



London Health Observatory



Commissioning Support for London

# ALCOHOL ATTRIBUTABLE ADMISSIONS IN LONDON

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**Commissioned by the Regional Public Health Group, London**



## About the LHO

The London Health Observatory (LHO) provides information, data, and intelligence on Londoners' health and health care for practitioners, policy makers and the public. We are one of a network of 12 Public Health Observatories, known as the Association of Public Health Observatories (APHO), set up across five nations of England, Wales, Scotland, Northern Ireland and the Republic of Ireland. The LHO takes the national lead in monitoring health inequalities, ethnicity and health, and tobacco.

From 1 April 2009, LHO became part of Commissioning Support for London (CSL) which has been established to provide clinical and business support to NHS commissioners across London. For further information on our work please visit these websites: [www.lho.org.uk](http://www.lho.org.uk) [www.csl.nhs.uk](http://www.csl.nhs.uk).

## Acknowledgements

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## Summary of findings

- The number of hospital admissions for conditions wholly or partially caused by alcohol (alcohol attributable conditions) continues to rise; between 2003/04 and 2008/09 there was an average increase in admission rates of 8% a year.
- The extent of alcohol attributable admissions is considerable. In 2007/08 there were 102,000 alcohol attributable admissions in London, roughly 1.4 admissions per every 100 persons in London.

### How do admission rates vary across London?

- There are wide inequalities in admission rates for alcohol attributable conditions. There was a two fold difference between the Local Authority with the highest admission rate and the Local Authority with the lowest admission rate. High rates were found in Newham, Ealing and Islington, and low rates in Barnet, Bexley and Enfield. However, admission rates for conditions solely caused by alcohol (alcohol-specific conditions) were highest in Bromley, Newham and Havering.
- The demand that alcohol attributable conditions place on NHS inpatient services varies by day of the week and type of admission. Elective admissions were more likely to be during the week (94% of admissions) compared with emergency admissions (74%).
- More than two thirds (68%) of alcohol attributable admissions were for just three conditions: 35% were for hypertensive diseases, 19% for mental and behavioural disorders, and 15% for cardiac arrhythmias.

### Who was admitted?

- One fifth of patients who had an admission for an alcohol-specific condition in 2007/08 had more than one admission for the same condition in that year. Of those people who were admitted for alcoholic liver disease, over a third (34%) had more than one admission that year.
- There were wide ethnic inequalities in admission rates for alcohol attributable conditions, particularly for alcohol-related admissions (those conditions where only a fraction would be due to alcohol). Most ethnic minority groups had higher admission rates than the White group. This is contrary to survey information which suggests that ethnic minority groups consume less alcohol than the White British population. A review of the evidence would be useful to understand these findings.

### Next steps

- A second phase of analysis will be agreed with the London Regional Public Health Group based on stakeholder feedback. Suggestions for further analysis have been identified in section 6 of this report.



## Contents

1.	Introduction	5
1.1	About the data	7
2.	Overview of admissions in London by diagnosis and admission type	8
2.1	Alcohol attributable admissions by diagnosis	8
2.2	Alcohol attributable admissions by admission method	10
2.3	Variations in alcohol attributable admission rates across London	12
3.	Alcohol attributable admissions by day of the week	19
3.1	Alcohol-specific admissions	19
3.2	Alcohol-related admissions	20
4.	Breakdown of alcohol attributable admissions by ethnicity	21
5.	Frequent users of inpatient services for alcohol attributable conditions	23
6.	Suggestions for further work	25

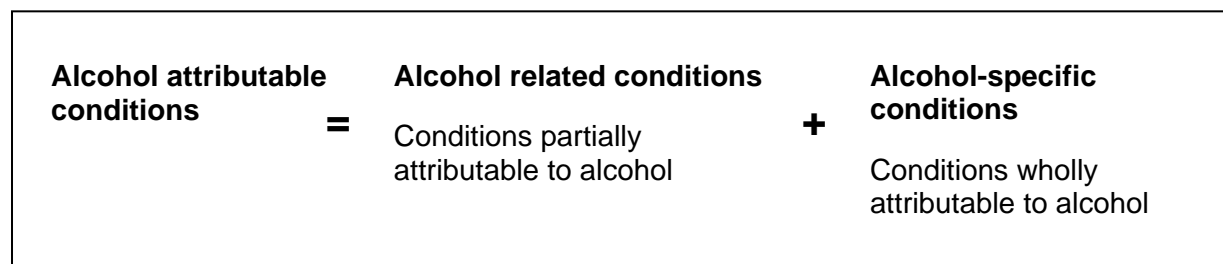


## 1. Introduction

It is estimated that in England the NHS spends £2.7 billion each year on health problems caused by alcohol<sup>1</sup>. Reducing the harm caused by alcohol was therefore identified in the national Public Services Agreements (PSA 25).

Hospital admissions for alcohol attributable conditions are a combination of those conditions that are wholly attributable to alcohol (alcohol-specific conditions) and those conditions that are partially attributable to alcohol (alcohol-related conditions) (see Box 1). Admissions for these conditions, aggregated and directly age standardised have been used for the National Indicator (NI39), Vital Signs VSC 23, and for Local Authorities (LA) and Primary Care Trusts (PCTs) to monitor and track progress in reducing harm from alcohol. In London, 16 PCTs / LAs have selected the indicator in Operating Plans and Local Area Agreements.

### Box 1 – Definition of alcohol attributable conditions



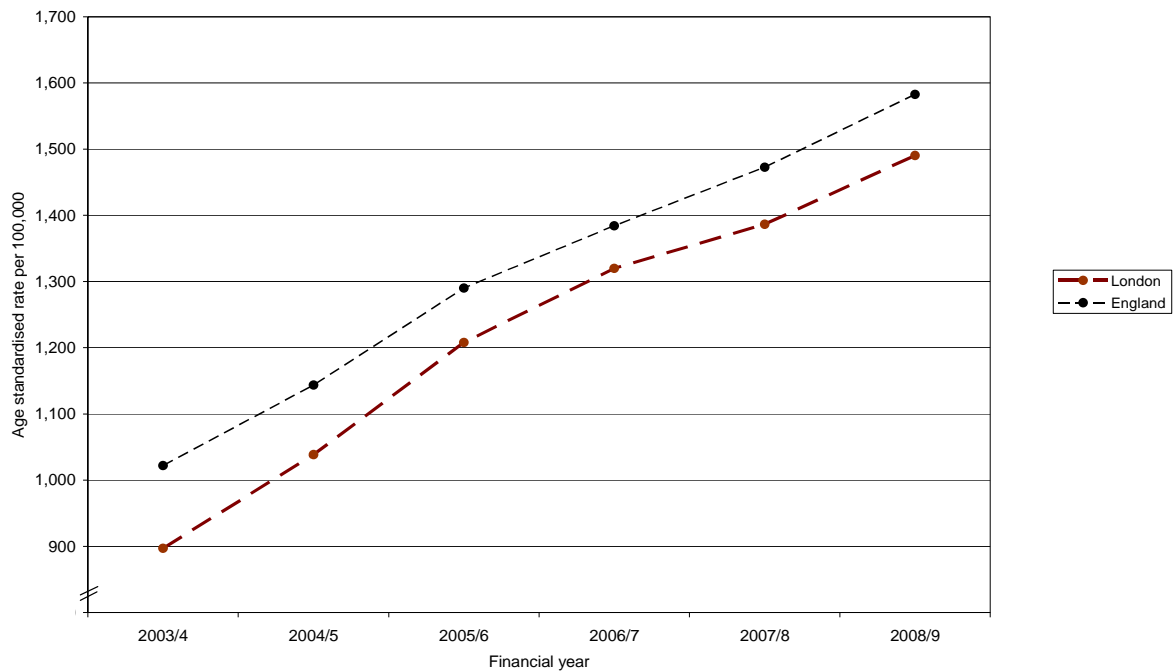
While admission rates due to alcohol consumption in London have been consistently lower than the national average, they have risen considerably over recent years (see Figure 1). In 2008/09 the admission rate in London was 66% higher than in 2003/04.

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<sup>1</sup> Department of Health (July 2008) *The cost of alcohol harm to the NHS in England An update to the Cabinet Office (2003) study.*



**Figure 1 - Directly Age-standardised alcohol attributable admission rates, London and England 2003/04 – 2008/09.**



Data source: NI39 HES dataset, LAPE: <http://www.nwph.net/alcohol/lape/download.htm>

The objective of this report is to help local partners understand the nature of the population presenting to hospital with alcohol attributable conditions by providing analysis for each Local Authority. Analysis by sex, diagnosis, admission type and ethnicity are presented together with an exploration of frequency of admission. This will firstly help local partners to better understand measures of alcohol attributable admissions and secondly assist in targeting interventions.

The results have been presented as a London wide report, accompanied by a data pack of tables at Local Authority level. The data pack can be accessed here:

<http://www.lho.org.uk/viewResource.aspx?id=16115>

This report was produced by the London Health Observatory on behalf of the London Regional Public Health Group, Department of Health.

## 1.1 About the data

This report uses extracts of the Hospital Episode Statistics (HES), which contains all episodes of care in inpatient settings in England. For the 2007/08 analysis a NI39 specific subset of the HES data was used. The NI39 dataset contains all alcohol-specific and related Finished Consultant Episodes (FCEs) based on the dominant alcohol diagnosis, i.e. the diagnosis for which the attributable fraction (AF) is the highest. The AF represents the proportion of admissions for each diagnosis that are estimated to be attributable to harm caused by alcohol. For example, it is estimated that 32% of admissions for hypertension in males aged 35-44 are attributable to alcohol. Therefore the attributable fraction for admissions for hypertension in this age and sex group is 0.32. For alcohol-specific conditions i.e. alcoholic liver disease, the AF is 1. For alcohol related conditions the AF is less than 1.

Annex 1 contains a list of diagnoses and their attributable fractions.



## 2. Overview of admissions in London by diagnosis and admission type

### 2.1 Alcohol attributable admissions by diagnosis

In total there were 102,023 admissions for all alcohol attributable conditions in 2007/08 (see Table 1).

- Alcohol-specific admissions made up only about a quarter of all alcohol attributable admissions (26%), with the remaining admissions being due to alcohol-related conditions.
- Males accounted for almost three quarters (73%) of alcohol-specific admissions, and 60% of alcohol-related admissions.
- Three conditions represented 68% of all alcohol attributable admissions. The diagnosis with the highest number of admissions was hypertensive diseases, which accounted for 35% of all admissions. Mental and behavioural disorders due to alcohol were the second highest cause of admissions, amounting to about 20% of all admissions, and cardiac arrhythmias accounted for 15%.
- 62% of admissions were for chronic conditions, i.e. long-term conditions (Table 2). Management or preventative strategies may be possible for some of these conditions. Acute conditions represented 38% of admissions.
- 19,520 patients accounted for the 27,208 alcohol-specific admissions, therefore there were on average 1.4 admissions per patient. A further analysis of multiple admissions can be found in section 5.





**Table 1 - Number of alcohol attributable admissions by diagnosis and sex, 2007/08**

	Dominant alcohol diagnosis	Nature of condition	No of admissions attributable by alcohol			No. of patients	Average attributable fraction
			Male	Female	All		
<b>Alcohol-specific admissions (AF=1)</b>	Mental and behavioural disorders due to use alcohol	Acute	14,386	4,782	19,168	13,924	1
	Alcoholic liver disease	Chronic	3,618	1,238	4,856	2,772	1
	Ethanol poisoning	Acute	727	876	1,603	1,481	1
	Chronic pancreatitis (alcohol induced)	Chronic	527	92	619	466	1
	Toxic effect of alcohol	Acute	247	227	474	464	1
	All other alcohol-specific diagnoses	Acute	405	83	488	413	1
	<b>Total alcohol-specific admissions</b>			<b>19,910</b>	<b>7,298</b>	<b>27,208</b>	<b>19,520</b>
<b>Alcohol-related admissions (AF&lt;1)</b>	Hypertensive diseases	Chronic	23,357	12,004	35,362	124,762	0.20
	Cardiac arrhythmias	Chronic	8,869	6,343	15,212	35,915	0.29
	Epilepsy and Status epilepticus	Acute	3,902	3,856	7,758	9,818	0.54
	Fall injuries	Acute	1,592	939	2,531	20,871	0.11
	Intentional self-harm/Event of undetermined intent	Acute	826	1,314	2,140	5,587	0.34
	Chronic hepatitis/Liver cirrhosis	Chronic	1,045	591	1,636	1,725	0.64
	Spontaneous abortion	Acute	0	1,596	1,596	6,842	0.22
	Assault	Acute	1,273	228	1,501	5,285	0.27
	Malignant neoplasm of breast	Chronic	0	1,224	1,224	5,655	0.08
	Malignant neoplasm of lip, oral cavity and pharynx	Chronic	727	204	931	984	0.43
	Oesophageal varices	Chronic	672	246	918	952	0.68
	Other cancers	Chronic	1,068	284	1,352	5,301	0.09
	Other accidents and injuries	Acute	910	220	1,131	6,330	0.17
	All other alcohol-related diagnoses	Chronic	985	539	1,524	5,871	0.21
	<b>Total alcohol-specific admissions</b>			<b>45,226</b>	<b>29,589</b>	<b>74,815</b>	<b>235,898</b>
	<b>Total alcohol attributable admissions</b>		<b>65,136</b>	<b>36,887</b>	<b>102,023</b>	<b>255,418</b>	<b>0.28</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

**Table 2 - Number of admissions for acute and chronic conditions attributable to alcohol, 2007/08**

	Number of admissions attributable to alcohol			No of patients	Average attributable fraction
	Male	Female	All		
Acute conditions	24,268	14,121	38,389	71,015	0.45
Chronic conditions	40,868	22,766	63,634	184,403	0.23
All conditions	<b>65,136</b>	<b>36,887</b>	<b>102,023</b>	<b>255,418</b>	<b>0.28</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

## 2.2 Alcohol attributable admissions by admission method

Table 3 shows the number of admissions by method of admission and diagnosis.

- The majority of alcohol attributable admissions were emergency admissions (68%) with elective admissions (i.e. planned admissions) representing 30% of admissions.
- For alcohol-specific conditions, 90% were emergency and only 9% were elective admissions.
- For all diagnoses, the number of emergency admissions was higher than elective admissions with the exception of liver cirrhosis and cancers.



**Table 3 - Number of admissions for alcohol-specific and alcohol-related diagnoses by method of admissions, 2007-08**

	Reason for admissions	Elective	Emergency	Other types of admissions	Total no of admissions
Alcohol-specific admissions (AF=1)	Mental and behavioural disorders due to use alcohol	1,322	17,629	217	19,168
	Alcoholic liver disease	986	3,769	101	4,856
	Ethanol poisoning**	*	*	*	1,603
	Chronic pancreatitis (alcohol induced)	67	546	6	619
	Toxic effect of alcohol**	*	*	*	474
	All other alcohol-specific diagnoses	64	411	13	488
	<b>Total alcohol-specific admissions</b>	<b>2,442</b>	<b>24,423</b>	<b>343</b>	<b>27,208</b>
Alcohol-related admissions (AF<1)	Hypertensive diseases	16,302	18,146	913	35,362
	Cardiac arrhythmias	4,216	10,524	471	15,212
	Epilepsy and Status epilepticus	1,981	5,455	321	7,758
	Fall injuries	188	2,262	82	2,531
	Intentional self-harm/Event of undetermined intent	30	2,091	18	2,140
	Chronic hepatitis/Liver cirrhosis	873	728	35	1,636
	Spontaneous abortion	375	1,128	93	1,596
	Assault	190	1,270	40	1,501
	Malignant neoplasm of breast	1,030	*	*	1,224
	Malignant neoplasm of lip, oral cavity and pharynx	644	271	17	931
	Oesophageal varices	713	*	*	918
	Other cancers	943	395	14	1,352
	Other accidents and injuries	83	1,006	42	1,131
	All other alcohol-related diagnoses	375	1,055	95	1,524
	<b>Total alcohol-related admissions</b>	<b>27,943</b>	<b>44,716</b>	<b>2,156</b>	<b>74,815</b>
<b>Total</b>	<b>30,385</b>	<b>69,139</b>	<b>2,499</b>	<b>102,023</b>	

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

\* Numbers below 6 have been suppressed.

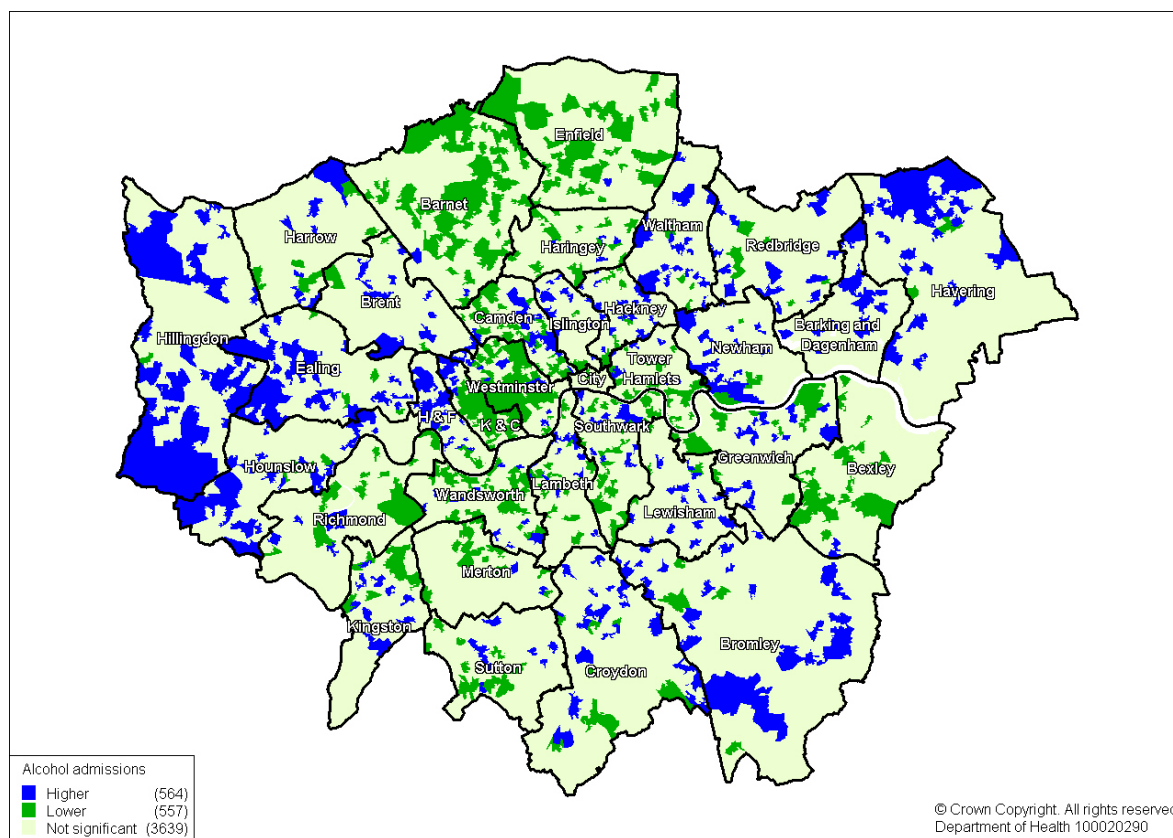
\*\*99% of admissions for ethanol poisoning and toxic effect of were emergency, but due to small elective and other types of admissions, numbers have been suppressed.



### 2.3 Variations in alcohol attributable admission rates across London

There were large variations in alcohol attributable admission rates across London. Map1 shows those areas where there were significantly higher crude rates of alcohol admissions compared to the London average. Overall the higher crude rates were found in Lower Super Output areas in outer London, with a few patches of elevated admission rates in inner London. However, as age has not been adjusted for in this analysis, it may be that the variations in admission rates are due to differences in age profiles across the capital.

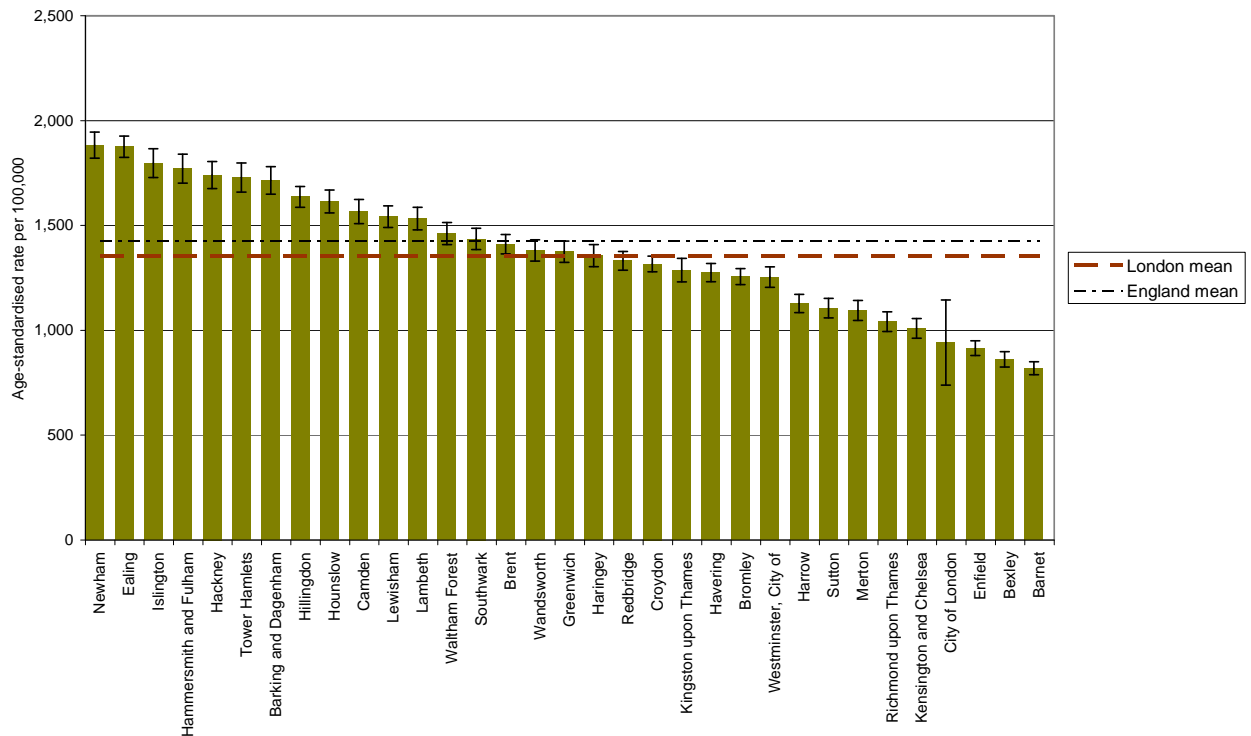
**Map 1 Differences in crude rates for Lower Super Output Area (LSOA) per 100,000 population, 2007/08.**



Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory. Populations: ONS mid-year population estimates by lower super output area, 2007.

Age-standardised admission rates, by Local Authority also show large variations. Figure 2 shows that the highest admission rates were in Newham, Ealing and Islington and the lowest rates were in Barnet, Bexley and Enfield. Twenty PCTs had significantly higher rates than the England average and the difference in rates between Newham and Barnet was two fold.

**Figure 2 – Directly age standardised rates for alcohol attributable admissions, 2007/08.**



Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory. Populations: ONS mid-year estimates, 2007.

Local Authorities have also experienced different rates of change over the last few years. Table 4 shows the age-standardised rates for London Local Authorities in 2003/04 and 2007/08. Overall the rate in London was 55% higher in 2007/08 than it was in 2003/04, and the admission rate in Harrow had more than doubled in this time period. The Compound Annual Growth Rate represents the average year-on-year growth, if growth was consistent across all years. Whilst on average there has been an 8% increase in admission rates each year in London, some Local Authorities have experienced growth rates over 10% per year.

**Table 4 - Change in directly age standardised rates of admissions due to alcohol, London Local Authorities, 2003/04-2008/09**

Local Authority	Age standardised admission		Overall increase in admission rates (%)	Compound Annual Growth Rate (%)
	2003/04	2007/08		
City of London	691	887	28	4
Barking and Dagenham	1,041	1,755	69	9
Barnet	541	846	57	8
Bexley	598	884	48	7
Brent	728	1,443	98	12
Bromley	772	1,293	68	9
Camden	1,048	1,602	53	7
Croydon	976	1,345	38	5
Ealing	1,271	1,906	50	7
Enfield	572	934	63	9
Greenwich	979	1,416	45	6
Hackney	963	1,774	84	11
Hammersmith and Fulham	1,268	1,816	43	6
Haringey	805	1,404	75	10
Harrow	565	1,164	106	13
Havering	899	1,314	46	7
Hillingdon	953	1,676	76	10
Hounslow	1,053	1,639	56	8
Islington	1,158	1,843	59	8
Kensington and Chelsea	743	1,043	40	6
Kingston upon Thames	934	1,318	41	6
Lambeth	1,110	1,562	41	6
Lewisham	982	1,590	62	8
Merton	680	1,122	65	9
Newham	1,338	1,906	42	6
Redbridge	859	1,358	58	8
Richmond upon Thames	797	1,073	35	5
Southwark	1,048	1,460	39	6
Sutton	620	1,136	83	11
Tower Hamlets	1,148	1,732	51	7
Waltham Forest	1,166	1,501	29	4
Wandsworth	875	1,432	64	9
Westminster	923	1,273	38	6
London	897	1,386	55	8

Data source: NI39 HES dataset, LAPE: <http://www.nwph.net/alcohol/lape/download.htm>.  
Compound Annual Growth Rate calculated by the London Health Observatory.



Table 5 shows directly age-standardised admission rates for alcohol-specific and alcohol-related conditions by Local Authority.

- The highest rate of admissions for alcohol-specific conditions was in Camden at 707 admissions per 100,000 population. This is four times the rate of Barnet, which was 163 per 100,000.
- For alcohol-related conditions, the rate varied from 1,505 per 100,000 population in Newham to 672 per 100,000 in Kensington and Chelsea.
- The overall alcohol attributable admission rates for Local Authorities can hide variations in rates for alcohol-specific and alcohol-related admission rates across the capital. For example:
  - Westminster had a lower alcohol attributable admission rate than the London average (see Figure 2) but a higher than average alcohol-specific admission rate;
  - Havering also had a lower alcohol attributable admission rate overall but a higher than average alcohol-related admission rate;
  - Southwark and Camden had higher overall alcohol attributable admission rates but these were due to higher alcohol-specific admission rates. Alcohol-related admissions rates in these Local Authorities were lower than the London average.
- Therefore it is necessary for Local Authorities to consider alcohol-specific and alcohol-related conditions separately when identifying their priorities for reducing alcohol attributable harm.



**Table 5 - Directly Age standardised rates of admissions for alcohol-specific and alcohol-related conditions, London Local Authorities, 2007/08.**

Local authority	Alcohol-specific admissions			Alcohol-related admissions		
	Observed	DSR	Difference to London	Observed	DSR	Difference to London
City of London	39	429	-	49	513	Lower
Barking & Dagenham	629	397	-	2,196	1,317	Higher
Barnet	539	163	Lower	2,424	656	Lower
Bexley	469	206	Lower	1,785	655	Lower
Brent	864	336	Lower	2,874	1,074	Higher
Bromley	829	267	Lower	3,824	990	-
Camden	1,387	707	Higher	1,701	859	Lower
Croydon	1,070	312	Lower	3,739	1,004	-
Ealing	1,430	483	Higher	4,151	1,392	Higher
Enfield	467	163	Lower	2,295	752	Lower
Greenwich	895	421	Higher	2,133	954	-
Hackney	1,118	629	Higher	1,913	1,112	Higher
Hammersmith & Fulham	1,080	703	Higher	1,669	1,068	Higher
Haringey	762	367	-	1,965	989	-
Harrow	481	222	Lower	2,251	906	Lower
Havering	565	242	Lower	3,145	1,034	Higher
Hillingdon	1,034	412	Higher	3,373	1,224	Higher
Hounslow	1,023	478	Higher	2,420	1,137	Higher
Islington	1,008	623	Higher	1,900	1,174	Higher
Kensington & Chelsea	609	338	Lower	1,284	672	Lower
Kingston upon Thames	556	352	-	1,610	936	-
Lambeth	1,344	557	Higher	2,195	976	-
Lewisham	1,066	444	Higher	2,572	1,098	Higher
Merton	508	258	Lower	1,716	838	Lower
Newham	840	378	-	3,002	1,505	Higher
Redbridge	795	315	Lower	2,786	1,017	-
Richmond upon	520	287	Lower	1,564	755	Lower
Southwark	1,255	542	Higher	2,127	894	Lower
Sutton	519	275	Lower	1,770	831	Lower
Tower Hamlets	845	519	Higher	1,867	1,210	Higher
Waltham Forest	836	388	-	2,280	1,073	Higher
Wandsworth	928	389	-	2,380	992	-
Westminster	898	429	Higher	1,854	825	Lower
London	27,208	372	-	74,815	983	-
England	215,221	411	Higher	635,641	1,014	Higher

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory. Populations: ONS mid-year population estimates, 2007



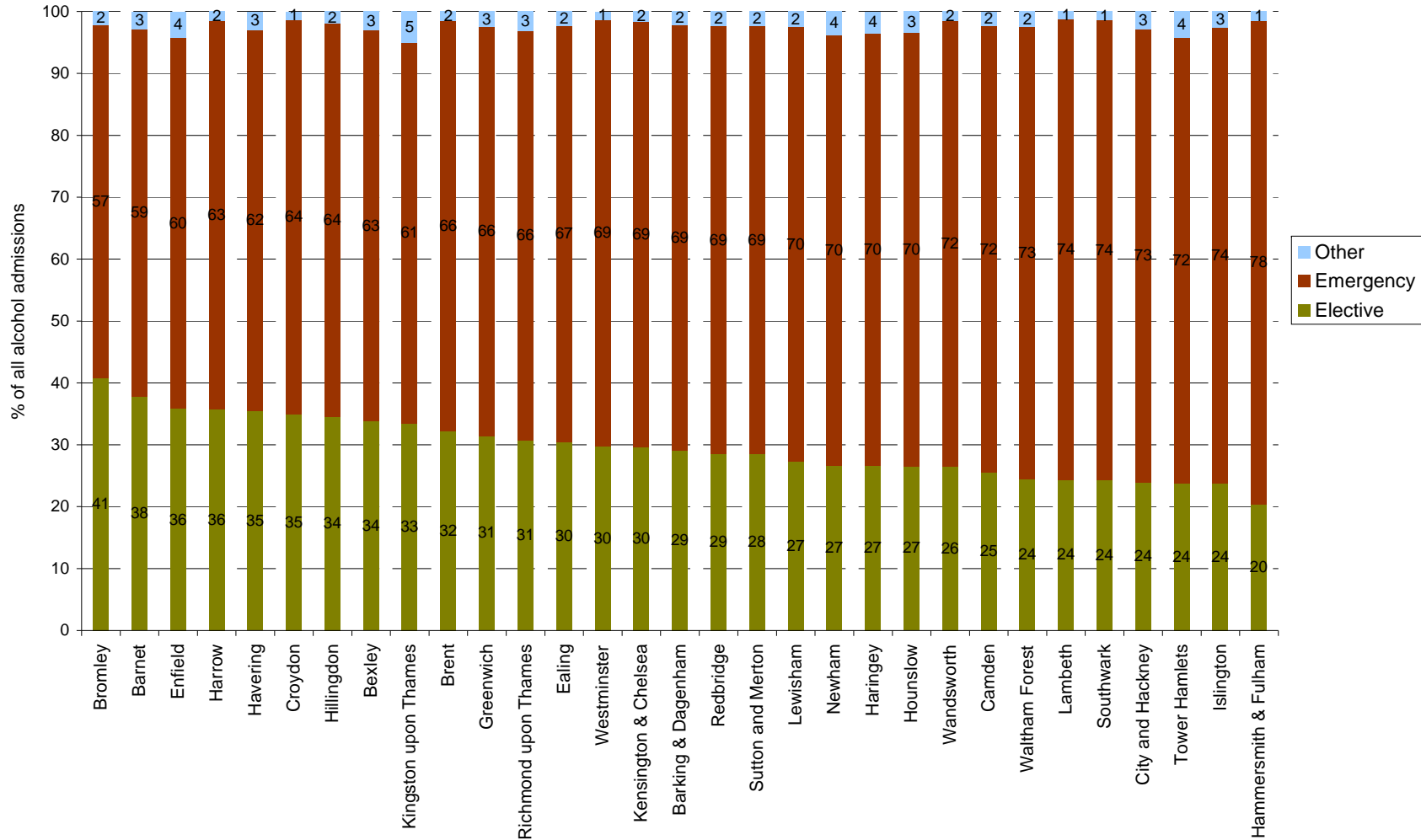


Figure 3 shows the variation in the admission method for alcohol attributable admissions by Local Authority.

- In Hammersmith and Fulham 78% of alcohol attributable admissions were emergency admissions whilst in Bromley only 57% were emergency admissions; in Bromley 41% of alcohol admissions were elective, and only 20% were elective in Hammersmith and Fulham.
- There were eight London Local Authorities where only 25% or less alcohol attributable admissions were elective, and seven of these were in Inner London.



**Figure 3 Percentage of alcohol attributable admissions by admission method and Local Authority, London 2007/08**



Data Source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

### 3. Alcohol attributable admissions by day of the week

To assess the impact on service provision and to target interventions it is useful to look at the pattern of admissions during the week.

- Overall 80% of admissions attributable to alcohol occurred Monday to Friday, and only 20% of admissions on Saturday and Sunday (Table 6).
- As expected, 94% of the elective admissions were during the week, compared with 74% of the emergency admissions.
- However weekend days had fewer emergency and elective alcohol attributable admissions than any of the week days, although emergency admissions did not vary as much by day of the week.

**Table 6 - Breakdown of alcohol attributable admissions by day of the week and admission method, London, 2007/08**

Day of week	Elective	Emergency	Other types of admission*	No of admissions	Percentage
<b>Monday</b>	6,202	10,330	385	16,917	17%
<b>Tuesday</b>	6,121	10,107	387	16,615	16%
<b>Wednesday</b>	5,847	10,061	393	16,301	16%
<b>Thursday</b>	5,866	10,218	426	16,510	16%
<b>Friday</b>	4,631	10,347	438	15,417	15%
<b>Saturday</b>	640	9,231	251	10,122	10%
<b>Sunday</b>	1,080	8,843	218	10,141	10%
<b>Total</b>	30,385	69,139	2,499	102,023	100%

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

\*Other types of admissions include transfers between hospitals, not known or maternity related admissions.

#### 3.1 Alcohol-specific admissions

- The number of elective admissions per day was roughly constant between Monday to Friday but the number was considerably reduced on weekends; only 6 percent of admissions were during the weekend.
- The number of emergency admissions per day was roughly the same throughout the week with a slight peak on Saturdays: 29% of emergency admissions occurred during the weekend.



**Table 7 - Breakdown of alcohol-specific admissions by day of the week and admission method, London, 2007/08**

Day of week	Elective	Emergency	Other types of admission	No of admissions	Percentage
Monday	485	3,474	51	4,010	15%
Tuesday	502	3,464	45	4,011	15%
Wednesday	423	3,433	44	3,900	14%
Thursday	534	3,517	60	4,111	15%
Friday	347	3,473	62	3,882	14%
Saturday	64	3,616	37	3,717	14%
Sunday	87	3,446	44	3,577	13%
<b>Total</b>	<b>2,442</b>	<b>24,423</b>	<b>343</b>	<b>27,208</b>	<b>100%</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

### 3.2 Alcohol-related admissions

- The number of elective admissions per day was roughly constant Monday to Friday but admissions at the weekend were considerably fewer compared to weekday admissions; 6% of elective admissions were at the weekend.
- The number of emergency alcohol-related admissions per day was roughly the same throughout Monday to Friday with a slight decline on weekends; 25% of emergency admissions were during the weekend.

**Table 8 - Breakdown of alcohol-related admissions by day of the week and admission method, London, 2007/08**

Day of week	Elective	Emergency	Other types of admission	No of admissions	Percentage
Monday	5,717	6,856	334	12,907	17%
Tuesday	5,619	6,643	342	12,604	17%
Wednesda	5,424	6,628	349	12,401	17%
Thursday	5,332	6,701	366	12,399	17%
Friday	4,284	6,874	376	11,535	15%
Saturday	576	5,615	214	6,405	9%
Sunday	993	5,397	174	6,564	9%
<b>Total</b>	<b>27,943</b>	<b>44,716</b>	<b>2,156</b>	<b>74,815</b>	<b>100%</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved.. Analysed by the London Health Observatory.

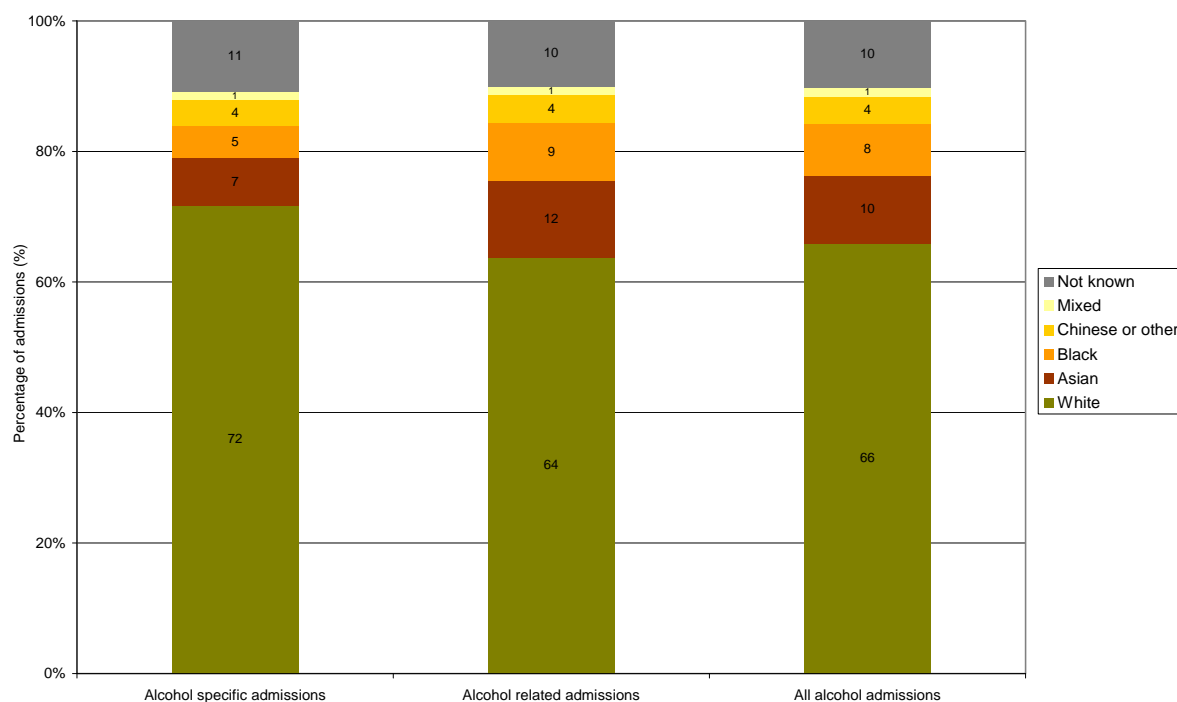
There were no apparent variations in terms of day of admission between Local Authorities and the London average. Generally, all Local Authorities had a similar percentage of admission throughout the week as London (see the data pack).



#### 4. Breakdown of alcohol attributable admissions by ethnicity

Overall, 66% of alcohol attributable admissions were among the White ethnic group, and only 24% were among Black, Mixed, Asian and 'Chinese and other' ethnic groups (Figure 4). However there are differences in ethnic breakdown between alcohol-specific and alcohol-related admissions. The White ethnic group represented 64% of alcohol-related admissions compared to 72% of alcohol-specific admissions.

**Figure 4 Percentage of alcohol-specific and alcohol-related admissions by ethnic group, London, 2007/08**



Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory.

Table 9 shows that crude rates for alcohol-specific admissions for adults from ethnic minority groups were significantly lower than the White group, except for 'Chinese and other'. However for alcohol-related admissions, all ethnic groups except Mixed had a higher rate than the White ethnic group.

**Table 9 - Number and crude rate of alcohol-specific and alcohol-related admissions by ethnic group, ages 15-64 years, London 2007/08**

Ethnicity	Alcohol-specific admissions				Alcohol-related admissions			
	N	Crude	LCI	UCI	N	Crude	LCI	UCI
Asian	1,753	237	226	249	5,331	721	702	741
Black	1,139	204	193	217	4,403	790	767	814
Chinese or other	963	444	417	473	2,144	990	948	1,032
Mixed	321	216	193	241	658	443	410	478
White	16,301	448	441	455	21,789	598	590	606
Not known	2,567				4,533			
<b>All Groups</b>	<b>23,044</b>	<b>435</b>	<b>429</b>	<b>440</b>	<b>38,858</b>	<b>733</b>	<b>725</b>	<b>740</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved. Analysed by the London Health Observatory. Populations: ONS mid-year population estimates, 2007.

Directly age standardised rates (see table 10) follow a similar pattern to crude rates for alcohol-specific admissions; all ethnic minority groups had lower rates than the White group except for 'Chinese and other'. The age-standardised rates for alcohol-specific admissions in the 'Chinese or other' group was higher than for the White group in this case. For alcohol-related conditions, all ethnic groups had higher rates than the White ethnic group. The age-standardised rate among the Mixed ethnic group is higher than the crude rate, possibly due to the Mixed ethnic group having a younger age profile compared to the White group.

**Table 10 - Number of alcohol admissions and directly age standardised rates by ethnic group all ages, London**

Ethnicity	Alcohol-specific admissions				Alcohol-related admissions			
	N	DSR	LCI	UCI	N	DSR	LCI	UCI
Asian	1,961	222	212	232	8,734	1,229	1,202	1,255
Black	1,366	184	174	195	6,745	1,136	1,107	1,166
Chinese or other	1,062	440	410	470	3,163	1,911	1,834	1,987
Mixed	350	233	204	262	971	874	812	936
White	19,515	371	365	376	47,676	785	778	793
Not known	2,954				7,527			
<b>All Groups</b>	<b>27,208</b>	<b>372</b>	<b>368</b>	<b>377</b>	<b>74,815</b>	<b>983</b>	<b>976</b>	<b>990</b>

Data source: NI39 Hospital Episodes Statistics (HES) extract, 2007/08. Copyright © 2010: The NHS Information Centre for Health and Social Care. All rights reserved.. Analysed by the London Health Observatory. Populations: ONS mid-year population estimates, 2007

*Note: Where a valid ethnicity or age is not recorded then the observation has not been included in this analysis.*



These findings are interesting in that generally, all ethnic minority groups, except the White Irish group, consume less alcohol than the general population<sup>b</sup>. In terms of alcohol-related admissions, whilst the Asian and Black ethnic groups represented only 21% of these admissions, for some conditions they made up a higher percentage. For example, Asian and Black ethnic groups represented 27% of admissions due to hypertensive disorders, which was the most common primary diagnosis for alcohol attributable admissions. One hypothesis could be that the increased rates of alcohol-related admissions in some ethnic minority groups may be due to increased prevalence of diseases such as hypertensive disorder which, in these ethnic groups, might not be caused by alcohol. Further analysis and a review of the evidence is required to understand the findings in this report.

## 5. Frequent users of inpatient services for alcohol attributable conditions

Some groups of people requiring inpatient treatment for alcohol attributed health problems are more likely to require repeated inpatient episodes of care than others. It is therefore useful to begin to identify the characteristics and the care needs of these groups so that alternative service and treatment options can be developed for these groups and individuals, and thus reduce the need for inpatient services.

Table 11 shows the number of admissions and patients for each primary diagnosis and the number of those patients who were readmitted for the same condition. For example, if an individual was admitted for liver disease and then had a subsequent admission for the same cause in the same financial year, the second admission was counted as one readmission. If however, an individual was first admitted for liver disease then readmitted for hypertensive disease, this was not considered a readmission for this analysis. However, this individual was counted in the totals for both liver disease and hypertensive diseases.

- 20% of patients admitted for an alcohol-specific condition were readmitted for the same condition. The highest percentage of readmitted patients was for alcoholic liver disease, where 34% had more than one admission in the same financial year.
- 23% of patients admitted for an alcohol-related condition were readmitted, with as many as 46% and 48% of patients admitted for malignant neoplasm of the breast and other cancers, respectively, having more than one admission in the same financial year. It is important to understand that these are conditions that would generally require more than one admission and that for many patients their conditions would not be due to alcohol; for example, only 8% of cases of malignant neoplasm of the breast are thought to be due to alcohol. We therefore cannot say how many of those patients with malignant neoplasm of the breast caused by

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<sup>b</sup> Joint Health Surveys Unit, National Centre for Social Research and University College Medical School (2006) *Health Survey for England 2004: The health of minority ethnic groups*, The Information Centre.



alcohol were readmitted, compared to those patients with the condition but which was not caused by alcohol.

- The percentage of patients who were readmitted due to alcohol-specific and related conditions was likely to be higher than reported here as this analysis focuses only on one financial year.

**Table 11 - Number of admission, patients and readmissions due to alcohol by primary diagnosis, London 2007/08**

<b>Alcohol-specific diagnoses</b>	<b>No. of admissions</b>	<b>No. of patients</b>	<b>No of patients re-admitted</b>	<b>% of patients re-admitted</b>
Mental and behavioural disorders due to	19,168	13,924	2,748	19.7%
Alcoholic liver disease	4,856	2,772	931	33.6%
Ethanol poisoning	1,603	1,481	97	6.5%
Chronic pancreatitis (alcohol induced)	619	466	90	19.3%
Toxic effect of alcohol	474	464	10	2.2%
Other alcohol-specific diagnoses	488	413	52	12.6%
<b>All alcohol-specific diagnoses</b>	<b>27,208</b>	<b>19,520</b>	<b>3,928</b>	<b>20.1%</b>
<b>Alcohol-related diagnoses</b>				
Hypertensive diseases	35,632	124,762	32,050	25.7%
Cardiac arrhythmias	15,212	35,915	10,335	28.8%
Fall injuries	2,531	20,871	1,488	7.1%
Intentional self-harm/Event of	2,140	5,587	491	8.8%
Epilepsy and Status epilepticus	7,758	9,818	2,594	26.4%
Malignant neoplasm of breast	5,655	5,655	2,593	45.9%
Other cancers	1,352	6,285	3,005	47.8%
<b>All alcohol-related diagnoses</b>	<b>74,815</b>	<b>235,898</b>	<b>55,035</b>	<b>23.3%</b>
<b>All admissions due to alcohol</b>	<b>363,424</b>	<b>255,418</b>	<b>58,963</b>	<b>23.1%</b>

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## 6. Suggestions for further work

- The number of admissions reported in this report only gives a partial picture of the resource demands of conditions caused by alcohol on inpatient services. Calculating the number of bed-days required for alcohol problems and their unit costs would be helpful for planning services across the capital
- It would be useful to look across financial years to gain a more accurate estimate of the number and characteristics of those patients that require more than one admission in a year
- There is a need to better understand what appears to be disproportionate admission rates in some ethnic minority groups and to what extent these are caused by alcohol or by other factors
- Use of geo-demographic segmentation tools may provide some insight into which social groups are most likely to be admitted, or readmitted for alcohol attributable conditions
- It would be helpful for Local Authorities to share their experiences of using alcohol attributable admission data in their strategies to reduce the harmful effects of alcohol, and the need for inpatient services
- Ways of obtaining more routine and up-to-date information on alcohol attributable admissions, via the Secondary Uses Service (SUS) data, for the whole of London, should be explored.



## Annex 1

### List of ICD10 codes for diagnoses relating to alcohol and their attributable fractions

Category	ICD code	ICD name	Alcohol Attributable Fraction															
			0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Alcohol-specific (Chronic)	E24.4	Alcohol-induced pseudo-Cushing's syndrome	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	G31.2	Degeneration of nervous system due to alcohol	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	G62.1	Alcoholic polyneuropathy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	G72.1	Alcoholic myopathy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	I42.6	Alcoholic cardiomyopathy	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	K29.2	Alcoholic gastritis	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	K70	Alcoholic liver disease	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	K86.0	Chronic pancreatitis (alcohol induced)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcohol-specific (Mental/Beh)	F10	Mental and behavioural disorders due to use of alcohol	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcohol-specific (Acute)	T51.0	Ethanol poisoning	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	T51.1	Methanol poisoning	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	T51.9	Toxic effect of alcohol, unspecified	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	X45	Accidental poisoning by and exposure to alcohol	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Accidents & Injury (Acute)	W00-W19	Fall injuries	0.00	0.00	0.22	0.14	0.22	0.14	0.22	0.14	0.22	0.14	0.22	0.14	0.12	0.04	0.12	0.04
	W24-W31	Work/machine injuries	0.00	0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Category	ICD code	ICD name	Alcohol Attributable Fraction															
			0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Accidents & Injury (Acute) (cont.)	W32-W34	Firearm injuries	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	W65-W74	Drowning	0.00	0.00	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
	W78-W79	Inhalation of gastric contents/Inhalation and ingestion of food causing obstruction of the respiratory tract	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	X00-X09	Fire injuries	0.00	0.00	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
	X31	Accidental excessive cold	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Violence (Acute)	X60-X84, Y10-Y33	Intentional self-harm/Event of undetermined intent	0.00	0.00	0.34	0.35	0.34	0.33	0.35	0.34	0.37	0.34	0.36	0.32	0.31	0.25	0.27	0.20
	X85-Y09	Assault	0.00	0.00	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Transport accidents (Acute)	§§	Pedestrian traffic accidents	0.00	0.00	0.35	0.16	0.45	0.19	0.46	0.21	0.46	0.21	0.23	0.03	0.23	0.03	0.23	0.03
	§	Road traffic accidents (driver/rider)	0.00	0.00	0.21	0.09	0.33	0.15	0.24	0.12	0.24	0.12	0.09	0.03	0.09	0.03	0.09	0.03
	V90-V94	Water transport accidents	0.00	0.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
	V95-V97	Air/space transport accidents	0.00	0.00	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Spontaneous	O03	Spontaneous abortion	0.00	0.00	0.00	0.23	0.00	0.21	0.00	0.22	0.00	0.21	0.00	0.20	0.00	0.15	0.00	0.12
Digestive (Chronic)	K22.6	Gastro-oesophageal laceration-haemorrhage syndrome	0.00	0.00	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
	K73, K74	Chronic hepatitis, not elsewhere classified and Fibrosis and cirrhosis of liver	0.00	0.00	0.77	0.67	0.76	0.59	0.74	0.60	0.79	0.59	0.77	0.57	0.71	0.48	0.61	0.38
	K85, K86.1	Acute and chronic pancreatitis	0.00	0.00	0.27	0.19	0.27	0.16	0.26	0.16	0.30	0.16	0.27	0.14	0.22	0.10	0.16	0.07
	I85	Oesophageal varices	0.00	0.00	0.77	0.67	0.76	0.59	0.74	0.60	0.79	0.59	0.77	0.57	0.71	0.48	0.61	0.38
Cancer (Chronic)	C00-C14	Malignant neoplasm of lip, oral cavity and pharynx	0.00	0.00	0.50	0.40	0.50	0.35	0.49	0.36	0.53	0.35	0.50	0.33	0.44	0.26	0.36	0.20
	C15	Malignant neoplasm of oesophagus	0.00	0.00	0.32	0.23	0.31	0.20	0.30	0.20	0.34	0.20	0.32	0.18	0.26	0.14	0.20	0.10
	C32	Malignant neoplasm of larynx	0.00	0.00	0.34	0.25	0.33	0.21	0.32	0.22	0.36	0.21	0.34	0.20	0.28	0.15	0.22	0.11

Other chronic diseases (low AF)	C18	Malignant neoplasm of colon	0.00	0.00	0.05	0.03	0.05	0.03	0.04	0.03	0.05	0.03	0.05	0.03	0.04	0.02	0.03	0.01
	C20	Malignant neoplasm of rectum	0.00	0.00	0.08	0.06	0.08	0.05	0.08	0.05	0.09	0.05	0.08	0.05	0.07	0.03	0.05	0.03
	C22	Malignant neoplasm of liver and	0.00	0.00	0.08	0.06	0.08	0.05	0.08	0.05	0.09	0.05	0.08	0.05	0.07	0.03	0.05	0.03
	C50	Malignant neoplasm of breast	0.00	0.00	0.16	0.11	0.15	0.10	0.15	0.10	0.17	0.10	0.16	0.09	0.13	0.07	0.10	0.05
	I10-I15	Hypertensive diseases	0.00	0.00	0.00	0.09	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.08	0.00	0.06	0.00	0.04
	I47-I48	Cardiac arrhythmias	0.00	0.00	0.34	0.24	0.33	0.19	0.32	0.20	0.37	0.20	0.34	0.18	0.27	0.13	0.20	0.09
	I50-I51	Heart failure	0.00	0.00	0.35	0.36	0.36	0.35	0.37	0.35	0.38	0.35	0.37	0.33	0.34	0.27	0.30	0.22
Other diseases (low AF)	G40-G41	Epilepsy and Status epilepticus	0.00	0.00	0.56	0.64	0.58	0.59	0.58	0.61	0.61	0.61	0.61	0.57	0.51	0.45	0.42	0.35
	I60-I62,	Haemorrhagic stroke	0.00	0.00	0.31	0.20	0.30	0.15	0.27	0.15	0.34	0.15	0.30	0.13	0.24	0.10	0.16	0.06
	I63-I66,	Ischaemic stroke	0.00	0.00	0.16	0.03	0.13	0.00	0.08	0.00	0.18	0.00	0.12	0.00	0.06	0.00	0.00	0.00
	L40	Psoriasis	0.00	0.00	0.34	0.33	0.34	0.33	0.35	0.33	0.36	0.32	0.35	0.31	0.33	0.26	0.30	0.22
§ V12-V14 (.3 -.9), V19.4-V19.6, V19.9, V20-V28 (.3 -.9), V29-V79 (.4 -.9), V80.3-V80.5, V81.1, V82.1, V82.9, V83.0-V86 (.0 -.3), V87.0-V87.9, V89.2, V89.3, V89.9																		
§§ V02-V04 (.1, .9), V06.1, V09.2, V09.3																		

Source: Department of Health communication.