

GO2 Health Veteran Client Database Report

*A report prepared by Australian Catholic University
for GO2 Health*

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1. Executive Summary

1.1. OVERVIEW

In 2022, GO2 Health contracted ACU to undertake a retrospective analysis of deidentified veteran client data with a view to describing the characteristics of the GO2 Health 2022 veteran client base. This report provides appropriate tables and visualisations with accompanying interpretations of the results.

1.2. SUMMARY OF KEY FINDINGS

Key findings from the analysis include:

- Males aged 18-39 years make up almost half (47%) of all GO2 Health's veteran patients.
- At-risk drinking is common in the patient cohort, **with 42% of all patients exceeding one or both NHMRC criteria for at-risk drinking**. This includes:
 - 16% of all patients consuming more than 10 drinks per week (but not more than 4 drinks on a day)
 - 7% of all patients consuming more than 4 drinks on a day (but not more than 10 drinks per week)
 - 20% of all patients consuming both more than 10 drinks per week AND 4 drinks on a day.
 - Male patients were generally around twice as likely than female patients to display all indicators of at-risk drinking.
 - Those aged 40 years and over are more likely to consume alcohol daily and to consume more than 10 drinks per week.
- Only one-fifth of the veteran patient cohort are classified as normal weight, **whereas 45% are overweight and 36% are obese**.
 - For both sexes, those aged 40 years or over are almost twice as likely to be classed as obese.
- Depression and anxiety are the most prevalent disease conditions in the veteran patient cohort, **with 37% of all veteran patients experiencing either anxiety and/or depression**. This includes:
 - 16% of all patients experiencing both anxiety and depression
 - 14% of all patients experiencing depression, but not anxiety
 - 7% of all patients experiencing anxiety, but not depression
 - Females were likelier than males to be experiencing anxiety or depression than males.
- Excluding depression and anxiety, the most prevalent physical health conditions in the veteran patient cohort were **Osteoarthritis (13%), Fracture (10%), Hypertension (6%) and Hyperlipidaemia (5%)**.
 - 23% of all patients were recorded as having any type of musculoskeletal disorder/injury.
 - 11% of all patients were recorded as having any type of cardiovascular disease.
 - Males were twice as likely to be experiencing any cardiovascular disease than females, and somewhat likelier to be experiencing any musculoskeletal disorder/injury.
- **Risk factors and co-occurring conditions for depression and anxiety were broadly similar:**
 - Smoking and excessive alcohol use were behaviours associated with higher prevalence both of depression, and of anxiety.
 - Being classed as obese was associated with higher prevalence of depression.
 - Both depression and anxiety were correlated with higher visit counts and medication counts, however, these associations were more pronounced for patients experiencing depression.
 - Osteoarthritis, Fracture and Hyperlipidaemia are all somewhat more prevalent among those with anxiety or depression than those with neither condition.

2. Methodology

2.1. DATABASE SOURCE

The data is sourced from the Go2 Health database as at 23 August 2022. The database contained records for **4,469 veterans** who are GP patients at GO2 Health and who have undergone an initial health assessment at their first visit.

2.2. DATA CLEANING / MANAGEMENT UNDERTAKEN

Missing values

The database was screened for completeness and missing data on key analytic measures.

Complete data was observed for age and sex of all patients. The data is also complete for Medication count, Disease conditions and Cancer conditions.

As shown in Table 1, the variable Aboriginal and Torres Strait Islander Status has missing data ('not stated' or 'not recorded') for about 32% of patients. Also, there is missing data for other variables, such as smoking, alcohol consumption and BMI. For these variables, the tables and graphs in this report show the percentages of patients with non-missing data.

Table 1: Valid and missing data

	Valid		Missing	
	n	%	n	%
Sex	4,469	100.0	0	0
Age	4,469	100.0	0	0
ATSI Status	3,144	70.3	1,325	29.6
Smoker status	4,237	94.8	232	5.2
Alcohol -Single occasion consumption	3,751	83.9	718	16.1
Alcohol - Frequency	3,784	84.7	685	15.3
Alcohol - Weekly consumption	3,727	83.4	742	16.6
Alcohol - Guidelines	3,734	83.6	718	16.1
BMI	4,105	91.9	364	8.1
Medication Count	4,469	100.0	0	0
Visit Count	4,242	94.9	227	5.1
Disease conditions	4,469	100.0	0	0
Cancer conditions	4,469	100.0	0	0

Existing values for alcohol use variables and BMI have been recoded in line with widely used classification schemes. BMI has been recoded in line with the WHO obesity classification employed by AIHW, and alcohol use measures have been aligned with NHMRC guidelines. Indicator variables have been created for specific disease conditions as well as major disease groupings.

2.3. ANALYTIC PROCEDURES

This report consists of univariate and bivariate analyses to illustrate the general characteristics and health profiles of the GO2 Health veteran patient cohort. In each section, there is a short description of key findings, followed by charts and corresponding tables. Wherever a chart appears, a corresponding table has been included in order for the underlying data to be observable.

Where a difference (e.g. by age group and/or between males/females) is described in the text, this has been tested for significance. The test of significance was a chi-square test for a relationship between the relevant health characteristic and age group/sex.

Figures 3 and 5 present the average number of visits/medications by age group (detailed). The narrow bars represent the variation in each value, in the form of a confidence interval.

3. Overview of the GO2 Health Veteran Client Database in 2022

This section summarises the characteristics of the 4,469 veteran patients included in the GO2 Health patient database as at 23 August 2022.

3.1. PATIENT ATTRIBUTES

3.2. AGE AND SEX

In terms of sex, 85% of patients are male and 15% are female. Males aged 18-39 years makeup almost half (47%) of all patients.

Figure 1 shows the proportions of patients who are Male and Female, aged under 40 years and 40 years and over. A more detailed breakdown of the age and sex characteristics of patients is shown in Table 2.

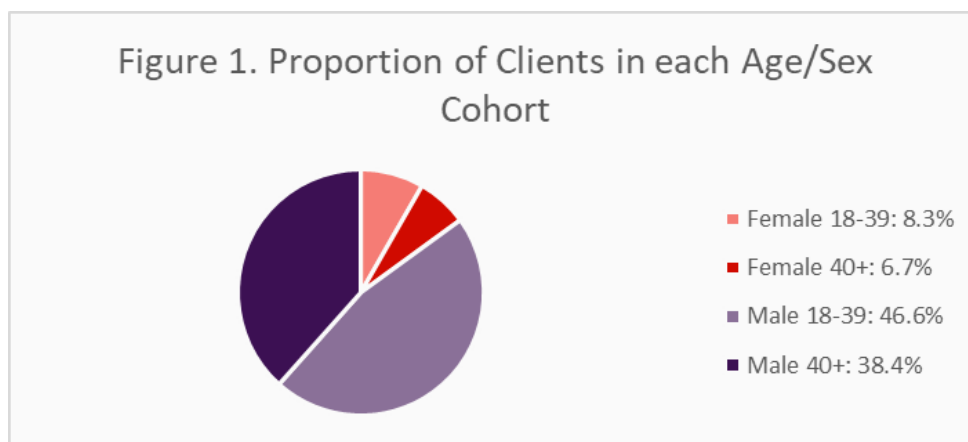


Table 2: Age and sex of patients

Age (in years)	Male		Female		All patients	
	n	%	n	%	f	%
18-29	617	16.2	163	24.4	780	17.5
30-39	1,467	38.6	207	31.0	1,674	37.5
40-49	797	21.0	134	20.1	931	20.8
50-59	605	15.9	132	19.8	737	16.5
60-69	254	6.7	26	3.9	280	6.3
70-79	57	1.5	2	0.3	59	1.3
80-89	4	0.1	0	0.0	4	0.1
90-99	0	0.0	3	0.4	3	0.1
≥100	0	0.0	1	0.1	1	0
Total	3,801	100.0	668	100.0	4,469	100.0
Not recorded	0		0		0	

3.3. ABORIGINAL AND/OR TORRES STRAIT ISLANDER STATUS

Aboriginal and/or Torres Strait Islander Status was recorded for about 70% of patients.

In total, there were 133 Aboriginal and/or Torres Strait Islander veteran patients. That is, Aboriginal and/or Torres Strait Islander veterans were about 4% of patients for whom this data was collected.

Table 3: Aboriginal and/or Torres Strait Islander status of patients

	Male		Female		All Patients	
	n	%	n	%	n	%
Aboriginal	99	3.7	17	3.7	116	3.7
Torres Strait Islander	10	0.4	0	0.0	10	0.3
Aboriginal & Torres Strait Islander	4	0.1	3	0.6	7	0.2
<i>Total Aboriginal and/or Torres Strait Islander</i>	<i>113</i>	<i>4.2</i>	<i>20</i>	<i>4.3</i>	<i>133</i>	<i>4.2</i>
Non-Indigenous	2,569	95.8	442	95.7	3,011	95.8
Total	2,682	100.0	462	100.0	3,144	100.0
Not recorded	745		137		882	
Not stated	374		69		443	

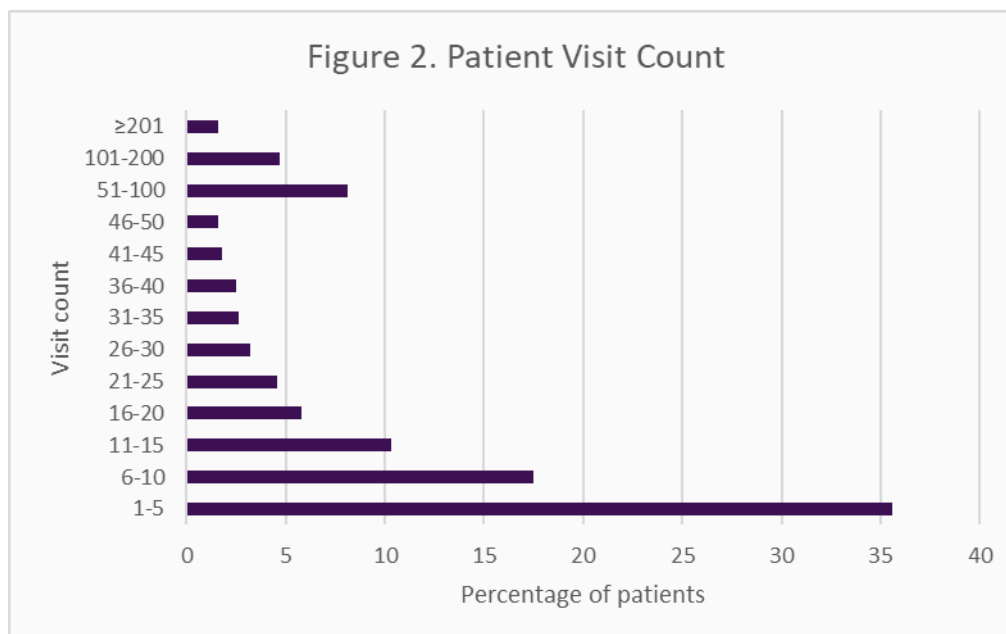
3.4. VISIT COUNT

A small proportion of patients have had a high number of visits to the service.

- 1.6% of patients have had more than 200 visits
- 4.7% have had between 101 and 200 visits
- 8.1% had had between 51 and 100 visits.

There is a larger group of patients who have had relatively few visits

- 35.6% have had between 1 and 5 visits
- 17.5% have had between 6 and 10 visits.



The number of visits to the service is associated with patients' age. On average, younger patients have had fewer visits to the service. For patients aged 18-29 years, the average number of visits was 16. This increased to 25 visits for patients aged 30-39 years and 32 visits for patients aged 40-49 years.

Figure 3 shows how the average number of visits increases with age (purple line). The narrow vertical lines represent the variation in the number of visits. While patients aged 60 years and over have had 40 visits on average, there is wide variation in the number of visits among patients in this group.

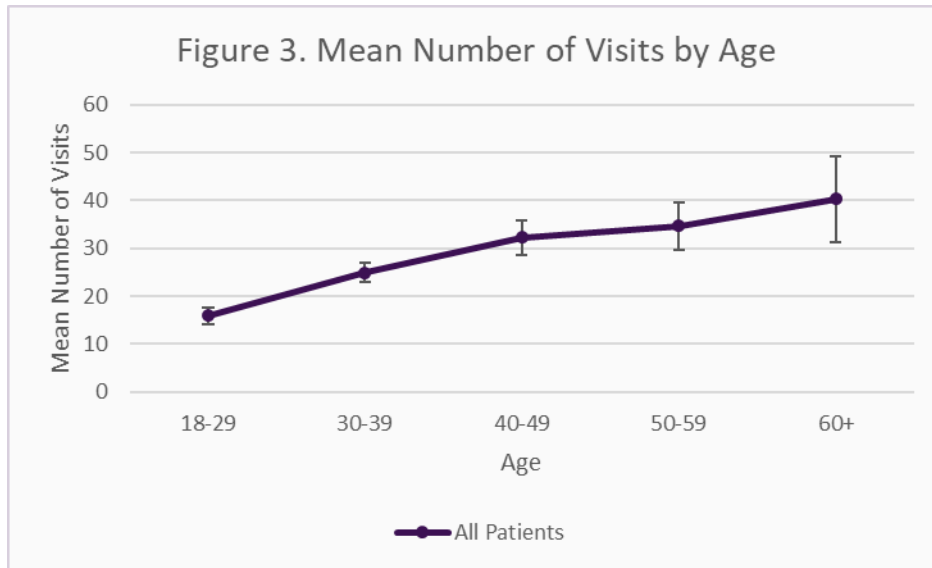


Table 4: Number of visits to the service per patient, by sex

Number of visits	Male		Female		All Patients	
	n	%	n	%	n	%
1-5	1,296	36.0	215	33.6	1,511	35.6
6-10	635	17.6	109	17.1	744	17.5
11-15	386	10.7	53	8.3	439	10.3
16-20	196	5.4	48	7.5	244	5.8
21-25	161	4.5	36	5.6	197	4.6
26-30	118	3.3	17	2.7	135	3.2
31-35	92	2.6	17	2.7	109	2.6
36-40	97	2.7	11	1.7	108	2.5
41-45	62	1.7	14	2.2	76	1.8
46-50	51	1.4	15	2.3	66	1.6
51-100	283	7.9	61	9.5	344	8.1
101-200	169	4.7	31	4.9	200	4.7
≥201	57	1.6	12	1.9	69	1.6
Total	3,603	100.0	639	100.0	4,242	100
Not recorded	198		29		227	

Table 5: Average number of visits to the service, by age group

Age in years	Male	Female	All Patients
	Average visits		
18-29 years	15.8	16.4	15.9
30-39 years	24.8	25.7	24.9
40-49 years	31.9	34.5	32.3
50-59 years	32.5	44.9	34.7
60+ years	39.9	44.4	40.3

3.5. MEDICATION COUNT

As shown in Figure 4, 35% of veteran patients at GO2 Health had a medication count of zero. A further 35% of patients have between one and three medications. Just under 5% of patients have a medication count of 10 or more.

The number of medications is associated with patients' age. On average, patients aged 18-29 years had 1.6 medications, compared with 3.1 for patients aged 40-49 years and 4.4 for patients aged 69 years and over.

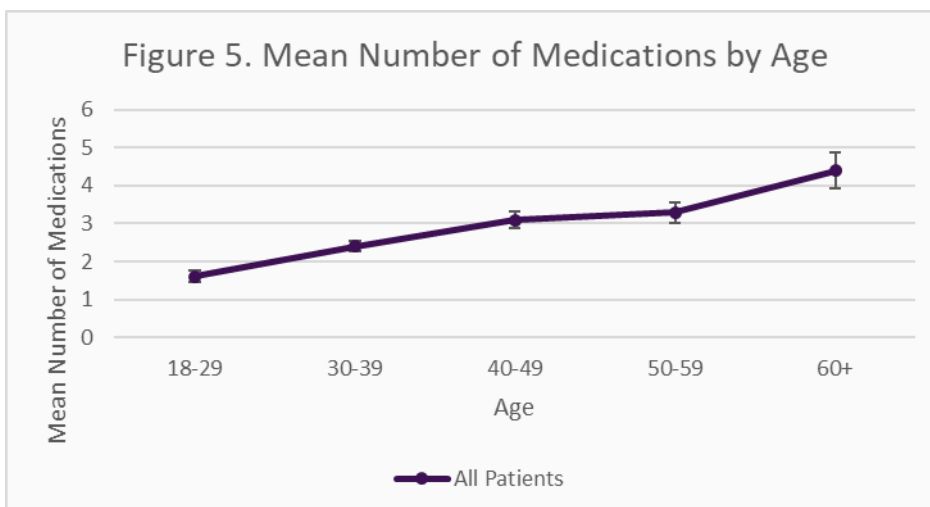
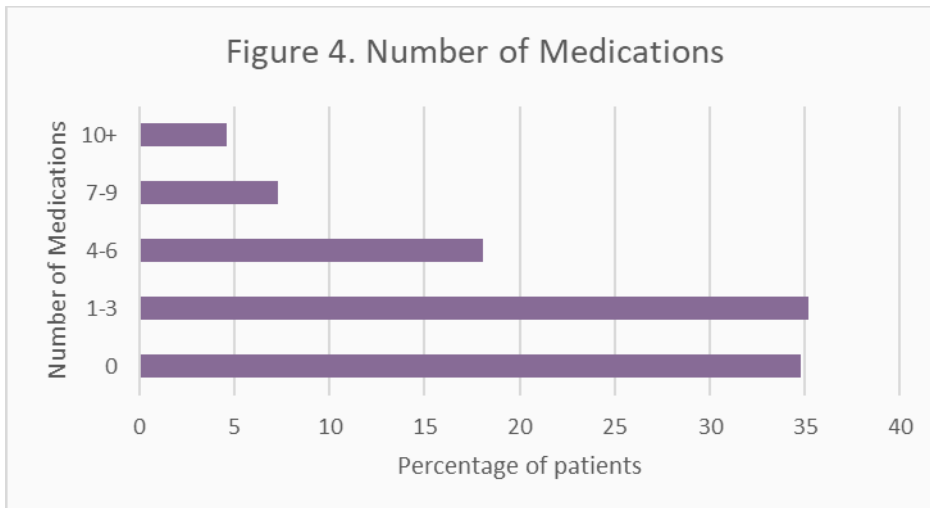


Table 6: Number of medications, by sex

Number of medications	Male		Female		All Patients	
	n	%	n	%	n	%
0	1,338	35.2	216	32.3	1,554	34.8
1-3	1,339	35.2	235	35.2	1,574	35.2
4-6	674	17.7	134	20.1	808	18.1
7-9	273	7.2	53	7.9	326	7.3
10+	177	4.7	30	4.5	207	4.6
Total	3,801	100.0	668	100.0	4,469	100.0
Not recorded	0		0		0	

Table 7: Average number of medications, by age group

Age in years	Male	Female	All Patients
	Average medication count		
18-29 years	1.4	1.9	1.6
30-39 years	2.4	2.3	2.4
40-49 years	3.1	3.4	3.1
50-59 years	3.2	3.5	3.3
60+ years	4.5	3.4	4.4

3.6. ALCOHOL USE - OVERVIEW

The alcohol consumption information in the patient database has three components:

1. Drinker / Non-drinker/ Not recorded
2. Number of drinks consumed, on days when alcohol is consumed (for Drinkers only)
3. Frequency of consumption (for Drinkers only)
 - 1-2 days per week
 - 3-4 days per week
 - 5-6 days per week
 - 7 days per week.

In the following sections, alcohol consumption is reported using four separate variables, that each focus on a particular aspect of alcohol consumption behaviour.

The four variables reflect aspects of the National Health and Medical Research Council (NHMRC) [Alcohol guidelines](#)¹. Guideline 1 states that ‘*To reduce the risk of harm from alcohol-related disease or injury, healthy men and women should drink no more than 10 standard drinks a week and no more than 4 standard drinks on any one day*’.

The four variables reported in this section are:

- Frequency of alcohol consumption
- Patient alcohol consumption on days when alcohol is consumed
- Patient weekly alcohol consumption
- Whether alcohol guidelines are exceeded (based NHMRC Alcohol guidelines for alcohol consumption on a day and per week).

In summary, for four indicators of risky drinking:

- 11% of patients consume alcohol daily;
- 27% of patients consume more than 4 drinks on a day when alcohol is consumed;
- 36% of patients consume more than 10 drinks per week;
- 20% of patients consume more than 4 drinks per occasion AND more than 10 drinks per week.

On all four indicators of risky drinking, male patients are about twice as likely to be in the at-risk category than female patients.

Comparing patients aged 18-39 years and 40 years and over:

- Those aged 40 years and over are more likely to consume alcohol daily and to consume more than 10 drinks per week
- Those aged 18-39 years are more likely to consume more than 4 drinks on a day.

¹ National Health and Medical Research Council, Alcohol guidelines, <https://www.nhmrc.gov.au/health-advice/alcohol>, accessed September 2022

3.7. ALCOHOL USE - FREQUENCY

Non-drinkers

About 20% of male patients are non-drinkers compared with 39% of female patients. For both sexes, patients aged 18-39 years are more likely to be non-drinkers than patients aged 40 years and over.

Among male patients:

- 22% of those aged 18-39 are non-drinkers
- 18% of those aged 40+ are non-drinkers

Among female patients:

- 41% of those aged 18-39 years are non-drinkers
- 37% of those aged 40+ years are non-drinkers

Daily drinking

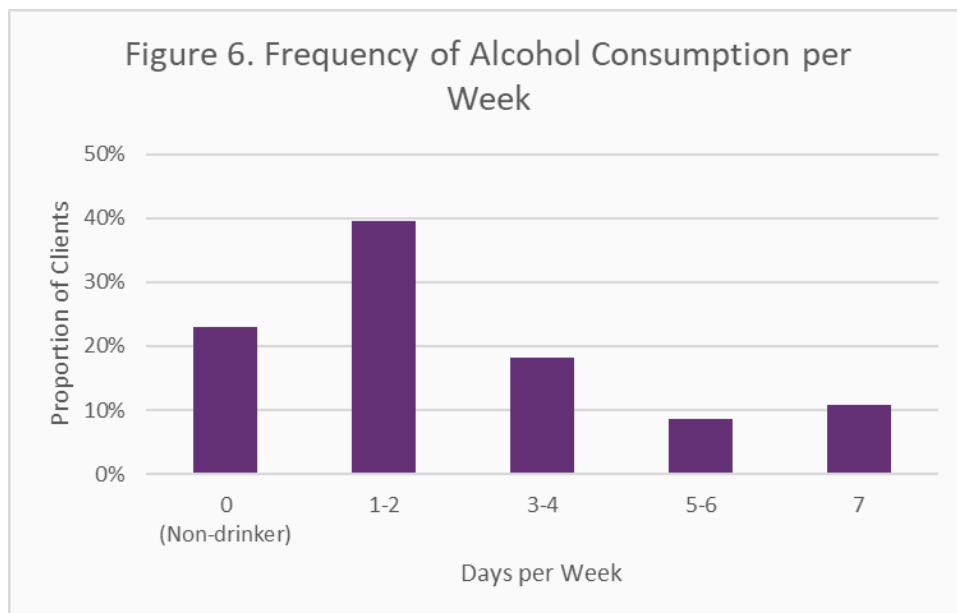
Daily drinking (7 days per week) is reported by 11% of patients overall. Patients aged 40 years and over are more likely to consume alcohol every day.

Among male patients:

- 9% of those aged 18-39 years consume alcohol daily
- 15% of those aged 40+ years consume alcohol daily

Among female patients:

- 4% of those aged 18-39 years consume alcohol daily
- 11% of those aged 40+ years consume alcohol daily



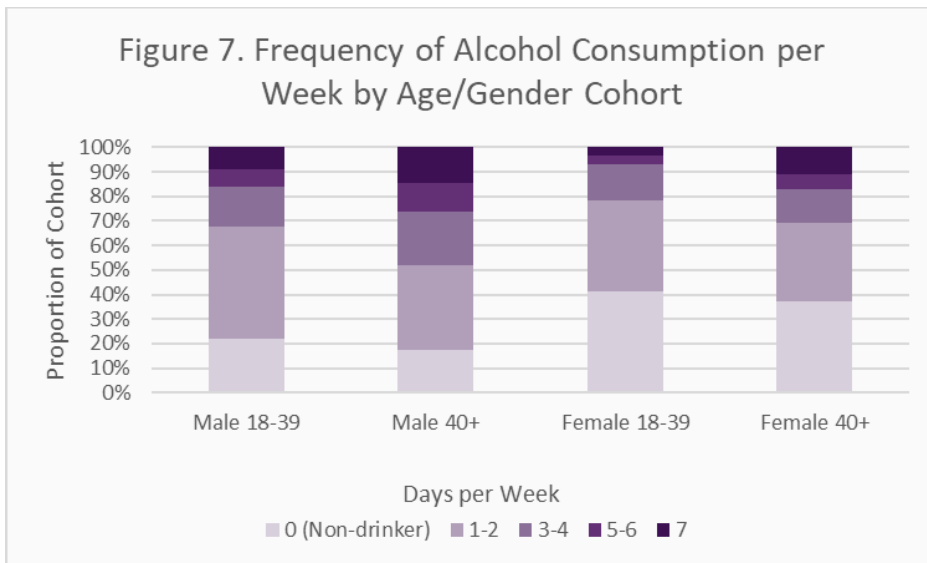


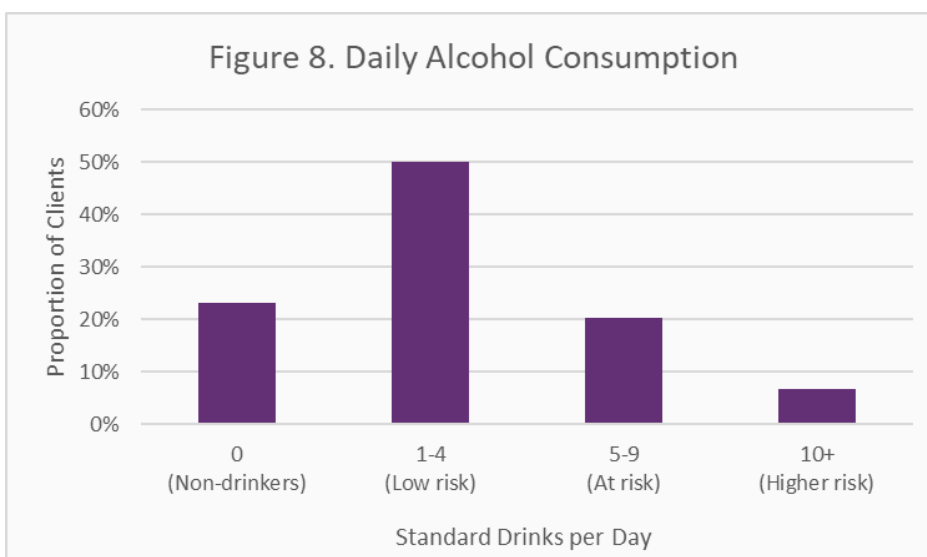
Table 8: Frequency of alcohol consumption, by age group and sex

Alcohol consumption, days per week	Male 18-39		Male 40+		Female 18-39		Female 40+	
	n	%	n	%	n	%	n	%
0 (Non-drinker)	390	22.2	261	17.6	125	41.3	90	37
1-2	795	45.3	511	34.5	113	37.3	78	32.1
3-4	287	16.4	320	21.6	44	14.5	33	13.6
5-6	126	7.2	176	11.9	10	3.3	15	6.2
7	157	8.9	215	14.5	11	3.6	27	11.1
Total	1,755	100	1,483	100	303	100	243	100
Not recorded	329		234		67		55	

3.8. ALCOHOL USE – CONSUMPTION ON EACH DAY OF DRINKING (BINGE DRINKING)

The NHMRC Alcohol guidelines state that to reduce risk of harm, men and women should consume ‘**no more than 4 standard drinks on any one day**’. For this reason, based on the data available, patients have been categorised as ‘at-risk’ if they report consuming five or more drinks on a day.

Overall, 27% of patients consume more than five drinks on a day, with 20% consuming between 5-9 drinks and 7% consuming 10 drinks or more.



Gender is strongly associated with daily alcohol consumption. Approximately 30% of male patients consume five or more drinks on a day, compared with 12% of female patients.

Figure 9 shows daily alcohol consumption by major age/gender combinations. Among male patients, those aged 18-39 years are somewhat more likely to consume five or more drinks than those aged 40 years and over (32% and 27% respectively).

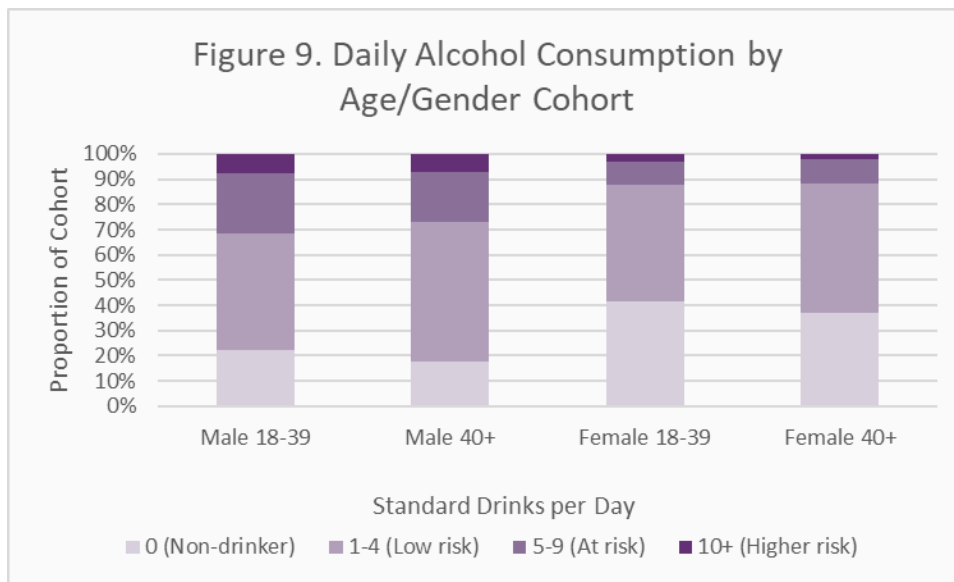


Table 9: Number of drinks consumed on a day, by age group and sex

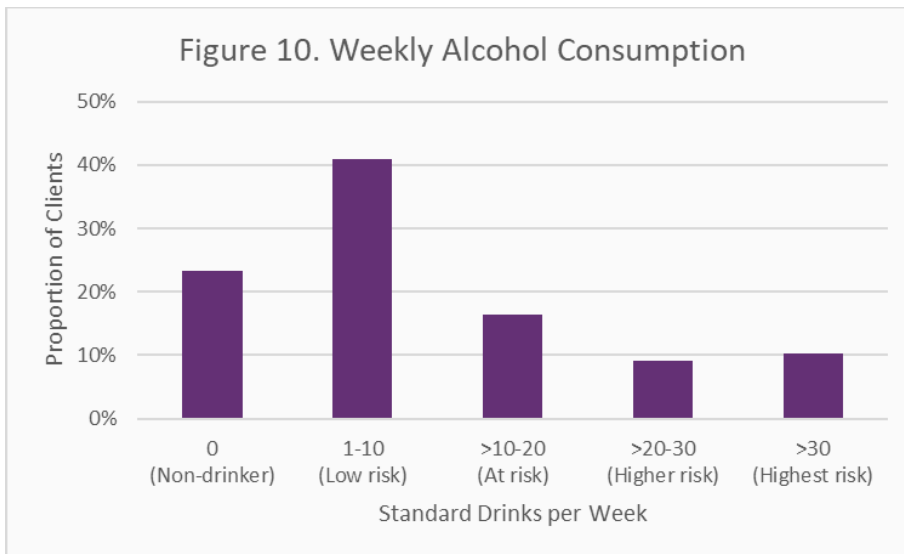
Alcohol consumption quantity single occasion	Male 18-39		Male 40+		Female 18-39		Female 40+	
	n	%	n	%	n	%	n	%
0 (Non-drinker)	390	22.5	261	17.7	125	41.7	90	37.0
1-4 (Low risk)	797	45.9	814	55.3	138	46.0	125	51.4
5-9 (At risk)	416	24.0	289	19.6	28	9.3	23	9.5
10+ (Higher risk)	133	7.7	108	7.3	9	3.0	5	2.1
Total	1,736	100.	1,472	100	300	100.	243	100
Not recorded	348		245		70		55	

3.9. ALCOHOL USE – WEEKLY CONSUMPTION AMOUNT

The NHMRC Alcohol guidelines state that to reduce risk of harm, men and women should consume ‘**no more than 10 standard drinks a week**’. A patient has been categorised as ‘at-risk’ if they consume more than 10 drinks per week based on the measure of weekly consumption amount².

Overall, 39% of male patients and 20% of female patients consume more than 10 drinks per week. For both sexes, those aged 18-39 years are less likely to consume 10 or more drinks per week than those aged 40 years and over.

² Amount consumed per week has been estimated by multiplying the amount consumed by the frequency of consumption. Where there are two-day categories (eg ‘3-4 days per week’), weekly drinking has been estimated using the midpoint (e.g. 3.5).



The weekly consumption amount was higher for male patients than female patients, and increased with age. This combined influence of age and gender is shown in Figure 11 and in Table 10.

Among male patients:

- 35% of those aged 18-39 years consume more than 10 drinks per week
- 43% of those aged 40+ years consume more than 10 drinks per week

Among female patients:

- 17% of those aged 18-39 years consume more than 10 drinks per week
- 24% of those aged 40+ years consume more than 10 drinks per week

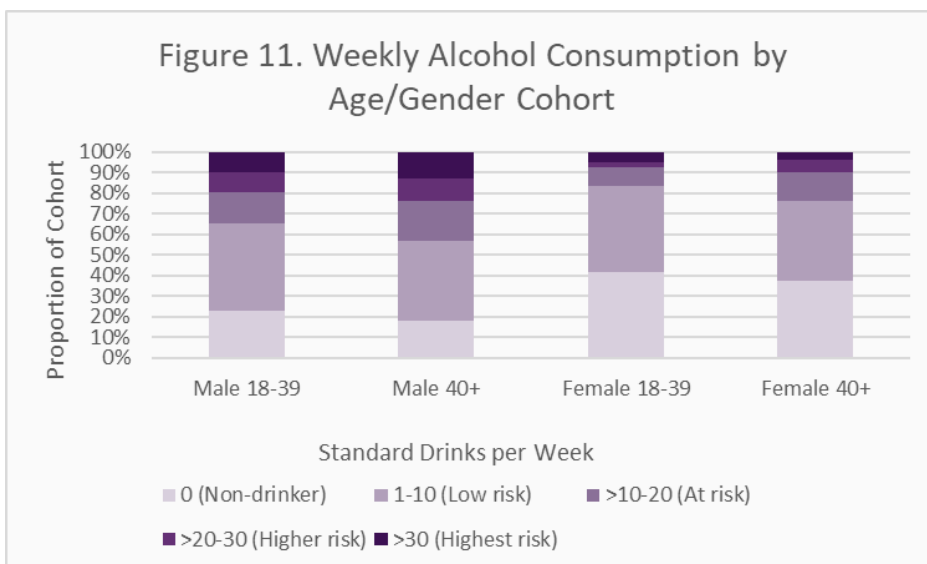


Table 10: Weekly alcohol consumption, by age group and sex

	Male 18-39		Male 40+		Female 18-39		Female 40+	
Number of drinks consumed per week	n	%	n	%	n	%	n	%
0 (Non-drinker)	390	22.7	261	17.8	125	41.9	90	37.3
1-10 (Low risk)	734	42.6	575	39.2	123	41.3	93	38.6
>10-20 (At risk)	266	15.5	285	19.4	28	9.4	34	14.1
>20-30 (Higher risk)	162	9.4	160	10.9	7	2.3	15	6.2
>30 (Highest risk)	169	9.8	186	12.7	15	5.0	9	3.7
Total	1,721	100	1,467	100	298	100	241	100
Not recorded	363	17.4	250	14.6	72	19.5	57	19.1

3.10. ALCOHOL USE – NHMRC GUIDELINES

The NHMRC Alcohol guidelines state that ‘**To reduce the risk of harm from alcohol-related disease or injury, healthy men and women should drink no more than 10 standard drinks a week and no more than 4 standard drinks on any one day**’. The data available in the patient database has been used to indicate whether patients exceed either or both of the criteria for at-risk drinking.

Overall, 58% of patients do not exceed the NHMRC guidelines (non-drinker or drinking at low risk levels), whereas 42% of patients exceeded one or both of criteria for at-risk drinking.

As shown in Figure 12, within the patient cohort:

- 16% consume more than 10 drinks per week (but not more than 4 drinks on a day)
- 7% consume more than 4 drinks on a day (but not more than 10 drinks per week)
- 20% consume both more than 10 drinks per week AND 4 drinks on a day.

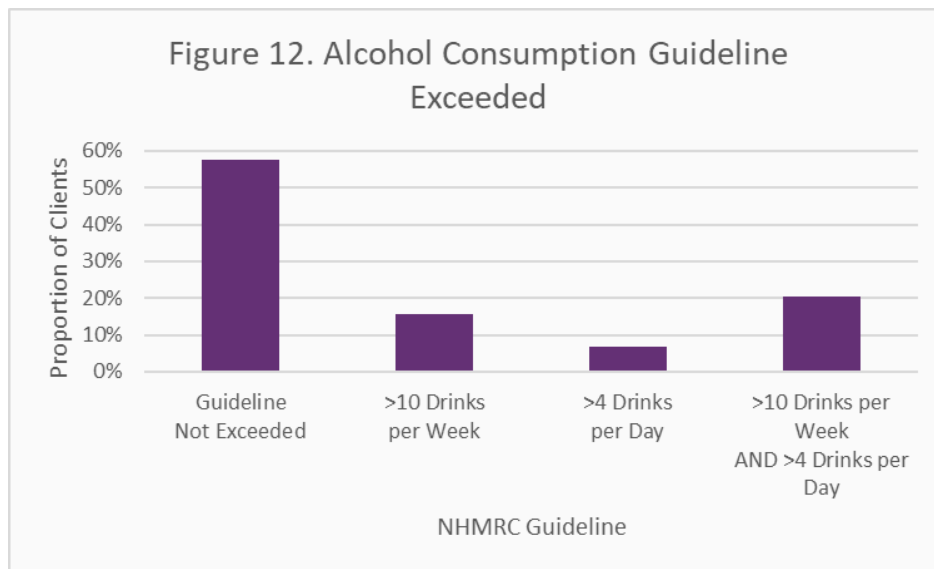


Figure 13 illustrates that 22% of male patients and 8% of female patients consume both 10 drinks per week and 4 drinks on a day. The proportion of the patient cohort exceeding both these criteria was highest - at 24% - for those aged 40-49 years, as shown in Figure 14. Lastly, Figure 15 indicates that, for both sexes, the proportion of patients in this at-risk category is similar for those aged 18-39 years and 40 years and over.

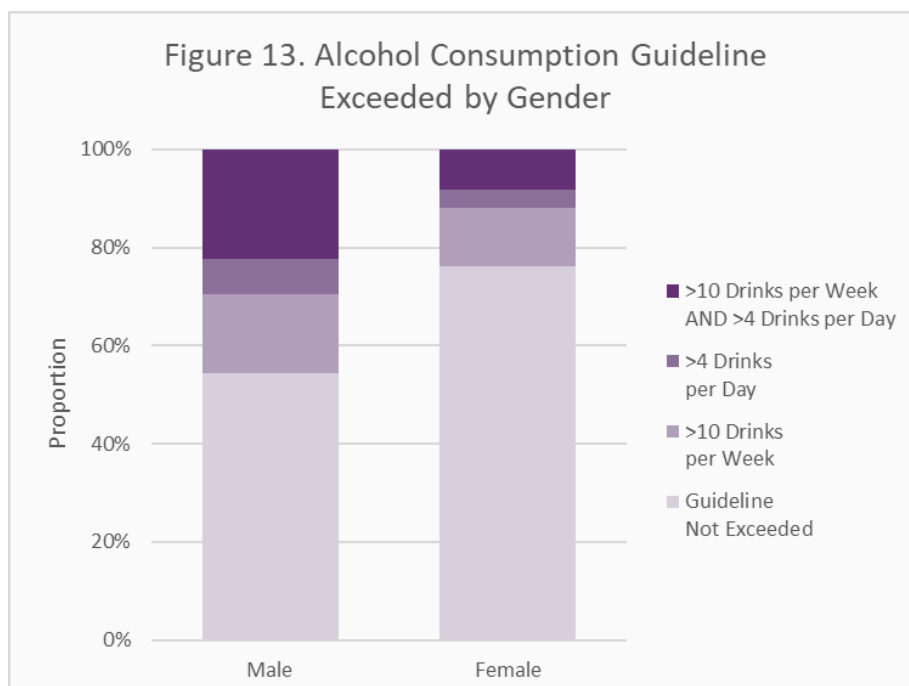


Figure 14. Alcohol Consumption Guidelines by Age

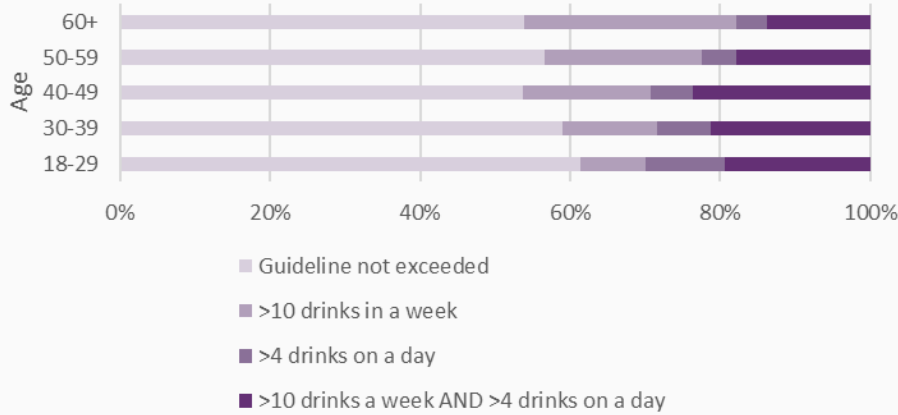


Figure 15. Alcohol Consumption Guidelines by Age/Gender Cohort

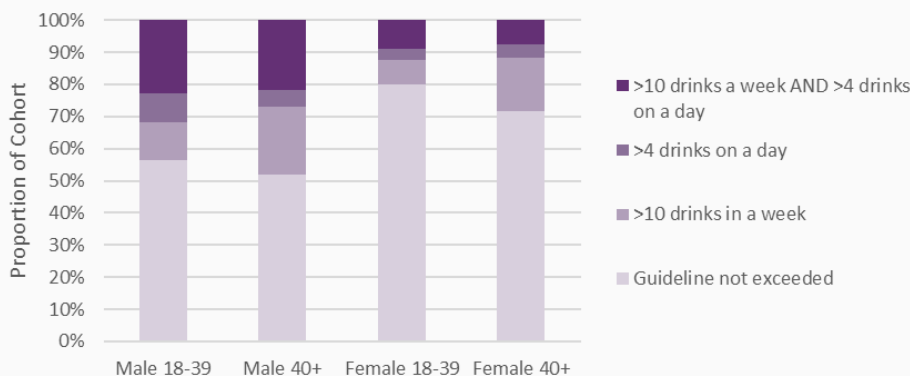


Table 11: Whether alcohol consumption guidelines are exceeded, by sex

Alcohol guidelines exceeded	Male		Female		All Patients	
	n	%	n	%	n	%
Guideline Not Exceeded	1,735	54.3	411	76.3	2,146	57.5%
>10 Drinks per week	514	16.1	63	11.7	577	15.5%
>4 Drinks on a day	232	7.3	20	3.7	252	6.7%
>10 Drinks per week AND >4 Drinks on a day	714	22.3	45	8.3	759	20.3%
Total	3,195	100	539	100	3,734	100
Partially not recorded	13	0.3	4	0.6	17	0.4
Not recorded	593	15.6	125	18.7	718	16.1
Total not recorded	606	15.9	129	19.3	735	16.4

Table 12: Whether alcohol consumption guidelines are exceeded, by age group (detailed)

Alcohol guidelines exceeded	18-29		30-39		40-49		50-59		60+	
	n	%	n	%	n	%	n	%	n	%
Guideline not exceeded	396	61.4	813	59	423	53.7	357	56.6	157	53.8
>10 drinks in a week	56	8.7	172	12.5	134	17	132	20.9	83	28.4
>4 drinks on a day	68	10.5	99	7.2	44	5.6	29	4.6	12	4.1
>10 drinks a week AND >4 drinks on a day	125	19.4	294	21.3	187	23.7	113	17.9	40	13.7
Total	645	100	1,378	100	788	100	631	100	292	100
Partially not recorded	4	0.5	9	0.5	0	0	3	0.4	1	0.3
Not recorded	131	16.8	287	17.1	143	15.4	103	14	54	15.6
Total not recorded	135	17.3	296	17.7	143	15.4	106	14.4	55	15.9

Table 13: Whether alcohol consumption guidelines are exceeded, by age group and sex

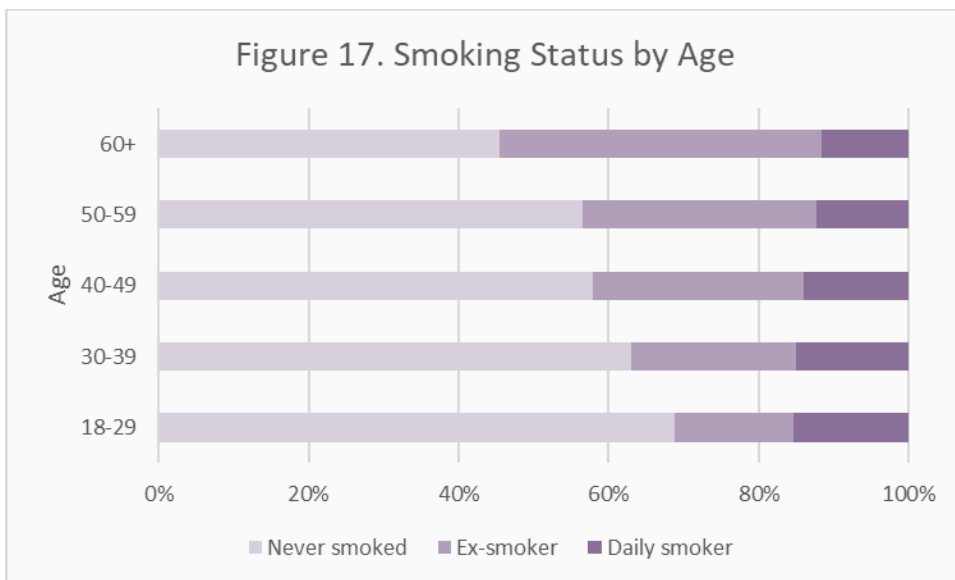
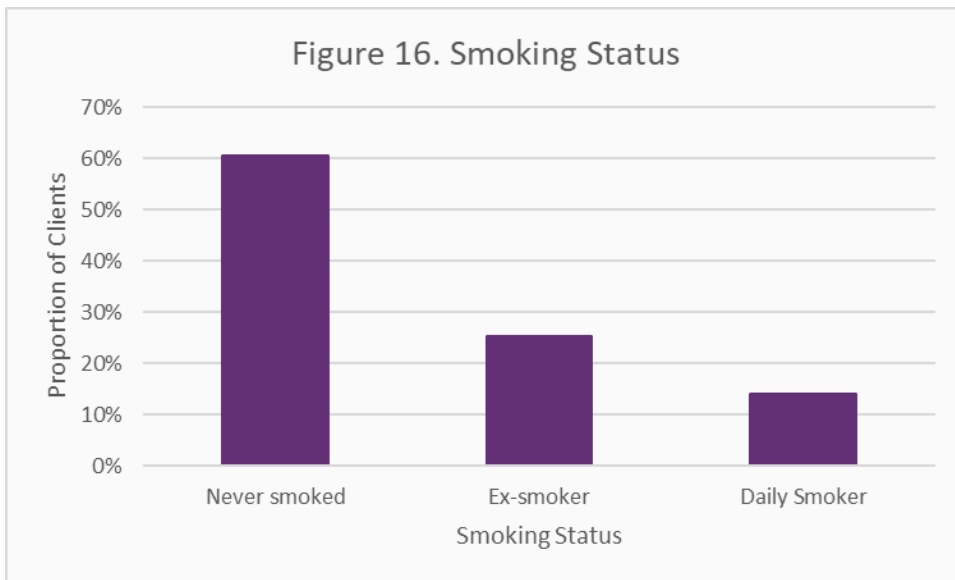
Alcohol guidelines exceeded	Male 18-39		Male 40+		Female 18-39		Female 40+	
	n	%	n	%	n	%	n	%
Guideline not exceeded	971	56.3	764	52.0	238	79.9	173	71.8
>10 drinks in a week	205	11.9	309	21.0	23	7.7	40	16.6
>4 drinks on a day	157	9.1	75	5.1	10	3.4	10	4.1
>10 drinks a week AND >4 drinks on a day	392	22.7	322	21.9	27	9.1	18	7.5
Total	1,725	100	1,470	100	298	100	241	100
Partially not recorded	11		2		2		2	
Not recorded	348		245		70		55	
Total not recorded	359		247		72		57	

3.11. SMOKING STATUS

Overall, Figure 16 shows that 61% of patients have never smoked, 25% are ex-smokers and 14% are current/daily smokers.

Daily smoking is more common among male patients (15%) than female smokers (10%).

The youngest group of patients (18-29 years) is simultaneously the most likely to have never smoked (69%) and to smoke daily (15%).



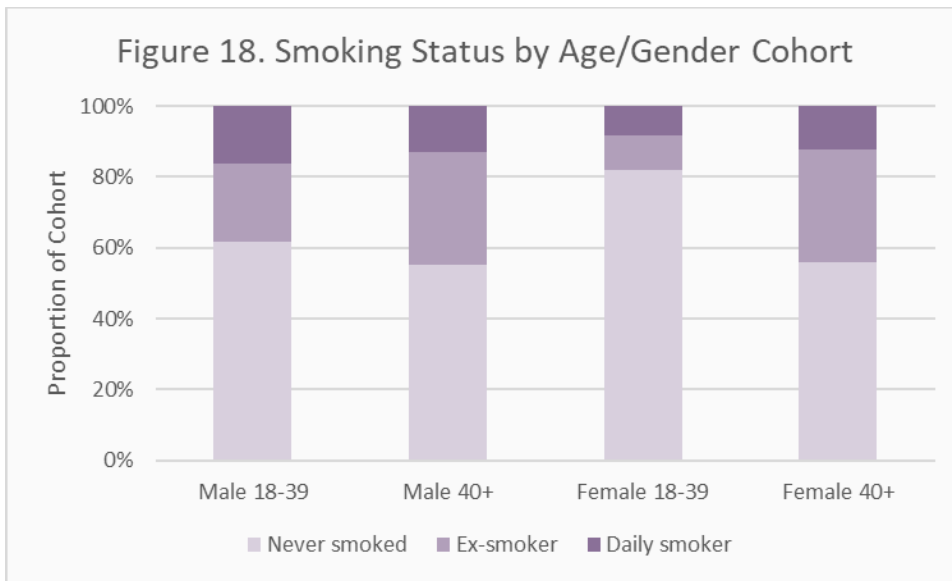


Table 13, Smoking status by sex

Smoking status	Male		Female		All Patients	
	n	%	n	%	n	%
Never smoked	2,120	58.8	444	70.3	2,564	60.5
Ex-smoker	948	26.3	125	19.8	1,073	25.3
Daily Smoker	537	14.9	63	10	600	14.2
Total	3,605	100	632	100	4,237	100
Not recorded	196	5.2	36	5.4	232	5.2

Table 14: Smoking status, by age group (detailed)

Smoking status	18-29		30-39		40-49		50-59		60+	
	n	%	n	%	n	%	n	%	n	%
Never smoked	505	68.8	1,007	63	505	57.8	399	56.5	148	45.5
Ex-smoker	117	15.9	352	22	245	28.1	220	31.2	139	42.8
Daily smoker	112	15.3	240	15	123	14.1	87	12.3	38	11.7
Total	734	100	1,599	100	873	100	706	100	325	100
Not recorded	46	5.9	75	4.5	58	6.2	31	4.2	22	6.3

Table 15: Smoking status, by age group and sex

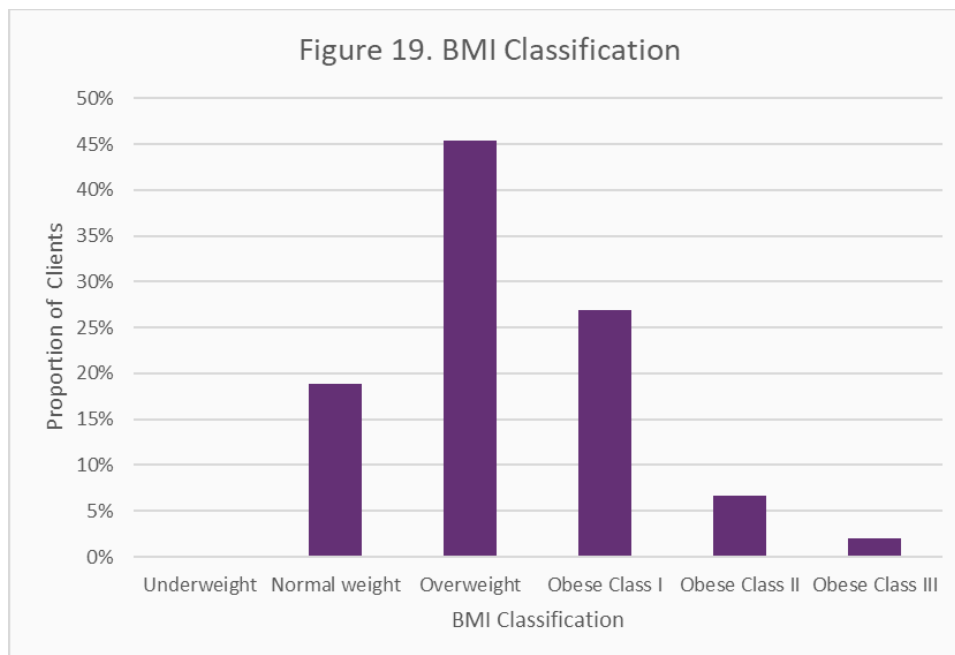
Smoking status	Male 18-39		Male 40+		Female 18-39		Female 40+	
	n	%	n	%	n	%	n	%
Never smoked	1,224	61.8	896	55.2	288	81.8	156	55.7
Ex-smoker	434	21.9	514	31.7	35	9.9	90	32.1
Daily smoker	323	16.3	214	13.2	29	8.2	34	12.1
Total	1,981	100	1,624	100	352	100	280	100
Not recorded	103	4.9	93	5.4	18	4.9	18	6

3.12. BODY MASS INDEX (BMI)

BMI values recorded in the patient database were classified in accordance with WHO classification groups employed by the Australian Institute for Health and Welfare³.

In accordance with this classification, about one-in-five patients are at normal weight. Figure 19 displays the distribution of BMI classes across for the patient cohort. Across all patients:

- 19% are normal weight
- 45% are overweight
- 36% are obese
 - o 27% Obese Class I
 - o 7% Obese Class II
 - o 2% Obese Class III.



Overall, Figure 20 indicates that male patients are more likely than female patients to be classified as obese. The proportion classified as obese generally increased with age (Figure 21).

Figure 22 shows that, for both sexes, patients aged 40 years and over are more likely to be obese than those aged 18-39 years.

Among male patients:

- 30% of those aged 18-39 years are classified as obese
- 46% of those aged 40+ years are classified as obese.

Among female patients:

- 20% of those aged 18-39 years are classified as obese
- 36% of those aged 40+ years are classified as obese.

³ Australian Institute for Health and Welfare, Overweight and Obesity, BMI Classification in Adults (Table 1), <https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity-an-interactive-insight/contents/what-is-overweight-and-obesity> (accessed 13 September, 2022).

Figure 20. BMI Classification by Gender

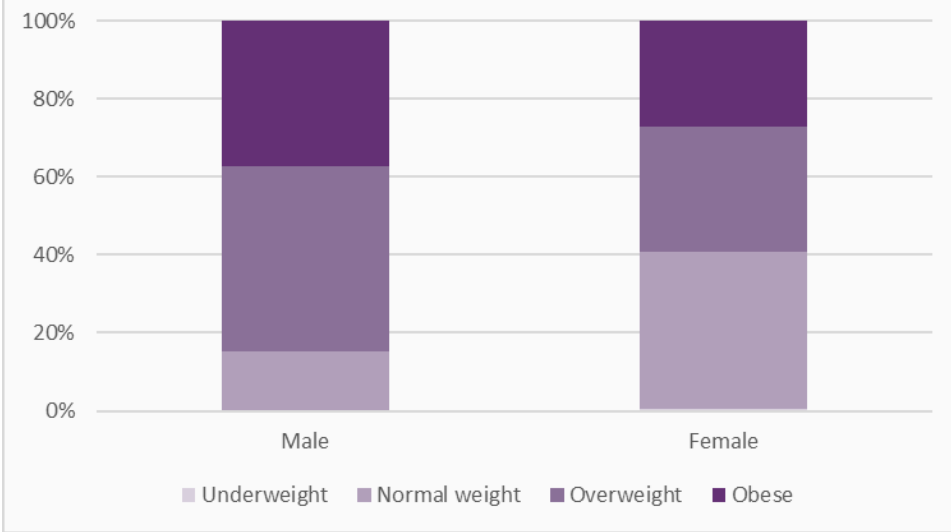


Figure 21. BMI Classification by Age

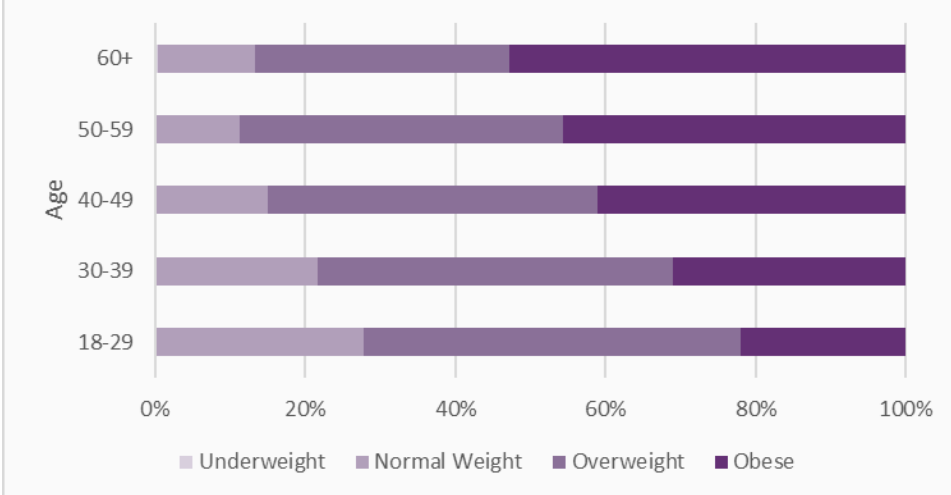


Figure 22. BMI Classification by Age/Gender Cohort

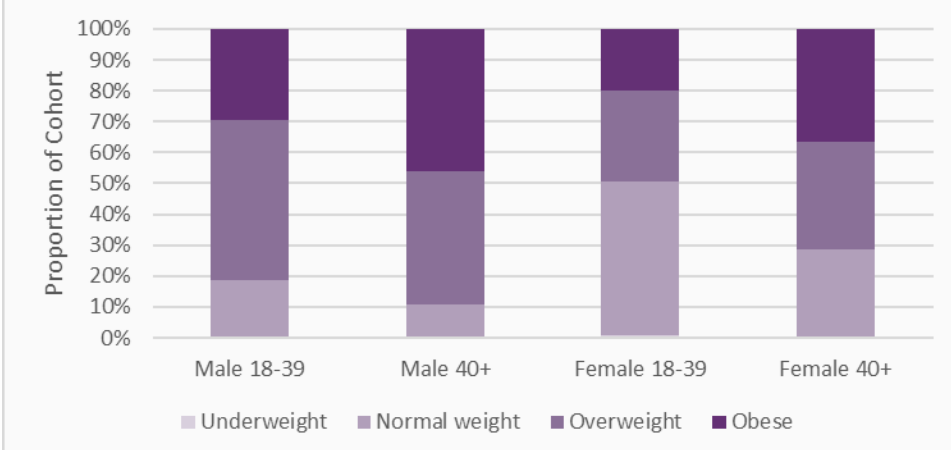


Table 16: BMI classification (detailed)

BMI classification	n	%
Underweight	6	0.1
Normal weight	771	18.8
Overweight	1,863	45.4
Obese Class I	1,105	26.9
Obese Class II	276	6.7
Obese Class III	84	2
Total	4,105	100
Not recorded	364	8.1

Table 17: BMI classification, by sex

BMI classification	Male		Female		All Patients	
	n	%	n	%	n	%
	Male	Male	Female	Female	All Patients	All Patients
Underweight	2	0.1	4	0.6	6	0.1
Normal weight	524	15	247	40.1	771	18.8
Overweight	1,666	47.8	197	32.0	1,863	45.4
Obese	1,297	37.2	168	27.3	1,465	35.7
Total	3,489	100	616	100	4,105	100
Not recorded	312	8.2	52	7.8	364	8.1

Table 14: BMI classification, by age group (detailed)

BMI classification	18-29		30-39		40-49		50-59		60+	
	n	%	n	%	n	%	n	%	n	%
Underweight	1	0.1	3	0.2	1	0.1	0	0	1	0.3
Normal Weight	195	27.7	330	21.5	128	14.9	77	11.2	41	13.0
Overweight	354	50.2	728	47.4	377	43.9	297	43.2	107	33.9
Obese	155	22.0	476	31.0	353	41.1	314	45.6	167	52.8
Total	705	100	1,537	100	859	100	688	100	316	100
Not recorded	75	9.6	137	8.2	72	7.7	49	6.6	31	8.9

Table 15: BMI classification by age group and sex

BMI classification	Male 18-39		Male 40+		Female 18-39		Female 40+	
	n	%	n	%	n	%	n	%
Underweight	1	0.1	1	0.1	3	0.9	1	0.4
Normal weight	356	18.7	168	10.6	169	49.6	78	28.4
Overweight	981	51.6	685	43.1	101	29.6	96	34.9
Obese	563	29.6	734	46.2	68	19.9	100	36.4
Total	1,901	100	1,588	100	341	100	275	100
Not recorded	183	8.8	129	7.5	29	7.8	23	7.7

4. Disease Conditions

Overall, 56% of patients have a (non-cancer) disease condition recorded in the database. Table 16 lists all specific disease conditions for all patients, and by sex. The most commonly occurring disease conditions are:

- Depression (30% of patients)
- Anxiety (23%)
- Osteoarthritis (13%)
- Fracture (10%)
- Hypertension (6%)
- Hyperlipidaemia (5%).

Overall, 2.5% of patients have a cancer condition recorded in the database. The most commonly reported cancer is melanoma (1.6% of patients).

Table 16: Disease conditions by sex

Disease Condition	Male		Female		All patients	
	n	%	n	%	n	%
Any disease (non-cancer)	2,091	55	389	41.8	2,480	55.5
Cancer						
Bowel cancer	4	0.1	1	0.1	5	0.1
Breast cancer	0	0	13	1.9	13	0.3
Leukaemia	7	0.2	1	0.1	8	0.2
Lung cancer	1	<0.1	0	0	1	<0.1
Lymphoma	5	0.1	0	0	5	0.1
Melanoma	64	1.7	6	0.9	70	1.6
Multiple myeloma	1	0	0	0	1	<0.1
Pancreatic cancer	1	<0.1	0	0	1	<0.1
Prostate cancer	13	0.3	0	0	13	0.3
<i>Total Patients</i>	<i>91</i>	<i>2.4</i>	<i>21</i>	<i>3.1</i>	<i>112</i>	<i>2.5</i>
Cardiovascular disease						
Atrial fibrillation	29	0.8	1	0.1	30	0.7
Coronary heart disease	55	1.4	2	0.3	57	1.3
Heart failure	5	0.1	1	0.1	6	0.1
Hyperlipidaemia	199	5.2	12	1.8	211	4.7
Hypertension	244	6.4	22	3.3	266	6
Stroke	25	0.7	3	0.4	28	0.6
<i>Total Patients</i>	<i>445</i>	<i>11.7</i>	<i>34</i>	<i>5.1</i>	<i>479</i>	<i>10.7</i>
Diabetes						
Diabetes type I	85	2.2	9	1.3	94	2.1
Diabetes type II	77	2	8	1.2	85	1.9
Undefined Diabetes	9	0.2	0	0	9	0.2
<i>Total Patients</i>	<i>94</i>	<i>2.5</i>	<i>9</i>	<i>1.3</i>	<i>103</i>	<i>2.3</i>
Kidney disease						
Chronic kidney disease	7	0.2	1	0.1	8	0.2
Kidney failure	8	0.2	1	0.1	9	0.2
<i>Total Patients</i>	<i>8</i>	<i>0.2</i>	<i>1</i>	<i>0.1</i>	<i>9</i>	<i>0.2</i>
Mental, neurological and developmental disorder						
Anxiety	837	22	186	27.8	1,023	22.9
Attention-deficit/hyperactivity disorder	65	1.7	9	1.3	74	1.7
Autism	3	0.1	1	0.1	4	0.1
Bipolar disorder	24	0.6	4	0.6	28	0.6
Dementia	3	0.1	0	0	3	0.1
Depression	1,102	29	248	37.1	1,350	30.2
Schizophrenia	7	0.2	0	0	7	0.2
<i>Total Patients</i>	<i>1,386</i>	<i>36.5</i>	<i>310</i>	<i>46.4</i>	<i>1,696</i>	<i>38.0</i>

Disease Condition	Male		Female		All patients	
	n	%	n	%	n	%
Musculoskeletal disorder/injury						
Fracture	409	10.8	54	8.1	463	10.4
Inflammatory arthritis	16	0.4	4	0.6	20	0.4
Osteoarthritis	499	13.1	62	9.3	561	12.6
Osteoporosis	11	0.3	5	0.7	16	0.4
Other musculoskeletal	61	1.6	8	1.2	69	1.5
<i>Total Patients</i>	<i>886</i>	<i>23.3</i>	<i>122</i>	<i>18.3</i>	<i>1,008</i>	<i>22.6</i>
Respiratory disease						
Asthma	100	2.6	36	5.4	136	3
Chronic obstructive pulmonary disease	19	0.5	5	0.7	24	0.5
COVID-19	37	1	11	1.6	48	1.1
<i>Total Patients</i>	<i>152</i>	<i>4.0</i>	<i>48</i>	<i>7.2</i>	<i>200</i>	<i>4.5</i>

Figures 23 to 25 explore the distribution of the most prevalent conditions in the patient cohort by gender and age. As shown in Figure 23, male patients were likelier to have any non-cancer disease than female patients. Depression and Anxiety (explored further in the next section) were more prevalent amongst women, whereas Osteoarthritis, Fracture, Hypertension, and Hyperlipidaemia were more prevalent amongst men.

Figure 24 illustrates that Osteoarthritis, Hypertension and Hyperlipidaemia are most common among those patients aged 60 years and over. In this group, 33% of patients have Osteoarthritis, 26% have Hypertension and 17% have Hyperlipidaemia.

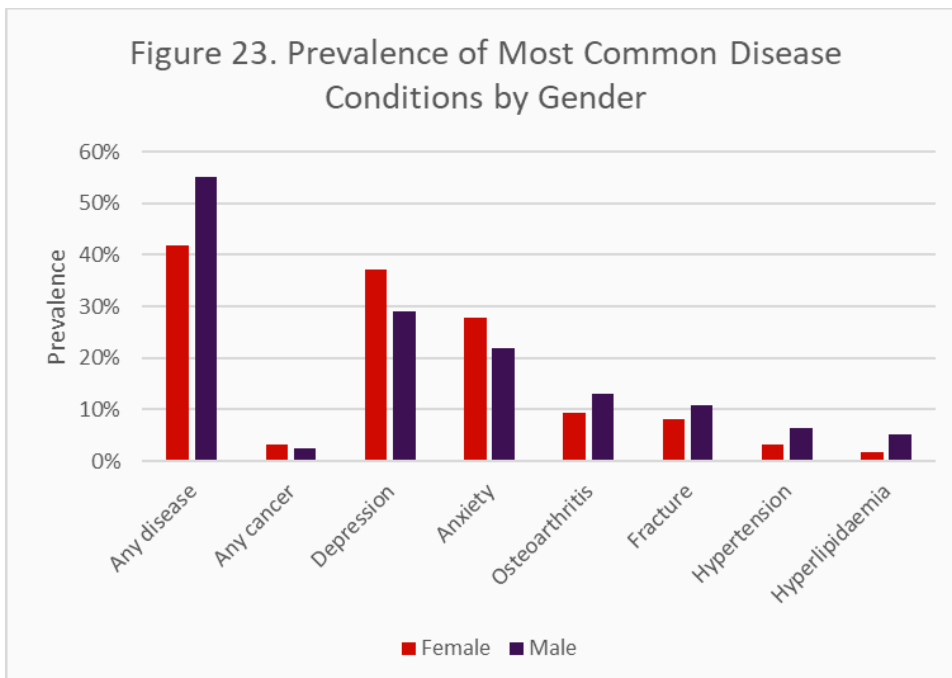


Figure 24. Prevalence of Most Common Disease Conditions by Age

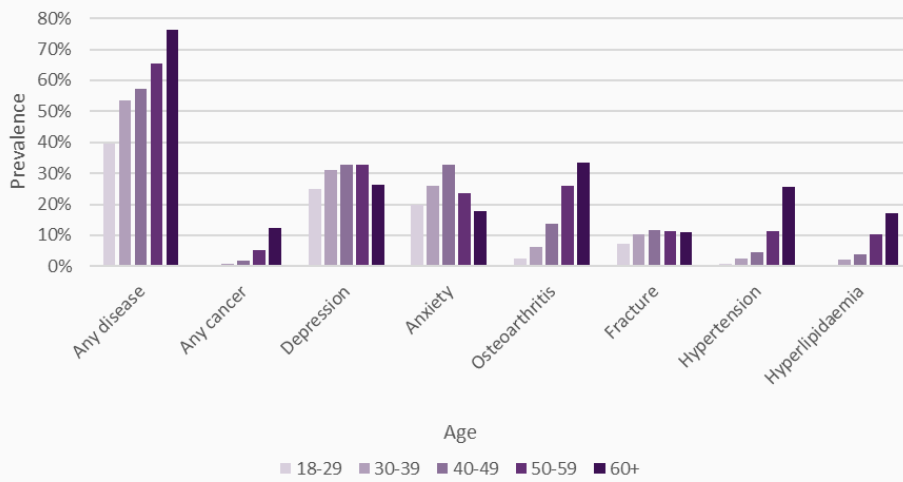


Figure 25. Prevalence of Most Common Disease Conditions by Age/Gender Cohort

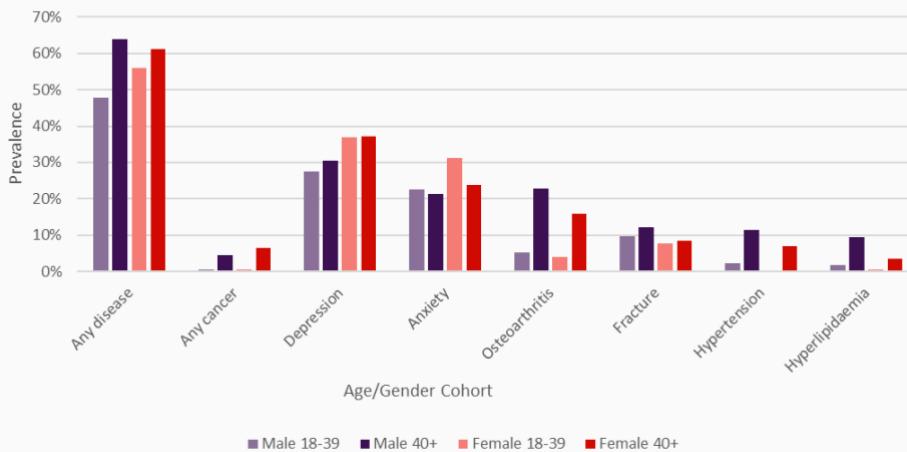


Table 17: Commonly occurring disease conditions, by sex

Sex	Any disease		Any cancer		Depression		Anxiety		Osteoarthritis		Fracture		Hypertension		Hyperlipidaemia	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Male	2,091	55	91	2.4	1,102	29.0	837	22.0	499	13.1	409	10.8	244	6.4	199	5.2
Female	389	41.8	21	3.1	248	37.1	186	27.8	62	9.3	54	8.1	22	3.3	12	1.8

Table 18: Commonly occurring disease conditions, by age group (detailed)

Age in years	Any disease		Any cancer		Depression		Anxiety		Osteoarthritis		Fracture		Hypertension		Hyperlipidaemia	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
18-29	307	39.4	1	0.1	194	24.9	155	19.9	19	2.4	57	7.3	6	0.8	2	0.3
30-39	894	53.4	13	0.8	519	31	432	25.8	106	6.3	174	10.4	42	2.5	38	2.3
40-49	532	57.1	17	1.8	306	32.9	306	32.9	128	13.7	109	11.7	44	4.7	37	4
50-59	482	65.4	38	5.2	240	32.6	173	23.5	192	26.1	85	11.5	85	11.5	75	10.2
60+	265	76.4	43	12.4	91	26.2	62	17.9	116	33.4	38	11.0	89	25.6	59	17.0

Table 19: Commonly occurring disease conditions, by age group and sex

Disease condition	Any disease		Any cancer		Depression		Anxiety		Osteoarthritis		Fracture		Hypertension		Hyperlipidaemia	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Male 18-39	994	47.7	12	0.6	576	27.6	472	22.6	110	5.3	202	9.7	47	2.3	38	1.8
Male 40+	1,097	63.9	79	4.6	526	30.6	365	21.3	289	22.7	207	12.1	197	11.5	161	9.4
Female 18-39	207	55.9	2	0.5	137	37.0	115	31.1	15	4.1	29	7.8	1	0.3	2	0.5
Female 40+	182	61.1	19	6.4	111	37.2	71	23.8	47	15.8	25	8.4	21	7	10	3.4

4.1. MENTAL HEALTH STATUS

Depression and anxiety are the two most commonly recorded conditions. Overall:

- 37% of patients are experiencing either anxiety and/or depression
 - o 16% of patients are experiencing both anxiety and depression
 - o 14% are experiencing depression, but not anxiety
 - o 7% are experiencing anxiety, but not depression
- 63% are experiencing neither condition.

Both anxiety and depression are more commonly reported among female patients than male patients, and are also more common among daily smokers. Both conditions are less common among those who have had ten or fewer visits to the service. The prevalence of anxiety and depression are explored in more detail in the following two sections.

4.2. DEPRESSION

Overall, 30% of patients are experiencing depression. The likelihood of experiencing depression is higher for female patients (37%) than male patients (29%) (Figures 26 and 27).

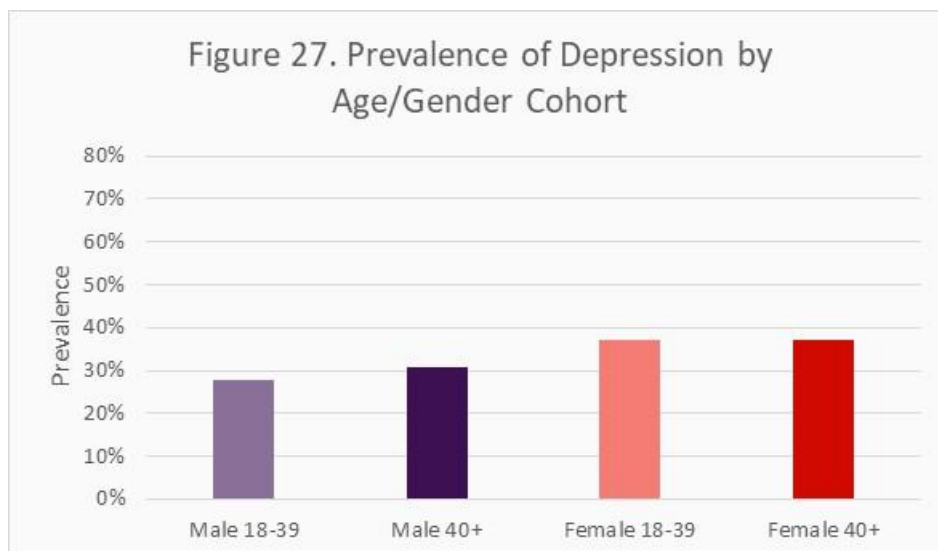
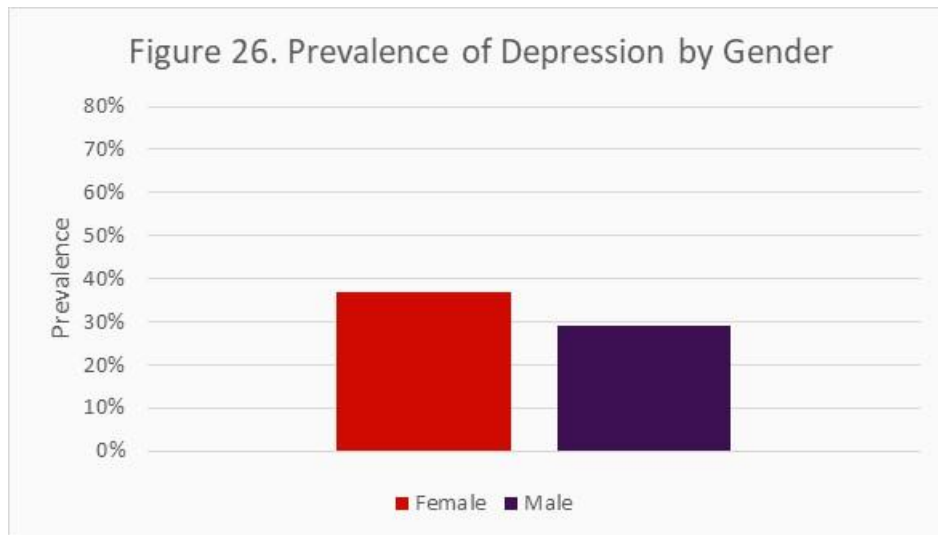
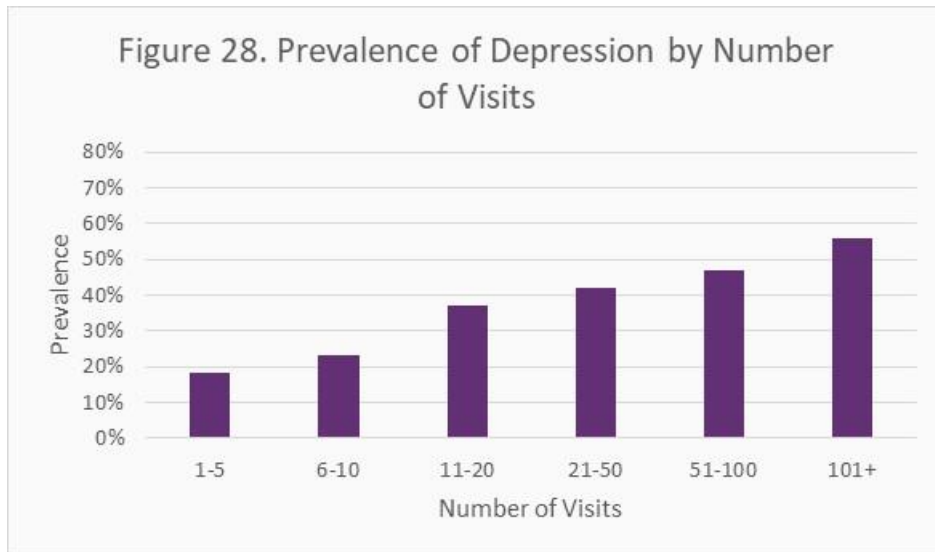


Figure 28 shows that the prevalence of depression is higher among patients who have had higher numbers of visits to the service. Among those who have had up to five visits, 18% are experiencing depression. This increases to 37% of those who have had between 11 and 20 visits and 56% of those who have had 100 or more visits.



The prevalence of depression also increases with the number of medications taken, as shown in Figure 29. Of those taking no medications, 12% are experiencing depression. This increases to 30% of those taking between one and three medications and 48% of those taking between four and six medications. Of those taking ten or more medications, 60% are experiencing depression.

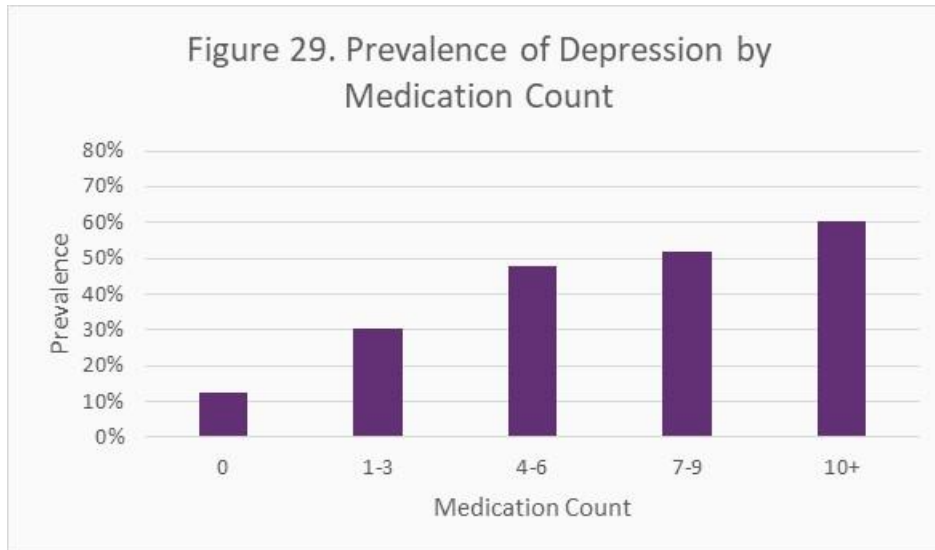
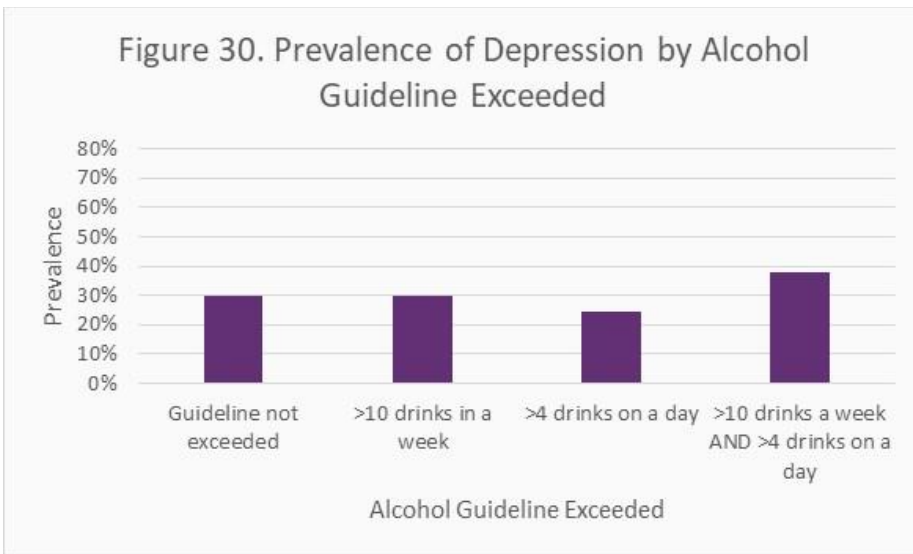


Figure 30 illustrates the prevalence of depression by alcohol use, according to the NHMRC Alcohol guidelines. Patients who consume both more than 10 drinks per week AND 4 drinks on a day have a higher prevalence of depression (38%) than for all other groups.



As presented in Figure 31, 44% of daily smokers are experiencing depression. This is higher than for both ex-smokers (32%) and those who had never smoked (28%).

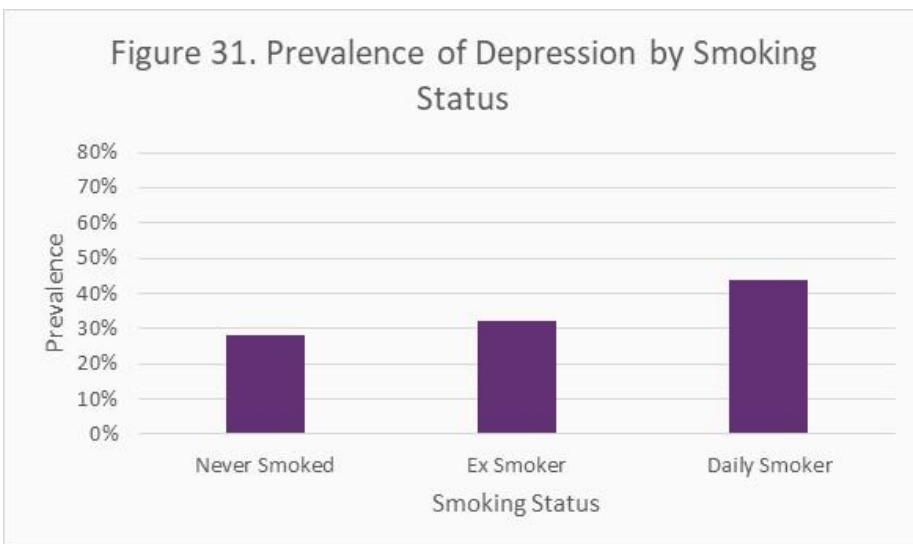


Figure 32 shows that the prevalence of depression is 36% among those classified as obese. This is higher than for those who are overweight (28%). Among patients who are normal weight, 31% are experiencing depression. All six patients classified as underweight were experiencing depression (not shown on graph due to small numbers).

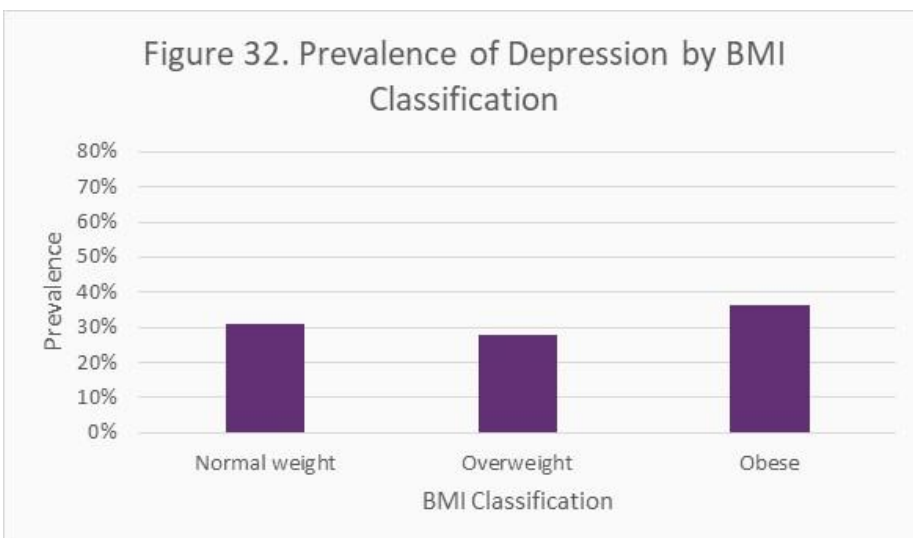


Table 20: Number and percentage of people experiencing depression, by sex, age, and combined age/sex

		n	%
Sex	Male	1,102	29
	Female	248	37.1
Age	18-29	194	24.9
	30-39	519	31.0
	40-49	306	32.9
	50-59	240	32.6
	60+	91	26.2
Age / sex	Male 18-39	576	27.6
	Male 40+	526	30.6
	Female 18-39	137	37.0
	Female 40+	111	37.2
Visit count	1-5	275	18.2
	6-10	172	23.1
	11-20	253	37.0
	21-50	291	42.1
	51-100	162	47.1
	101+	151	56.1
Medication count	0	192	12.4
	1-3	476	30.2
	4-6	388	48.0
	7-9	169	51.8
	10+	125	60.4
Alcohol guidelines	Guideline not exceeded	635	29.6
	>10 drinks in a week	173	30.0
	>4 drinks on a day	62	24.6
	>10 drinks a week AND >4 drinks on a day	289	38.1
Smoking	Never Smoked	721	28.1
	Ex Smoker	343	32.0
	Daily Smoker	262	43.7
BMI classification	Underweight	6	100.0
	Normal weight	238	30.9
	Overweight	516	27.7
	Obese	532	36.3

4.3. ANXIETY

Overall, 23% of patients are experiencing anxiety. The likelihood of experiencing anxiety is higher for female patients (28%) than male patients (22%) (Figures 33 and 34).

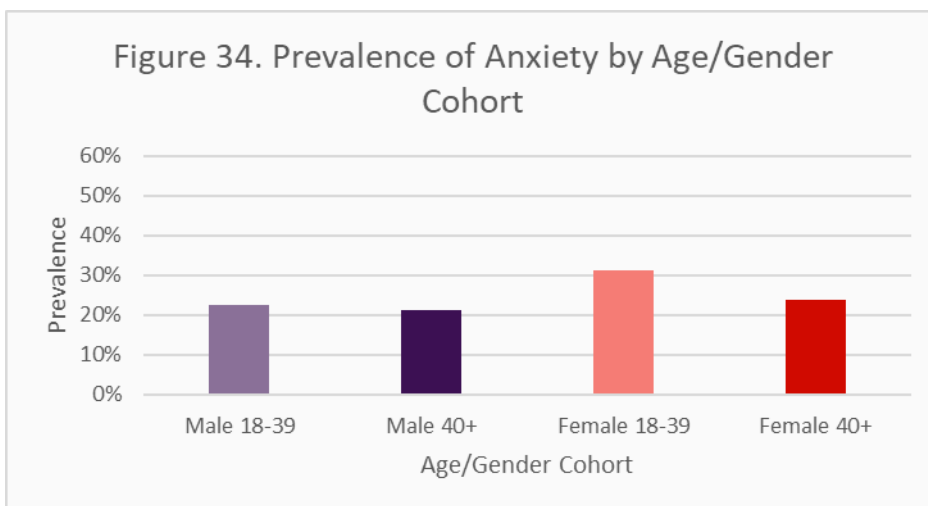
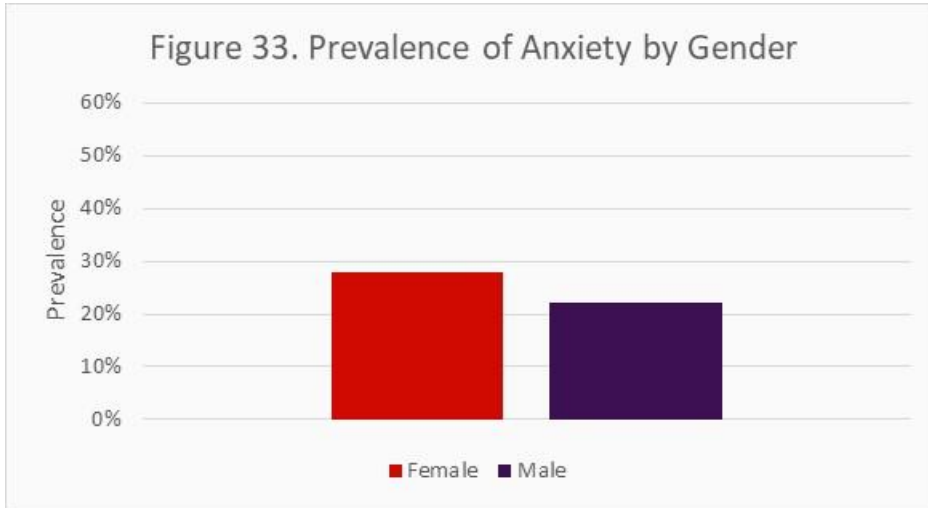
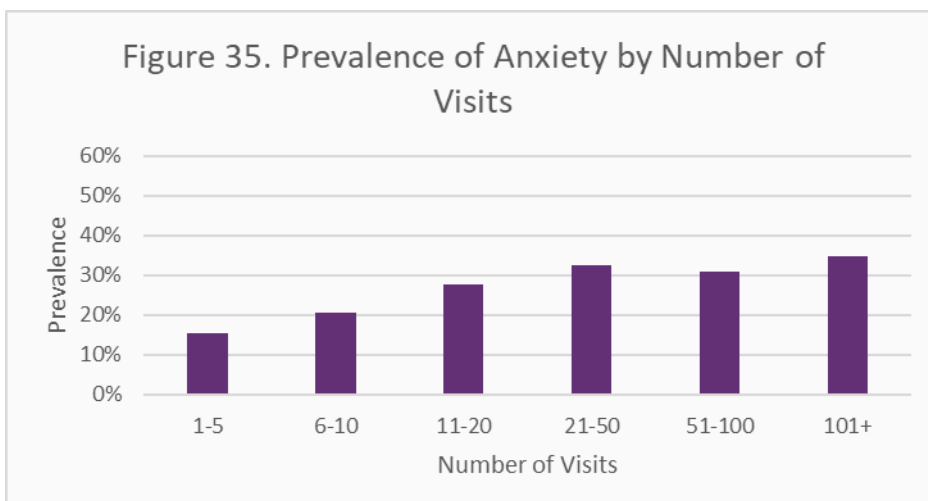


Figure 35 shows that the prevalence of anxiety is higher among patients who have had more than 10 visits to the service. Among those who have had one to five, or six to ten, visits to the service, the prevalence of anxiety is 15% and 20% respectively. Among those who have had 11 or more visits, the prevalence of anxiety is 28% or higher.



The prevalence of anxiety also increases with the number of medications taken, as shown in Figure 36. Of those taking no medications, 11% are experiencing anxiety. This increases to 25% of those taking between one and three medications and 33% of those taking between four and six medications. Of those taking between seven and nine medications, 52% are experiencing anxiety. In the relatively small group who are taking 10 or more medications, 42% are experiencing anxiety.

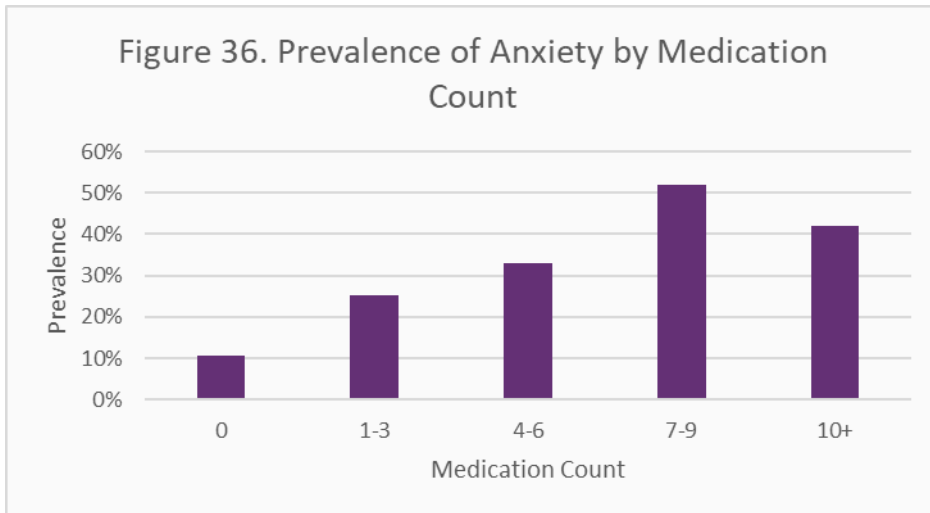
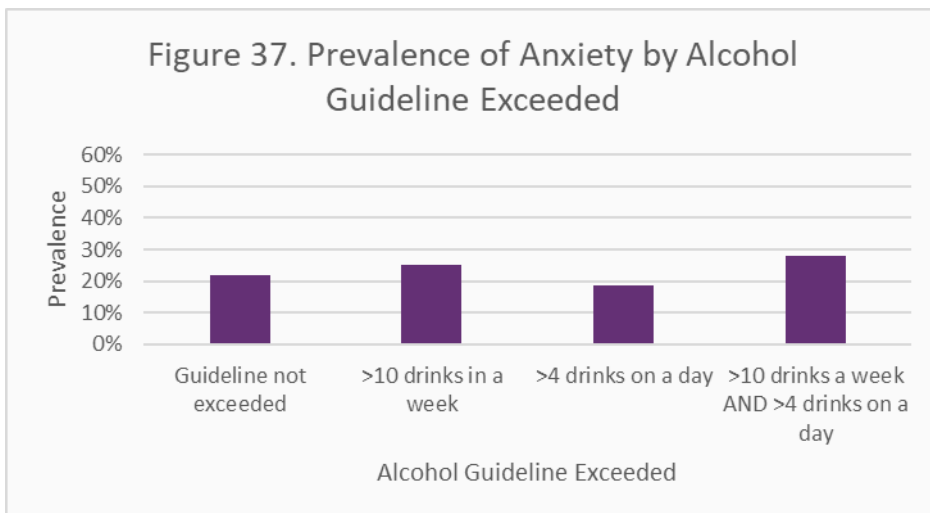


Figure 37 illustrates the prevalence of anxiety by alcohol use, according to the NHMRC Alcohol guidelines. Patients who consume both more than 10 drinks per week AND 4 drinks on a day are more likely to be experiencing anxiety (28%) than those who do not exceed the guidelines (22%).



As presented in Figure 38, 33% of daily smokers are experiencing anxiety. This is higher than for both ex-smokers (24%) and those who had never smoked (21%).

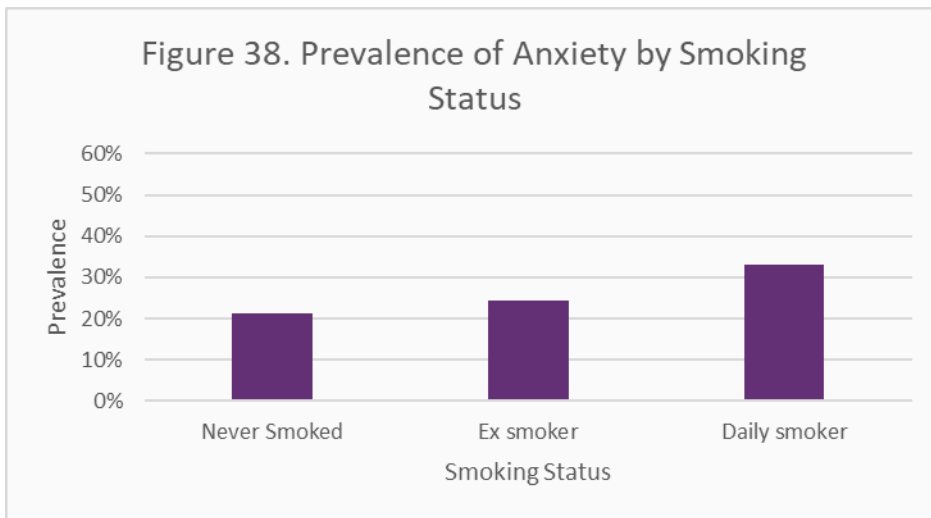


Figure 39 shows that the prevalence of anxiety is 26% among those whose BMI is classified as obese. This is higher than the prevalence for those who are overweight (21%). Among patients who are normal weight, 25% are experiencing anxiety. Four of the six patients who were classified as underweight were experiencing anxiety (not shown on graph due to small numbers).

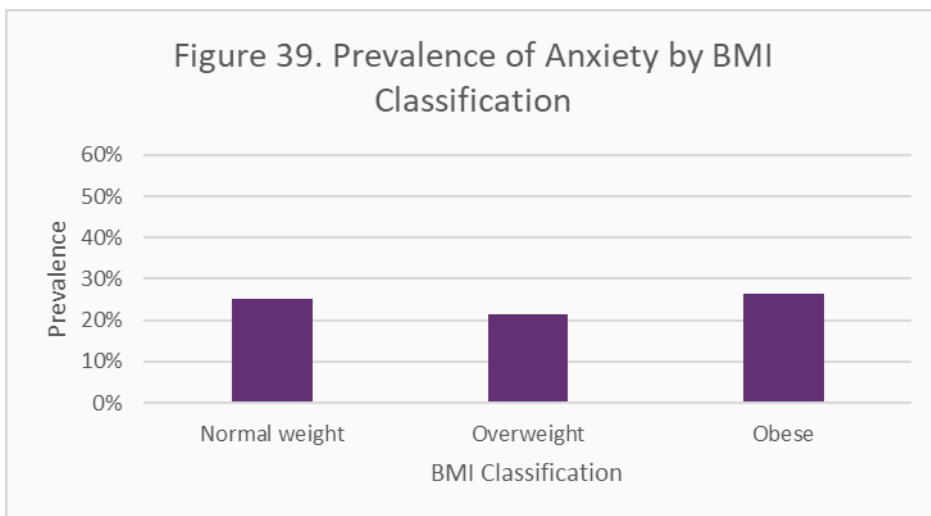


Table 21: Number and percentage of people experiencing anxiety, by sex, age, and combined age/sex

		n	%
Sex	Male	837	22.0
	Female	186	27.8
Age	18-29	155	19.9
	30-39	432	25.8
	40-49	201	21.6
	50-59	173	23.5
	60+	62	17.9
Age / sex	Male 18-39	472	22.6
	Male 40+	365	21.3
	Female 18-39	115	31.1
	Female 40+	71	23.8
Visit count	1-5	233	15.4
	6-10	152	20.4
	11-20	190	27.8
	21-50	225	32.6
	51-100	106	30.8
	101+	94	34.9
Medication count	0	165	10.6
	1-3	397	25.2
	4-6	266	32.9
	7-9	108	51.8
	10+	87	42.0
Alcohol guidelines	Guideline not exceeded	473	22.0
	>10 drinks in a week	145	25.1
	>4 drinks on a day	47	18.7
	>10 drinks a week AND >4 drinks on a day	212	27.9
Smoking	Never Smoked	543	21.2
	Ex smoker	262	24.4
	Daily smoker	198	33.0
BMI classification	Underweight	4	66.7
	Normal weight	193	25.0
	Overweight	399	21.4
	Obese	385	26.3

4.4. DEPRESSION, ANXIETY AND OTHER CO-OCCURRING DISEASES

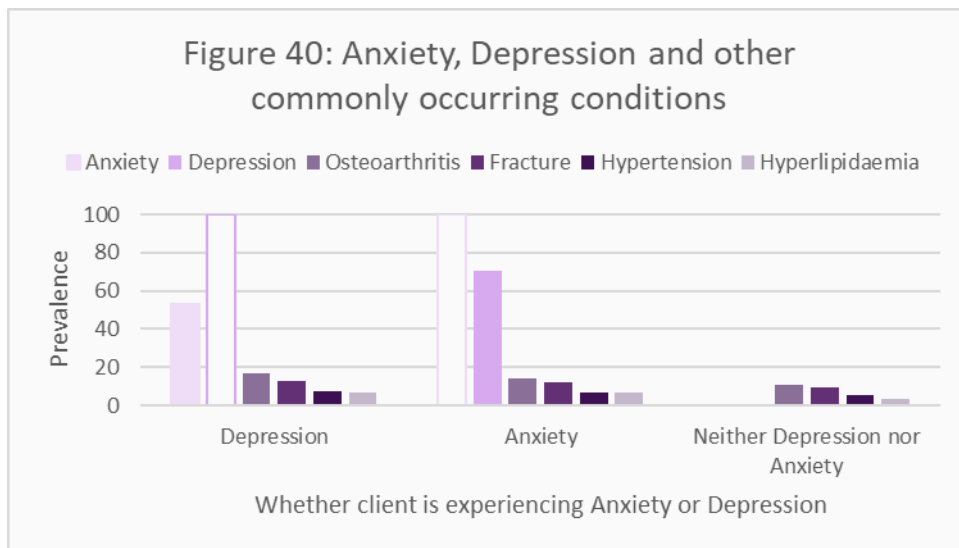
As discussed previously, depression and anxiety are the most commonly occurring conditions and many veteran patients are experiencing both. This is also shown in Figure 40:

- Of patients with depression, 53% are also experiencing anxiety.
- Of patients with anxiety, 70% are also experiencing depression.

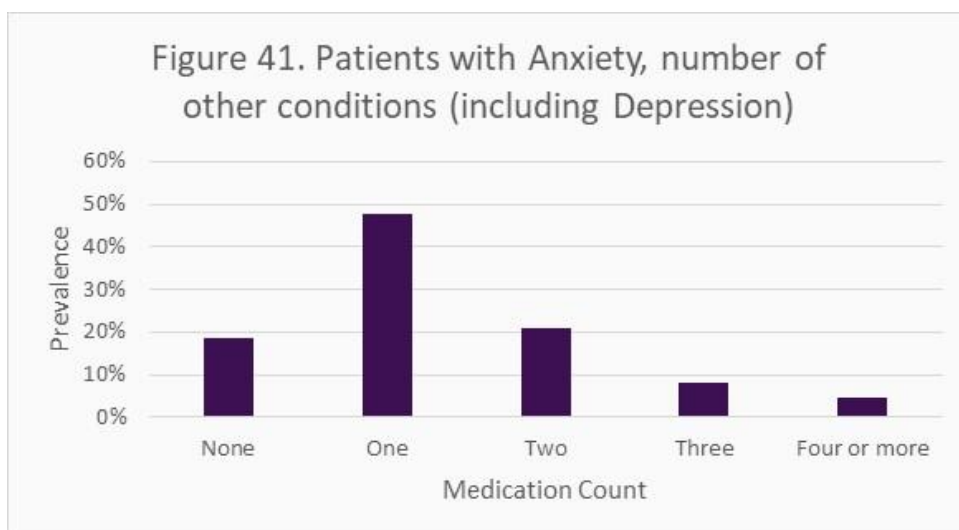
For all patients, including those experiencing anxiety or depression, the next most commonly occurring conditions are Osteoarthritis, Fracture, Hypertension and Hyperlipidaemia.

There is a similar prevalence of Hypertension among those experiencing anxiety (7%), those experiencing depression (7%) and those experiencing neither anxiety or depression (5%).

Osteoarthritis, Fracture and Hyperlipidaemia are all somewhat more prevalent among those with anxiety or depression than those with neither condition (Table 22).



Among patients with depression, about 12% are experiencing three or more other conditions, including anxiety. (Figure 41). Similarly, among patients with anxiety, about 13% are experiencing three or more other conditions, including depression (Figure 42).



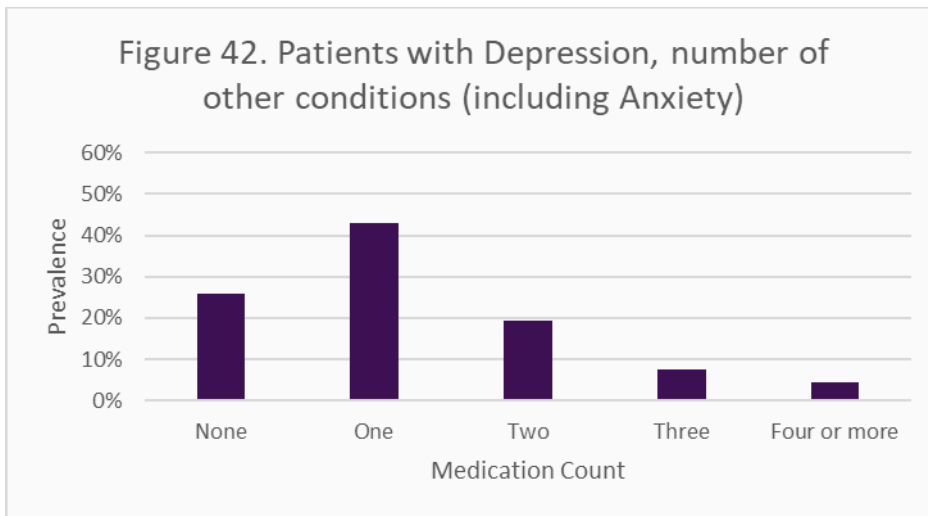


Table 22: Patients experiencing depression, Patients experiencing anxiety and Patients experiencing neither depression nor anxiety. Prevalence of other common disease conditions.

Disease condition	Patients with depression		Patients with anxiety		Patients with neither anxiety nor depression	
	n	%	n	%	n	%
Anxiety	719	53.3	1023	100.0		
Depression	1350	100.0	719	70.3		
Osteoarthritis	224	16.6	148	14.5	296	10.5
Fracture	176	13.0	124	12.1	258	9.2
Hypertension	100	7.4	68	6.6	148	5.3
Hyperlipidaemia	92	6.8	67	6.5	104	3.7

Table 23. Patients with depression, number of other disease conditions (including anxiety)

Number of other conditions	n	%
None	350	25.9
One	581	43.0
Two	260	19.3
Three	101	7.5
Four or more	58	4.3

Table 24. Patients with anxiety, number of other disease conditions (including depression)

Number of other conditions	n	%
None	188	18.4
One	489	47.8
Two	214	20.9
Three	84	8.2
Four or more	48	4.7

5. Conclusion

5.1. SUMMARY OF KEY FINDINGS

- Males aged 18-39 years make up almost half (47%) of all GO2 Health's veteran patients.
- At-risk drinking is common in the patient cohort, **with 42% of all patients exceeding one or both NHMRC criteria for at-risk drinking**. This includes:
 - 16% of all patients consuming more than 10 drinks per week (but not more than 4 drinks on a day)
 - 7% of all patients consuming more than 4 drinks on a day (but not more than 10 drinks per week)
 - 20% of all patients consuming both more than 10 drinks per week AND 4 drinks on a day.
 - Male patients were generally around twice as likely than female patients to display all indicators of at-risk drinking.
 - Those aged 40 years and over are more likely to consume alcohol daily and to consume more than 10 drinks per week.
- Only one-fifth of the veteran patient cohort are classified as normal weight, **whereas 45% are overweight and 36% are obese**.
 - For both sexes, those aged 40 years or over are almost twice as likely to be classed as obese.
- Depression and anxiety are the most prevalent disease conditions in the veteran patient cohort, with **37% of all veteran patients experiencing either anxiety and/or depression**. This includes:
 - 16% of all patients experiencing both anxiety and depression
 - 14% of all patients experiencing depression, but not anxiety
 - 7% of all patients experiencing anxiety, but not depression
 - Females were likelier than males to be experiencing anxiety or depression than males.
- Excluding depression and anxiety, the most prevalent physical health conditions in the veteran patient cohort were **Osteoarthritis (13%), Fracture (10%), Hypertension (6%) and Hyperlipidaemia (5%)**.
 - 23% of all patients were recorded as having any type of musculoskeletal disorder/injury.
 - 11% of all patients were recorded as having any type of cardiovascular disease.
 - Males were twice as likely to be experiencing any cardiovascular disease than females, and somewhat likelier to be experiencing any musculoskeletal disorder/injury.
- **Risk factors and co-occurring conditions for depression and anxiety were broadly similar:**
 - Smoking and excessive alcohol use were behaviours associated with higher prevalence both of depression, and of anxiety.
 - Being classed as obese was associated with higher prevalence of depression.
 - Both depression and anxiety were correlated with higher visit counts and medication counts, however, these associations were more pronounced for patients experiencing depression.
 - Osteoarthritis, Fracture and Hyperlipidaemia are all somewhat more prevalent among those with anxiety or depression than those with neither condition.

5.2. POSSIBILITIES FOR FURTHER ANALYSIS FOLLOWING THIS PROJECT

- Multivariate analyses to isolate key predictors of specific conditions (e.g. mental health) or risk factors (e.g. excessive drinking).
- Incorporation of any other available data to help measure social determinants of health (e.g. occupation, relationship, residential status);
- Mapping of key patient attributes / health conditions using postcode;
- Comparative analysis with 2021 ABS data (which includes ADF service variable and chronic health conditions) to contextualise disease condition prevalences within broader veteran population;
- Comparative analysis with other ABS Health datasets e.g. National Health Survey to contextualise risk factor prevalence (e.g. alcohol/smoking/BMI) within general population