

6. HEALTH IMPACTS OF ALCOHOL

The Moray Alcohol and Drug Partnership (MADP) supports service users who are drinking or using drugs at levels or patterns that are damaging to themselves or others. The number of service users obtaining support for alcohol misuse varies from quarter-to-quarter, from 162 in quarter 3 2014/15 to 299 in quarter 2 2016/17 (Figure 42). This may not be a precise measure of the level of alcohol misuse across Moray, but it provides an indication of trends in the numbers of people looking for support.

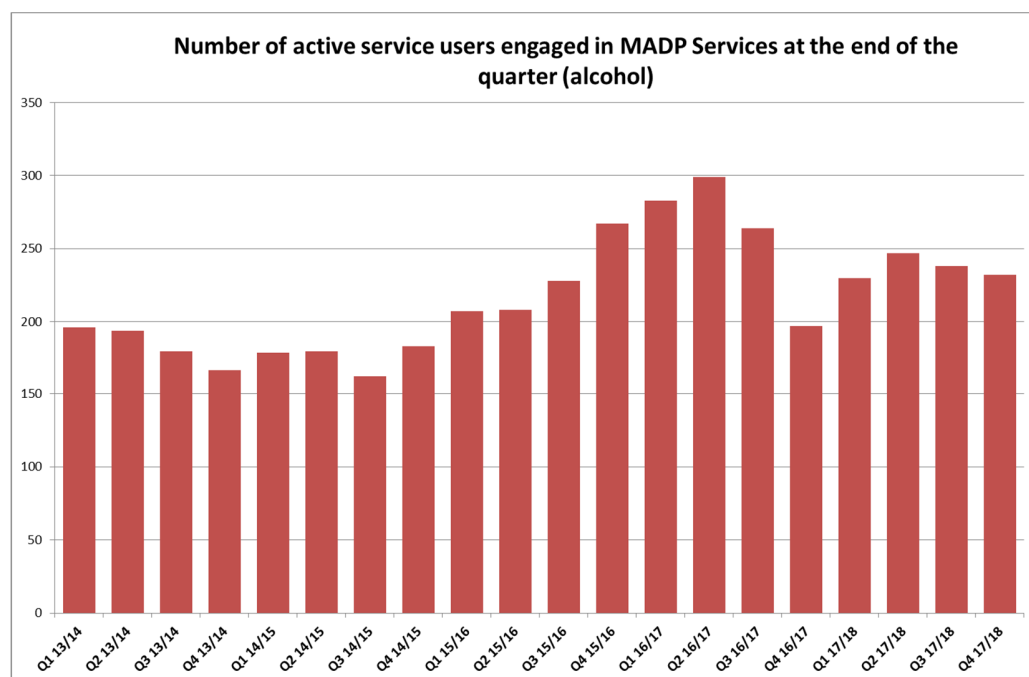


Figure 42: Number of active service users engaged in MADP services – alcohol related (2013/14 to 2017/18)

One method of understanding the trends in data is to plot the figures on a control chart and identify if the variation is consistent, and can be considered in control, or is unpredictable, and can be considered as out of control or a special cause. There are a number of out-of-control signals, such as the data point being greater than 3 standard deviations from the mean¹⁹. Figure 43 uses the data from figure 42 and identifies 2 points in quarter 1 and quarter 2 2016/17 that can be considered as out-of-control. However, since then the number of active service users has reduced gradually.

¹⁹ <http://asq.org/learn-about-quality/data-collection-analysis-tools/overview/control-chart.html>

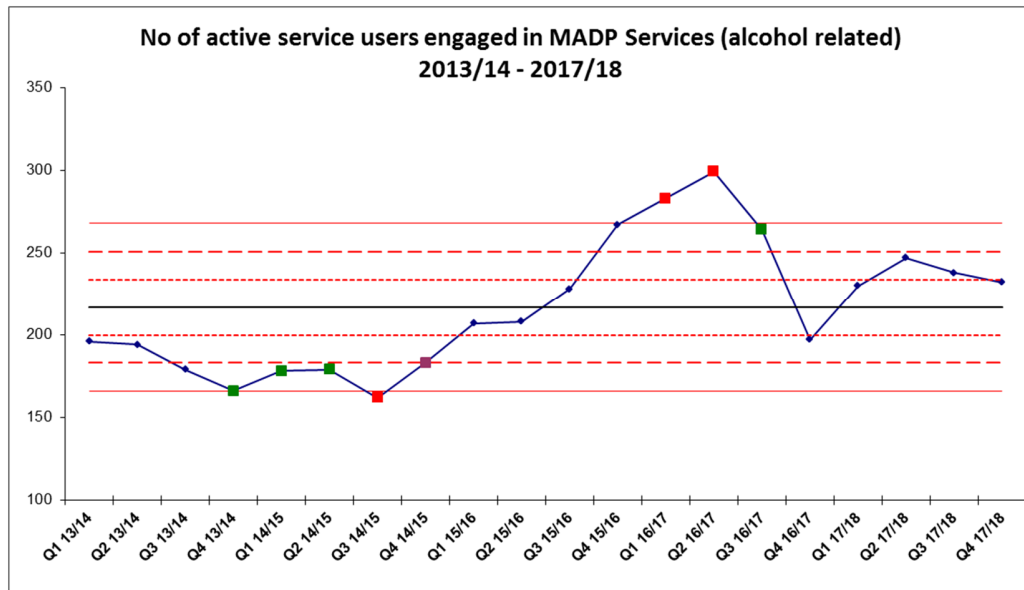


Figure 43: Control chart for figure 42

Over the past 9 quarters the number of clients treated by the Moray ADP for alcohol misuse has fluctuated between 47 and 92 (during the quarter July – September 2016). Since then the number has averaged around 68 per quarter (Figure 44).

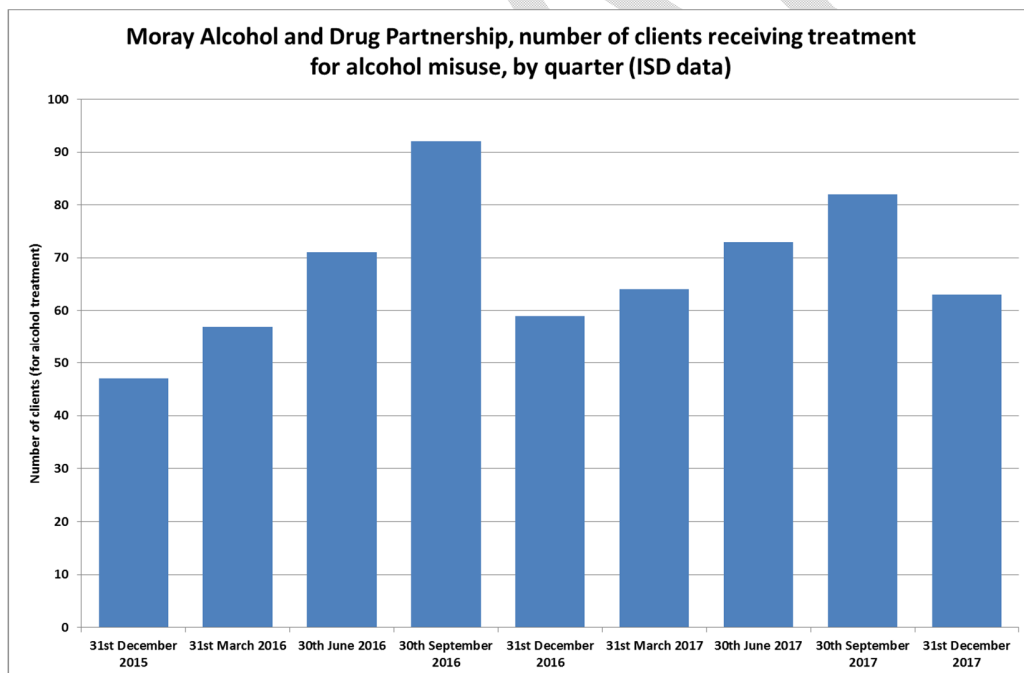


Figure 44: Number of clients receiving treatment for alcohol misuse from Moray ADP (Oct 15 – Dec 17) (ISD data)

Figures from the NHS Information Services Division for Scotland (Figure 45) show a clear correlation between hospital stay rates due to alcohol-related causes and level of deprivation of the area that the patient resides in.

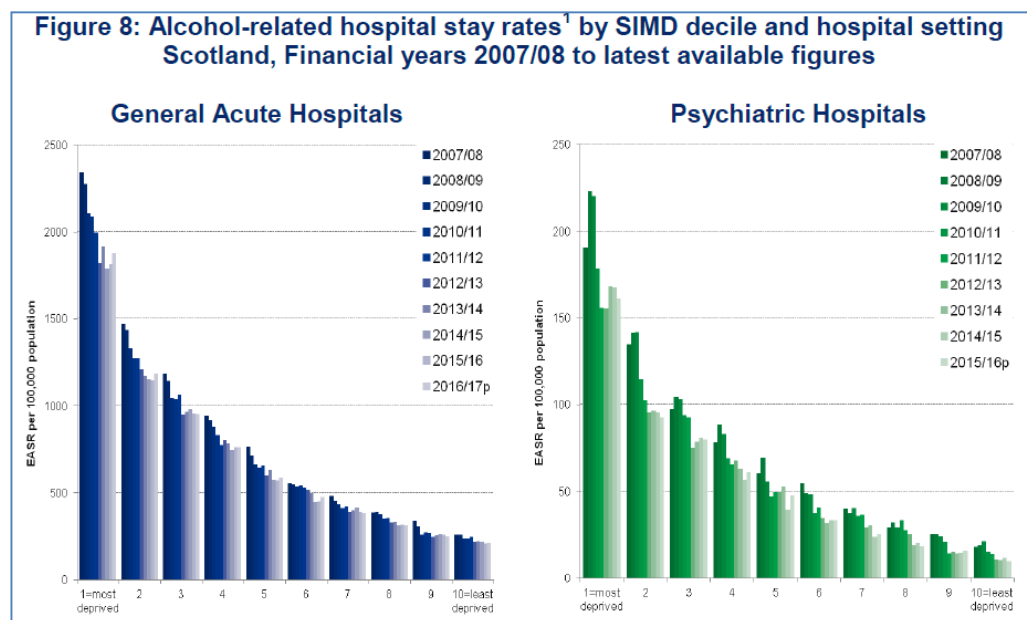


Figure 45: Alcohol-related Hospital Statistics Scotland 2016/17 – Hospital stays by SIMD decile²⁰

A similar situation is observed in Moray when analysing the Scottish Index of Multiple Deprivation (SIMD) 2016 data. There were data zones where no-one recorded an alcohol-related hospital stay, but also 3 data zones that recorded double the Scottish average (Figure 46). However, there has been a significant decrease since 2012 when residents in data zones were recording the highest number of hospital stays due to alcohol-related causes were over 3 times the Scottish average (Figure 47).

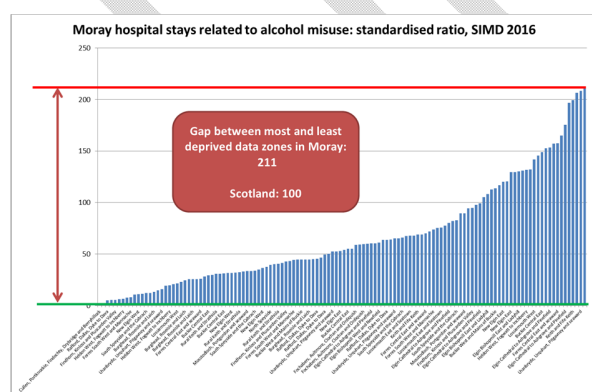


Figure 46: Moray hospital stays related to alcohol misuse – gap between most and least deprived data zones in Moray 2016 (Scottish Index of Multiple Deprivation)

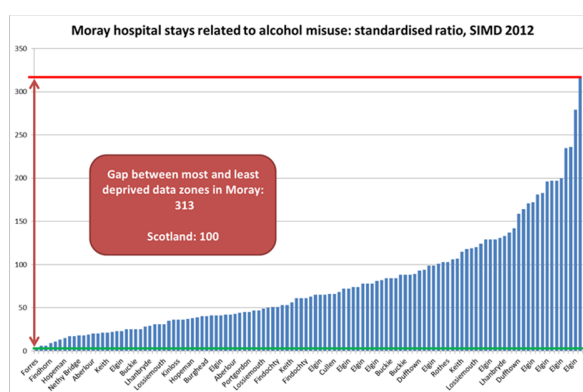


Figure 47: Moray hospital stays related to alcohol misuse – gap between most and least deprived data zones in Moray 2012 (Scottish Index of Multiple Deprivation)

²⁰ Alcohol-Related Hospital Statistics Scotland 2016/17 Publication date – 21 November 2017 NHS ISD

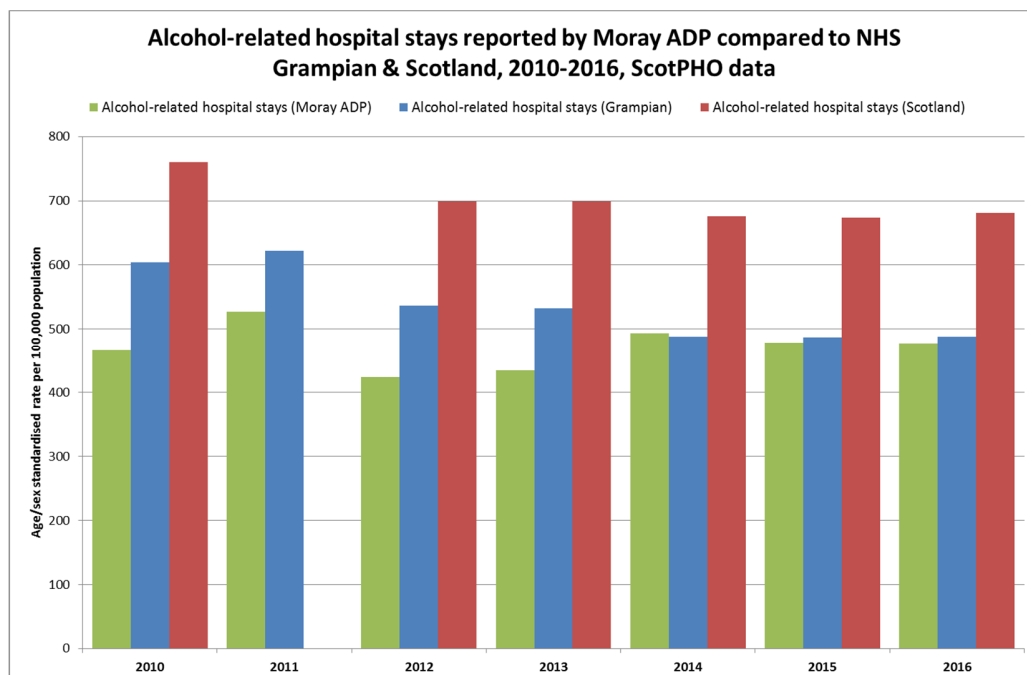


Figure 48: Alcohol-related hospital stays reported by Moray ADP compared to NHS Grampian & Scotland, 2010-2016, ScotPHO data²¹

Data for alcohol-related conditions is collected by the Scottish Public Health Observatory (ScotPHO) and has been used to compare differences between national rates, NHS Grampian and the area covered by the Moray Alcohol and Drug Partnership (MADP). Since 2010 MADP has recorded a lower rate of alcohol-related hospital stays compared to Scotland, and in recent years about the same rate as the wider NHS Grampian area. In 2016 the overall rate for the MADP area was 70% of the national rate (Figure 48). Furthermore, there has been a gradual reduction in the rate of alcohol-related hospital stays since 2002 in Moray (Figure 49), reflecting the national trend. In 2012, however, the rate in Moray started to increase, but appears to have stabilised in the past 3 years.

²¹ <https://scotpho.nhs.uk/scotpho/profileSelectAction.do>

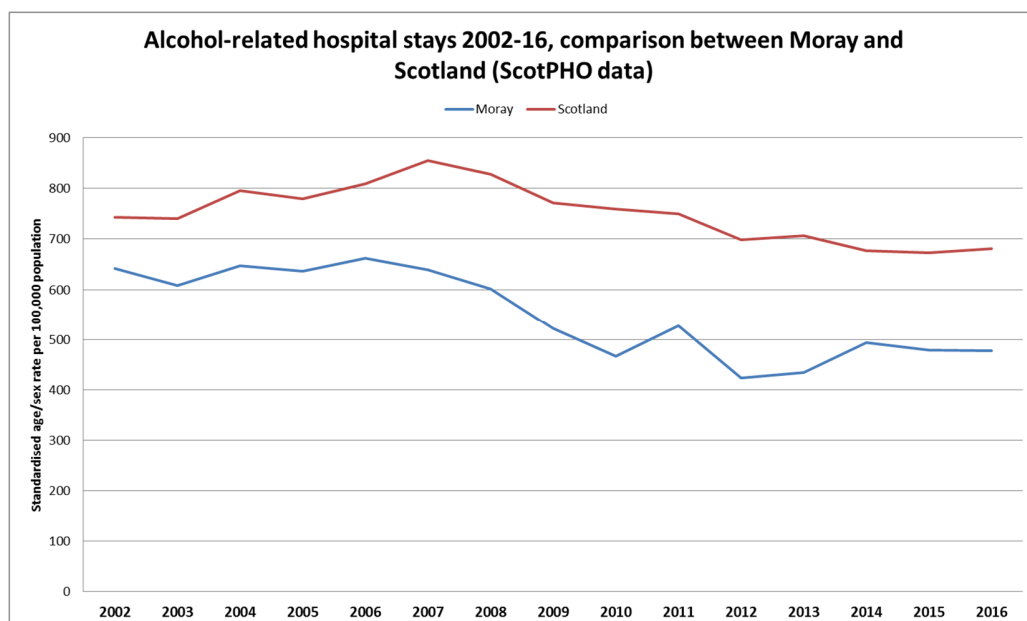


Figure 49: Alcohol-related hospital stays 2002-16, comparison between Moray and Scotland (ScotPHO data)

ScotPHO²² provides information on alcohol-related hospital stays for intermediate zones. The latest data is for the financial year 2016/17 and Figure 50 shows the rate per 10,000 populations (standardised for age and sex to remove the effects of different demographics in each area) for the intermediate zones that make up Moray. There is a considerable variation in the number of stays between areas with most intermediate zones being below the Scottish average. The 5 areas with the highest rates of alcohol-related hospital stays are:

1. Elgin Cathedral to Ashgrove and Pinefield
2. Keith and Fife Keith
3. Buckie Central East
4. Forres South West and Mannachie
5. Elgin Bishopmill East and Ladyhill

Note that the first 4 areas on this list have higher rates of alcohol-related stays than the national average.

²² Scottish Health Public Observatory

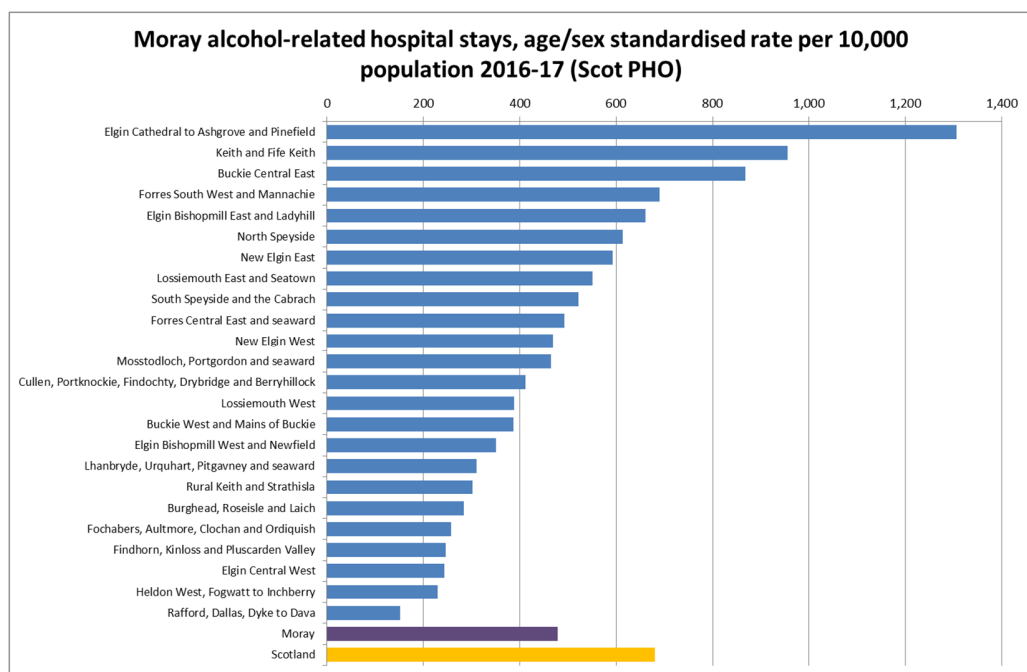


Figure 50: Moray alcohol-related hospital stays, age/sex standardised rate per 10,000 population 2016-17 (Scot PHO)

The two intermediate zones on the above list situated in Elgin have similar number of alcohol outlets, but Elgin Cathedral to Ashgrove and Pinefield (Figure 51) has a higher rate of alcohol-related hospital admissions. The Community Profile for this intermediate zone²³ created for the Moray Community Planning Partnership found that residents in this part of Elgin had relatively low life expectancy, a relatively high rate of adults claiming Incapacity benefit/severe disability allowance/employment & support allowance, and out of work benefits compared to the Moray average. Data zones within this community were in the most-deprived SIMD (Scottish Index of Multiple Deprivation) 2016 quintiles in Scotland for housing, crime and education/skills/training. These factors may influence the high rate of alcohol-related hospital stays by residents of Elgin Cathedral to Ashgrove and Pinefield.

Keith and Fife Keith has the second highest rate of alcohol-related hospital stays in Moray and contains the majority of publically-accessible alcohol outlets within the Keith ASG area. Note, however, that the 2 adjacent intermediate zones have below average rates for this measure (Figure 52). The SIMD (2012) quintile rankings for the various domains of deprivation suggest that Keith has some anti-social crime issues and some variability in the Education domain. Overall however, Keith scores well for relative deprivation with the vast majority of scores in the middle quintile or higher²⁴.

²³ <http://yourmoray.org.uk/downloads/file113617.pdf>

²⁴ <http://yourmoray.org.uk/downloads/file113697.pdf>

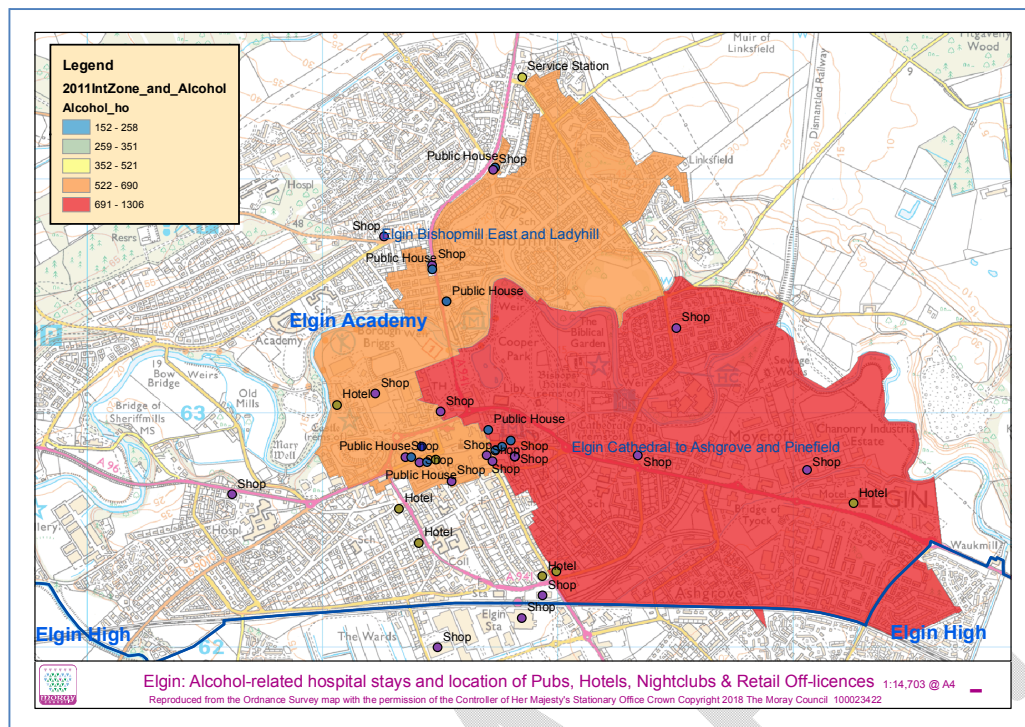


Figure 51: Elgin – alcohol-related hospital stays and location of public alcohol outlets

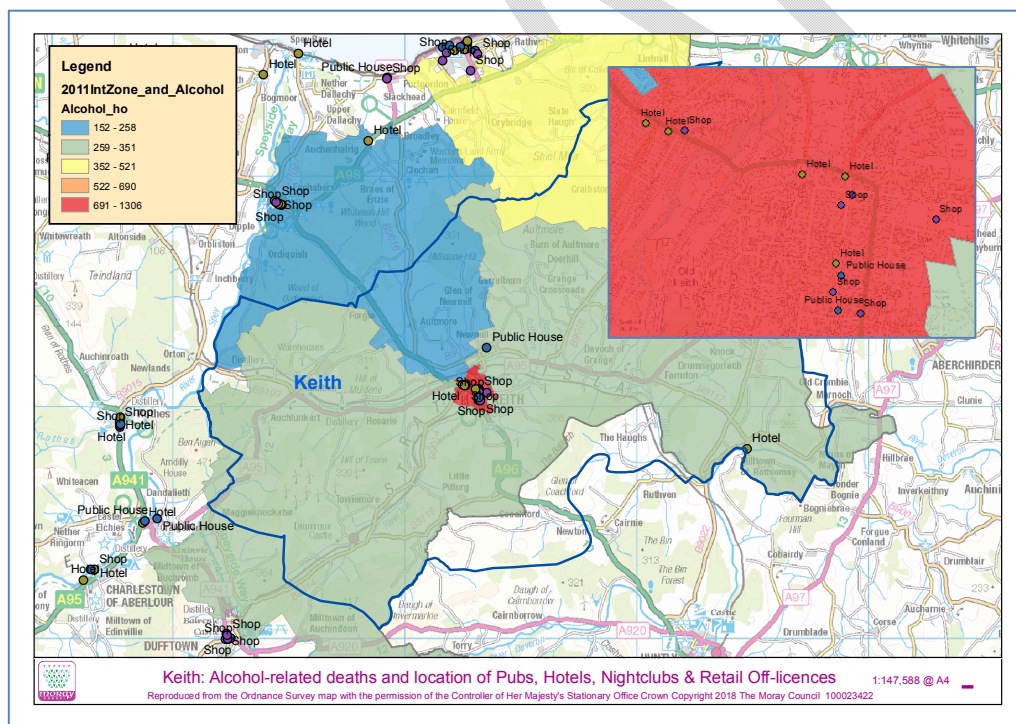


Figure 52: Keith - alcohol-related hospital stays and location of public alcohol outlets

By contrast, Buckie Central East has relatively few alcohol outlets accessible by the general public, and fewer than the adjacent intermediate zone that has a lower rate of alcohol-related hospital stays (Figure 53). From previous analysis work undertaken in support of the Local Outcomes Improvement Plan Buckie Central East suffers from low employment, low average income and below average for a number of health and wellbeing factors. Furthermore, there is a relatively high proportion of children living in poverty and the area does not perform well educationally²⁵.

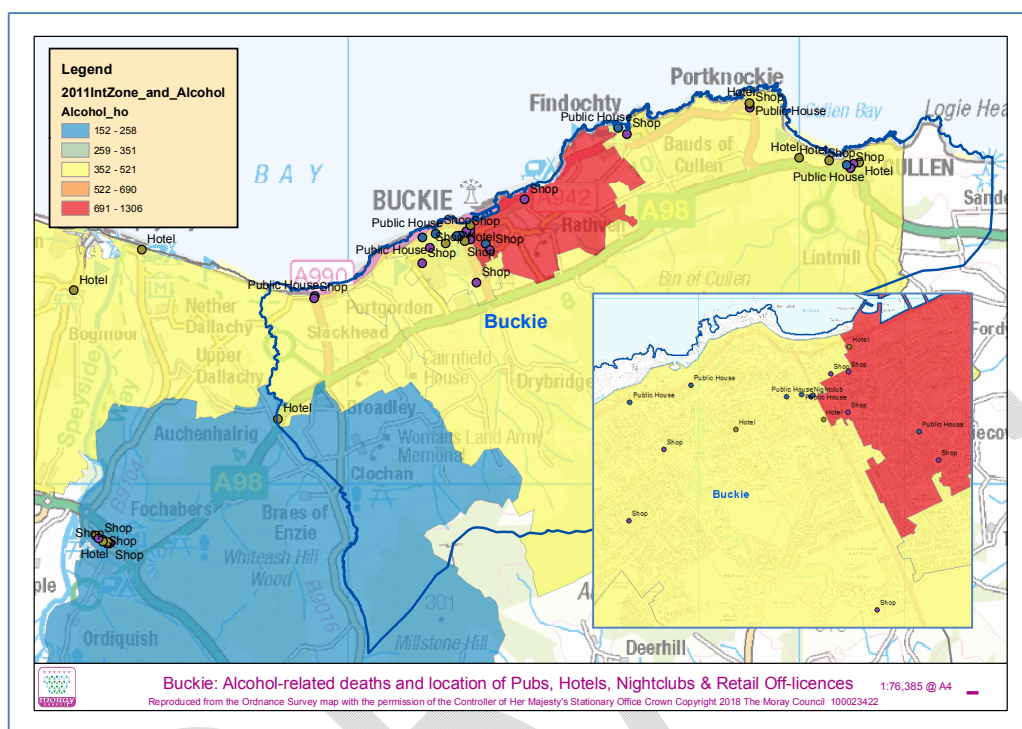


Figure 53: Buckie - alcohol-related hospital stays and location of public alcohol outlets

In Forres, despite having a relatively high concentration of alcohol outlets in the town centre neither of the 2 intermediate zones has the highest rates of alcohol-related hospital stays across Moray (Figure 54).

²⁵ <http://yourmoray.org.uk/downloads/file111149.pdf>

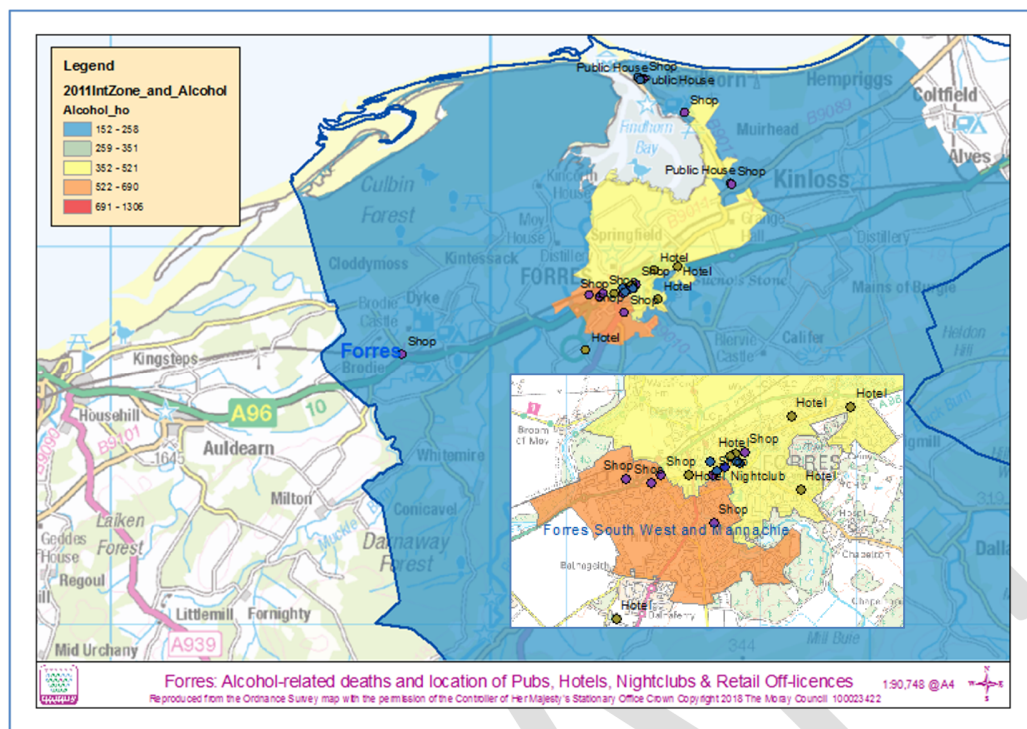


Figure 54: Forres - alcohol-related hospital stays and location of public alcohol outlets

To give an idea of the differences across different communities in Moray for the rate for alcohol-related hospital stays note that in the area with the lowest rate (Rafford, Dallas, Dyke to Dava) hospital stays are one-third of the Moray average, and a quarter of the national average. However, at the other extreme, in Elgin Cathedral to Ashgrove and Pinefield the rate is twice the Scottish average. Table 2 compares the alcohol-related mortality data from Figure 50 with the alcohol-related stays for each of these intermediate zones. While the correlation is not perfect it can be seen that areas with higher alcohol-related death rates tend to have a greater proportion of alcohol-related hospital stays.

Alcohol Focus Scotland in their Moray factsheet²⁶ state:

Research from the universities of Edinburgh and Glasgow, which investigated whether alcohol-related illnesses and deaths across Scotland were related to the local availability of alcohol outlets, showed that across Scotland alcohol-related hospitalisations and deaths were higher in areas with higher alcohol outlet availability.

While there is some correlation between alcohol-related deaths and hospitalisations and the number of publically accessible alcohol-outlets in Moray, the above figures suggest it is not an exact match.

²⁶ Alcohol Focus Scotland, Moray Outlet Density

Alcohol-related mortality 2014 (Scot PHO data)		Alcohol-related hospital stays
Scotland	22	680.8
Moray	21.1	478
Lossiemouth West	0	388.1
Rural Keith and Strathisla	0	302.7
Elgin Central West	5.5	243.7
North Speyside	8.7	613
Cullen, Portknockie, Findochty, Drybridge and Berryhillock	8.9	411.8
Heldon West, Fogwatt to Inchberry	9.4	230
Findhorn, Kinloss and Pluscarden Valley	9.9	247.1
Burghead, Roseisle and Laich	10.2	283.6
Lhanbryde, Urquhart, Pitgavney and seaward	12.5	309.9
New Elgin West	13.2	469.1
Buckie West and Mains of Buckie	17.9	387.4
Mosstodloch, Portgordon and seaward	18.3	464.1
Rafford, Dallas, Dyke to Dava	20	152.1
New Elgin East	22.4	593.3
Fochabers, Aultmore, Clochan and Ordiquish	23.2	258.2
Elgin Bishopmill West and Newfield	23.7	350.9
Forres South West and Mannachie	25.2	689.5
South Speyside and the Cabrach	31.1	521.1
Elgin Cathedral to Ashgrove and Pinefield	31.5	1305.9
Buckie Central East	32.6	868.3
Keith and Fife Keith	37.3	955.3
Elgin Bishopmill East and Ladyhill	37.8	660.9
Forres Central East and seaward	44	492.3
Lossiemouth East and Seatown	51.5	550.9

Table 2: Moray's intermediate zones – comparison of rate of alcohol-related hospital stays and alcohol-related mortality

Between 2011 and 2016 there has been a 9% reduction in the rate of alcohol-related hospital stays in both Moray and Scotland. In 2016 Moray recorded 478 stays per 100,000 population²⁷ compared to 528 in 2011. Similarly there was a reduction in the national rate from 750 stays per 100,000 population in 2011 to 681 in 2016. The data for the 5 intermediate zones with the highest rates of alcohol-related hospital stays in 2016 were plotted for earlier years to see if these areas had consistently high rates for this measure. As Figure 55 illustrates Elgin Cathedral to Ashgrove and Pinefield has recorded a higher rate than the Scottish average throughout this 6 year snapshot. Keith and Fife Keith has also been higher than the Scottish average on 4 of the 6 years, with Elgin Bishopmill East and Ladyhill equalling the Scottish average in 2011, and exceeding it for 3 years. Buckie Central East & Forres South West and

²⁷ ScotPHO data - General acute inpatient and day case stays with a diagnosis of alcohol misuse in any diagnostic position: number and directly age-sex standardised rate per 100,000 population

Mannachie have both shown increasing trends in recent years and in 2016 both exceeded the Scottish average. Note, however, that care must be taking when interpreting this data as the number of alcohol-related stays in each datazone is relatively low, and can vary significantly from year to year. This can have a disproportionate impact on the rate per 100,000 population.

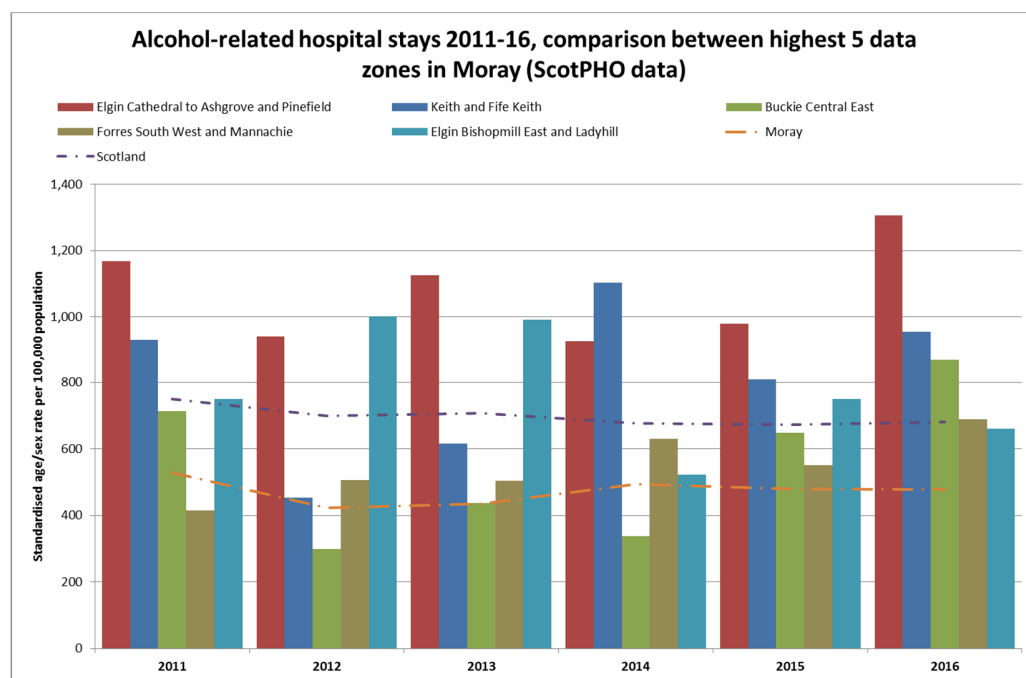


Figure 55: Alcohol-related hospital stays 2011-16, comparison between highest 5 data zones in Moray (ScotPHO data)

Having identified the areas with the highest rates of alcohol-related hospital stays it would be interesting to analyse the drinking habits of the residents of the Moray intermediate zones. However, it has not been possible to obtain numbers for these small geographical areas, which prevents a meaningful comparison of drinking habits within Moray and any correlation with the local availability of alcohol, for example.

ScotPHO data is not available for Moray, nor for the Moray Alcohol & Drug Partnership area, for the number of people exceeding weekly drinking limits, or people indulging in binge drinking. For these measures data has been used for the NHS Grampian region to provide a comparison with national figures. The data indicates that the proportion of people drinking in excess of weekly guidance levels in NHS Grampian is similar to the proportion across Scotland, but there has been a slight decrease in the proportion of males in NHS Grampian and Scotland exceeding these limits between 2014 and 2010 (Figure 56).

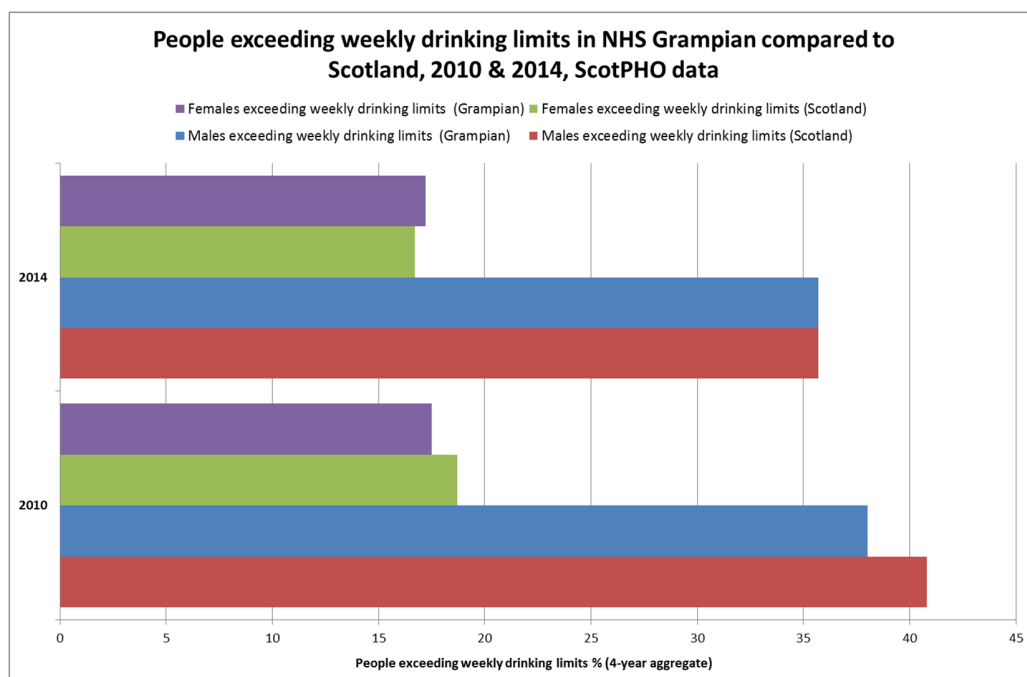


Figure 56: People exceeding weekly drinking limits in NHS Grampian compared to Scotland, 2010 & 2014, ScotPHO data

Binge drinking is defined by ScotPHO as twice the previous daily recommended limits (21 units per week for men and 14 for women) before the limits were changed in 2016. The proportion of binge drinkers in NHS Grampian is similar to the proportion across Scotland, with the proportion of males once again higher than females. However, the proportion of males binge drinking (around 25%) is lower than the proportion exceeding the weekly limits (35% in 2014), but the proportion of females binge drinking is much closer to the proportion exceeding weekly limits; for NHS Grampian in 2014 17.2% exceeded the weekly limits and 15.6% were binge drinkers (Figure 57).

A study published in the Lancet (p1520)²⁸ suggested that binge-drinkers had the highest risk for all-cause mortality, and that drinking in excess of 12.5 units per week led to an increased risk of early mortality. The study found that those drinking between 12.5 and 25 units per week had a lower life expectancy at age 40 years of approximately 6 months, and for those drinking over 62.5 units per week (approximately 21 pints of 5-6% beer, or 7 bottles of red wine) life expectancy at 40 years is reduced by 4 to 5 years.

What is a unit of alcohol?		
One unit of alcohol (UK) is defined as 10 millilitres (8 grams) of pure alcohol.		
This is equivalent to:		
• one 25ml single measure of whisky (ABV 40%),	• a third of a pint of beer (ABV 5-6%)	• half a standard (175ml) glass of red wine (ABV 12%)

Table 3: Examples of a unit of alcohol

²⁸ Angela M Wood et al, 2018, *Risk thresholds for alcohol consumption: combined analysis of individual-participant data for 599 912 current drinkers in 83 prospective studies*, The Lancet, Vol 391 April 14, 2018

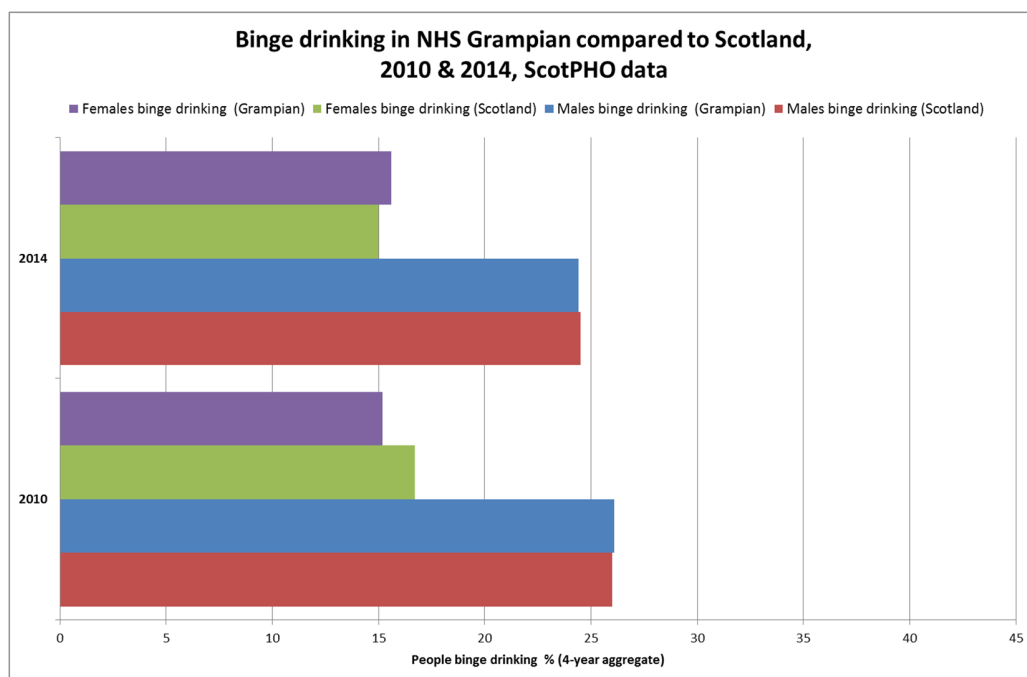


Figure 57: Binge drinking in NHS Grampian compared to Scotland, 2010 & 2014, ScotPHO data

Problem drinking is defined by ScotPHO as a score of 8 or more on the Alcohol Use Disorders Identification Test (AUDIT)²⁹. Such a score is considered to indicate hazardous or harmful alcohol use. In 2014 rates for NHS Grampian were similar to, but slightly lower, than the national rates. Female rates were less than half the male rates (Figure 58).

²⁹ <https://www.drugabuse.gov/sites/default/files/files/AUDIT.pdf>

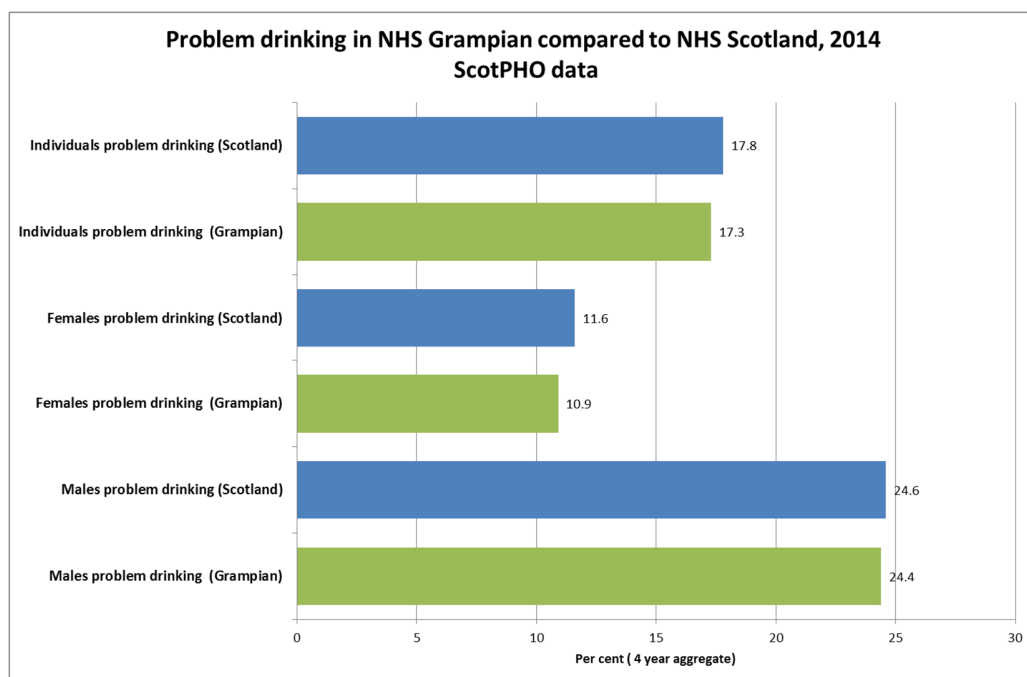


Figure 58: Problem drinking in NHS Grampian compared to NHS Scotland, 2014m ScotPHO data

Alcohol related hospital stays in Moray are recorded by the NHS Information Services Division (ISD), which show that the numbers of patients have shown a gradual decrease since 1997/98. There was a blip between 2000/10 and 2008/09, but since then the numbers have been relatively stable between 300 and 350 patients per year (Figure 59).

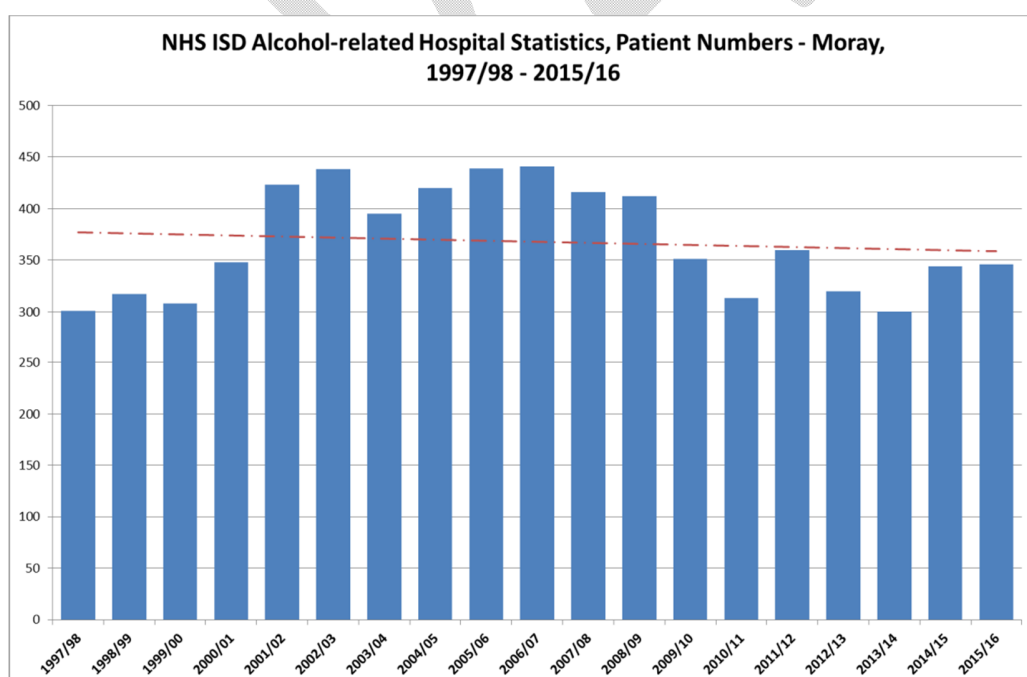


Figure 59: Alcohol-related hospital stays Moray (number of patients) 1997/98 to 2015/16

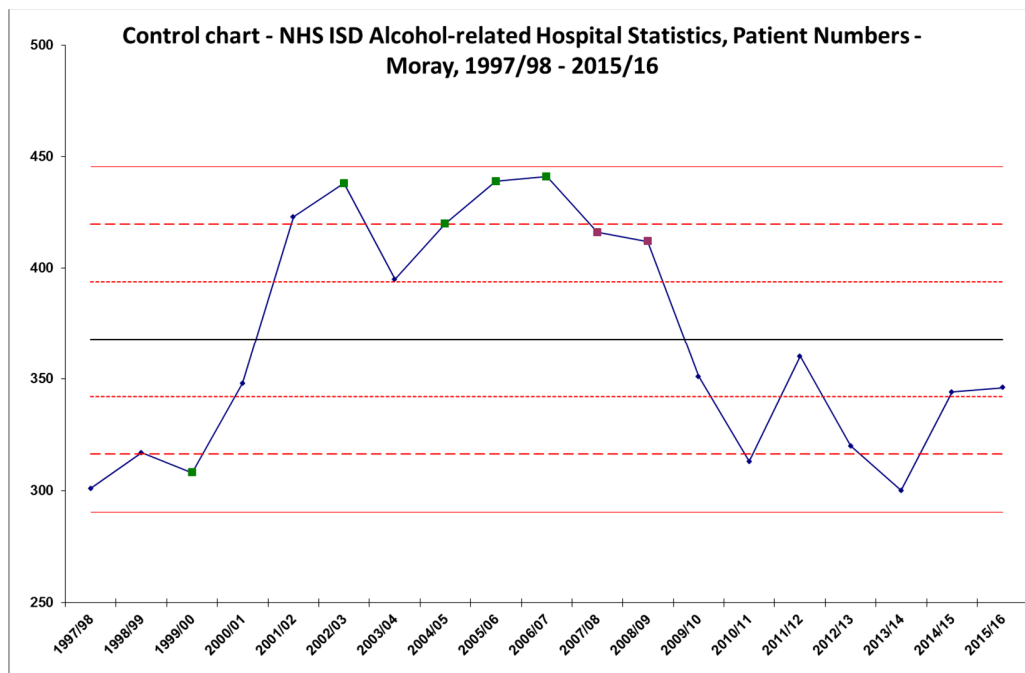


Figure 60: Control chart for alcohol related hospital patients shown in figure 59

The control chart (Figure 60) support the suggestion that the numbers have settled down since 2008/09 and are fluctuating around an average of 325 per year, rather than the average of 425 per year a decade ago.

Summary alcohol-related health conditions:

- The number of active service users engaged in Moray Alcohol and Drug Partnership (MADP) services for alcohol issues has remained relatively constant over the past 6 quarters (an average of 68) and has reduced since the peak of 92 in the summer of 2016.
- The MADP area has a lower rate of alcohol-related hospital stays compared to NHS Grampian and nationally. The rate has been fairly constant since 2014.
 - ScotPHO data shows a similar picture for Moray, but demonstrates a gradual reduction in alcohol-related hospital stays since 2002
 - There are only 4 intermediate zones within Moray that have higher than national rates for this measure: one in Elgin, one in Keith, one in Buckie and one in Forres
- The correlation between high concentrations of publically-accessible alcohol outlets and high rates of alcohol-related hospital stays is variable. For example:
 - Keith and Fife Keith has the second highest rate of alcohol-related hospital stays in Moray and contains the highest proportion of public alcohol outlets in its locality.
 - However, Forres has a relatively high concentration of alcohol outlets in the town centre, but neither of the 2 intermediate zones is in the top quintile in Moray for alcohol-related stays.

- On the other hand, Buckie Central east has relatively few publically-accessible alcohol outlets compared to the neighbouring intermediate zone but has the 3rd highest rate of alcohol-related hospital stays in Moray.
- According to NHS Information services Division data the number of patients in hospital with alcohol-related conditions average approximately 325 per year across Moray, down from an average of 425 a decade ago.

DRAFT