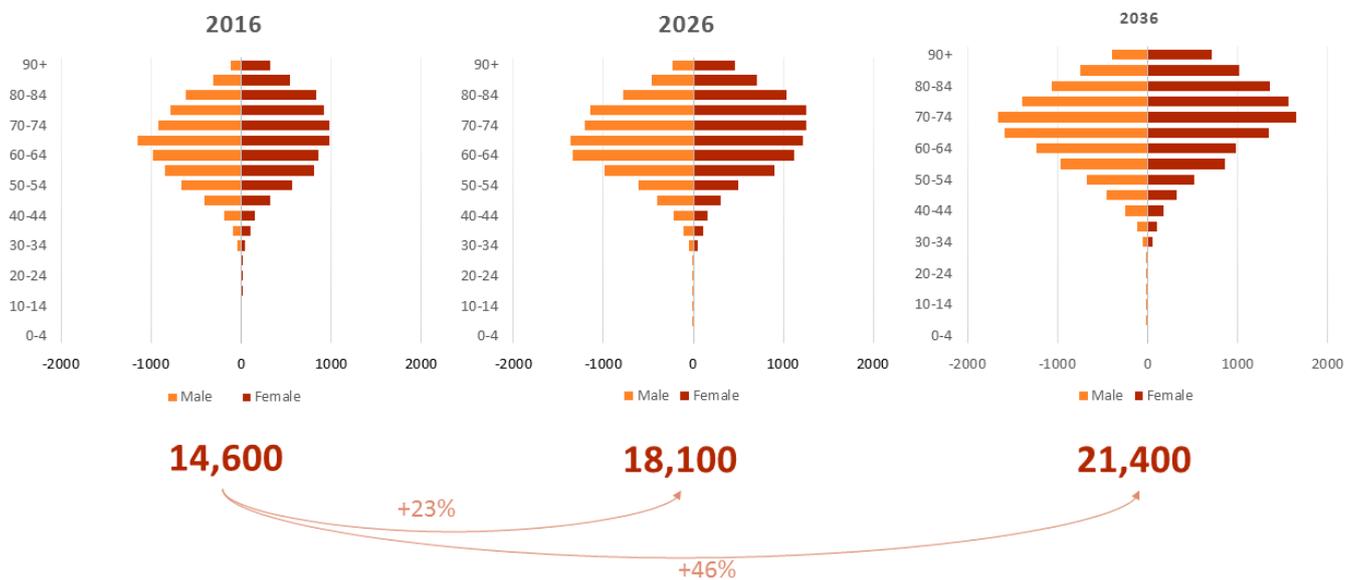


FIGURE 24: PROJECTED NUMBERS OF MALES AND FEMALES WITH HYPERTENSION BY AGE



MENTAL HEALTH



The mental health disease register includes patients with depression, schizophrenia, psychosis and bipolar disorders. In 2016, around 700 people were on the register; this is projected to increase by 200 over the next 20 years.

FIGURE 25: MENTAL HEALTH PREVALENCE FOR EACH AGE AND GENDER 2016

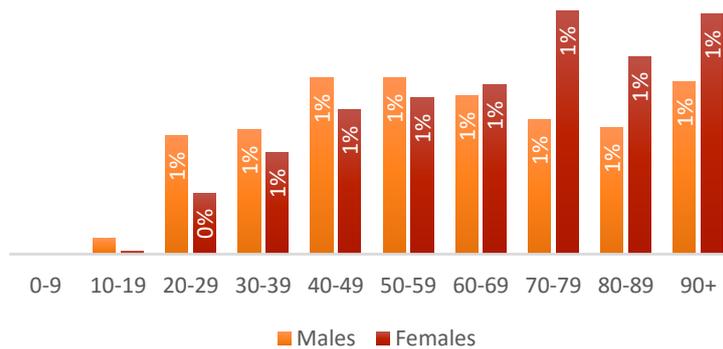
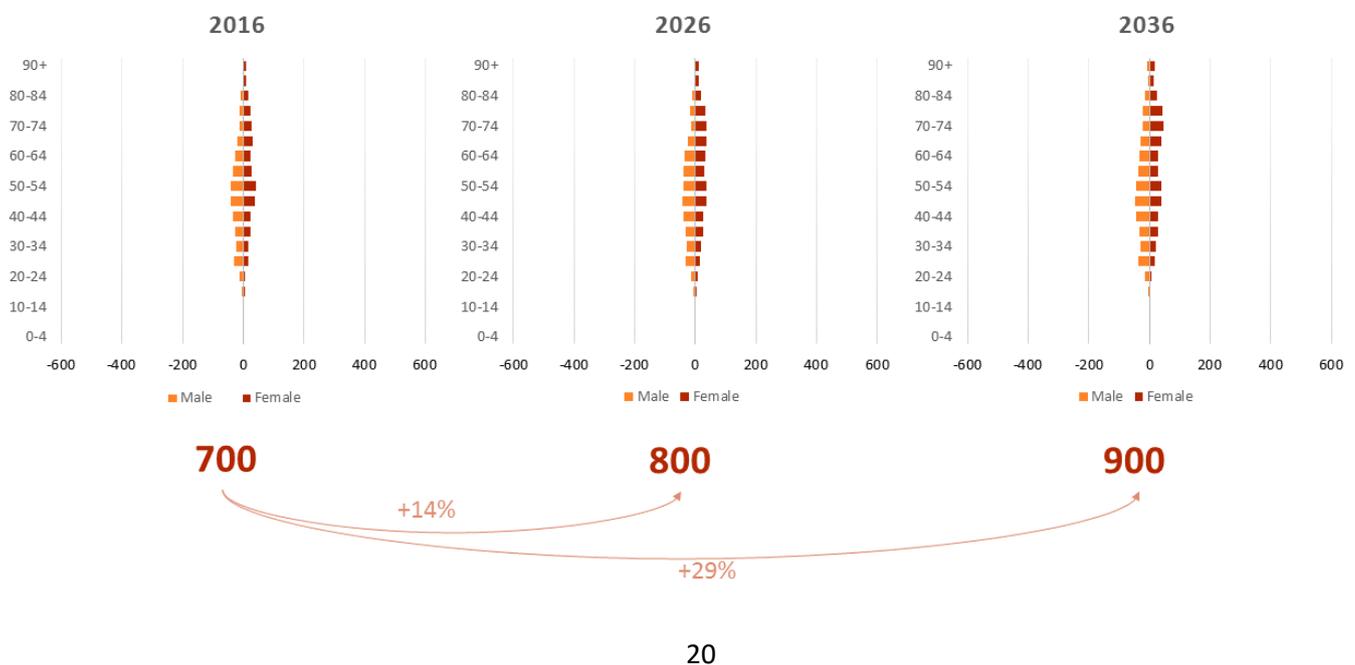


FIGURE 26: PROJECTED NUMBERS OF MALES AND FEMALES WITH MENTAL HEALTH BY AGE



OBESITY



The obesity disease register had around 9,400 people registered in 2016 as having a body mass index (BMI) of over 30. A high BMI can put someone at risk of a number of potentially life-threatening conditions including type 2 diabetes, CHD, some cancers and strokes. By 2036, there is projected to be a further 2,600 obese (BMI 30 or over) people in Jersey.

FIGURE 27: OBESITY PREVALENCE FOR EACH AGE AND GENDER 2016

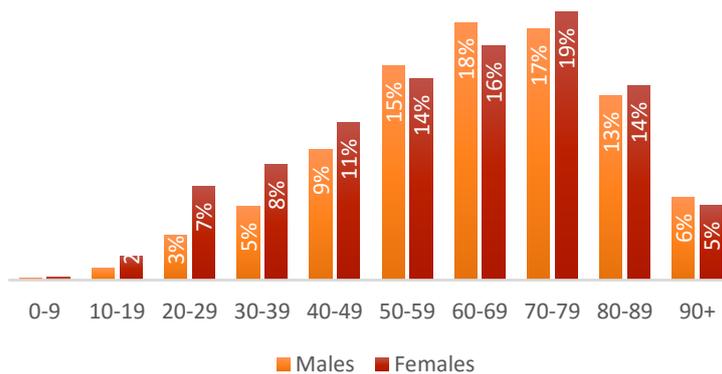
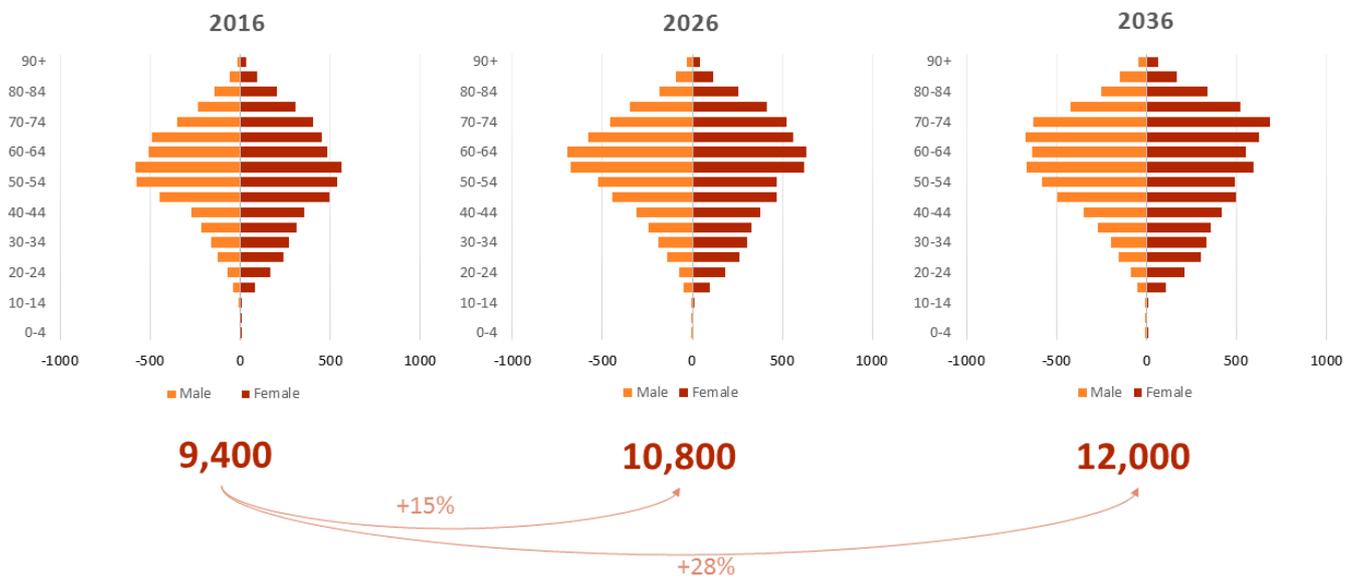


FIGURE 28: PROJECTED NUMBERS OF MALES AND FEMALES WITH OBESITY BY AGE



PALLIATIVE CARE



Palliative care refers to the specialist care given to people at the end of their lives (in the last months or years of their life). It is projected that there will be almost twice the number of people needing palliative care by 2036, an increase of around 400 patients.

FIGURE 29: PALLIATIVE CARE PREVALENCE FOR EACH AGE AND GENDER 2016

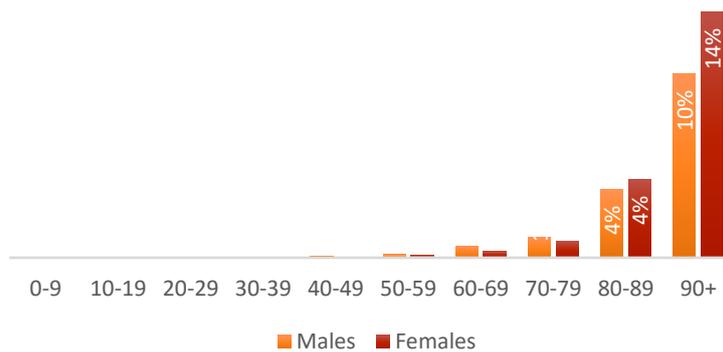
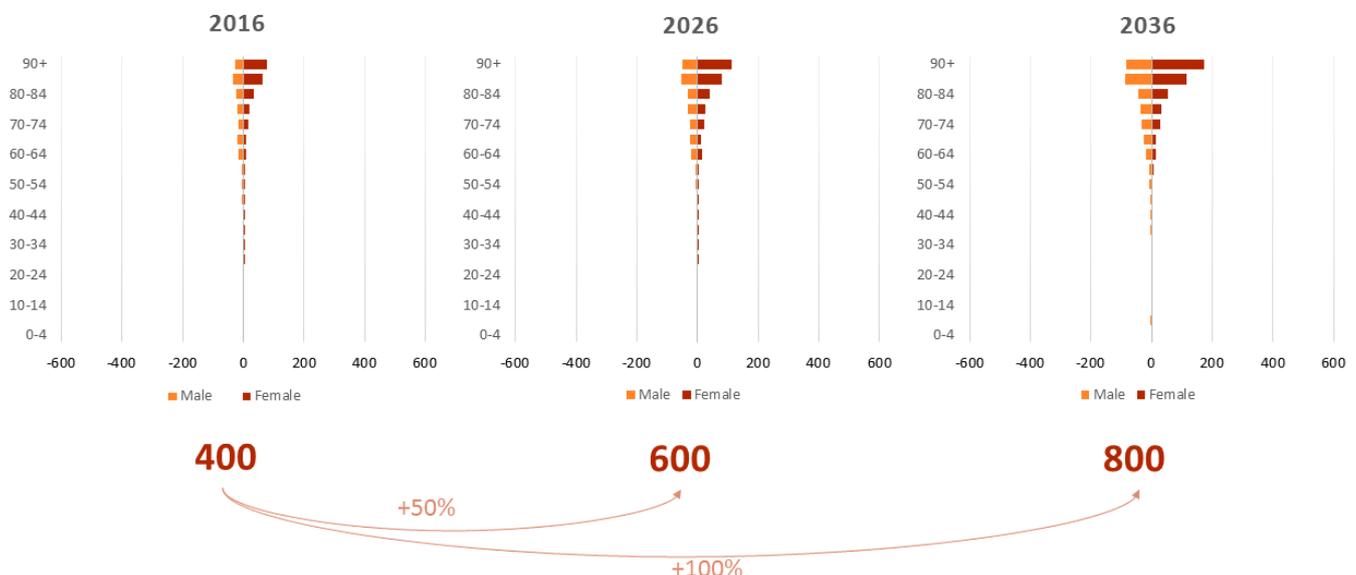


FIGURE 30: PROJECTED NUMBERS OF MALES AND FEMALES WITH PALLIATIVE CARE BY AGE



RHEUMATOID ARTHRITIS



Rheumatoid arthritis is a long-term condition that causes pain, swelling and stiffness in the joints, affecting more females than males in later life. It is projected that there will be an extra 100 people with the condition in 10 years' time, an increase of 14 per cent on 2016, and a further 100 in 20 years' times, an increase of 29 per cent compared to 2016.

FIGURE 31: RHEUMATOID ARTHRITIS PREVALENCE FOR EACH AGE AND GENDER 2016

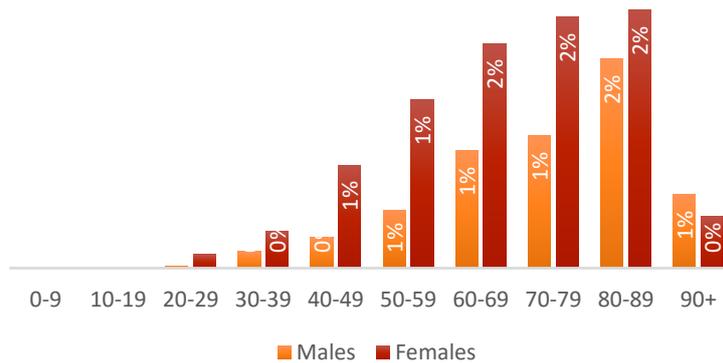
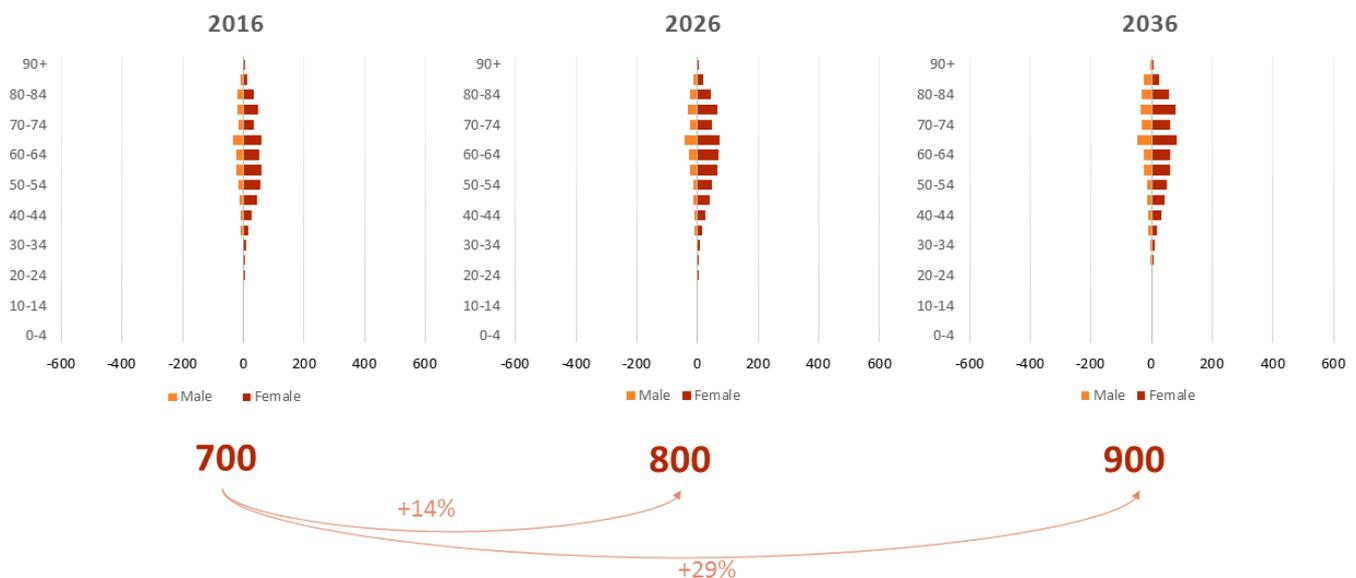


FIGURE 32: PROJECTED NUMBERS OF MALES AND FEMALES WITH RHEUMATOID ARTHRITIS BY AGE



STROKE AND TRANSIENT ISCHAEMIC ATTACK (TIA)



There are currently around 1,400 patients on the stroke and transient ischaemic attack (TIA) register. It is projected that the number of people in Jersey on the stroke/TIA register will increase by 64 per cent over the next 20 years (Figure 34).

FIGURE 33: STROKE/TIA PREVALENCE FOR EACH AGE AND GENDER 2016

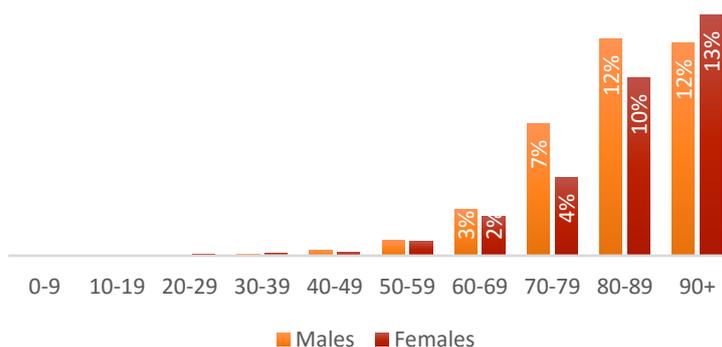
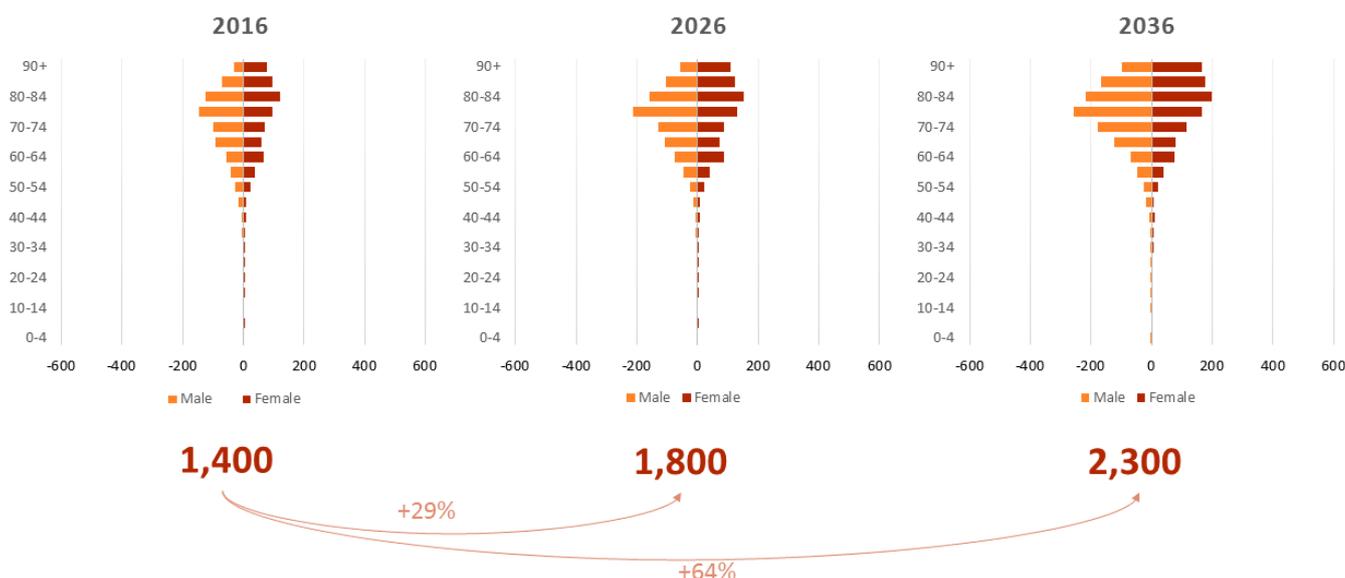


FIGURE 34: PROJECTED NUMBERS OF MALES AND FEMALES WITH STROKE/TIA BY AGE



BACKGROUND NOTES

DATA SOURCES

The data for this report is taken from two main data sources:

- the General Practice Central Server; all GP practices in Jersey use one IT system with access provided to the Public Health Statistics Unit (PHSU) to the central server to allow for statistical reporting. The Jersey Quality Improvement Framework (JQIF) incentivises GPs to record patients who meet disease-specific criteria on disease registers. The data recorded on these disease registers has been analysed for this report.
- the 2016 Population projections produced by the States of Jersey Statistics Unit,⁵ published October 2016 and the population estimate published June 2017⁶

The Jersey Quality Improvement Framework (JQIF) was introduced in 2015 as an income stream for GP practices based on a standard contract aimed at encouraging high quality outcomes for patients. All GP surgeries participated; in 2015 the contract contained 34 clinical and organisational measures describing the standards and activities which GP surgeries should achieve. These included, for example, the creation of a register of patients with diabetes and measures regarding specific interventions for this condition. Payments were made to GP practices according to their level of activity against each measure, totalling £1.6 million in 2015. In 2016, 36 clinical and organisational measures were included in JQIF, with payments again totalling £1.6 million.

TIMELINESS

All data was extracted from the GP central server in July 2017, back dated to 31 December 2016. Data projections from the States of Jersey Statistics Unit were published in October 2016, with the latest population estimate 2016 published in June 2017.

METHODS

The 2011 Census provided a baseline of the number of known residents in Jersey at March 2011 by age and gender. The population projections methodology uses this baseline population, rolled backwards to year-end 2010, and projects the population forwards, year by year, by adding births, subtracting deaths, and adjusting for inward and outward migration.

⁵ States of Jersey Statistics Unit, Jersey Resident Population Estimate 2016, published 23 June 2017, available from www.gov.je

⁶ States of Jersey Statistics Unit, Jersey Population Projection Report 2016, published 14 October 2016, available from www.gov.je

Whilst actual numbers of births and migration levels have been incorporated for 2011 to 2015 inclusive, in 2016 and subsequent years each component in the projections – births, deaths, inward and outward migration – is an estimate based on recent trends.

Over the last four years, net inward migration has averaged 1,000 people into Jersey per annum, hence the +1,000 migration scenario was chosen for this analysis.

The number of people recorded by GPs as being included in each JQIF disease register on 31 December 2016 was extracted from the GP central server and used to produce age-specific prevalence rates. These age and gender specific rates were then applied to the population projections for each year up to 2036.

A secondary analysis using a zero migration scenario⁷ was also conducted to establish the extent to which the aging of the population or net inward migration drove the increases in numbers of each condition or disease. Results from this analysis showed that, over the timespan of the next 20 years, those diseases which affect mainly older age groups increase independently of migration, while those diseases which affect individuals across all age groups are affected by the migration scenario considered. For a comparison of results from both analysis see Appendix 2.

The Office for National Statistics (ONS) in the UK produces projected age-specific mortality rates based on past trends in improvements and expert opinion on their continuation.⁸ Age-specific mortality rates have been improving with improvements in caring for ill or injured people over the last decades. Due to small counts in Jersey, and the overall similarity of death rates to England rates, the ONS projected mortality rates (principal, high and low variants) for England are used for the Jersey population projections, multiplied by a small factor adjustment to account for local differences. The mortality adjustment factors for Jersey, determined through comparing the number of observed deaths with those expected under England mortality rates, are as follows:

Males 0 – 59 years	1.00
Males 60+ years	0.95
Females 0 – 15 years	1.00
Females 16 – 74 years	0.90
Females 75+ years	0.95

One effect of the projected improvements in age-specific mortality rates and their associated adjustment factors to the projected numbers of people with morbidities could be to increase the number of people still alive in the future who may have the condition.

⁷ This scenario posits that there is no inward or outward migration, no people move away or arrive from outside Jersey to live. The only changes in the population size and structure are through aging, births and deaths. For more information see the Jersey Population Projection 2016 report, available from www.gov.je

⁸ Office for National Statistics, *Mortality assumptions*, released 29 October 2015, available from www.ons.gov.uk

ACCURACY AND RELIABILITY

Information on prevalence of diseases is taken from the GP central server. GPs are incentivised to accurately record patients that are eligible to be included on disease registers. Data is therefore reliant on accurate recording by GPs and GP practices in the Island, however, data derived from these registers is regarded as being of a greater accuracy than data for which GPs and practices are not incentivised. The total number of patients currently registered is also reliant on accurate recording, removal of duplicates and those patients who have died or left the Island. For this reason, data have been independently rounded to the nearest 100 to reflect the level of uncertainty in the prevalence data.

An exercise to compare the age-specific prevalence rates for each condition or disease at three time points (31 December 2014, 31 December 2015 and 31 December 2016) showed that before the introduction of JQIF in 2015, the rates for 31 December 2014 for each condition followed a similar pattern of age distribution to later time points but were significantly lower for a number of conditions. Since the introduction of JQIF, rates for age groups have remained stable at ± 2 percentage points, with the exception of men aged 90 or over where more fluctuation in rates is the result of a relatively smaller population size (prevalence rates were at most ± 14 percentage points different for this age group).

The projections presented here are based on a number of assumptions (see Introduction) and provide a potential future scenario under which those assumptions hold. Projections are therefore not forecasts, and would require revision if there is evidence of change in the primary assumptions or in other relevant factors, such as family and household behaviours or medical knowledge and treatment.

DATA QUALITY AND COMPLETENESS

Data are extracted for a point in time estimate (in this case 31 December 2016) and reflect Jersey residents registered with GP practices in Jersey on this date. There will be a small proportion of people in Jersey who are not registered with a GP and do not appear in these figures. There may also be a number of people registered with GP surgeries on Island who no longer reside in Jersey. The projections therefore show future projections assuming that the proportion of those not registered, and those who should no longer be registered, remains constant over the next twenty years.

Although resident population projections are available for a longer period of time, disease prevalence has only been mapped until 2036 as projections become increasingly uncertain the further they are carried forward.

CONTACT DETAILS

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APPENDIX 1: DISEASE NUMBERS AND PROJECTED INCREASES

		Numbers at year end			Increase (numbers)		Increase (%)	
		2016	2026	2036	2026	2036	2026	2036
<u>Atrial Fibrillation</u>								
	Persons	1,800	2,300	2,900	500	1,200	28	67
	Males	1,100	1,400	1,800	300	700	27	64
	Females	700	900	1,200	200	500	29	71
<u>Asthma</u>								
	Persons	5,200	5,900	6,600	700	1,300	13	25
	Males	2,400	2,800	3,100	300	600	13	25
	Females	2,800	3,100	3,500	300	700	11	25
<u>Coronary heart disease</u>								
	Persons	2,400	3,100	3,900	700	1,500	29	63
	Males	1,600	2,100	2,600	500	1,000	31	63
	Females	800	1,000	1,300	200	500	25	63
<u>Chronic kidney disease</u>								
	Persons	2,700	3,600	4,700	900	2,000	33	74
	Males	1,100	1,500	2,000	400	900	36	82
	Females	1,600	2,000	2,600	400	1,000	25	63
<u>Chronic liver disease</u>								
	Persons	800	900	1,000	100	200	13	25
	Males	400	500	500	100	100	25	25
	Females	400	400	500	100	100	25	25
<u>Chronic obstructive pulmonary disease</u>								
	Persons	1,800	2,300	2,800	500	900	28	50
	Males	1,000	1,200	1,500	300	500	30	50
	Females	900	1,100	1,300	200	400	22	44

Note: all numbers have been independently rounded to the nearest 100

		Numbers at year end			Increase (numbers)		Increase (%)	
		2016	2026	2036	2026	2036	2026	2036
<u>Dementia</u>								
	Persons	500	700	1,000	200	500	40	100
	Males	200	300	400	100	200	50	100
	Females	300	400	600	100	300	33	100
<u>Diabetes</u>								
	Persons	3,600	4,300	5,100	800	1,500	22	42
	Males	2,100	2,600	3,100	500	1,000	24	48
	Females	1,400	1,700	2,000	300	600	21	43
<u>Heart failure</u>								
	Persons	800	1,000	1,400	300	600	38	75
	Males	400	600	800	200	400	50	100
	Females	400	500	600	100	300	25	75
<u>Hypertension</u>								
	Persons	14,600	18,100	21,400	3,400	6,700	23	46
	Males	7,200	9,000	10,600	1,800	3,500	25	49
	Females	7,500	9,100	10,700	1,600	3,300	21	44
<u>Mental health</u>								
	Persons	700	800	900	100	200	14	29
	Males	300	400	400	<100	100	+	33
	Females	300	400	400	<100	100	+	33
<u>Obesity</u>								
	Persons	9,400	10,800	12,000	1,400	2,600	15	28
	Males	4,300	5,100	5,700	700	1,400	16	33
	Females	5,000	5,700	6,300	700	1,300	14	26

Note: all numbers have been independently rounded to the nearest 100

+ Indicates a positive percentage change

		Numbers at year end			Increase (numbers)		Increase (%)	
		2016	2026	2036	2026	2036	2026	2036
<u>Palliative care</u>								
	Persons	400	600	800	200	400	50	100
	Males	200	300	400	100	200	50	100
	Females	200	300	400	100	200	50	100
<u>Rheumatoid arthritis</u>								
	Persons	700	800	900	100	200	14	29
	Males	200	200	300	<100	100	+	50
	Females	500	500	600	100	100	20	50
<u>Stroke/TIA</u>								
	Persons	1,400	1,800	2,300	400	900	29	64
	Males	700	1,000	1,200	200	500	29	71
	Females	700	900	1,100	200	400	29	57

Note: all numbers have been independently rounded to the nearest 100

+ Indicates a positive percentage change

APPENDIX 2: PROJECTED DISEASE NUMBERS FOR ZERO MIGRATION AND +1,000 NET MIGRATION SCENARIO

		Numbers at year end			Increase (numbers)		Increase (%)	
		2016	2026	2036	2026	2036	2026	2036
<u>Atrial Fibrillation</u>								
	+1,000	1,800	2,300	2,900	500	1,200	28	67
	Zero migration	1,800	2,300	3,000	600	1,300	33	72
<u>Asthma</u>								
	+1,000	5,200	5,900	6,600	700	1,300	13	25
	Zero migration	5,200	5,400	5,500	200	300	4	6
<u>Coronary heart disease</u>								
	+1,000	2,400	3,100	3,900	700	1,500	29	63
	Zero migration	2,400	3,200	4,000	800	1,600	33	67
<u>Chronic kidney disease</u>								
	+1,000	2,700	3,600	4,700	900	2,000	33	74
	Zero migration	2,700	3,600	4,900	900	2,200	33	81
<u>Chronic liver disease</u>								
	+1,000	800	900	1,000	100	200	13	25
	Zero migration	800	900	900	100	100	13	13
<u>Chronic obstructive pulmonary disease</u>								
	+1,000	1,800	2,300	2,800	500	900	28	50
	Zero migration	1,800	2,300	2,800	500	1,000	28	56
<u>Dementia</u>								
	+1,000	500	700	1,000	200	500	40	100
	Zero migration	500	700	1,100	200	500	40	100
<u>Diabetes</u>								
	+1,000	3,600	4,300	5,100	800	1,500	22	42
	Zero migration	3,600	4,400	5,000	800	1,500	22	42

Note: all numbers have been independently rounded to the nearest 100

		Numbers at year end			Increase (numbers)		Increase (%)	
		2016	2026	2036	2026	2036	2026	2036
<u>Heart failure</u>	+1,000	800	1,000	1,400	300	600	39	75
	Zero migration	800	1,000	1,400	300	700	38	88
<u>Hypertension</u>	+1,000	14,600	18,100	21,400	3,400	6,700	23	46
	Zero migration	14,600	18,200	21,300	3,600	6,700	25	46
<u>Mental health</u>	+1,000	700	800	900	100	200	14	29
	Zero migration	700	700	700	0	100	0	14
<u>Obesity</u>	+1,000	9,400	10,800	12,000	1,400	2,600	15	28
	Zero migration	9,300	10,300	10,700	900	1,400	10	15
<u>Palliative care</u>	+1,000	400	600	800	200	400	50	100
	Zero migration	400	600	800	200	400	50	100
<u>Rheumatoid arthritis</u>	+1,000	700	800	900	100	200	14	29
	Zero migration	700	800	900	100	200	14	29
<u>Stroke/TIA</u>	+1,000	1,400	1,800	2,300	400	900	29	64
	Zero migration	1,400	1,800	2,400	500	1,000	36	71

Note: all numbers have been independently rounded to the nearest 100