



## Local Analysis of Alcohol Related Admission Rates in Northamptonshire – 2015/16 Update

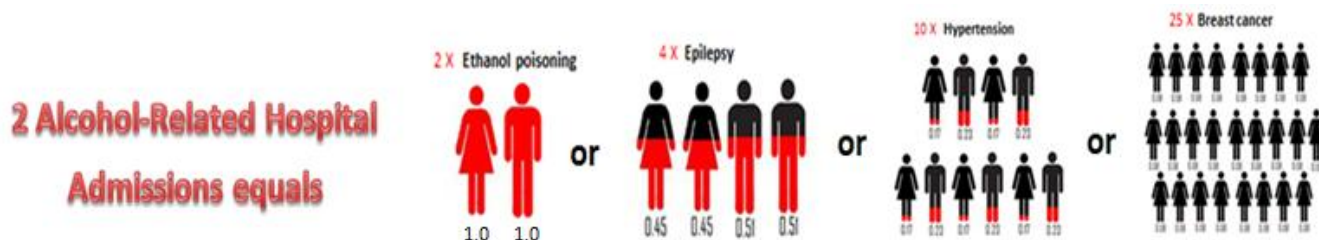
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## Background

National indicators provided by [Local Alcohol Profiles for England](#) (LAPE) showed a sharp increase in alcohol related hospital admissions in Northamptonshire between 2013/14 and 2014/15, and previous analysis using local Secondary Uses Service (SUS) data from the Arden and Greater East Midlands Commissioning Support Unit explored this increase in greater detail to determine statistical significance. With 2015/16 SUS data and mid-2015 population estimates now available, it is possible to produce an up to date local analysis of trends in admissions.

In order to conduct this analysis, the methodology used for calculating the national indicators has been replicated as closely as possible based on publicly available materials. Alcohol Attributable Fractions (AAFs) as per the 2014 report "[Updating England-Specific Alcohol-Attributable Fractions](#)" were used to estimate the likelihood of hospital admissions being linked to alcohol based on diagnoses, patient age and gender. Totalling the appropriate probabilities across all admissions provided estimates of the numbers of hospital admissions that were related to alcohol. For example:



There are two types of indicator based on AAFs that have been replicated here:

- A broad measure that considers all diagnosis codes for each admission; and
- A narrow measure that considers only the primary diagnosis and external cause codes (e.g. assault).

The broad measure provides an overall estimate of the wider impact of alcohol on health services, while the narrow measure was introduced by Public Health England as an indicator that is less sensitive to coding practices and more responsive to changes brought about by local initiatives.

Both measures are expressed as rates of admission episodes per 100,000 population, which allows comparisons to be made across different geographies and timeframes. The local estimated numbers admissions have been converted to rates based on population estimates from the [Office for National Statistics](#). All non-age specific rates have been directly standardised to the [2013 European Standard Population](#). The age groups used for the age-specific rates mirror the age brackets used in the published table of AAFs.

95% confidence intervals have been calculated around the rates to illustrate margins of error. Further statistical tests (pooled z tests) have been undertaken to determine whether differences between 2014/15 and 2015/16 rates were significant.

## Limitations

- The national indicators are based on Hospital Episode Statistics, which are derived from SUS data but have gone through additional layers of data quality checking and cleansing. There may also be subtle differences between the methodologies applied nationally and locally to produce the alcohol related admissions figures. The local results are therefore not directly comparable with the national indicators. The figures calculated locally were, however, similar enough to the national indicators (where available) for the results to be considered suitable proxies.
- The SUS dataset used for this analysis does not contain any unique patient reference numbers. Therefore, repeat admissions cannot be identified and all figures relate to admission episodes rather than individual patients.
- Public Health & Wellbeing are due to receive a 10 year extract of Hospital Episode Statistics, which will allow more detailed analysis and exploration of trends. This analysis will be updated when the extract has been received and processed.

## Summary of Findings

- Both the broad and narrow rates of alcohol related admissions in Northamptonshire increased significantly between 2013/14 and 2014/15. The 2015/16 rates remained very similar to 2014/15 levels and there were no significant changes to the rates for the count.
- Corby's broad and narrow rates of admissions decreased between 2014/15 and 2015/16 but the changes were not significant.
- Daventry's broad and narrow rates of admissions increased in 2015/16 but the changes were not significant.
- The broad and narrow rates of admissions for East Northants decreased between 2014/15 and 2015/16. The broad rates for persons and females decreased significantly.
- In Kettering, the broad and narrow admission rates for males decreased compared to 2014/15 while those for females increased. Overall, the total rates for the district increased. None of the differences were statistically significant.
- Both the broad and narrow rates of admissions in Northampton increased across all cohorts compared to 2014/15. The increase to the broad rate for Northampton males was significant.
- The narrow rates of admissions in South Northants decreased significantly across all cohorts. The broad rate for males increased albeit not significantly.
- In Wellingborough, both the broad and narrow rates for females increased between 2014/15 and 2015/16 and the difference to the narrow rate was statistically significant. The rates for males decreased slightly; the changes were not significant. Overall, the total rates increased but not significantly.
- Comparing the breakdowns of the cause groups for 2014/15 and 2015/16 alcohol related admissions shows that there has been relatively little change to the underlying reasons for admissions. However, the proportion of admissions due to alcohol related cancers decreased significantly under both the broad and narrow rates.

## **Comments**

Local analysis suggests that overall admission rates for Northamptonshire have stabilised following the sharp increase in 2014/15. There was more variation at district level, and while the majority of changes were not statistically significant it would appear that admissions in Daventry, Northampton and Wellingborough remain on an increasing trend. Meanwhile, there were significant decreases to some of the measures in East and South Northants.

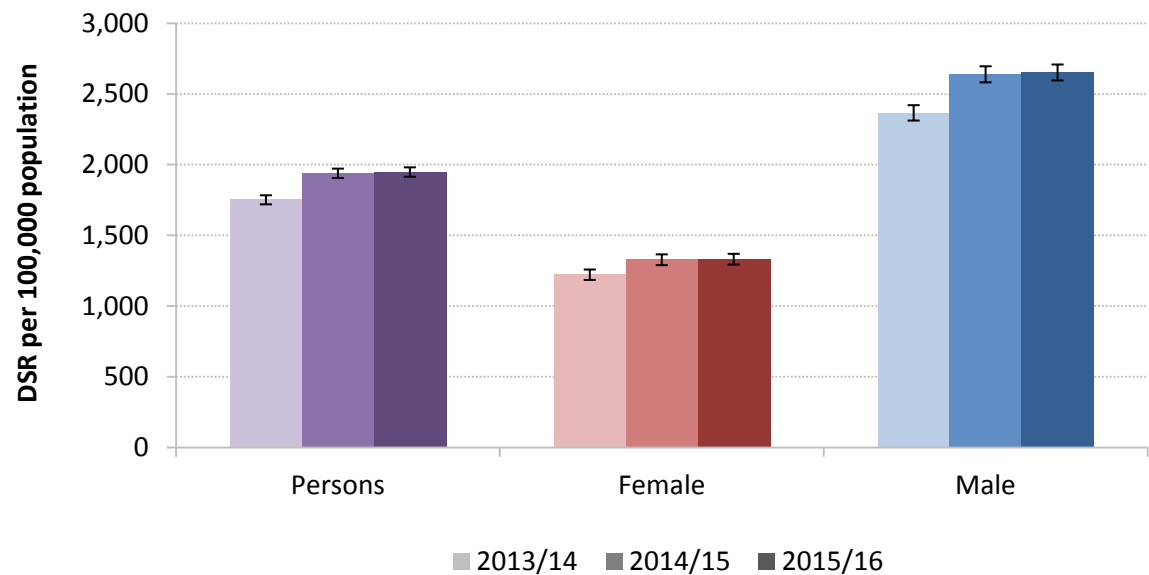
Hypertensive diseases remained the main cause group picked up by the broad rate, accounting for 42.2% of estimated events. Given the range of compounding lifestyle factors that can cause hypertension, the broad rate may be reactive to a wider variety of health harms.

**Annette Hollesen**  
**Performance Analyst**  
**July 2016**

## Alcohol Related Admission Rates - Northamptonshire

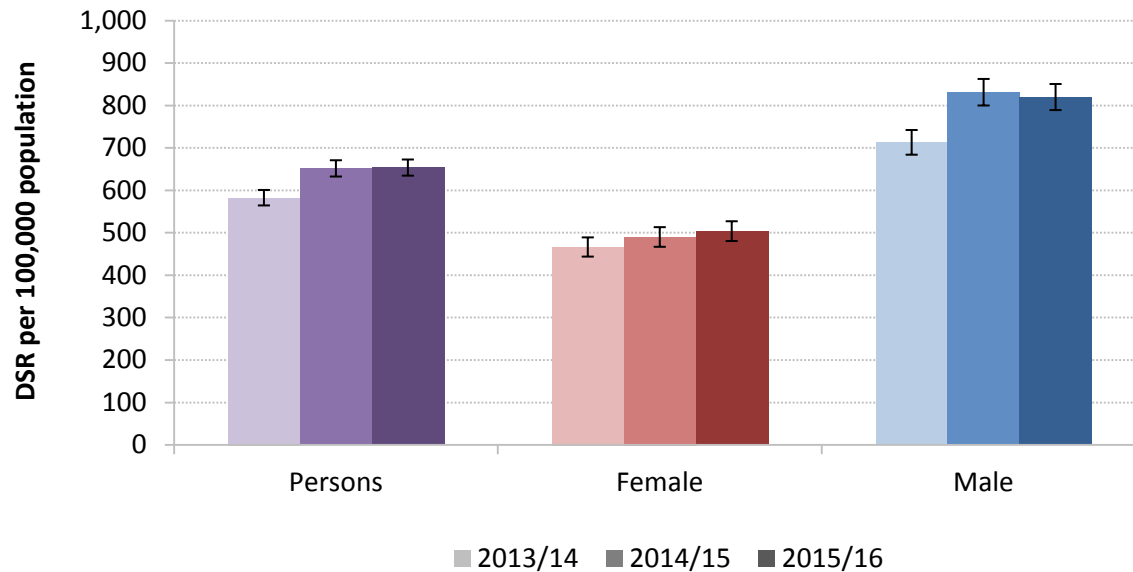
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	11,495.4	1,751.7	12,900.4	1,939.0	13,225.3	1,948.0	NSD
Female	4,225.3	1,222.0	4,639.2	1,327.7	4,727.4	1,331.7	NSD
Male	7,270.0	2,366.5	8,261.2	2,639.2	8,497.9	2,652.2	NSD

### Northamptonshire Alcohol Related Admissions - Broad Measure



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	3,930.7	582.4	4,425.9	651.5	4,524.6	653.4	NSD
Female	1,627.9	466.2	1,718.8	489.8	1,792.8	503.6	NSD
Male	2,302.8	712.9	2,707.0	831.1	2,731.8	819.7	NSD

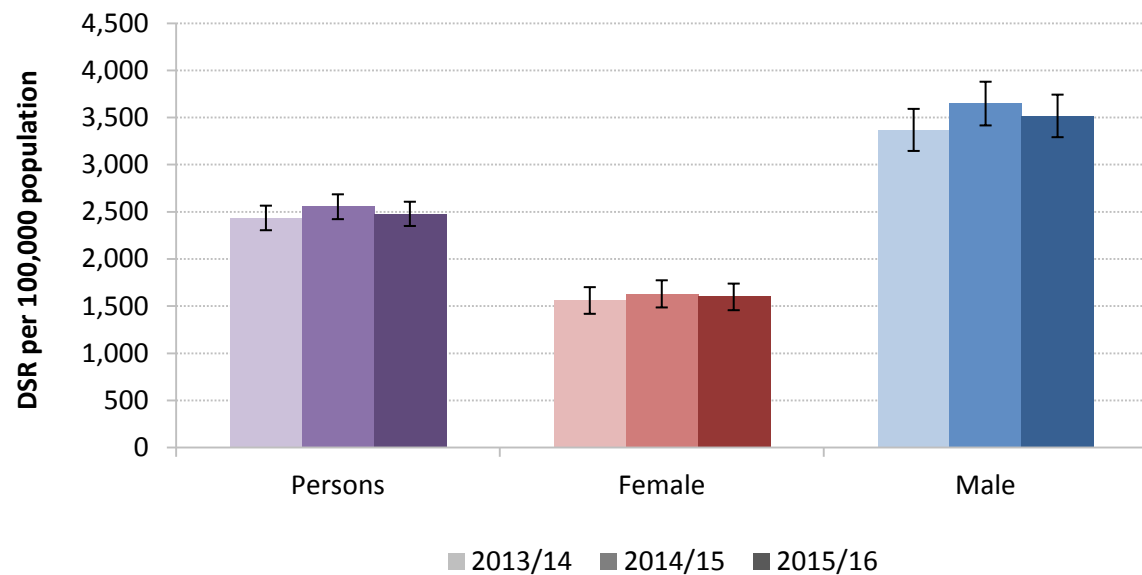
**Northamptonshire Alcohol Related Admissions - Narrow Measure**



## Alcohol Related Admission Rates – Corby

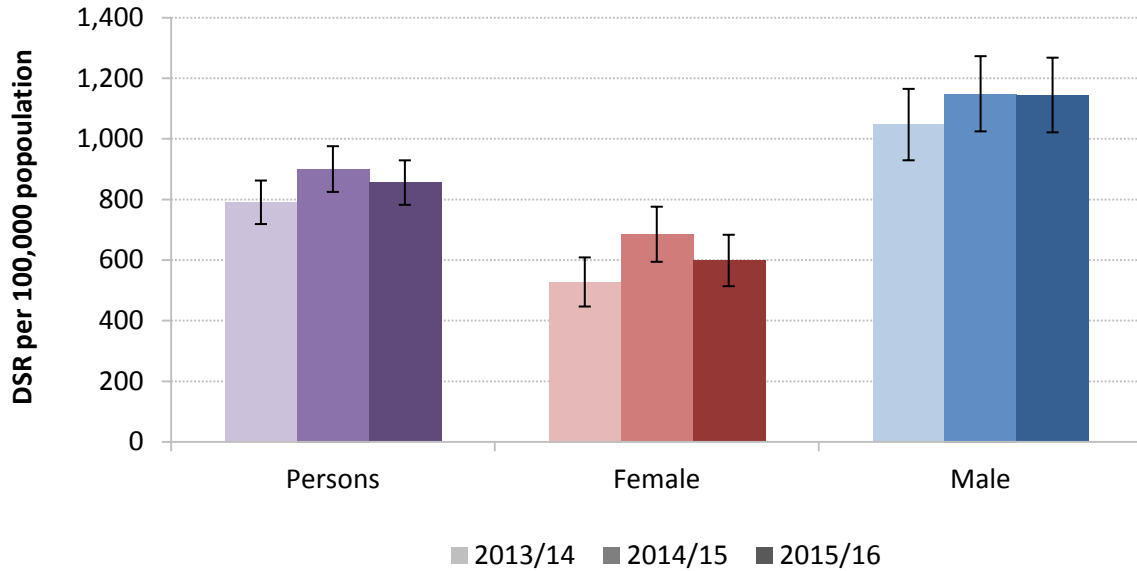
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,342.7	2,435.4	1,444.3	2,554.0	1,426.7	2,478.6	NSD
Female	466.7	1,559.6	491.9	1,629.9	492.9	1,597.8	NSD
Male	876.0	3,369.0	952.4	3,648.3	933.7	3,517.5	NSD

### Corby Alcohol Related Admissions - Broad Measure



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	466.0	790.3	547.3	900.0	522.3	855.4	NSD
Female	162.7	527.3	218.1	684.8	190.9	598.3	NSD
Male	303.3	1,046.8	329.3	1,148.4	331.3	1,144.3	NSD

**Corby Alcohol Related Admissions - Narrow Measure**

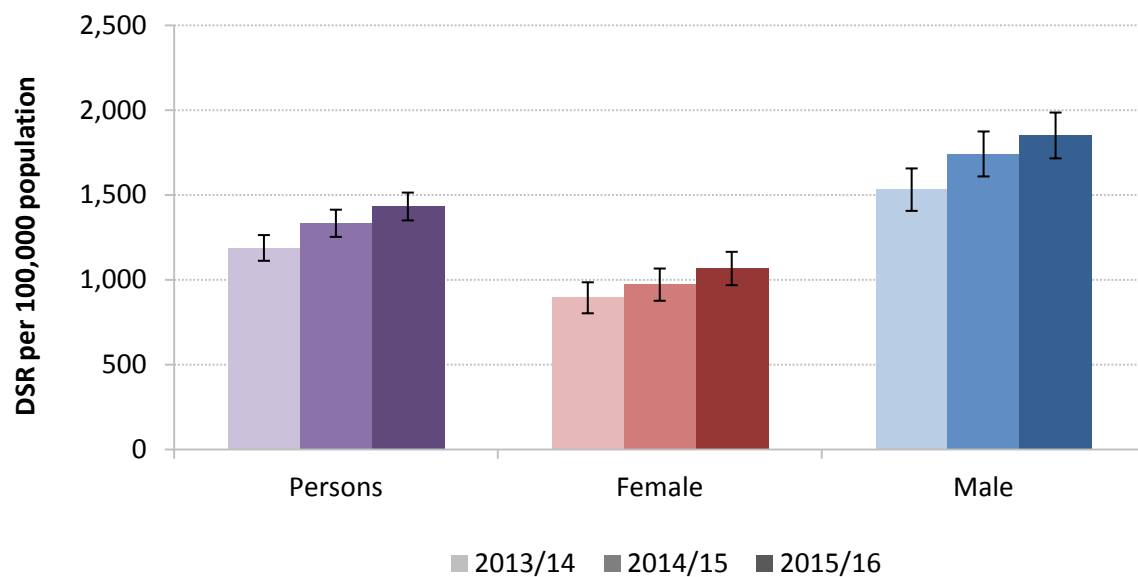




## Alcohol Related Admission Rates – Daventry

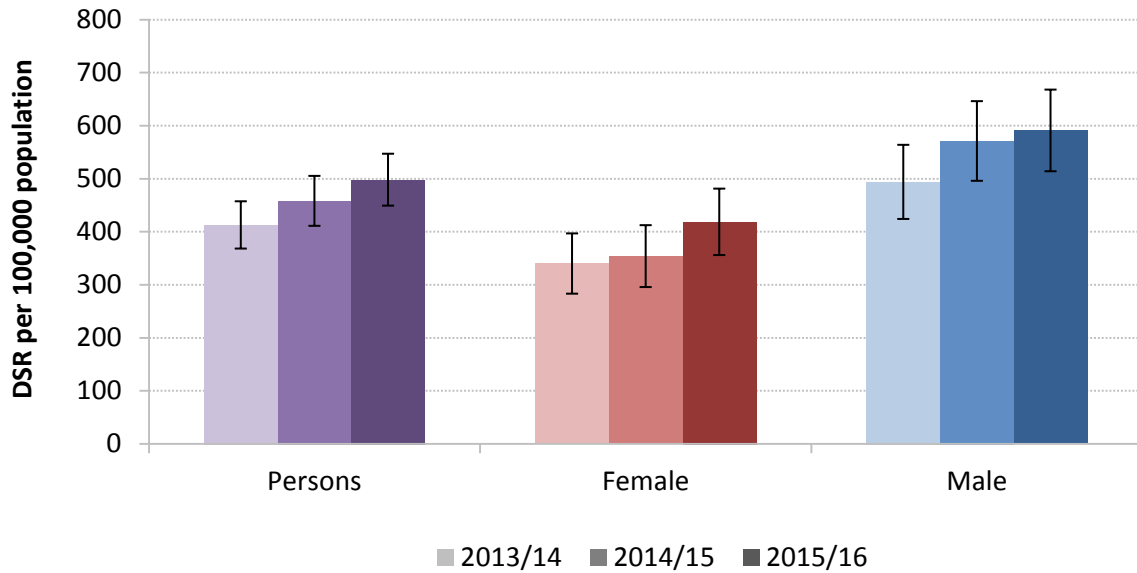
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	944.2	1,187.9	1,064.6	1,333.3	1,173.7	1,432.2	NSD
Female	368.5	894.2	401.2	971.6	452.9	1,066.8	NSD
Male	575.8	1,531.4	663.5	1,741.7	720.8	1,850.7	NSD

**Daventry Alcohol Related Admissions - Broad Measure**



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	329.2	412.7	363.3	458.1	398.0	498.0	NSD
Female	137.4	339.9	141.3	353.9	171.7	418.5	NSD
Male	191.8	493.8	222.1	571.0	226.3	590.9	NSD

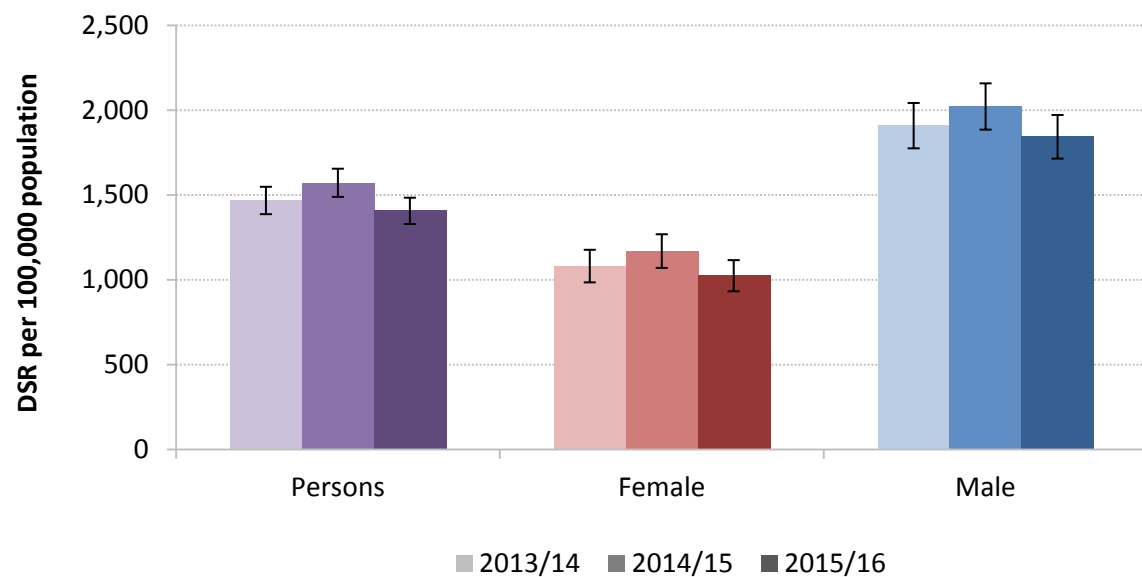
**Daventry Alcohol Related Admissions - Narrow Measure**



## Alcohol Related Admission Rates – East Northants

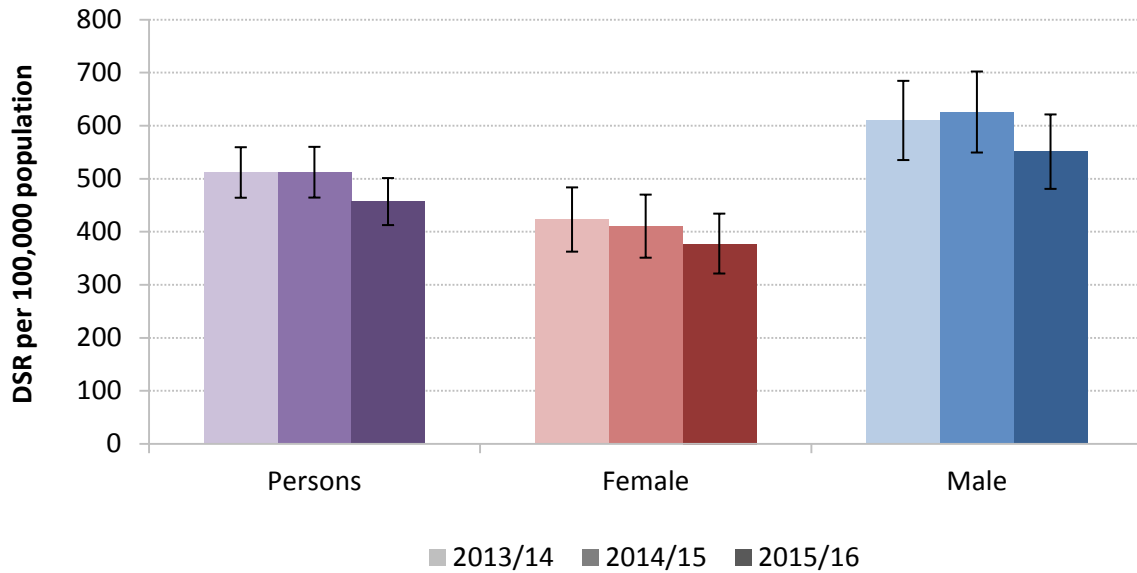
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,271.6	1,467.6	1,376.6	1,571.8	1,266.5	1,406.4	↓
Female	487.5	1,081.0	533.8	1,169.5	477.6	1,024.3	↓
Male	784.1	1,908.5	842.8	2,021.4	788.9	1,842.9	NSD

East Northants Alcohol Related Admissions - Broad Measure



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	443.1	511.6	440.5	512.1	408.1	456.7	NSD
Female	187.1	422.9	182.8	410.4	171.7	377.5	NSD
Male	256.0	609.7	257.7	625.6	236.4	550.9	NSD

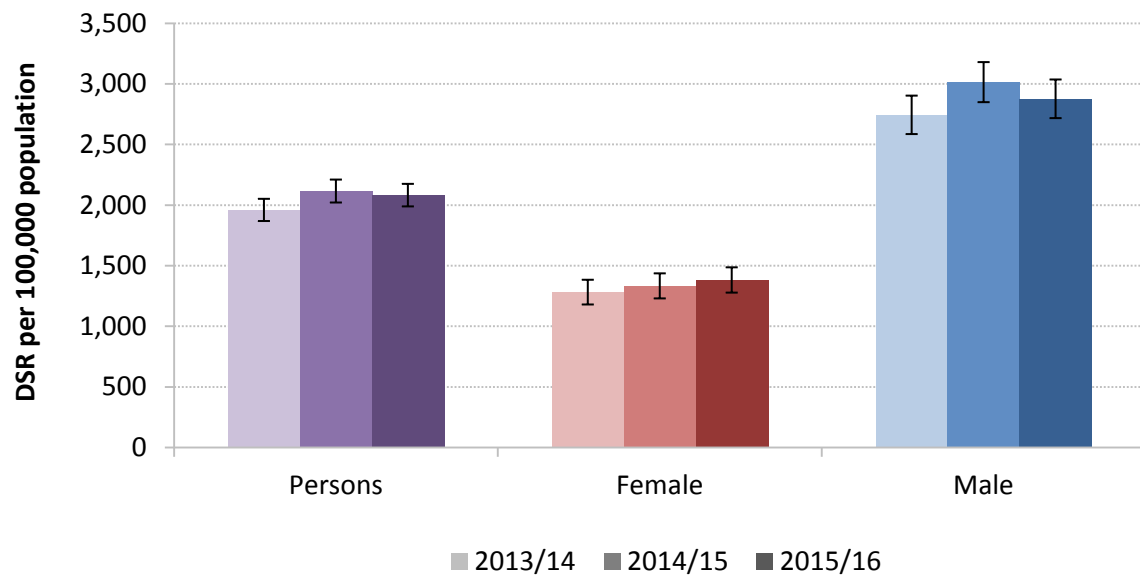
**East Northants Alcohol Related Admissions - Narrow Measure**



## Alcohol Related Admission Rates – Kettering

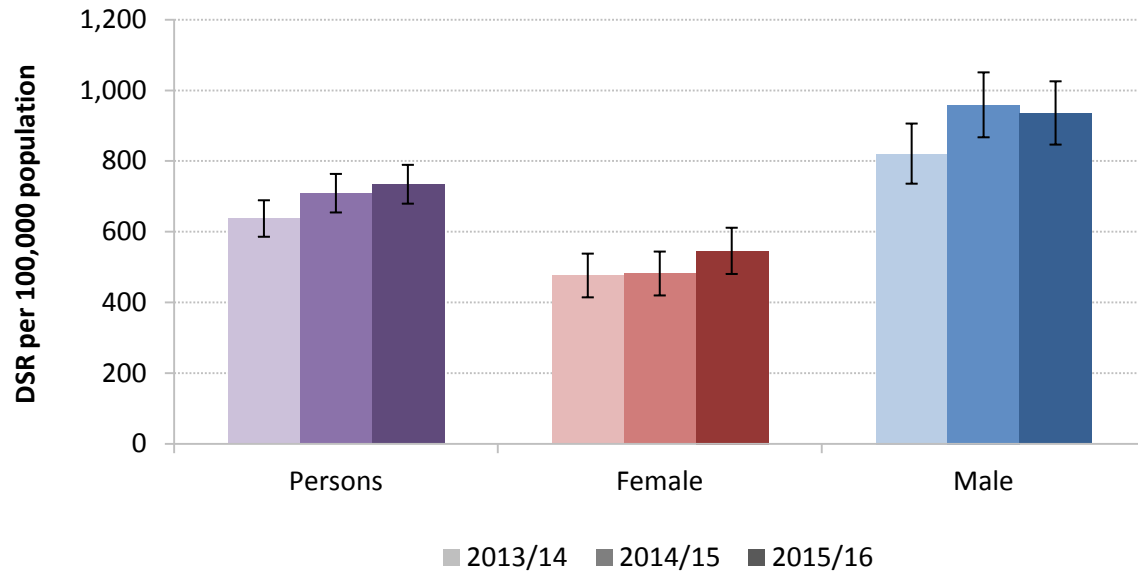
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,759.2	1,960.2	1,918.0	2,116.1	1,927.0	2,082.3	NSD
Female	607.3	1,282.2	639.2	1,333.6	674.4	1,382.3	NSD
Male	1,151.9	2,744.7	1,278.8	3,014.5	1,252.6	2,877.1	NSD

### Kettering Alcohol Related Admissions - Broad Measure



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	585.5	637.2	650.1	708.8	686.9	734.1	NSD
Female	227.7	476.0	231.3	481.6	267.4	545.7	NSD
Male	357.8	820.7	418.8	958.7	419.6	935.8	NSD

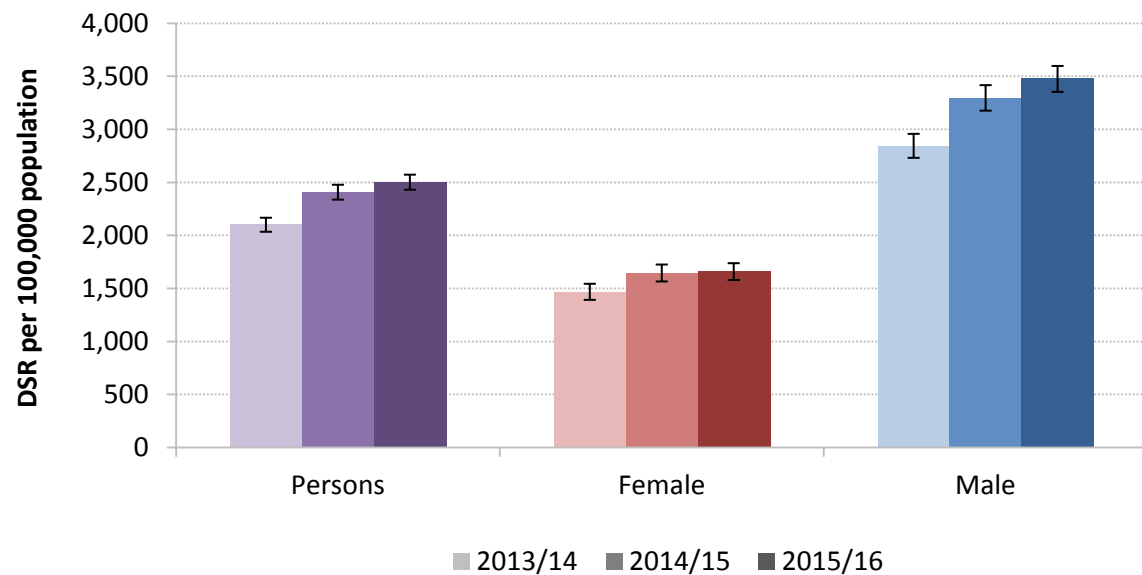
**Kettering Alcohol Related Admissions - Narrow Measure**



## Alcohol Related Admission Rates – Northampton

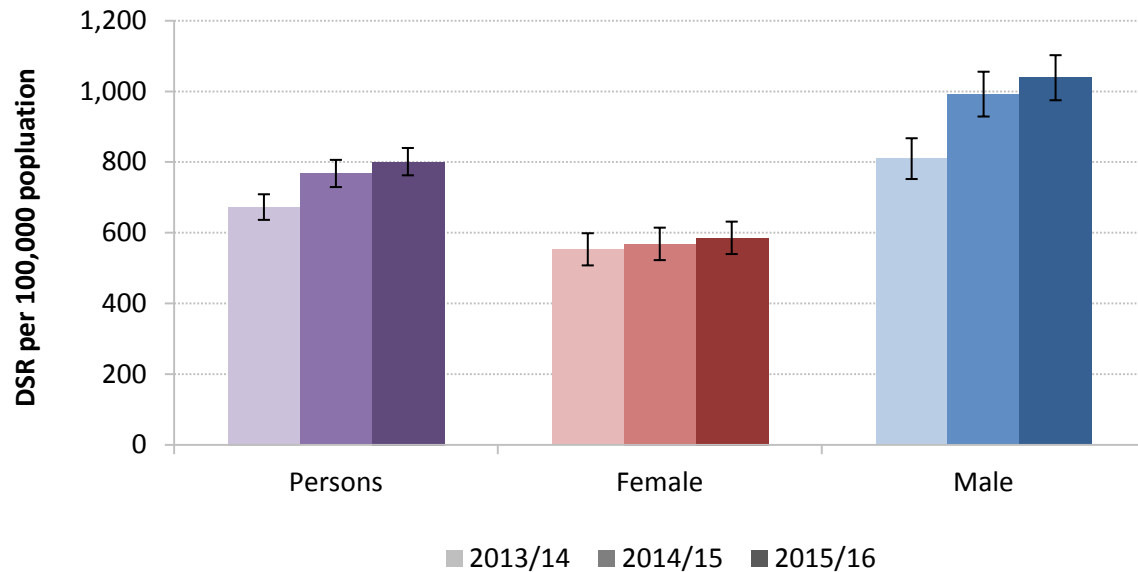
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	3,869.5	2,100.5	4,516.0	2,407.6	4,792.1	2,501.9	NSD
Female	1,440.8	1,468.0	1,635.8	1,645.6	1,677.1	1,658.7	NSD
Male	2,428.7	2,844.6	2,880.2	3,296.6	3,115.0	3,475.6	↑

Northampton Alcohol Related Admissions - Broad Rate



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,324.3	672.4	1,529.3	767.4	1,645.2	800.9	NSD
Female	567.6	552.9	588.2	568.2	626.7	585.3	NSD
Male	756.7	809.4	941.1	991.8	1,018.6	1,038.2	NSD

**Northampton Alcohol Related Admissions - Narrow Measure**

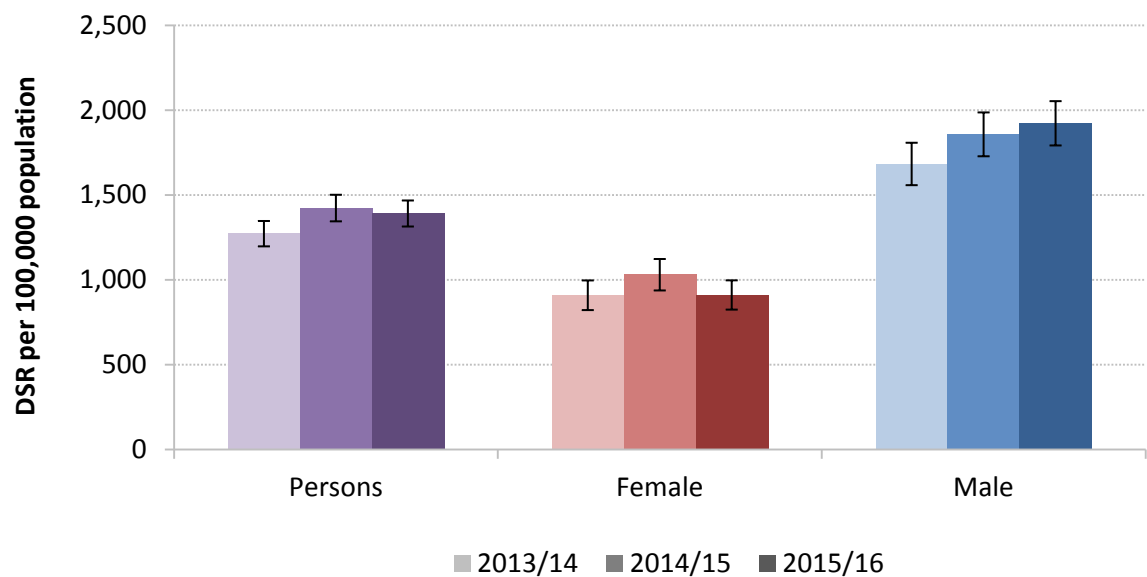




## Alcohol Related Admission Rates – South Northants

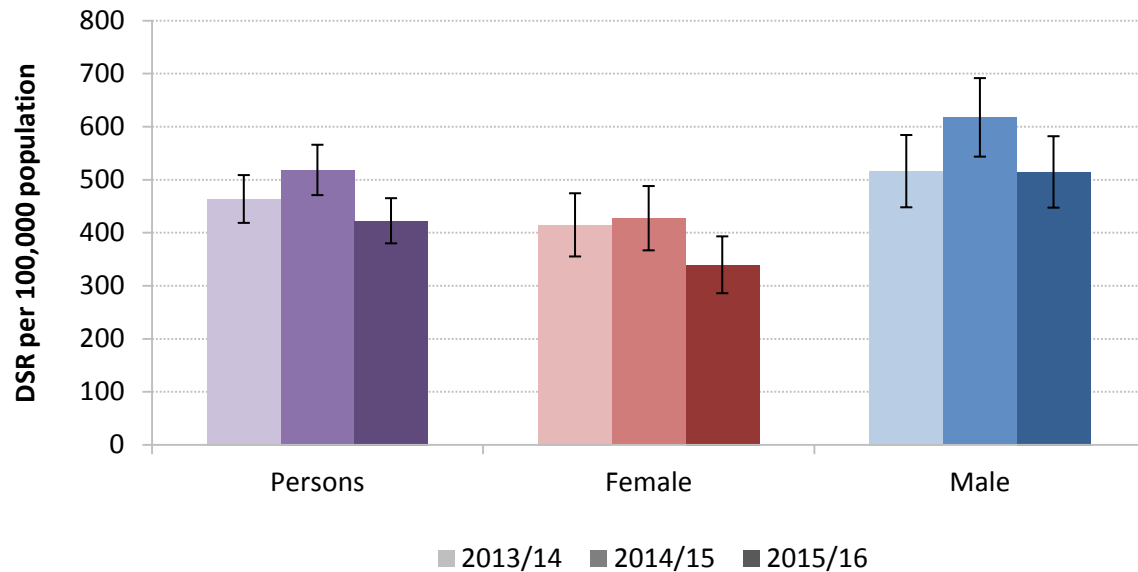
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,111.9	1,272.0	1,268.8	1,422.9	1,262.0	1,390.9	NSD
Female	415.5	909.1	474.2	1,030.1	428.3	910.7	NSD
Male	696.5	1,682.9	794.6	1,857.3	833.7	1,922.4	NSD

South Northants Alcohol Related Admissions - Broad Measure



Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	406.2	463.5	457.9	518.3	378.0	422.4	↓
Female	186.1	414.7	190.7	427.3	153.8	339.4	↓
Male	220.1	516.0	267.3	617.4	224.1	514.5	↓

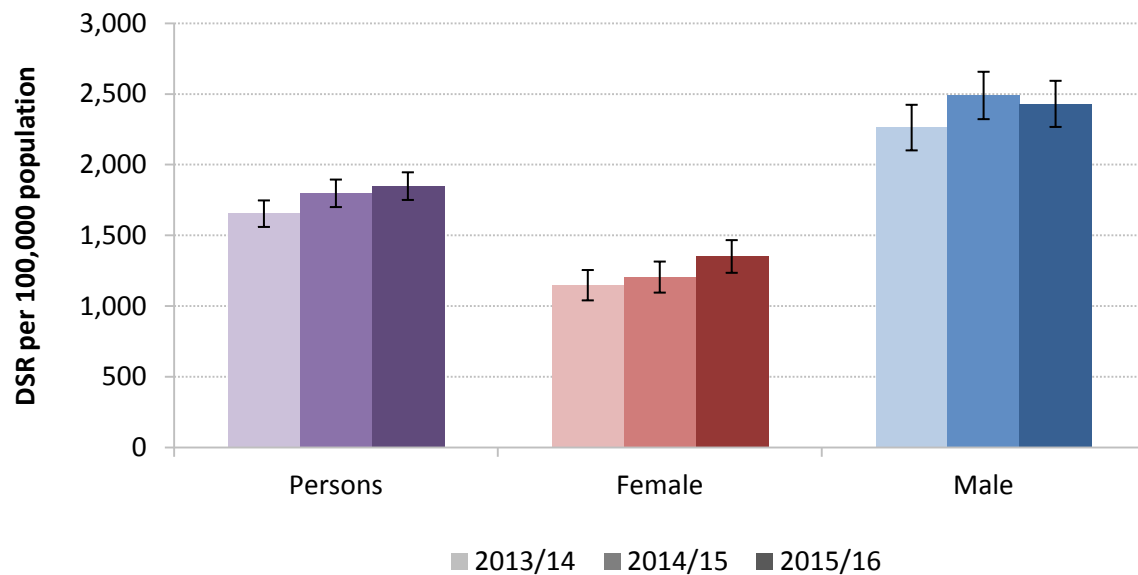
South Northants Alcohol Related Admissions - Narrow Measure



## Alcohol Related Admission Rates – Wellingborough

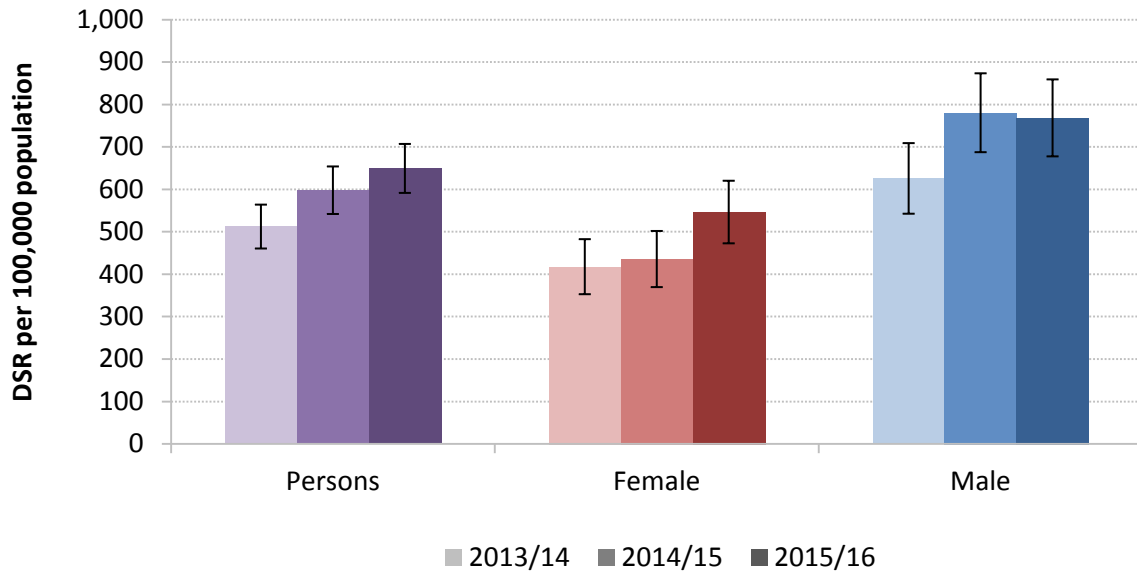
Cohort	2013/14 – Broad Measure		2014/15 – Broad Measure		2015/16 – Broad Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	1,196.1	1,653.7	1,312.0	1,797.6	1,377.3	1,848.5	NSD
Female	439.1	1,147.9	463.2	1,205.2	524.1	1,351.0	NSD
Male	757.0	2,262.4	848.8	2,489.6	853.2	2,430.0	NSD

Wellingborough Alcohol Related Admissions - Broad Measure

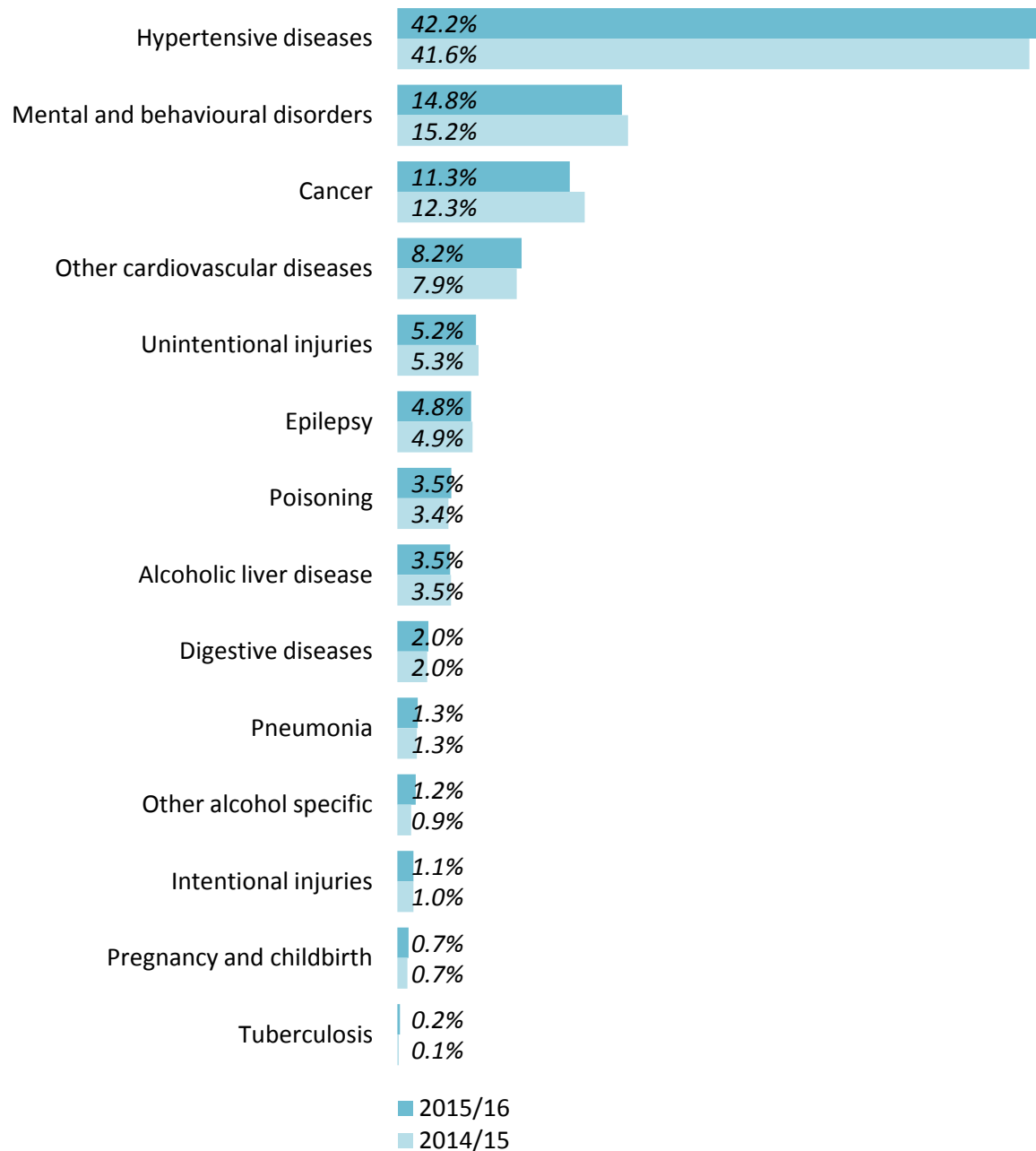


Cohort	2013/14 – Narrow Measure		2014/15 – Narrow Measure		2015/16 – Narrow Measure		Significant Change 2014/15 to 2015/16
	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	Estimated Events	DSR per 100,000 population	
Persons	376.4	512.0	437.2	597.7	486.1	649.1	NSD
Female	159.3	417.4	166.5	435.5	210.7	546.2	↑
Male	217.1	625.5	270.7	780.3	275.4	768.2	NSD

Wellingborough Alcohol Related Admissions - Narrow Measure



## Cause Group Breakdown – Northamptonshire Broad Rate of Alcohol Related Admissions



**Cause Group Breakdown – Northamptonshire Narrow Rate of Alcohol Related Admissions**

