Strategic Policy, Planning and Performance Report

Public Health Intelligence

Public Health Jersey

Subject:	Multi-morbidity 2024
Date of report:	6 February 2025

Introduction

Morbidity is the state of having a long-term (chronic) medical condition. Multi-morbidity is defined as the presence of <u>two or more</u> long-term medical conditions in a patient.

Studies show that people with multiple chronic conditions (those with multi-morbidity) typically suffer a lower quality of life,[1] have more frequent and lengthy hospital admissions,[2] and may be more likely to die prematurely,[3] than those who do not have multi-morbidity. Managing the health and care needs of people with multiple conditions also becomes increasingly complex.

This report assesses the burden of multi-morbidity experienced by Jersey's population. It summarises the prevalence of certain long-term conditions amongst Jersey residents, as recorded by General Practitioners (GPs). The analysis shows the prevalence of patients with more than one of these conditions (multi-morbidity), and which diseases are most commonly co-occurring. The analysis presented refers to prevalence of conditions and multi-morbidities as at year end 2024, and trends over time are shown where appropriate.

Long-term conditions (morbidities)

There are 12 long-term conditions which form the basis of the multi-morbidity analysis presented. The Government of Jersey incentivises GPs to record patients with any of these long-term conditions through the Quality Improvement Framework (JQIF).[4]

The 12 long-term morbidities are:

- Atrial Fibrillation (AF)
- Asthma (AST)
- Coronary Heart Disease (CHD)
- Chronic Kidney Disease (CKD)
- Chronic Obstructive Pulmonary Disease (COPD)
- Dementia (DEM)
- Diabetes (DIA)
- Heart Failure (HF)
- Hypertension (HYP)
- Mental Health Problems (MH)
- Obesity (OB)
- Stroke and Transient Ischemic Attack (STIA)

See Appendix 1 for the definitions of the criteria used in order to identify patients recorded as having any of the above conditions

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[1] Fortin et al., 2004. Health and Quality of Life Outcomes
[2] Vogeli et al., 2007. Journal of General Internal Medicine
[3] Menotti et al., 2001. Journal of Clinical Epidemiology
[4] Cancer is another long-term condition that is included in the Jersey Quality Improvement Framework. For consistency with previous analysis it has not been included in this report.

Multi-morbidity (2024)

Approximately **14%** of individuals in Jersey are living with multiple morbidities

Hypertension was the most common morbidity, affecting **17%** of the population

Morbidities become more common with age

By age 85, over half of the population is suffering from **2 or more long-term conditions**

The same **10 pairs** of co-occurring morbidities have remained the most common over the **last 9 years**

The **most commonly co-occurring** morbidities are **Hypertension & Obesity**

The **most commonly co-occurring** set of three morbidities are **Hypertension, Diabetes & Obesity**

Long-term conditions (morbidities) amongst the population
Prevalence of long-term conditions

As at the end of 2024, there were 33,080 individuals who had at least one of the 12 long-term conditions considered in this report who were registered, and considered active, with a GP in Jersey.

The number and proportion of the population[4] suffering from each of the long-term conditions is shown in Table 1.

The most common long-term condition was hypertension (with 18,125 patients registered), whilst dementia and mental health were the least prevalent long-term conditions (with 895 patients and 880 patients registered respectively) (Table 1).

Table 1. The number of patients on each long-term condition register as at year end 2024. "All patients" include everyone who is on the register, regardless of what other conditions they may have, whilst "patients (single condition)" includes patients who have only that single condition. The number of patients on the register as a proportion of the total population is shown, as well as the average age of patients on the register.

Condition	All Patients	Proportion of Population	Average Age	Patients (Single condition)	Average Age (Single condition)
Hypertension (HYP)	18,125	17%	68	7,325	65
Obesity (OB)	11,135	11%	56	4,460	47
Asthma (AST)	6,060	6%	49	3,430	39
Diabetes (DIA)	5,210	5%	66	925	56
Coronary Heart Disease (CHD)	2,965	3%	73	515	66
Atrial Fibrillation (AF)	2,900	3%	75	450	67
Chronic Kidney Disease (CKD)	2,410	2%	78	260	70
Chronic Obstructive Pulmonary Disease (COPD)	2,365	2%	70	540	64
Stroke and Transient Ischemic Attack (STIA)	2,040	2%	74	365	64
Heart Failure (HF)	1,305	1%	79	55	67
Dementia (DEM)	895	1%	82	150	81
Mental Health Problems (MH)	880	1%	52	415	45

*Patient numbers rounded to the nearest 5
Source: JQIF register

While many long-term conditions affected males and females relatively equally, some conditions affected one sex more than the other (Figure 1).

Of the 12 conditions considered:

- those conditions that were more likely to affect <u>female</u> patients were obesity (55% female and 45% male), Asthma (55% female and 45% male) and chronic kidney disease (60% female, 40% male)

- those conditions that were more likely to affect <u>male</u> patients were: coronary heart disease (67% male, 33% female), atrial fibrillation (60% male, 40% female) and diabetes (60% male, 40% female)

For some conditions, the sex difference was largely attributable to the age profile of the condition. For example, there are more females than males overall in older age groups,[5] so there is expected to be a higher proportion of female patients for conditions affecting primarily older patients such as dementia and chronic kidney disease (average age is 82 amongst dementia patients, and 78 amongst chronic kidney disease patients, Table 1).

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[5] see Notes section for information on the population denominators used

Figure 1. Prevalence of 12 long-term conditions amongst males and females in Jersey
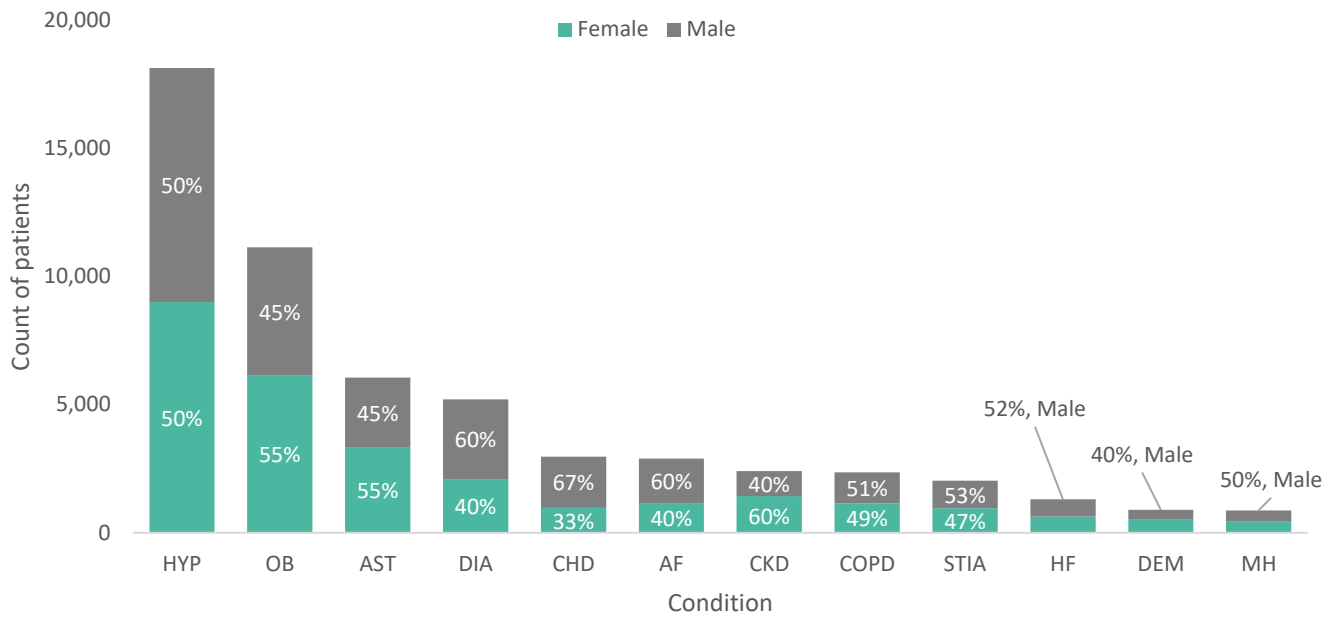
Each long-term condition could affect people of any age, but some conditions are found more commonly in certain age groups. For example, dementia, heart failure and chronic kidney disease affect mainly older people, whilst asthma and mental health problems affect a much broader range of age groups (Figure 2 & Figure 3).

The average age for patients with only a single condition is lower than the average age of all patients (including those with other co-morbidities) (Table 1), because multiple morbidities become more common with age (see section on "Multi-morbidity by age", Figure 8).

Figure 2. Box and whisker plot showing the average age and interquartile range of ages for each disease register (inclusive of all patients on each register regardless of whether they have other conditions)[6]
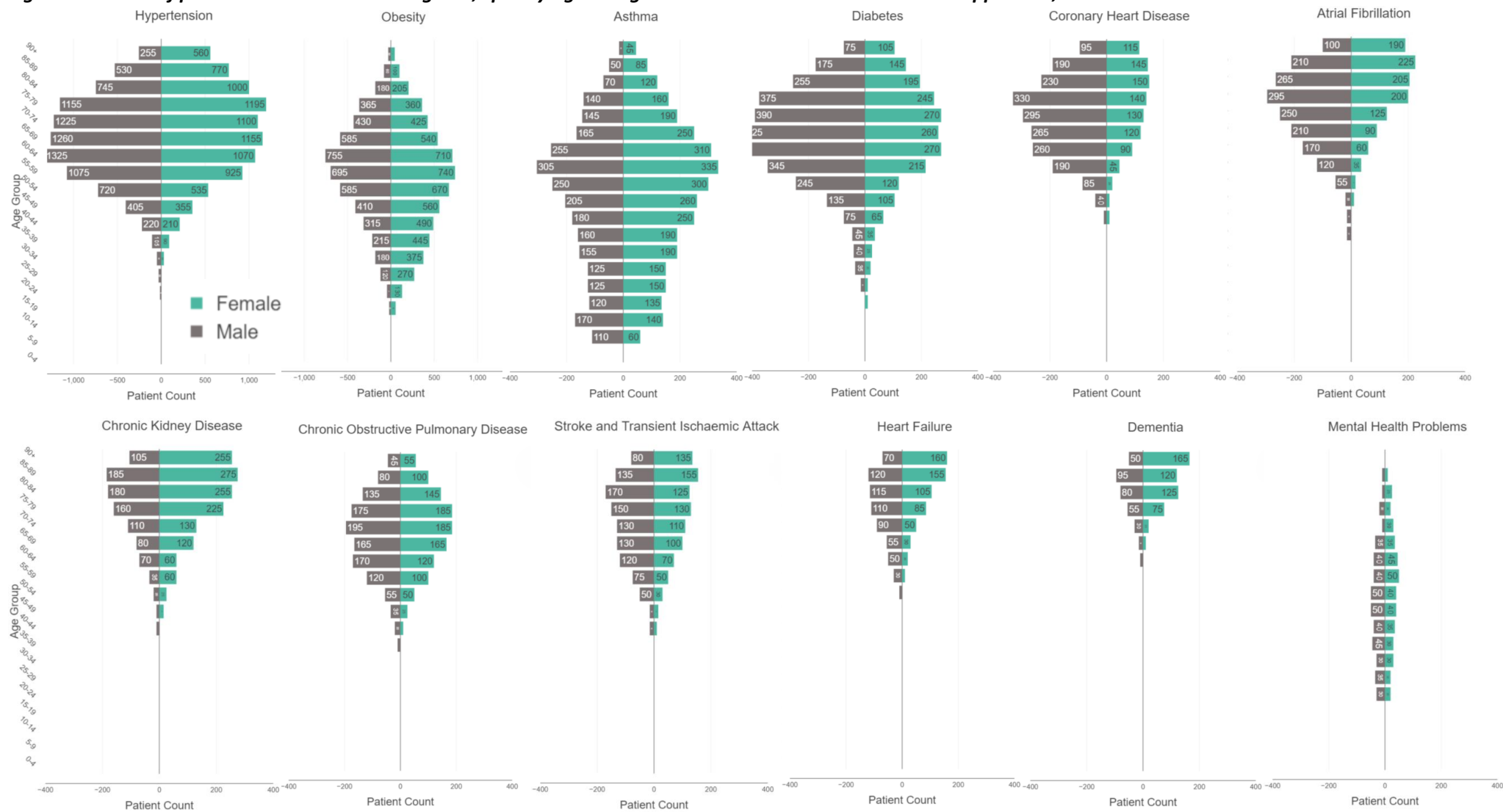
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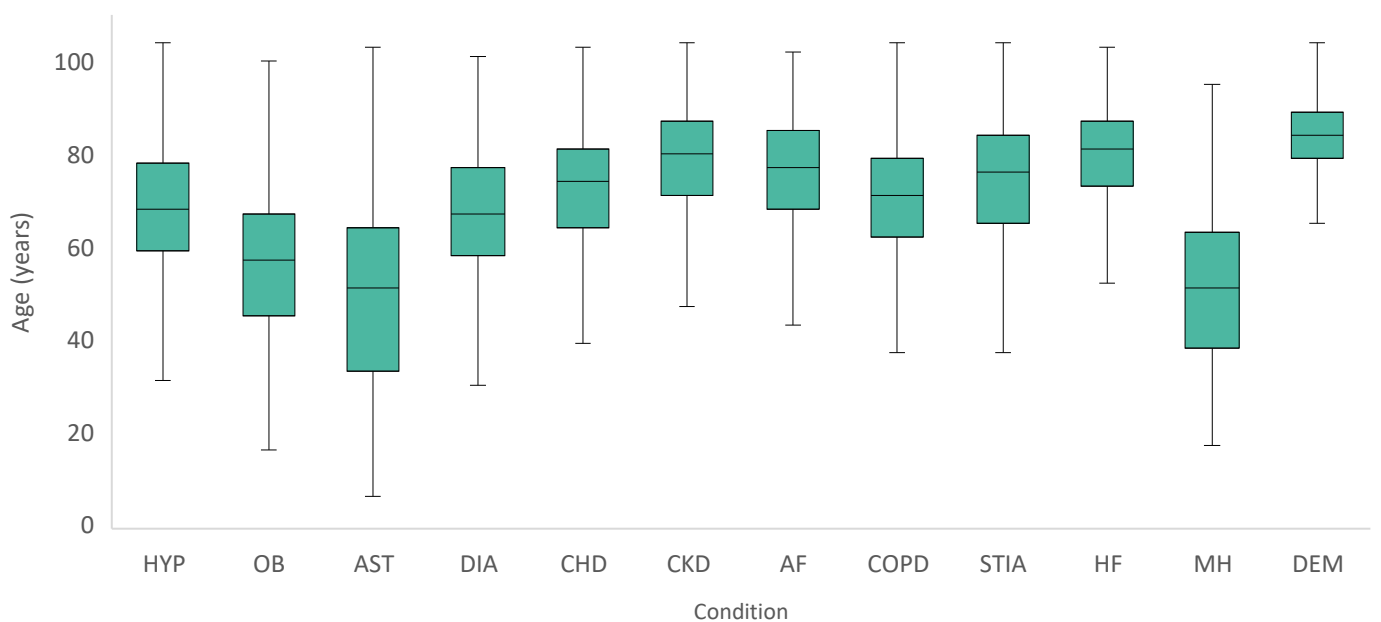
[6]Understanding box and whisker plots

Age-Gender Profiles

Figure 3. Counts of patients on each disease register, split by age and gender. Counts below 10 have been suppressed, and all counts rounded to the nearest 5

Patients with multiple morbidities

Of the 33,080 individuals who had at least one of the 12 long-term conditions as at the end of 2024:

- 18,885 individuals had a *single* long-term condition
- 14,195 individuals had *two or more* long-term conditions (multi-morbidity)
- approximately 14% of Jersey's overall population[7] were living with multiple morbidities

Of those individuals having two or more long-term conditions, progressively fewer had a higher number of long-term conditions:

- 8,435 individuals had two conditions, equivalent to 8% of the population
- 3,600 individuals had three conditions, equivalent to 3% of the population
- 2,160 individuals had four *or more* conditions, equivalent to 2% of the population

Figure 4. The numbers of long-term conditions amongst Jersey's population, by gender, as recorded by GP's. The number of people with 0 long-term conditions is estimated by subtracting the number of patients on long-term condition registers from the total population estimate
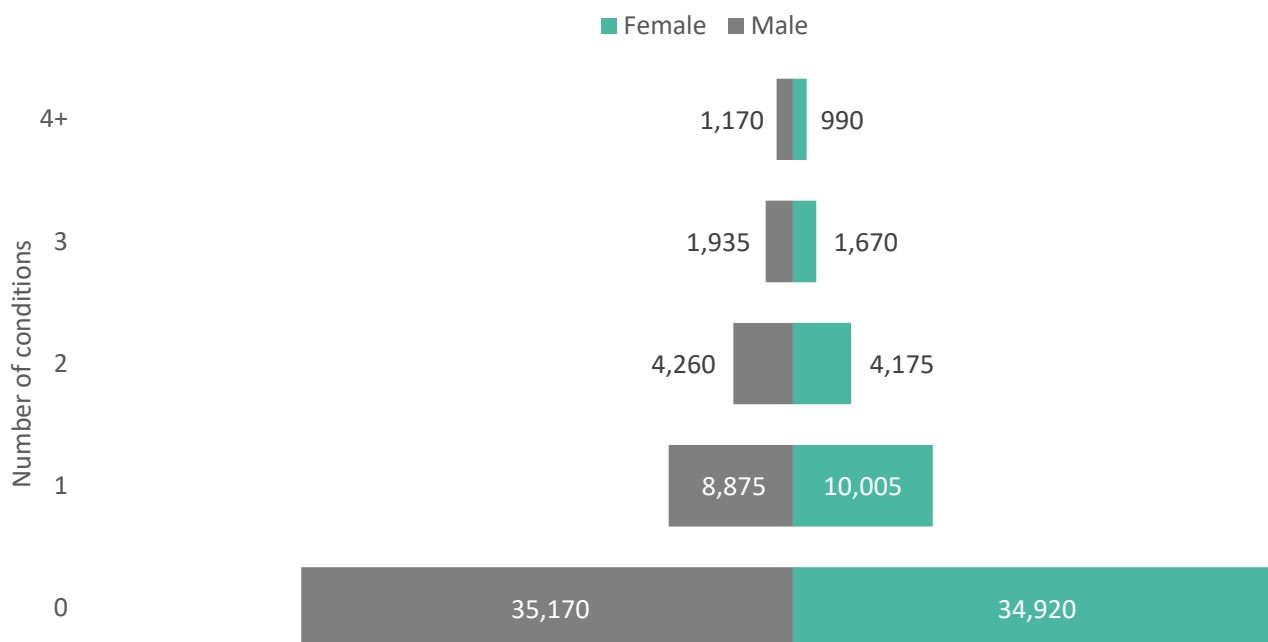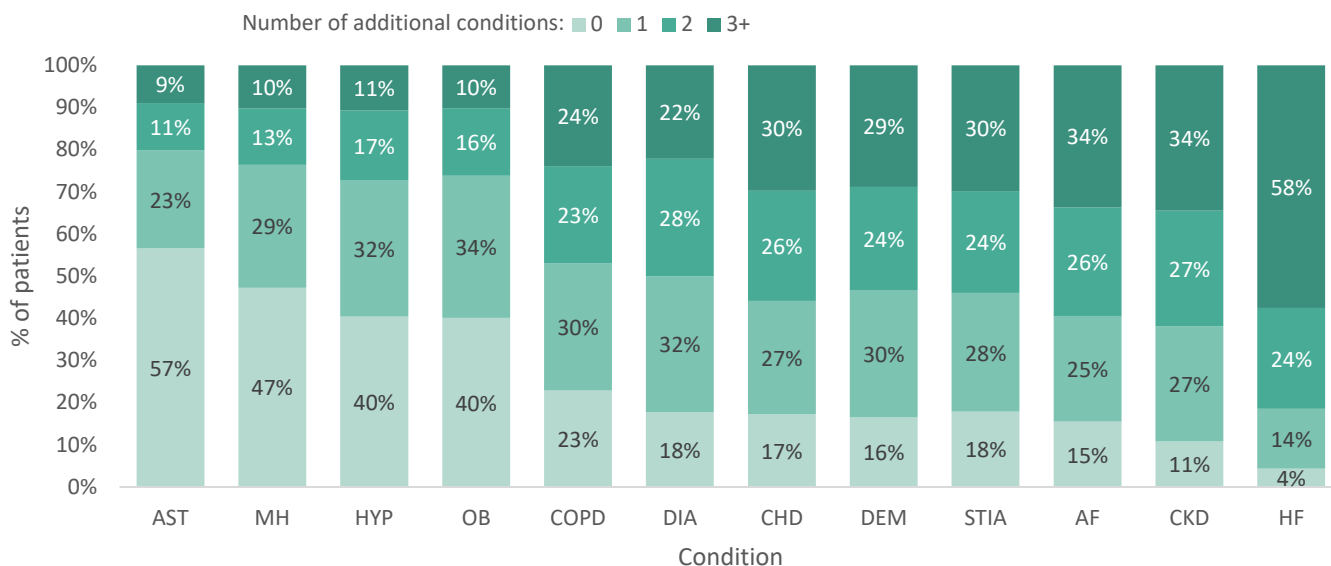

Source: JQIF register

Some long-term conditions are more commonly found to co-occur with other diseases, and Figure 5 shows the number of _additional_ conditions people on each of the disease registers are suffering from. For example:

- of those on the asthma register, 57% have only this *single* morbidity, whilst the other 43% have *at least one other* morbidity
- of those on the heart failure register, just 4% had only this *single* morbidity, and the other 96% had at least one other morbidity. Over half (58%) of patients on the heart failure register had 3 or more additional morbidities

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[7] see Notes section for information on the population denominators used

Figure 5. Percentage of patients with each condition having 0, 1, 2 or 3+ additional conditions

Figure 5. Percentage of patients with each condition having 0, 1, 2 or 3+ additional conditions

Combinations of two conditions (pairs)

The most commonly co-occurring pairs of morbidities are shown in Table 2.

Hypertension and obesity were the most commonly co-occurring morbidities, being present in 4,785 people, this was 155 less than the previous year.

Note that the analysis of co-occurring conditions is *inclusive*, meaning the patient count includes all patients with those two conditions, including those who may have other additional conditions.

Table 2. Count of patients with each combination of co-occurring disease pairs, darker green indicates higher counts.

	Atrial Fibrillation (AF)	Asthma (AST)	Coronary Heart Disease (CHD)	Chronic Kidney Disease (CKD)	Chronic Obstructive Pulmonary Disease (COPD)	Dementia (DEM)	Diabetes (DIA)	Heart Failure (HF)	Hypertension (HYP)	Mental Health Problems (MH)	Obesity (OB)
Asthma (AST)	240										
Coronary Heart Disease (CHD)	500	240									
Chronic Kidney Disease (CKD)	505	190	415								
Chronic Obstructive Pulmonary Disease (COPD)	265	570	340	230							
Dementia (DEM)	165	40	110	175	80						
Diabetes (DIA)	545	430	715	565	350	165					
Heart Failure (HF)	695	150	390	370	220	85	350				
Hypertension (HYP)	1,790	1,445	1,810	1,750	1,165	525	3,130	875			
Mental Health Problems (MH)	25	75	30	40	40	75	85	15	185		
Obesity (OB)	685	1,210	710	495	440	75	2,010	350	4,785	220	
Stroke and Transient Ischemic Attack (STIA)	450	165	320	305	210	170	395	225	1,240	25	350

The same 10 pairs of co-occurring morbidities have remained the most common over the last 9 years (Figure 6):

- the disease pairs ranked in positions 1, 2 and 7 have remained in the same order of ranking over the last 9 years
- Obesity and Diabetes has remained at position 3 after rising from position 5 in 2022
- Hypertension and Chronic Kidney Disease has dropped from 3rd to 6th place since 2022
- There has been some movement in pair rankings at positions 5,6, 8 and 9

Figure 6. Ranking of the most commonly co-occurring disease pairs from (2016 to 2024)
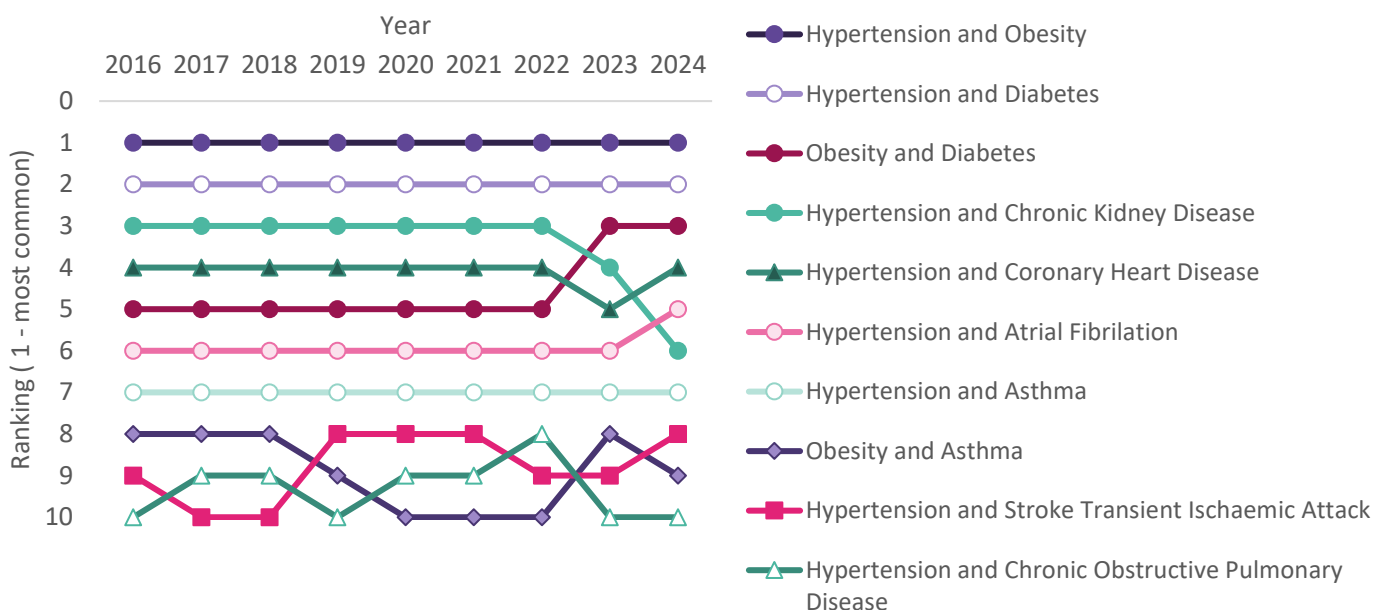
Source: JQIF register

Combinations of three conditions (triads)

The most commonly co-occurring triads of morbidities are shown in Table 3:
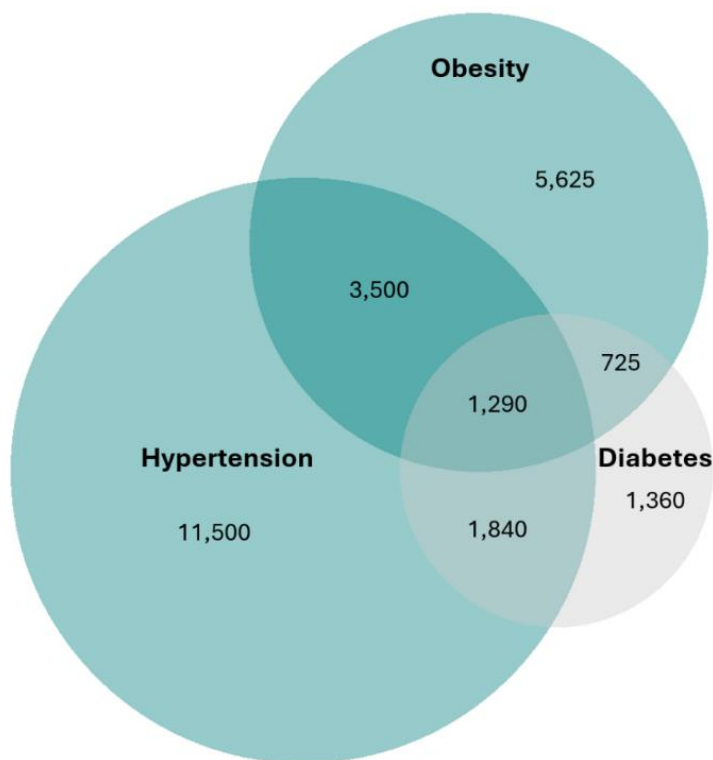
- hypertension, diabetes and obesity were the most commonly occurring triad of diseases, being present in 1,290 people
- hypertension and diabetes also commonly co-occurred with coronary heart disease (in 515 people)

Table 3. Count of patients with different combinations of co-occurring disease triads, top 10

Rank	Condition	Patients
1	Diabetes, Hypertension and Obesity	1,290
2	Coronary Heart Disease, Diabetes and Hypertension	515
3	Asthma, Hypertension and Obesity	505
4	Coronary Heart Disease, Hypertension and Obesity	485
5	Atrial Fibrillation, Hypertension and Obesity	485
6	Atrial Fibrillation, Heart Failure and Hypertension	480
7	Chronic Kidney Disease, Diabetes and Hypertension	465
8	Atrial Fibrillation, Chronic Kidney Disease and Hypertension	410
9	Atrial Fibrillation, Diabetes and Hypertension	410
10	Chronic Kidney Disease, Hypertension and Obesity	390

Source: JQIF register

Figure 7. Venn diagram showing the most common occurring triad of disease (Hypertension, Obesity and Diabetes), Jersey, 2024

There has been some movement amongst the ranking of most common disease triads over the past 9 years. However, the same 12 disease triads have been the most commonly co-occurring in Jersey's population over time, each occurring in at least 250 patients at each year-end between 2016 and 2024.

Combinations of four conditions (quads)

The most commonly co-occurring quads of morbidities are shown in Table 4:

- coronary heart disease, diabetes, hypertension and obesity were the most commonly occurring quad of diseases, being present in 195 people
- atrial fibrillation, heart failure and hypertension also commonly co-occurred with chronic kidney disease (in 175 people)

Table 4. Count of patients with different combinations of co-occurring disease quads, top 10

Rank	Condition	Patients
1	Coronary Heart Disease, Diabetes, Hypertension and Obesity	195
2	Atrial Fibrillation, Chronic Kidney Disease, Heart Failure and Hypertension	175
3	Chronic Kidney Disease, Diabetes, Hypertension and Obesity	160
4	Atrial Fibrillation, Diabetes, Hypertension and Obesity	160
5	Asthma, Diabetes, Hypertension and Obesity	150
6	Atrial Fibrillation, Heart Failure, Hypertension and Obesity	150
7	Atrial Fibrillation, Coronary Heart Disease, Heart Failure and Hypertension	135
8	Atrial Fibrillation, Diabetes, Heart Failure and Hypertension	135
9	Coronary Heart Disease, Chronic Kidney Disease, Diabetes and Hypertension	120
10	Atrial Fibrillation, Chronic Kidney Disease, Diabetes and Hypertension	115

Multi-morbidity by age

The number of morbidities people suffer from generally increases with age. The average age of someone who has one morbidity is 55 years, whereas the average age of those with 4 or more morbidities is 76 years (Table 5).

**Table 5. Average age of people with 1, 2+, 3+ or 4+ morbidities**

Number of Conditions	1	2+	3+	4+
Average Age (years)	55	68	73	76

Source: JQIF register

Figure 8a shows the distribution of multi-morbidity with age (by five-year age bands), and Figure 8b shows this expressed as a proportion of the population within each age band. The data shows that:

- most people aged under 30 years do not suffer from any long-term conditions
- by age 65 over half of the population is suffering from 1 or more long-term conditions
- by age 85 over half of the population is suffering from 2 or more long-term conditions
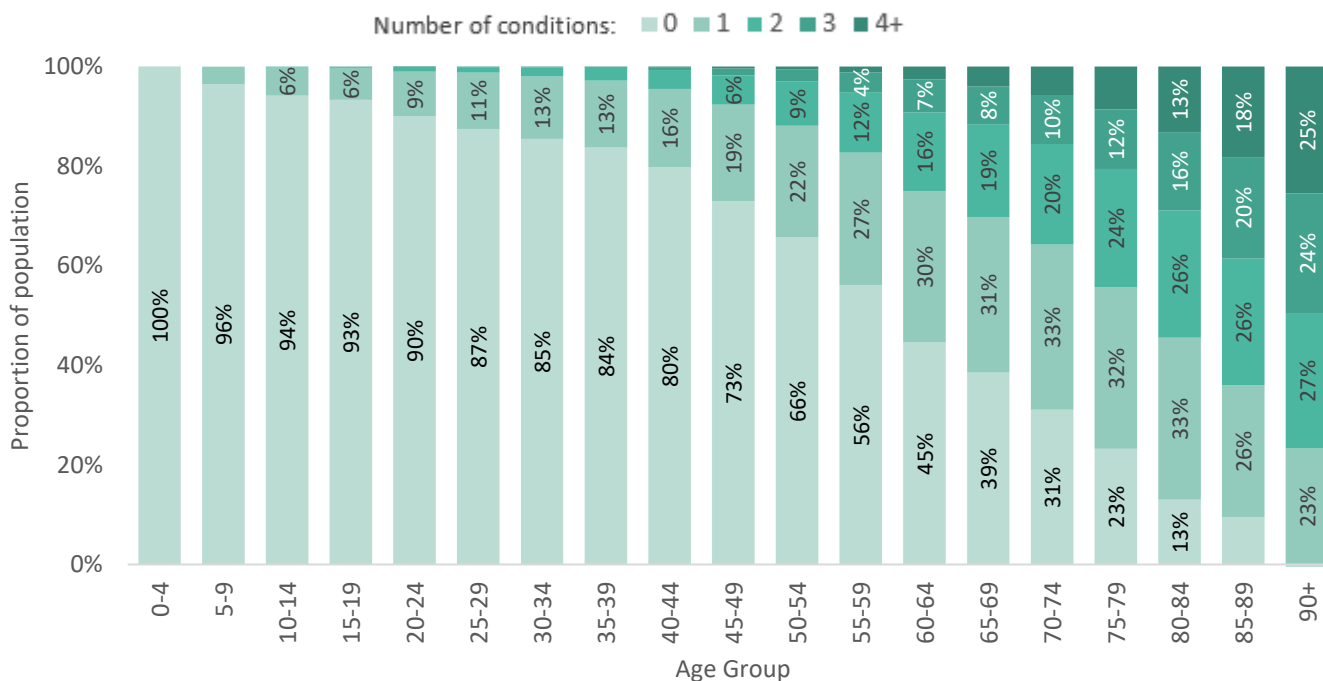
Figure 8a. Number of long-term conditions[8] by age; count of individual patients
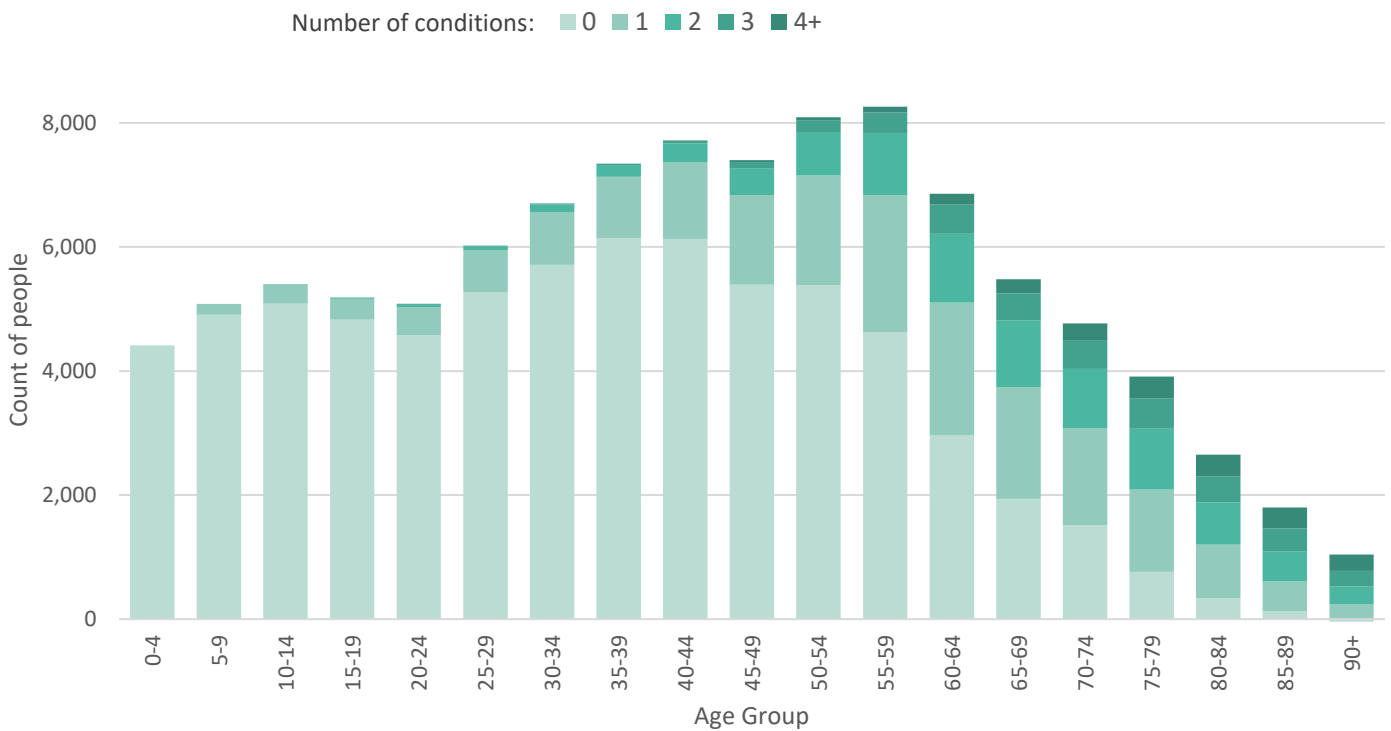
Source: JQIF register

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[8] See Notes section for information on data sources and potential data quality issues

Figure 8b. Number of long-term conditions by age at year end 2024; proportion of population[9]

Number of conditions: ■0 ■1 ■2 ■3 ■4+

Source: JQIF register

Overall, there has been a slight increase in the estimated proportion of the population living with multi-morbidity, from 11% in 2016 to 13% in 2023. This has remained the same in 2024 (13%) (Figure 9).

Figure 9. Proportion of Jersey's population in different age bands with multiple morbidities (2 or more long term conditions) between 2016 and 2024;
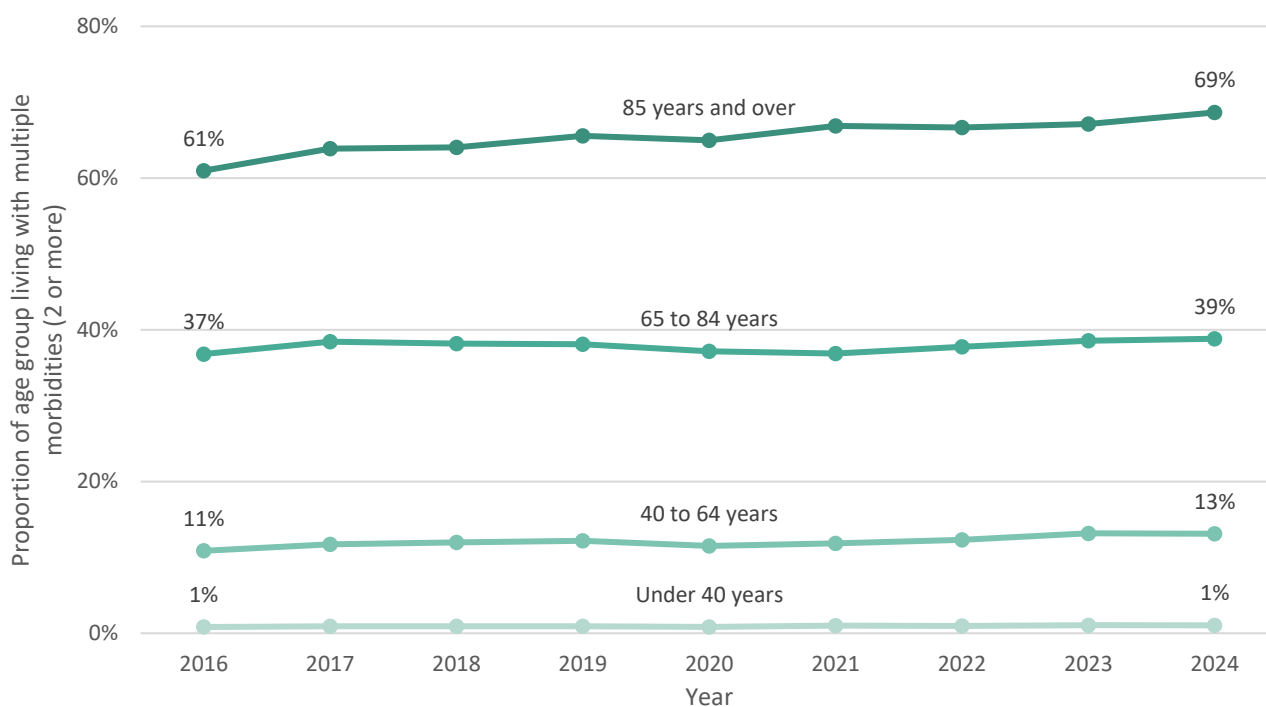
Source: JQIF register

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[9] see Notes section for info on population denominators used

Notes

Methods

The data used in this report is extracted from the General Practitioner Central Server (GPCS). The registers are calculated based on patients considered 'active' at year end – that is, any patient registered with a Jersey GP practice who had had a consultation within the previous five years, or who had registered with a GP surgery in the previous six months. Public Health Intelligence receives this data as pseudo-anonymised, this restricts the ability to cross-reference information with other data systems for enhanced accuracy. Consequently, the statistics in this report depend on the quality of the data stored in the GP central server.

Appendix 1 details the criteria used to identify patients on each of the 12 long-term conditions. The criteria are defined as per the Jersey Quality Improvement Framework (JQIF). Patient counts below 5 are suppressed, and all counts are rounded to the nearest 5 throughout the report.

Disease combinations (e.g. pairs, triads, quads) are _inclusive,_ meaning for each combination _all patients_ with that set of morbidities is included regardless of whether they have other additional conditions. For example, somebody with 3 conditions (obesity, hypertension and diabetes) would be counted in all 3 of the following disease pairs:

- Obesity and hypertension
- Hypertension and diabetes
- Diabetes and obesity

The number of possible disease pair combinations is **66**, for disease triad combinations is **220** and for disease quad combinations is **715**. Not all disease combinations are found amongst Jersey's population. Analysis for this report looked at all combinations, and the report summarises those which were found to be most commonly co-occurring.

Population figures

Where figures are expressed as a proportion of the population, most recent population estimates[10] and projected population figures for 2024[11] provided by Statistics Jersey have been used as denominators. Note that there may be some differences in prevalence estimates compared to previous versions of this report, and older reports used interim estimates in lieu of the official figures being published by Statistics Jersey.

Appendix 1: Jersey Quality Improvement Framework (JQIF) disease register descriptions:

Code	Condition	Definition
AST005	Asthma	A register of patients with asthma, over the age of 6, excluding patients with asthma who have been prescribed no asthma-related drugs in the preceding 12 months
AF007	Atrial fibrillation	A register of patients with atrial fibrillation
CHD001	Coronary Heart Disease	A register of patients with coronary heart disease
CKD005	Chronic Kidney Disease	A register of patients aged 18 years or over with CKD with classification of categories G3a to G5 (previously stage 3 to 5)
COPD009	Chronic Obstructive Pulmonary Disease	A register of patients with a clinical diagnosis of COPD, confirmed by post-bronchodilator spirometry FEV1/FVC ratio below 0.7 between 3 months before or 6 months after diagnosis, where patient is able to undertake spirometry
DEM001	Dementia	A register of patients diagnosed with dementia
DM017	Diabetes mellitus	A register of all patients aged 17 or over with diabetes mellitus, which specifies the type of diabetes
HF001	Heart Failure	A register of patients with heart failure
HYP001	Hypertension	A register of patients with established hypertension
MH001	Mental Health	A register of people with schizophrenia, bipolar disorder, psychosis and other patients on lithium therapy
OB002	Obesity	A register of patients aged 16 or over with a BMI greater than or equal to 30 in the preceding 12 months.
STIA001	Stroke and Transient Ischemic Attack	A register of patients with stroke and TIA

Appendix 2: Data tables

Appendix 2.1 shows numbers of patients on the long-term condition registers at year end over the last 8 years. Numbers are rounded to the nearest 5. Please note that slight changes in the register totals can occur as and when changes are made in the GP system (GPCS), and that such changes may not be accounted for as the data is held outside of Government of Jersey.

Note that crude changes in the overall number of patients on a given register may reflect overall changes in the Jersey's demographics, rather than an increase or decrease in the prevalence of the condition itself. Changes in the crude numbers of patients on a register may also reflect improvements in detection or treatment of conditions (e.g., as a result of awareness campaigns or population screening) and may not always indicate an improvement or worsening in the prevalence of the condition itself.

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[10] Population and migration statistics update 2023
[11] Population Projections 2023-2080 (0 net migration scenario)

Appendix 2.1. Numbers of patients on the JQIF registers (data held in GPCS), at year end between 2017 and 2024. Patient numbers rounded to the nearest 5.

Condition	2017	2018	2019	2020	2021	2022	2023	2024
Atrial Fibrillation (AF)	2,015	2,120	2,255	2,375	2,510	2,695	2,815	2,900
Asthma (AST)	5,555	5,570	5,625	6,985	5,725	6,055	5,965	6,060
Coronary Heart Disease (CHD)	2,620	2,675	2,770	2,830	2,890	2,915	2,925	2,965
Chronic Kidney Disease (CKD)	3,140	3,035	2,965	2,875	2,815	2,720	2,535	2,410
Chronic Obstructive Pulmonary Disease (COPD)	1,995	2,055	2,105	2,160	2,215	2,305	2,325	2,365
Dementia (DEM)	670	685	685	715	715	765	820	895
Diabetes (DIA)	3,840	4,015	4,165	4,415	4,670	4,840	5,055	5,210
Heart Failure (HF)	895	945	1,025	1,040	1,105	1,125	1,175	1,305
Hypertension (HYP)	15,870	16,275	16,610	16,880	17,380	17,635	17,800	18,125
Mental Health Problems (MH)	740	755	785	825	825	770	780	880
Obesity (OB)	10,570	10,900	10,790	8,455	9,380	9,915	11,635	11,135
Stroke and Transient Ischemic Attack (STIA)	1,540	1,590	1,650	1,730	1,780	1,850	2,015	2,040

Appendices 2.2, 2.3 and 2.4 show a complete list of all disease pairs, triads and quads that occurred in at least 150 people in Jersey at year end (2024).

Appendix 2.2. Pair groups (inclusive) containing over 150 patients, JQIF year end 2024

Rank	Condition	Patients
1	Obesity and Hypertension	4,785
2	Hypertension and Diabetes	3,130
3	Obesity and Diabetes	2,010
4	Hypertension and Coronary Heart Disease	1,810
5	Hypertension and Atrial Fibrillation	1,790
6	Hypertension and Chronic Kidney Disease	1,750
7	Hypertension and Asthma	1,445
8	Stroke and Transient Ischemic Attack and Hypertension	1,240
9	Obesity and Asthma	1,210
10	Hypertension and Chronic Obstructive Pulmonary Disease	1,165
11	Hypertension and Heart Failure	875
12	Diabetes and Coronary Heart Disease	715
13	Obesity and Coronary Heart Disease	710
14	Heart Failure and Atrial Fibrillation	695
15	Atrial Fibrillation and Obesity	685
16	Obesity and Atrial Fibrillation	685
17	Chronic Obstructive Pulmonary Disease and Asthma	570
18	Diabetes and Chronic Kidney Disease	565
19	Diabetes and Atrial Fibrillation	545
20	Hypertension and Dementia	525
21	Obesity and Chronic Kidney Disease	495
22	Stroke and Transient Ischemic Attack and Atrial Fibrillation	450
23	Obesity and Chronic Obstructive Pulmonary Disease	440
24	Diabetes and Asthma	430
25	Coronary Heart Disease and Chronic Kidney Disease	415
26	Chronic Kidney Disease and Coronary Heart Disease	415
27	Stroke and Transient Ischemic Attack and Diabetes	395
28	Heart Failure and Coronary Heart Disease	390

29	Heart Failure and Chronic Kidney Disease	370
30	Diabetes and Chronic Obstructive Pulmonary Disease	350
31	Heart Failure and Diabetes	350
32	Stroke and Transient Ischemic Attack and Obesity	350
33	Obesity and Heart Failure	350
34	Chronic Obstructive Pulmonary Disease and Coronary Heart Disease	340
35	Stroke and Transient Ischemic Attack and Coronary Heart Disease	320
36	Stroke and Transient Ischemic Attack and Chronic Kidney Disease	305
37	Chronic Obstructive Pulmonary Disease and Atrial Fibrillation	265
38	Coronary Heart Disease and Asthma	240
39	Asthma and Atrial Fibrillation	240
40	Chronic Obstructive Pulmonary Disease and Chronic Kidney Disease	230
41	Stroke and Transient Ischemic Attack and Heart Failure	225
42	Heart Failure and Chronic Obstructive Pulmonary Disease	220
43	Obesity and Mental Health Problems	220
44	Stroke and Transient Ischemic Attack and Chronic Obstructive Pulmonary Disease	210
45	Chronic Kidney Disease and Asthma	190
46	Mental Health Problems and Hypertension	185
47	Dementia and Chronic Kidney Disease	175
48	Stroke and Transient Ischemic Attack and Dementia	170
49	Dementia and Atrial Fibrillation	165
50	Diabetes and Dementia	165
51	Stroke and Transient Ischemic Attack and Asthma	165
52	Heart Failure and Asthma	150

Patient counts rounded to the nearest 5

Appendix 2.3. Triad groups containing over 150 patients, JQIF year end 2024

Rank	Condition	Patients
1	Diabetes, Hypertension and Obesity	1,290
2	Coronary Heart Disease, Diabetes and Hypertension	515
3	Asthma, Hypertension and Obesity	505
4	Coronary Heart Disease, Hypertension and Obesity	485
5	Atrial Fibrillation, Hypertension and Obesity	485
6	Atrial Fibrillation, Heart Failure and Hypertension	480
7	Chronic Kidney Disease, Diabetes and Hypertension	465
8	Atrial Fibrillation, Chronic Kidney Disease and Hypertension	410
9	Atrial Fibrillation, Diabetes and Hypertension	410
10	Chronic Kidney Disease, Hypertension and Obesity	390
11	Atrial Fibrillation, Coronary Heart Disease and Hypertension	360
12	Coronary Heart Disease, Chronic Kidney Disease and Hypertension	330
13	Atrial Fibrillation, Hypertension and Stroke and Transient Ischemic Attack	325
14	Chronic Kidney Disease, Heart Failure and Hypertension	300
15	Diabetes, Hypertension and Stroke and Transient Ischemic Attack	280
16	Coronary Heart Disease, Heart Failure and Hypertension	280
17	Asthma, Chronic Obstructive Pulmonary Disease and Hypertension	275
18	Asthma, Diabetes and Hypertension	275
19	Coronary Heart Disease, Diabetes and Obesity	270
20	Chronic Obstructive Pulmonary Disease, Hypertension and Obesity	270
21	Heart Failure, Hypertension and Obesity	260
22	Diabetes, Heart Failure and Hypertension	255
23	Chronic Obstructive Pulmonary Disease, Diabetes and Hypertension	245

24	Hypertension, Obesity and Stroke and Transient Ischemic Attack	245
25	Chronic Kidney Disease, Hypertension and Stroke and Transient Ischemic Attack	240
26	Coronary Heart Disease, Hypertension and Stroke and Transient Ischemic Attack	240
27	Coronary Heart Disease, Chronic Obstructive Pulmonary Disease and Hypertension	220
28	Atrial Fibrillation, Diabetes and Obesity	215
29	Asthma, Diabetes and Obesity	215
30	Atrial Fibrillation, Chronic Kidney Disease and Heart Failure	210
31	Atrial Fibrillation, Heart Failure and Obesity	195
32	Chronic Kidney Disease, Diabetes and Obesity	190
33	Atrial Fibrillation, Chronic Obstructive Pulmonary Disease and Hypertension	175
34	Atrial Fibrillation, Diabetes and Heart Failure	175
35	Atrial Fibrillation, Coronary Heart Disease and Heart Failure	175
36	Chronic Kidney Disease, Chronic Obstructive Pulmonary Disease and Hypertension	170
37	Heart Failure, Hypertension and Stroke and Transient Ischemic Attack	170
38	Atrial Fibrillation, Asthma and Hypertension	160
39	Chronic Obstructive Pulmonary Disease, Heart Failure and Hypertension	150
40	Asthma, Coronary Heart Disease and Hypertension	150

Patient counts rounded to the nearest 5

Appendix 2.4. Quad groups containing over 150 patients, JQIF year end 2024

Rank	Condition	Patients
1	Coronary Heart Disease, Diabetes, Hypertension and Obesity	195
2	Atrial Fibrillation, Chronic Kidney Disease, Heart Failure and Hypertension	175
3	Chronic Kidney Disease, Diabetes, Hypertension and Obesity	160
4	Atrial Fibrillation, Diabetes, Hypertension and Obesity	160
5	Asthma, Diabetes, Hypertension and Obesity	150
6	Atrial Fibrillation, Heart Failure, Hypertension and Obesity	150

Patient counts rounded to the nearest 5