

## Topography of Drinking Behaviours in England

Synthetic estimates of numbers and proportions of abstainers, lower risk, increasing risk and higher risk drinkers in local authorities in England

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August 2011

### **Executive Summary**

- Previous research has demonstrated that a sizable proportion of England's population drink alcohol at a level associated with a range of health, crime and economic outcomes. Men who regularly drink over 50 units per week (or eight units per day) and women who regularly drink over 35 units per week (or six units per day) are most at risk of developing alcohol-related illness or injuries or being admitted to hospital. Levels of alcohol consumption (and associated harms) have changed over the last decade and so updated estimates are necessary to understand the current situation.
- This report presents updated model-based figures (known as synthetic estimates) for the numbers and proportions of abstainers, lower risk (sensible), increasing risk (hazardous) and higher risk (harmful) drinkers for all local authorities in England for 2008 (see Table 1 for definitions of abstainers and different drinking levels). These estimates, commissioned by the Department of Health and produced by the North West Public Health Observatory, replace the harmful and hazardous drinking estimates based upon data for 2000/02.
- This experimental data is intended to help Directors of Public Health in local authorities understand the levels of alcohol use and misuse in their areas, and support the development and monitoring of the effectiveness of local and national alcohol strategies to tackle the harms caused by alcohol. The estimates should be used in conjunction with local intelligence about alcohol use.
- These latest estimates of reported drinking behaviour use multinomial regression modelling procedures to generate local authority level data. Data in the model include the General Lifestyle Survey (2008), levels of hospital admissions resulting from alcohol consumption, population demographics (age, sex, ethnicity), levels of deaths relating to alcohol and levels of deprivation.
- The results presented in this report show that there are large differences in estimates of reported drinking behaviour between local authorities. Using self reported data on alcohol consumption, we calculate that:
  - 6.3% of people in the Isles of Scilly and 6.4% of people in Mid Devon abstain compared to 48.0% in Newham and 35.4% in Brent.
  - 37.5% of people in Newham and 43.6% of people in Tower Hamlets are lower

- risk drinkers compared to 74.3% in Tendring and 74.1% in Waveney.<sup>1</sup>
  - 8.6% of people in Brent and 8.8% of people in Slough are increasing risk drinkers compared to 30.9% in Exeter and 30.8% in the Isles of Scilly.
  - 2.0% of people in Peterborough and 2.2% of people in both Weymouth and Portland and King's Lynn and West Norfolk are higher risk drinkers compared to 11.7% in both Harrow and Hounslow.
- The results presented in this report also show that the picture is very different when focusing on the drinking population alone in each local authority (i.e. without including those who are abstainers). For example, it is estimated that 16.4% of people in Redbridge are increasing risk drinkers. When limited to the drinking population only, it is estimated that 24.5% of drinkers in Redbridge are increasing risk drinkers. The corresponding figures for higher risk drinkers in Redbridge are 6.7% and 10.0%. Little is known about the characteristics of those who abstain, why they choose to do so and what proportion were previously alcohol consumers.
  - Alcohol consumption is mediated by a range of factors which give rise to the differences in the percentage of people who abstain and who drink at lower, increasing and higher risk levels both across local authorities and over time. A considerable driver of these differences is a change in wine consumption in terms of increases in the amount consumed generally, increases in the alcohol by volume of wine<sup>2</sup> and because the biggest consumers of wine are the more affluent subgroups of the population.
  - The effectiveness of actions to tackle alcohol locally and nationally need to consider how they impact on drinkers' behaviour. Evaluations must distinguish between changes in levels of abstainers which may simply result from demographic changes in age and ethnicity, and interventions which are genuinely moving higher risk and increasing risk drinkers into a lower risk or abstainer category. Furthermore, in the current economic climate, it is possible that changes in the level of drinking are related to changes in income and employment status.
  - Levels of abstinence have increased from 10% in 1998 to 15% in 2009 (as measured by the General Household Survey/General Lifestyle Survey). Alcohol abstainers make up a significant minority in many localities though they are often ignored in discussions about alcohol. The impact of alcohol abstainers must be considered in order to ensure that policies do not segregate major parts of some communities.

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<sup>1</sup> Small proportions of lower risk drinkers in a local authority can result from higher levels of increasing and higher risk drinkers but can also result from high levels of abstainers in a locality.

<sup>2</sup> Alcohol by volume: standard measure of how much alcohol is contained within an alcoholic drink.

## 1. Introduction

The recently published White Paper, *Healthy Lives, Healthy People*,<sup>3</sup> sets out the strategy for public health in England and highlights the significant impact of alcohol on society. According to the National Audit Office, over 10 million adults in England drink more alcohol than the recommended daily limit, with the House of Commons Health Committee reporting that 2.6 million of them are drinking more than twice this.<sup>4</sup> The risks of alcohol misuse are well established and place a huge burden on the NHS at an estimated cost of around £2.7 billion a year.<sup>5</sup> The number of hospital admissions attributable to alcohol misuse was 1.1 million in 2009/10, a 100% increase since 2002/03.<sup>6</sup> Alcohol misuse also contributes to 1.2 million incidents of violent crime a year, 40% of domestic violence cases and 6% of all road casualties.<sup>7</sup>

National indicators for alcohol are expected to be a part of the Public Health Outcomes Framework for England.<sup>8</sup> Furthermore, as Directors of Public Health move into local authorities they will take responsibility for commissioning alcohol misuse prevention and treatment services in collaboration with local commissioning consortia. Such commissioning requires data on the extent and characteristics of the population's alcohol consumption in each locality. Currently, there are no direct measures of how many people in local areas are drinking alcohol or are drinking above the recommended limits.<sup>9</sup> However, national survey data, demographic information and information on alcohol-related mortality and morbidity can be used in combination to generate estimates of the number of people using different levels of alcohol in each local authority. The synthetic estimates of drinking behaviour reported here are therefore intended to help inform the development, targeting and monitoring of the effectiveness of local and national alcohol strategies.

This report presents new synthetic estimates of increasing risk drinkers (previously referred to as hazardous drinkers) and higher risk drinkers (previously referred to as harmful drinkers) at local authority level in England and, for the first time, also includes estimates of the number of abstainers and lower risk drinkers in each local authority. The estimates were commissioned by the Department of Health and produced by the North West Public Health Observatory. Currently the Department of Health recognises four increasing levels of alcohol consumption and definitions of these are given in Table 1, along with the operational definitions used in order to create these synthetic estimates. A further category of drinker (although not exclusive of those detailed above) is dependent drinkers. The feasibility of producing estimates of levels of alcohol dependence by local authority, derived largely from models using the Adult Psychiatry Morbidity Survey (2007) is currently being considered by the North West Public Health Observatory, with alcohol dependency defined as a self reported AUDIT (Alcohol Use Identification Test) score of 10 or more and a score of four or more using the SADQC

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<sup>3</sup> Healthy Lives, Healthy People. Department of Health. November, 2010.

<sup>4</sup> Making alcohol a health priority. Opportunities to reduce alcohol harms and rising costs. Alcohol Concern. January, 2011.

<sup>5</sup> Investing in Alcohol Treatments: reducing costs and saving lives. Alcohol Concern, 2010.

<sup>6</sup> Alcohol-Related Hospital Admissions. North West Public Health Observatory and Centre for Public Health, 2010.

<sup>7</sup> Alcohol: First Report Session of 2009-10. Stationery Office Limited, 2009.

<sup>8</sup> Healthy Lives, Healthy People: Transparency in Outcomes. Department of Health. December, 2010.

<sup>9</sup> Units and you. Department of Health, 2008.

(Severity of Alcohol Dependence Questionnaire, community version).<sup>10</sup> The Department of Health currently uses the ANARP (Alcohol Needs Assessment Research Project) methodology to estimate the potentially treatable population, a methodology which uses a cut off score on AUDIT of 16 to identify ‘moderately and severely dependent’ drinkers.<sup>11</sup>

**Table 1: Alcohol drinking categorisation and definitions**

Drinking category	Government definitions	Operational definitions
Abstainers	No Government definition for abstinence exists.	A person whose weekly alcohol consumption was reported in the General Lifestyle Survey as 0 units over the previous 12 months.
Lower risk	Men who regularly drink no more than 3 to 4 units per day and women who regularly drink no more than 2 to 3 units per day.* Weekly limits are no more than 21 units per week for a man and 14 units per week for a woman.**	A man whose average weekly alcohol consumption was reported in the General Lifestyle Survey as >0 and <=21 units in the previous 12 months.  A woman whose average weekly alcohol consumption was reported in the General Lifestyle Survey as >0 and <=14 units in the previous 12 months.
Increasing risk	Men who regularly drink over 3 to 4 units per day and women who regularly drink over 2 to 3 units per day.* Weekly limits are more than 21 units to 50 units for a man and more than 14 units to 35 units for a women.**	A man whose average weekly alcohol consumption was reported in the General Lifestyle Survey as being >21 units to <=50 units in the previous 12 months.  A woman whose average weekly alcohol consumption was reported in the General Lifestyle Survey as >14 units to <=35 units in the previous 12 months.
Higher risk	Men who regularly drink over 8 units per day or over 50 units per week and women who regularly drink over 6 units per day and over 35 units per week.*	A man whose average weekly alcohol consumption was reported in the General Lifestyle Survey as >50 units in the previous 12 months.  A woman whose average weekly alcohol consumption was reported in the General Lifestyle Survey as >35 units in the previous 12 months.

\*Details of definitions based on units of alcohol are in: *Safe, Sensible, Social – Consultation on further action*. Department of Health, 2008.

\*\*Personal communication. Department of Health. Although weekly lower risk drinking limits are recognised by the Department of Health they no longer publicise them through any media.

## 2. Methodology

A methodological summary is presented in Appendix 1, while details of the modelling and calculation of confidence intervals are presented in Appendices 2 and 3 respectively.

<sup>10</sup> Adult Psychiatric Morbidity in England, 2007. Results of a household survey. NHS Information Centre, 2009.

<sup>11</sup> Alcohol Needs Assessment Research Project. Department of Health, 2005.

### 3. Results and Discussion

Synthetic estimates for the number of abstainers, lower risk drinkers, increasing risk drinkers and higher risk drinkers are presented in Tables 2 to 10 for each local authority in England by nine geographical areas: East Midlands, East of England, London, North East, North West, South East, South West, West Midlands and Yorkshire and Humber. More specifically, these tables provide for every local authority: 1) the estimated percentage of the population that fall within each of the four drinking categories; 2) the estimated number of people who fall within each of the four drinking categories; and 3) for drinkers only, the percentage of the population that fall within each of the three drinking categories. These percentages with their corresponding 95% confidence intervals are detailed in Appendix 4.

The results show large differences in estimates of drinking behaviour between local authorities. The following local authorities have the smallest percentage of abstainers:<sup>12</sup> Isles of Scilly, 6.3%; Mid Devon, 6.4%; and East Hampshire, 6.9%. Conversely, Newham, Brent and Tower Hamlets have the largest percentage of abstainers; 48.0%, 35.4% and 33.6% respectively. The local authorities with the smallest percentage of lower risk drinkers are Newham, 37.5%; Tower Hamlets, 43.6%; and Redbridge, 43.7%, while Tendring, 74.3%; Waveney, 74.1%; and Basildon, 73.5% have the largest percentage of lower risk drinkers. Considering increasing risk drinkers, Brent, 8.6%; Slough, 8.8%; and Ipswich, 9.1% have the smallest proportion of these, while Exeter, 30.9%; Isles of Scilly, 30.8%; Mid Devon, 28.7%; and Teignbridge, 28.7% have the largest. Finally, the following local authorities have the smallest percentage of higher risk drinkers: Peterborough, 2.0%; Weymouth and Portland, 2.2%; and King's Lynn and West Norfolk, 2.2%, while Harrow, 11.7%; Hounslow, 11.7%; and Doncaster, 11.2% have the highest. Maps 1 to 4 illustrate differences at the local authority level in the estimated percentage of the adult population who are abstainers, lower risk, increasing risk and higher risk drinkers respectively.

The number of alcohol abstainers within a population affects the proportion of drinkers who exceed government guidelines. If, for example, a number of lower risk drinkers within an area become abstainers, the proportion of all drinkers who exceed guidelines will rise, even though the actual numbers who consume alcohol at increasing or higher risk levels remains unchanged. Using Redbridge as an example, it is estimated that 16.4% of people in Redbridge are increasing risk drinkers, but when limited to the drinking population only, it is estimated that 24.5% of drinkers in Redbridge are increasing risk drinkers. The corresponding figures for higher risk drinkers in Redbridge are 6.7% and 10.0% respectively. Large differences across local authorities are again observed. For example, 57.2% of adult drinkers in Exeter drink at lower risk levels, compared to 86.4% in Kings Lynn and West Norfolk. In Ipswich 10.8% of adult drinkers are increasing risk drinkers, while in Exeter, this proportion is 33.5%. An estimated 2.5% of adult drinkers in Peterborough are higher risk drinkers compared to 16.1% in Hounslow. Maps 5 to 7, and Tables 2 to 10, detail the proportion of adult drinkers who drink at lower risk, increasing risk and higher risk levels.

There are a number of reasons why these local authority estimates vary by area and across time, but firstly, it is important to reflect upon the definitions for increasing risk and higher risk drinking. Women are considered to be drinking at increasing risk levels if they regularly drink more than 14 units, up to 35 units, per week and are considered to be drinking at higher risk

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<sup>12</sup> 95% confidence intervals for all estimates are presented in Appendix 4.

levels if they regularly consume more than 35 units per week. If there are ten units of alcohol in a bottle of wine,<sup>13</sup> for example, a woman who drinks half of a bottle of wine on three nights of the week would be defined as an increasing risk drinker, while consuming half a bottle of wine on four nights during the week and an additional two bottles during the course of the weekend, would push them into the higher risk category. Men are considered to be drinking at increasing risk levels if they drink more than 21 units, up to 50 units, per week and are considered to be drinking at higher risk levels if they regularly drink more than 50 units per week. Therefore a man who drinks half of a bottle of wine on five nights of the week is drinking at increasing risk levels, while a man who drinks two thirds of a bottle of wine on each day of the week and an additional two bottles over the course of a weekend would be considered a higher risk drinker.

Changes over time are also, in part, due to a change in the survey (General Lifestyle Survey) methodology. The number of units of alcohol a person is reported to consume is based upon the size of a given measure (for example, the size of a glass of wine) and the alcohol content of the particular drink (the percentage of alcohol by volume; ABV). In recent years, both of these factors have changed and are reflected in the methodology employed by the General Lifestyle Survey from 2006 onwards. In relation to the ABV, the revised method changed the number of units assumed to be in a 'normal strength beer, lager and cider', 'strong beer, lager and cider' and 'wine' categories. The size of a wine glass was also assumed to have changed. Until 2006, a wine glass was assumed to be 125ml; while in 2006 and 2007 it was assumed to be an average size of 170ml. The biggest impact of the 2006 methodological revision was therefore on wine drinking, with a change in both the glass size and ABV of wine (from 9 to 12%) resulting in the number of units assumed to be in a 'glass' of wine doubling from one to two units. In 2008, a new question about wine was included in the survey, with respondents being asked whether they consumed a small (125 ml), standard (175 ml) or large (250 ml) glass of wine. Responses from this question were used when calculating the number of units consumed; a small glass was assumed to contain one and a half units, a standard glass was assumed to contain two units and a large glass was assumed to contain three units.<sup>14</sup> The impact of the changes detailed above on estimates for alcohol consumption will be further accentuated by changes in actual drinking behaviour, with figures from the British Beer and Pub Association showing that, against a backdrop of falling beer consumption, the amount of wine consumed per person by UK residents aged 15 and over has increased from 15.4 litres in 1990 to 25.6 litres in 2009.<sup>15</sup>

The previous estimates for increasing and higher risk drinking calculated by the North West Public Health Observatory used aggregated data from the General Lifestyle Survey for years 2000 to 2002, while the current estimates used survey data from 2008. According to the General Lifestyle Survey, the percentage of men drinking more than 21 units per week and the percentage of women drinking more than 14 units per week fell between 2000 and 2006.<sup>16</sup> However, data from the General Lifestyle Survey also show that between 2000/02 and 2008 the proportion of men drinking at increasing risk levels has not changed considerably; 28% in 2000/02 to 27% in 2008. The proportion of men drinking at higher risk levels has also not changed; 7% in both 2000/02 and 2008. In 2000/02, just over 16% of women were increasing

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<sup>13</sup> Improving accuracy in recording alcohol consumption: A survey in Greater Manchester. Morleo et al., 2011.

<sup>14</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

<sup>15</sup> Statistical Handbook. A compilation of drinks industry statistics. British Beer and Pub Association, 2010.

<sup>16</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

risk drinkers compared to 19% in 2008, while the proportions who were higher risk drinkers were 3% and 4% respectively.<sup>17</sup> Clearly, the methodological changes detailed above make interpretation of trend data difficult. Furthermore, the impact of these methodological changes affects areas differently depending upon the population's characteristics. Until 2006, the General Lifestyle Survey showed a small difference in usual weekly alcohol consumption between those in manual and non-manual households, with those in non-manual households tending to have a higher weekly consumption. Following the methodological changes, a greater difference between manual and non-manual average weekly alcohol consumption was observed, a difference at least in part related to the relatively low prevalence of wine consumption in routine and manual households compared with other categories.<sup>18</sup> While the *proportion* of people who regularly exceed drinking guidelines are the most affluent, it is important to note that consumption per head is highest among men in lower paid employment. Such patterns of consumption may help explain why the poorest communities continue to experience the highest rates of ill health, hospital admissions and death.<sup>19,20</sup>

Previous estimates of increasing and higher risk drinking produced by the North West Public Health Observatory were based upon aggregated General Lifestyle Survey data for years 2000 to 2002. The new estimates presented here are based upon survey data for 2008 which were the most recent data available when the estimates were produced; data were not aggregated across years because the questions on average weekly alcohol consumption were included in the General Lifestyle Survey in 2006 and again in 2008, but not in 2007.<sup>21</sup> The changes to the methodology of the General Lifestyle Survey detailed above, coupled with changes in wine consumption, particularly among those in more affluent populations, suggest that the previous 2000/02 estimates may have underestimated alcohol consumption especially in some communities.

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<sup>17</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

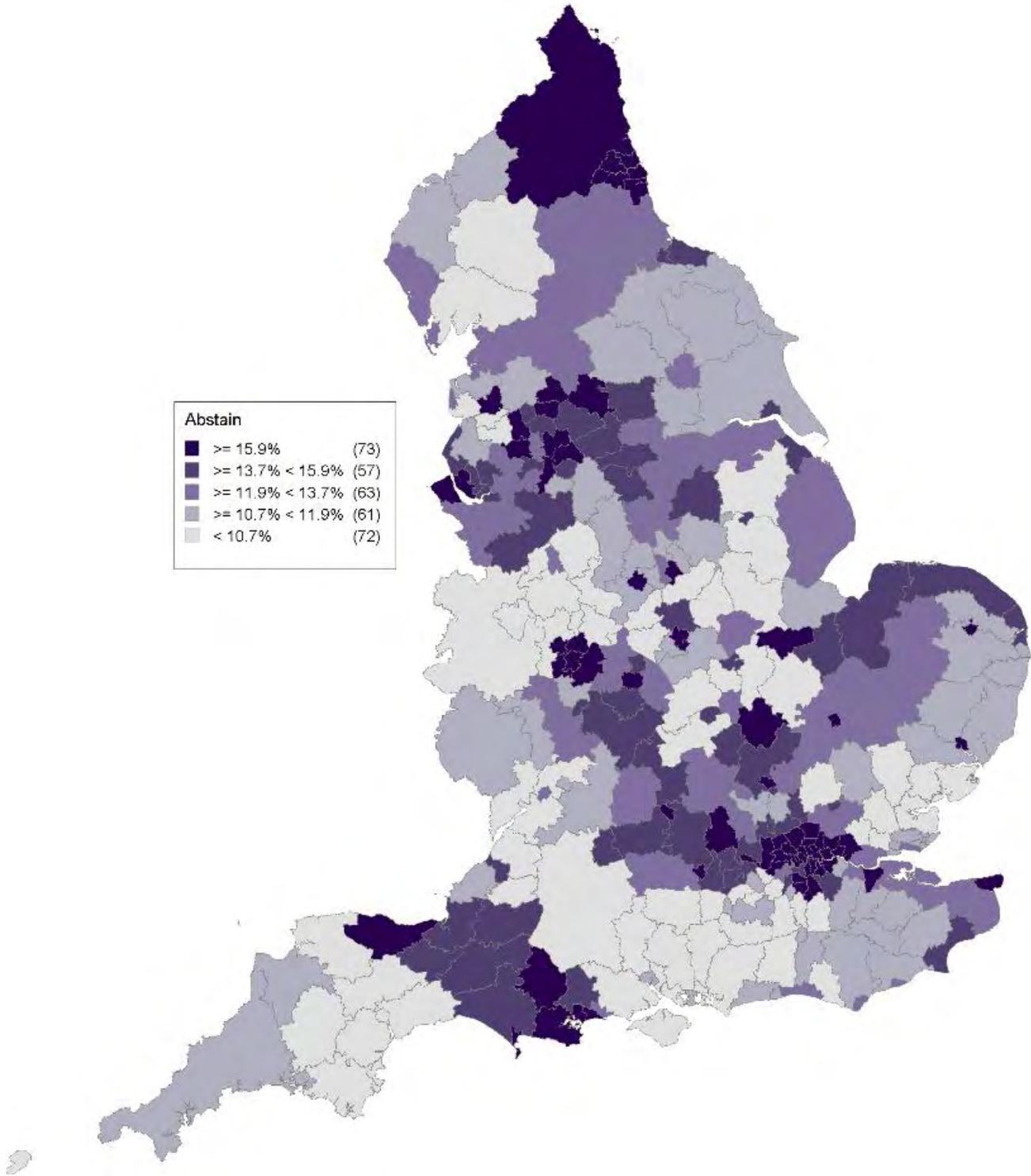
<sup>18</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

<sup>19</sup> Safe, Sensible, Social – Consultation on further action. Department of Health 2008.

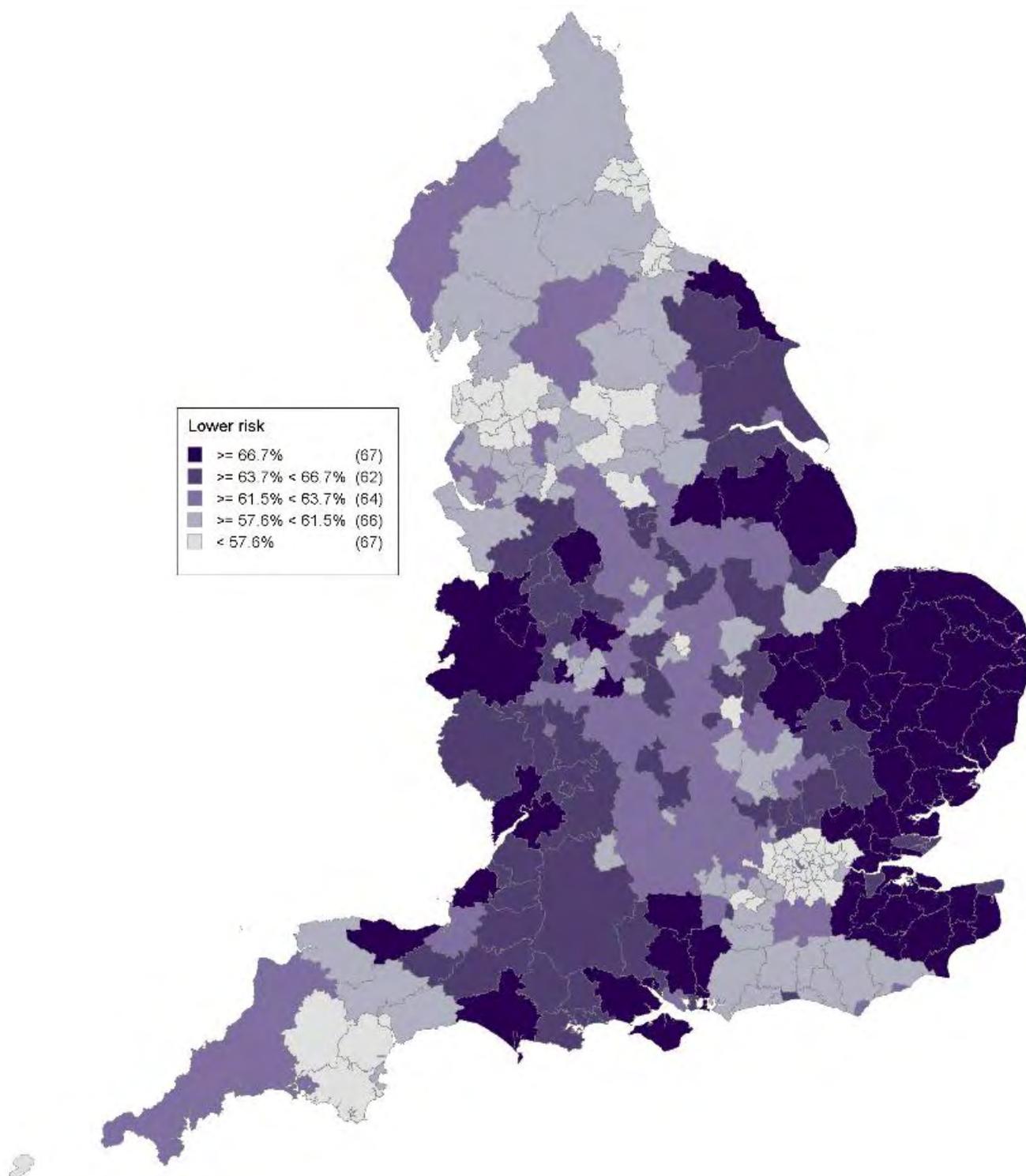
<sup>20</sup> Alcohol pen portraits: Segmentation series report 4. Morleo et al. 2010.

<sup>21</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

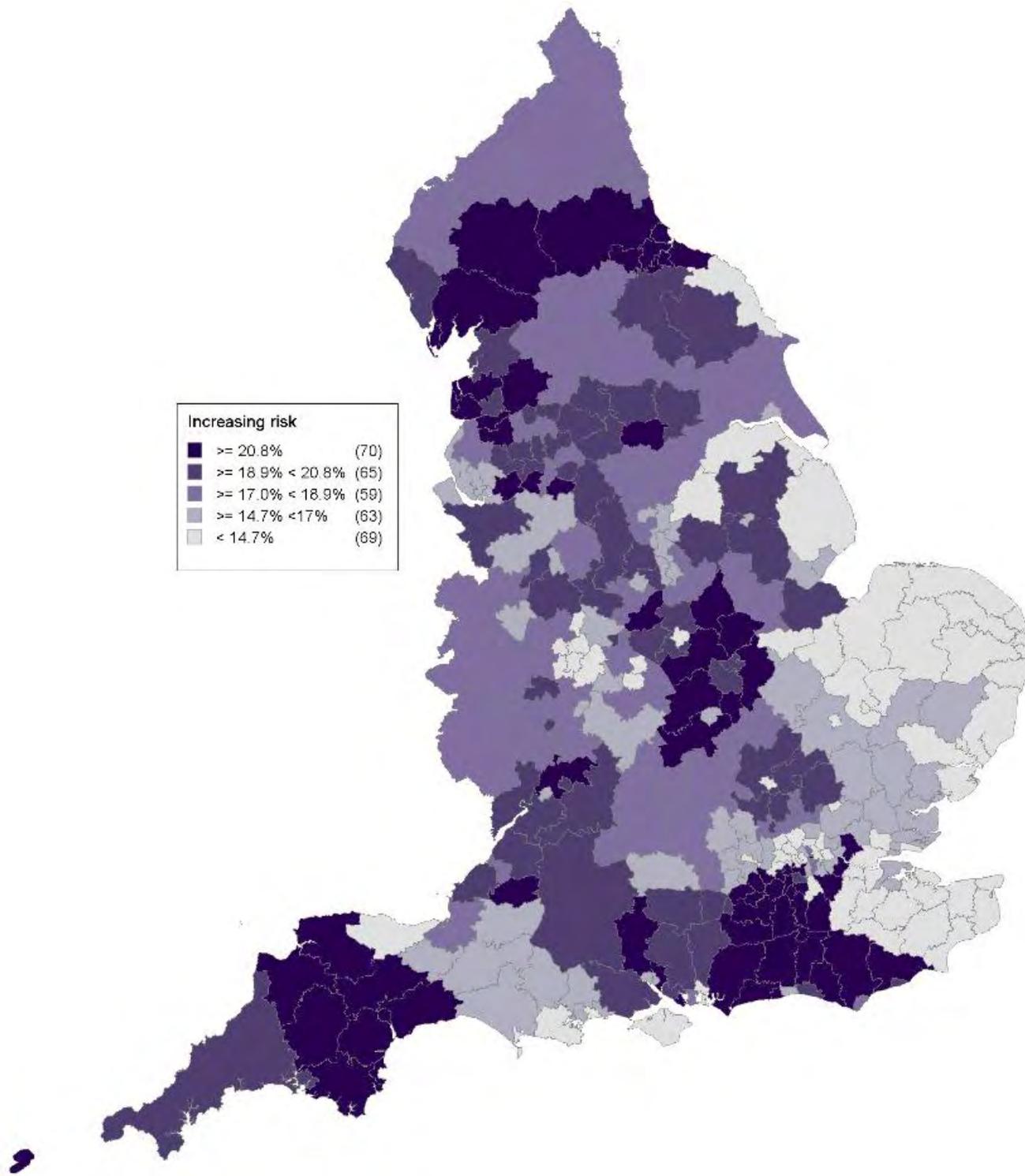
**Map 1:** Estimated percentage of people aged 16 and over who abstain from alcohol, by local authority



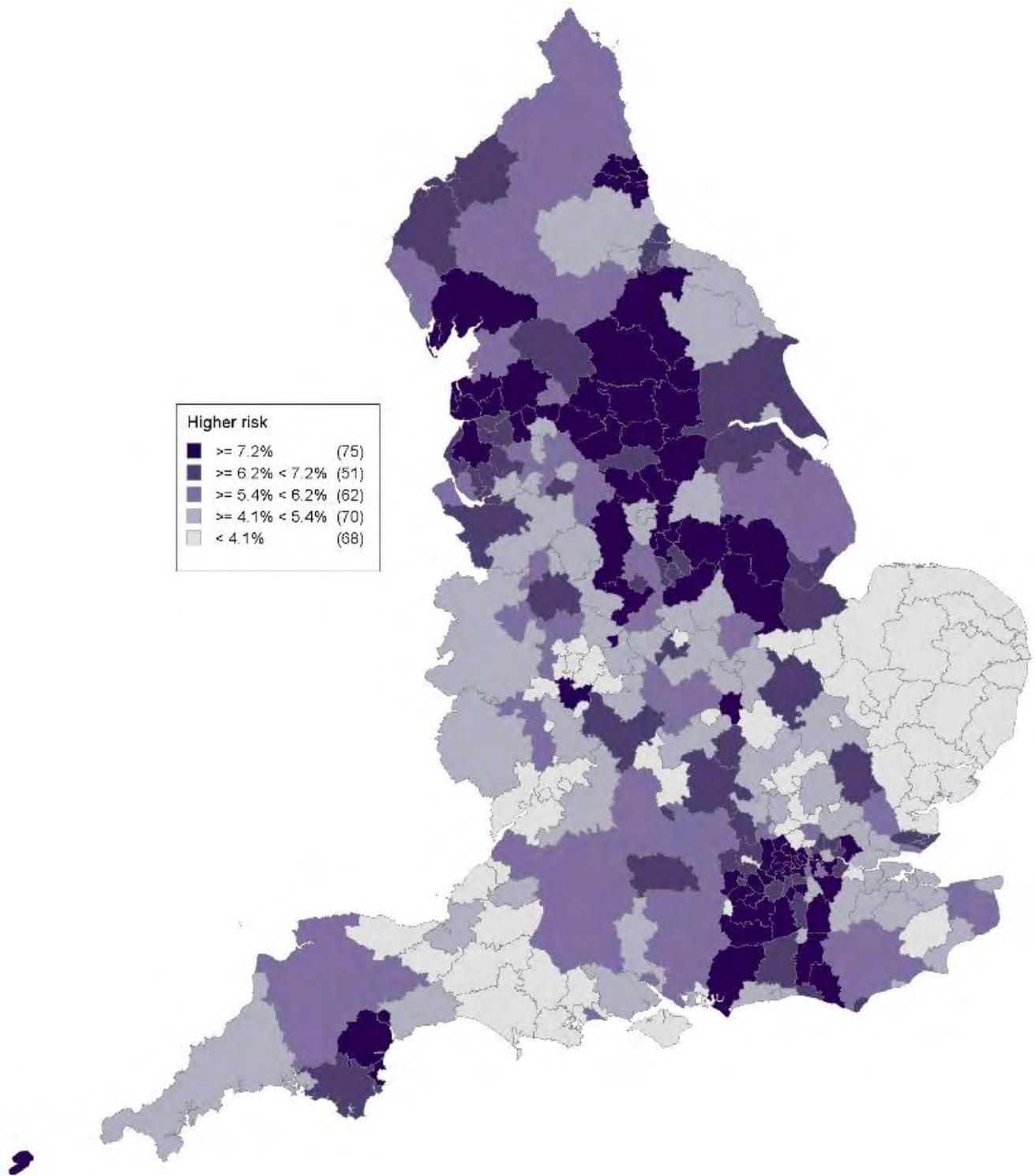
**Map 2:** Estimated percentage of people aged 16 and over who are lower risk drinkers, by local authority



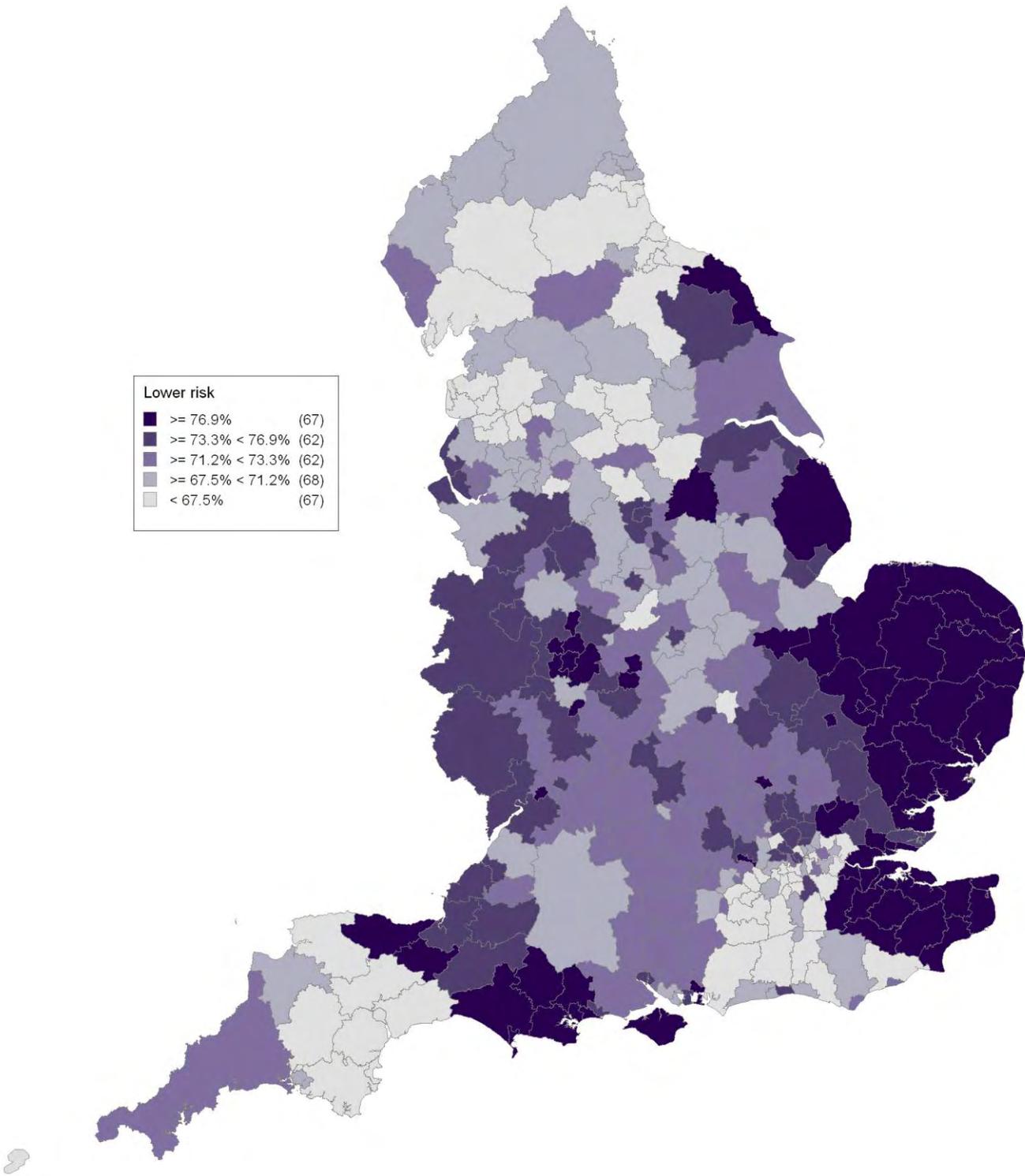
**Map 3:** Estimated percentage of people aged 16 and over who are increasing risk drinkers, by local authority



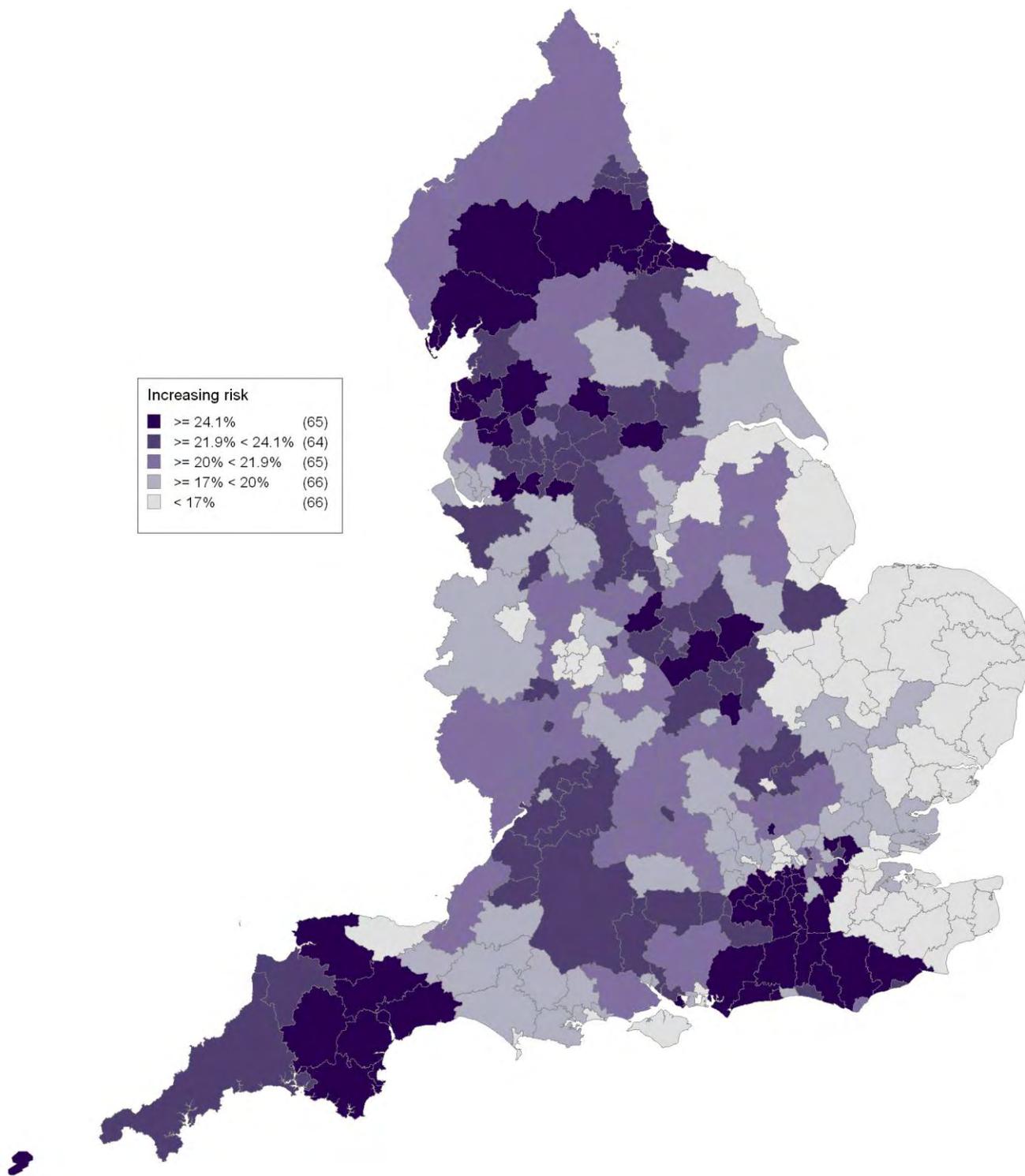
**Map 4:** Estimated percentage of people aged 16 and over who are higher risk drinkers, by local authority



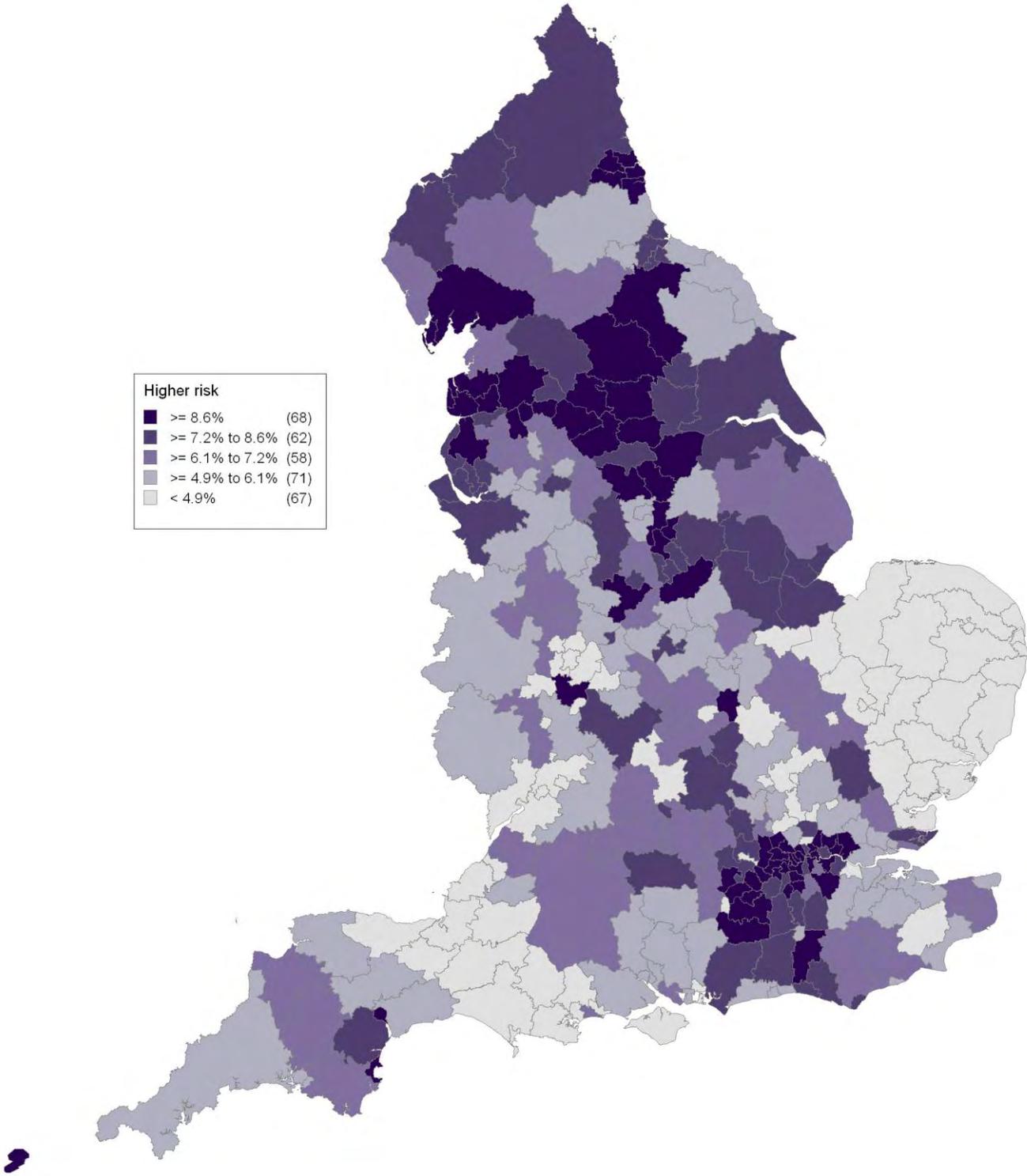
**Map 5:** Estimated percentage of drinkers aged 16 and over who are drinking at lower risk levels, by local authority



**Map 6:** Estimated percentage of drinkers aged 16 and over who are drinking at increasing risk levels, by local authority



**Map 7:** Estimated percentage of drinkers aged 16 and over who are drinking at higher risk levels, by local authority



**Table 2:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the East Midlands, by local authority

East Midlands Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
East Midlands	13.7%	62.3%	17.9%	6.1%	72.2%	20.7%	7.0%	492033	2231350	640180	217374
Amber Valley	11.1%	62.8%	20.1%	6.0%	70.6%	22.6%	6.7%	10881	61826	19815	5903
Ashfield	11.9%	64.9%	14.8%	8.4%	73.7%	16.8%	9.5%	11161	61006	13952	7852
Bassetlaw	13.8%	67.3%	14.2%	4.7%	78.1%	16.4%	5.5%	12625	61313	12913	4313
Blaby	11.6%	61.0%	20.4%	6.9%	69.1%	23.1%	7.8%	8773	46062	15387	5234
Bolsover	13.3%	63.3%	15.3%	8.1%	73.0%	17.6%	9.4%	8022	38179	9219	4897
Boston	12.9%	65.6%	14.7%	6.8%	75.3%	16.9%	7.8%	6163	31368	7026	3242
Broxtowe	13.2%	63.6%	16.8%	6.5%	73.2%	19.4%	7.4%	12209	58938	15584	5988
Charnwood	15.0%	61.6%	19.2%	4.3%	72.4%	22.5%	5.0%	20428	83934	26131	5846
Chesterfield	12.4%	66.2%	16.0%	5.3%	75.6%	18.3%	6.1%	10254	54592	13221	4378
Corby	14.1%	61.3%	19.6%	5.0%	71.3%	22.8%	5.9%	6173	26920	8608	2218
Daventry	8.6%	63.7%	21.9%	5.8%	69.7%	24.0%	6.4%	5444	40322	13878	3680
Derby	16.7%	61.3%	14.9%	7.0%	73.7%	17.9%	8.5%	31958	117340	28504	13475
Derbyshire Dales	11.2%	61.7%	19.7%	7.4%	69.5%	22.2%	8.3%	6491	35852	11424	4296
East Lindsey	13.5%	67.8%	12.7%	6.0%	78.4%	14.7%	6.9%	15885	79943	14993	7069
East Northamptonshire	10.3%	64.0%	20.8%	4.9%	71.4%	23.2%	5.4%	7003	43442	14120	3304
Erewash	11.3%	62.7%	20.0%	6.0%	70.7%	22.6%	6.7%	10192	56623	18067	5386
Gedling	11.0%	64.1%	18.2%	6.8%	71.9%	20.4%	7.6%	10086	58963	16732	6265
Harborough	10.8%	61.9%	22.3%	4.9%	69.5%	25.0%	5.5%	7156	40962	14749	3268
High Peak	11.1%	62.7%	20.2%	6.0%	70.5%	22.7%	6.8%	8369	47328	15250	4566
Hinckley and Bosworth	10.7%	63.8%	20.7%	4.8%	71.5%	23.1%	5.4%	9181	54798	17753	4138
Kettering	10.7%	63.9%	20.6%	4.8%	71.5%	23.1%	5.4%	7676	45855	14820	3454
Leicester	29.5%	52.4%	14.3%	3.7%	74.4%	20.3%	5.3%	68314	121477	33232	8666
Lincoln	13.9%	65.4%	15.1%	5.7%	75.9%	17.5%	6.6%	10046	47279	10918	4095
Mansfield	13.6%	62.1%	16.8%	7.5%	71.9%	19.4%	8.7%	11092	50567	13667	6096
Melton	9.9%	63.5%	21.2%	5.3%	70.6%	23.6%	5.9%	3987	25485	8518	2116
Newark and Sherwood	11.0%	62.2%	19.2%	7.5%	70.0%	21.6%	8.5%	10113	56976	17558	6893
North East Derbyshire	12.6%	64.2%	18.1%	5.1%	73.4%	20.7%	5.9%	10259	52165	14718	4160
North Kesteven	9.8%	63.4%	19.4%	7.4%	70.3%	21.5%	8.2%	8428	54563	16684	6391
North West Leicestershire	9.8%	60.3%	23.7%	6.1%	66.9%	26.3%	6.8%	7195	44148	17346	4469

East Midlands Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
East Midlands	13.7%	62.3%	17.9%	6.1%	72.2%	20.7%	7.0%	492033	2231350	640180	217374
Northampton	15.2%	65.0%	16.1%	3.7%	76.6%	19.0%	4.3%	24878	106275	26390	6021
Nottingham	18.5%	59.3%	15.3%	6.9%	72.8%	18.8%	8.5%	44213	141489	36482	16430
Oadby and Wigston	17.3%	56.7%	19.2%	6.9%	68.5%	23.2%	8.3%	7997	26234	8864	3188
Rushcliffe	9.0%	64.3%	18.3%	8.4%	70.6%	20.2%	9.2%	7997	57031	16271	7431
Rutland	12.7%	59.8%	21.3%	6.2%	68.5%	24.4%	7.0%	3934	18578	6630	1911
South Derbyshire	11.1%	62.4%	18.6%	7.9%	70.2%	20.9%	8.9%	8071	45513	13567	5781
South Holland	11.8%	61.3%	20.0%	6.9%	69.4%	22.7%	7.8%	8045	41841	13684	4722
South Kesteven	10.0%	64.9%	17.9%	7.3%	72.1%	19.8%	8.1%	10599	69036	18982	7712
South Northamptonshire	10.0%	62.2%	22.8%	5.1%	69.1%	25.3%	5.6%	7226	44844	16428	3648
Wellingborough	12.4%	56.2%	23.4%	7.9%	64.2%	26.7%	9.1%	7578	34241	14233	4829
West Lindsey	8.2%	66.8%	19.3%	5.6%	72.8%	21.0%	6.1%	5929	48045	13864	4043

Local authority values do not always sum to regional total due to rounding.

**Table 3: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the East of England, by local authority**

East of England Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
East of England	13.1%	68.4%	14.6%	4.0%	78.7%	16.8%	4.6%	600722	3131670	666916	181449
Babergh	11.0%	72.4%	14.2%	2.4%	81.4%	15.9%	2.7%	7749	50776	9954	1686
Basildon	10.6%	73.5%	11.0%	4.9%	82.2%	12.3%	5.5%	14344	99329	14820	6643
Bedford	18.5%	61.6%	17.3%	2.6%	75.6%	21.2%	3.2%	22933	76486	21438	3250
Braintree	8.8%	72.1%	15.1%	4.0%	79.1%	16.5%	4.4%	9970	81289	16989	4538
Breckland	13.4%	69.5%	14.3%	2.9%	80.2%	16.5%	3.3%	14285	74213	15273	3083
Brentwood	10.6%	68.4%	15.6%	5.4%	76.5%	17.5%	6.0%	6161	39667	9062	3119
Broadland	11.0%	70.8%	14.6%	3.6%	79.6%	16.4%	4.0%	11164	72046	14855	3657
Broxbourne	12.9%	64.6%	18.8%	3.8%	74.1%	21.5%	4.3%	9216	46264	13429	2705
Cambridge	16.8%	68.6%	12.3%	2.4%	82.4%	14.7%	2.9%	17239	70452	12591	2492
Castle Point	11.5%	68.6%	15.2%	4.7%	77.5%	17.2%	5.3%	8416	50136	11143	3425
Central Bedfordshire	14.0%	61.3%	19.5%	5.2%	71.2%	22.7%	6.1%	28261	123928	39469	10554
Chelmsford	9.7%	68.6%	16.2%	5.6%	75.9%	17.9%	6.2%	12874	91514	21542	7441
Colchester	9.6%	71.7%	14.8%	4.0%	79.3%	16.4%	4.4%	13787	103080	21270	5696
Dacorum	10.7%	65.4%	19.1%	4.7%	73.3%	21.4%	5.3%	11927	72666	21262	5212
East Cambridgeshire	13.3%	69.9%	13.8%	3.0%	80.6%	15.9%	3.5%	8684	45697	9022	1978
East Hertfordshire	9.9%	65.8%	19.5%	4.8%	73.1%	21.6%	5.3%	10609	70299	20817	5096
Epping Forest	12.9%	67.7%	14.8%	4.5%	77.8%	17.0%	5.2%	12886	67624	14781	4536
Fenland	14.2%	70.1%	13.3%	2.4%	81.7%	15.5%	2.8%	10605	52356	9909	1793
Forest Heath	12.3%	71.3%	13.1%	3.4%	81.2%	14.9%	3.9%	6192	36021	6597	1724
Great Yarmouth	15.7%	69.4%	11.1%	3.8%	82.3%	13.2%	4.5%	12097	53598	8564	2930
Harlow	13.8%	72.2%	10.5%	3.5%	83.8%	12.1%	4.1%	8634	45011	6525	2193
Hertsmere	14.4%	64.4%	17.4%	3.8%	75.2%	20.4%	4.4%	11121	49838	13492	2929
Huntingdonshire	10.4%	68.5%	14.8%	6.3%	76.5%	16.5%	7.0%	14017	92299	19946	8438
Ipswich	16.3%	71.9%	9.1%	2.7%	85.9%	10.8%	3.3%	15893	70306	8879	2687
King's Lynn and West Norfolk	15.4%	73.1%	9.3%	2.2%	86.4%	11.0%	2.6%	18191	86520	10978	2636
Luton	25.0%	60.4%	12.0%	2.6%	80.6%	16.0%	3.4%	36722	88729	17566	3797
Maldon	9.0%	71.0%	16.1%	3.8%	78.1%	17.7%	4.2%	4542	35874	8144	1944
Mid Suffolk	10.7%	70.8%	14.8%	3.7%	79.3%	16.6%	4.1%	8175	54012	11294	2790
North Hertfordshire	13.1%	63.3%	19.6%	4.0%	72.8%	22.5%	4.6%	12848	62241	19250	3947

East of England Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
East of England	13.1%	68.4%	14.6%	4.0%	78.7%	16.8%	4.6%	600722	3131670	666916	181449
North Norfolk	13.8%	70.4%	12.9%	2.9%	81.7%	15.0%	3.4%	11835	60138	11018	2493
Norwich	16.0%	70.6%	10.9%	2.6%	84.0%	12.9%	3.1%	17863	78821	12122	2900
Peterborough	18.1%	69.9%	10.0%	2.0%	85.4%	12.2%	2.5%	23375	90291	12868	2610
Rochford	11.2%	66.4%	15.5%	6.9%	74.8%	17.4%	7.8%	7464	44229	10320	4603
South Cambridgeshire	12.9%	66.7%	15.1%	5.3%	76.5%	17.3%	6.1%	14168	73225	16579	5870
South Norfolk	11.1%	70.8%	14.5%	3.6%	79.6%	16.4%	4.0%	10673	68099	13988	3454
Southend-on-Sea	12.8%	69.5%	11.7%	5.9%	79.8%	13.5%	6.8%	16786	91117	15385	7728
St Albans	11.1%	65.3%	18.9%	4.6%	73.5%	21.3%	5.2%	11603	67948	19723	4816
St Edmundsbury	12.3%	69.1%	15.0%	3.6%	78.8%	17.1%	4.1%	10324	57809	12539	3036
Stevenage	12.5%	65.8%	18.9%	2.8%	75.2%	21.6%	3.2%	7862	41486	11947	1767
Suffolk Coastal	11.5%	72.1%	14.0%	2.4%	81.5%	15.8%	2.7%	11753	73602	14250	2411
Tendring	10.1%	74.3%	11.7%	4.0%	82.6%	13.0%	4.4%	12278	90754	14239	4874
Three Rivers	14.3%	62.3%	17.8%	5.6%	72.6%	20.8%	6.6%	9875	43020	12308	3892
Thurrock	13.0%	72.0%	10.5%	4.5%	82.8%	12.1%	5.1%	15358	85047	12395	5268
Uttlesford	11.2%	66.1%	15.7%	7.0%	74.4%	17.6%	7.9%	6428	38112	9030	4057
Watford	15.6%	59.5%	20.4%	4.5%	70.5%	24.1%	5.4%	9981	38051	13012	2896
Waveney	11.8%	74.1%	10.4%	3.7%	84.0%	11.8%	4.2%	11413	71543	10091	3556
Welwyn Hatfield	14.0%	64.6%	18.7%	2.7%	75.2%	21.8%	3.1%	12139	56109	16241	2301

Local authority values do not always sum to regional total due to rounding.

**Table 4: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in London, by local authority**

London Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
London	24.5%	52.1%	15.8%	7.6%	69.1%	20.9%	10.0%	1496900	3178006	960707	462339
Barking and Dagenham	28.1%	49.0%	16.1%	6.9%	68.1%	22.4%	9.5%	35539	62031	20362	8674
Barnet	28.6%	53.7%	13.6%	4.1%	75.2%	19.1%	5.7%	75229	141054	35771	10654
Bexley	11.2%	58.4%	23.8%	6.6%	65.8%	26.8%	7.4%	19826	103720	42317	11662
Brent	35.4%	48.7%	8.6%	7.3%	75.4%	13.3%	11.4%	77507	106721	18776	16095
Bromley	14.1%	53.2%	24.1%	8.5%	62.0%	28.1%	9.9%	33975	128601	58330	20650
Camden	24.5%	50.4%	16.5%	8.6%	66.8%	21.8%	11.4%	47973	98684	32238	16794
City of London	19.3%	50.4%	22.4%	7.9%	62.5%	27.7%	9.8%	1400	3661	1622	574
Croydon	28.5%	53.7%	12.8%	5.0%	75.1%	17.8%	7.0%	76701	144562	34358	13561
Ealing	27.1%	55.1%	10.2%	7.6%	75.6%	13.9%	10.5%	67078	136205	25141	18913
Enfield	22.7%	56.8%	14.7%	5.8%	73.4%	19.0%	7.5%	51083	127622	33095	13067
Greenwich	20.3%	55.1%	16.9%	7.6%	69.2%	21.3%	9.5%	35842	97171	29871	13372
Hackney	33.0%	45.7%	14.1%	7.2%	68.2%	21.1%	10.7%	53979	74618	23054	11680
Hammersmith and Fulham	20.6%	56.5%	13.5%	9.3%	71.2%	17.0%	11.8%	29738	81686	19532	13502
Haringey	30.7%	52.8%	13.2%	3.3%	76.2%	19.0%	4.8%	55522	95522	23842	6002
Harrow	26.2%	49.8%	12.3%	11.7%	67.5%	16.7%	15.9%	45161	85923	21250	20212
Havering	19.6%	46.4%	23.1%	10.9%	57.7%	28.8%	13.5%	36291	85836	42794	20104
Hillingdon	21.1%	53.3%	15.2%	10.3%	67.6%	19.3%	13.0%	42133	106334	30355	20497
Hounslow	27.7%	49.8%	10.9%	11.7%	68.9%	15.0%	16.1%	49031	88322	19288	20658
Islington	24.9%	51.7%	17.8%	5.6%	68.9%	23.7%	7.4%	39130	81369	28005	8769
Kensington and Chelsea	18.2%	61.6%	11.7%	8.4%	75.4%	14.3%	10.3%	27455	92949	17654	12721
Kingston upon Thames	15.0%	57.3%	20.9%	6.8%	67.4%	24.6%	8.0%	19417	73906	26935	8795
Lambeth	21.9%	55.2%	17.0%	5.9%	70.7%	21.7%	7.6%	49236	123855	38064	13358
Lewisham	22.2%	57.0%	15.4%	5.5%	73.2%	19.7%	7.0%	46029	118194	31873	11365
Merton	22.5%	51.4%	19.3%	6.8%	66.3%	24.9%	8.8%	36672	83581	31418	11044
Newham	48.0%	37.5%	10.2%	4.3%	72.1%	19.7%	8.2%	91407	71338	19460	8104
Redbridge	33.2%	43.7%	16.4%	6.7%	65.4%	24.5%	10.0%	66343	87191	32669	13377
Richmond upon Thames	12.1%	55.5%	22.0%	10.4%	63.1%	25.1%	11.8%	17528	80260	31900	15019
Southwark	20.5%	53.5%	17.3%	8.6%	67.4%	21.8%	10.8%	46229	120442	39023	19270
Sutton	17.2%	51.7%	22.4%	8.7%	62.5%	27.0%	10.5%	25571	76965	33275	12985

London Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
London	24.5%	52.1%	15.8%	7.6%	69.1%	20.9%	10.0%	1496900	3178006	960707	462339
Tower Hamlets	33.6%	43.6%	13.4%	9.4%	65.7%	20.1%	14.1%	57562	74594	22848	16059
Waltham Forest	32.7%	47.2%	13.3%	6.8%	70.2%	19.8%	10.1%	57306	82610	23257	11885
Wandsworth	15.8%	53.0%	22.0%	9.2%	62.9%	26.1%	10.9%	37493	125883	52301	21873
Westminster	22.4%	57.4%	9.9%	10.4%	73.9%	12.7%	13.3%	45513	116595	20031	21046

Local authority values do not always sum to regional total due to rounding.

**Table 5:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the North East, by local authority

North East Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
North East	16.6%	56.4%	20.5%	6.5%	67.6%	24.6%	7.8%	348405	1182784	430327	137258
County Durham	13.5%	58.1%	24.0%	4.4%	67.2%	27.7%	5.1%	56209	241191	99553	18340
Darlington	12.6%	59.8%	23.1%	4.5%	68.4%	26.4%	5.1%	10169	48262	18653	3621
Gateshead	19.3%	54.4%	18.1%	8.2%	67.4%	22.4%	10.2%	30144	85088	28287	12831
Hartlepool	13.5%	56.0%	24.2%	6.3%	64.7%	28.0%	7.3%	9832	40857	17696	4621
Middlesbrough	15.7%	54.8%	23.3%	6.1%	65.1%	27.7%	7.3%	17395	60702	25816	6768
Newcastle upon Tyne	21.7%	52.9%	17.4%	8.0%	67.6%	22.3%	10.2%	48909	119165	39230	17908
North Tyneside	17.4%	56.4%	17.7%	8.5%	68.3%	21.5%	10.3%	28038	90890	28560	13655
Northumberland	17.0%	59.0%	17.9%	6.1%	71.2%	21.5%	7.3%	43746	151526	45817	15547
Redcar and Cleveland	14.0%	58.0%	23.6%	4.4%	67.4%	27.5%	5.1%	15914	65651	26790	4931
South Tyneside	20.4%	53.8%	17.8%	8.1%	67.5%	22.3%	10.1%	25239	66646	22031	10000
Stockton-on-Tees	12.6%	57.4%	23.5%	6.5%	65.7%	26.9%	7.4%	19298	87764	35881	9939
Sunderland	18.9%	54.4%	18.3%	8.3%	67.2%	22.6%	10.3%	43511	125042	42012	19095

Local authority values do not always sum to regional total due to rounding.

**Table 6: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the North West, by local authority**

North West Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
North West	14.7%	59.7%	19.3%	6.3%	70.0%	22.7%	7.3%	818514	3314340	1073429	347807
Allerdale	11.6%	62.9%	18.8%	6.8%	71.1%	21.2%	7.6%	8999	48981	14608	5255
Barrow-in-Furness	12.7%	57.3%	21.3%	8.7%	65.7%	24.4%	9.9%	7422	33380	12407	5039
Blackburn with Darwen	20.9%	53.0%	18.5%	7.6%	66.9%	23.4%	9.6%	22312	56509	19776	8123
Blackpool	13.6%	57.1%	20.9%	8.4%	66.1%	24.2%	9.8%	15879	66405	24277	9827
Bolton	16.7%	58.4%	19.1%	5.8%	70.1%	23.0%	7.0%	34706	121257	39706	12033
Burnley	16.1%	55.6%	20.1%	8.2%	66.2%	24.0%	9.8%	11193	38681	14020	5714
Bury	13.5%	63.3%	19.0%	4.3%	73.1%	21.9%	4.9%	19726	92571	27741	6260
Carlisle	11.6%	62.9%	18.8%	6.8%	71.1%	21.2%	7.6%	9909	53823	16083	5787
Cheshire East	14.7%	64.0%	16.9%	4.4%	75.0%	19.8%	5.1%	43092	188260	49799	12909
Cheshire West and Chester	13.1%	60.1%	19.7%	7.1%	69.2%	22.7%	8.1%	35144	160816	52690	18939
Chorley	10.4%	55.6%	27.7%	6.3%	62.0%	30.9%	7.1%	8863	47181	23499	5376
Copeland	12.8%	62.9%	18.9%	5.4%	72.1%	21.7%	6.2%	7387	36378	10940	3140
Eden	9.1%	60.6%	24.5%	5.9%	66.6%	26.9%	6.5%	3913	26063	10542	2525
Fylde	9.7%	55.7%	24.7%	10.0%	61.6%	27.3%	11.0%	6228	35840	15905	6420
Halton	15.2%	61.9%	16.7%	6.3%	72.9%	19.6%	7.4%	14453	58951	15877	6021
Hyndburn	15.8%	55.6%	20.3%	8.3%	66.1%	24.1%	9.8%	10182	35781	13049	5309
Knowsley	15.7%	61.7%	16.4%	6.2%	73.2%	19.4%	7.4%	18810	74077	19677	7474
Lancaster	12.6%	61.1%	20.2%	6.1%	69.9%	23.1%	7.0%	14961	72787	24058	7300
Liverpool	17.5%	60.6%	15.8%	6.0%	73.5%	19.2%	7.3%	62814	217288	56667	21536
Manchester	19.5%	57.1%	17.9%	5.4%	71.0%	22.3%	6.8%	72983	213388	66888	20298
Oldham	17.9%	57.7%	18.7%	5.7%	70.2%	22.8%	6.9%	30612	98530	32015	9730
Pendle	18.3%	57.9%	17.7%	6.1%	70.9%	21.6%	7.4%	13086	41405	12628	4333
Preston	17.7%	54.7%	19.6%	8.0%	66.4%	23.8%	9.7%	18805	58104	20860	8520
Ribble Valley	11.4%	55.9%	21.6%	11.1%	63.1%	24.4%	12.5%	5420	26483	10231	5240
Rochdale	17.1%	58.0%	19.1%	5.8%	70.0%	23.0%	7.0%	27849	94218	30943	9389
Rossendale	14.0%	62.1%	18.5%	5.3%	72.2%	21.6%	6.2%	7477	33097	9884	2846
Salford	14.3%	59.8%	19.9%	6.0%	69.8%	23.2%	7.0%	25547	106751	35535	10730
Sefton	14.8%	63.4%	15.6%	6.2%	74.4%	18.3%	7.3%	33523	143400	35235	14095
South Lakeland	9.0%	58.1%	23.5%	9.5%	63.8%	25.8%	10.4%	7863	50955	20596	8345

North West Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
North West	14.7%	59.7%	19.3%	6.3%	70.0%	22.7%	7.3%	818514	3314340	1073429	347807
South Ribble	10.6%	56.4%	26.5%	6.5%	63.1%	29.6%	7.3%	9197	49116	23068	5683
St Helens	15.6%	61.8%	16.4%	6.2%	73.2%	19.5%	7.4%	22379	88674	23589	8939
Stockport	11.7%	57.8%	23.7%	6.8%	65.4%	26.9%	7.7%	26581	131897	54158	15472
Tameside	14.6%	61.5%	19.7%	4.2%	72.1%	23.0%	4.9%	25179	106098	33893	7230
Trafford	13.1%	59.4%	22.9%	4.6%	68.4%	26.3%	5.3%	22487	101610	39154	7886
Warrington	13.0%	60.9%	21.6%	4.6%	69.9%	24.8%	5.3%	20396	95727	33934	7240
West Lancashire	11.5%	60.1%	18.8%	9.6%	67.9%	21.2%	10.9%	10226	53416	16720	8583
Wigan	12.6%	60.5%	20.7%	6.3%	69.2%	23.6%	7.1%	31066	149790	51098	15466
Wirral	16.5%	61.5%	16.0%	6.0%	73.6%	19.2%	7.2%	41282	154119	40145	15158
Wyre	11.4%	56.9%	23.3%	8.3%	64.3%	26.4%	9.3%	10563	52529	21536	7638

Local authority values do not always sum to regional total due to rounding.

**Table 7: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the South East, by local authority**

South East Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
South East	12.1%	63.7%	18.3%	5.9%	72.5%	20.8%	6.7%	810924	4284160	1231994	396507
Adur	12.9%	66.7%	16.1%	4.3%	76.6%	18.5%	5.0%	6417	33159	8001	2148
Arun	10.8%	60.6%	23.7%	5.0%	67.9%	26.5%	5.6%	13181	74231	28975	6104
Ashford	11.3%	70.6%	14.5%	3.7%	79.6%	16.3%	4.1%	10076	62760	12870	3248
Aylesbury Vale	12.4%	63.6%	17.1%	6.9%	72.6%	19.6%	7.8%	17207	88152	23759	9524
Basingstoke and Deane	7.2%	66.8%	20.4%	5.6%	72.0%	21.9%	6.0%	9239	85494	26046	7137
Bracknell Forest	14.6%	60.5%	16.4%	8.5%	70.8%	19.2%	10.0%	13136	54537	14817	7664
Brighton and Hove	11.9%	61.4%	20.0%	6.7%	69.7%	22.7%	7.6%	25261	130372	42358	14277
Canterbury	12.0%	67.7%	14.5%	5.8%	76.9%	16.5%	6.6%	14652	82969	17808	7075
Cherwell	13.8%	64.3%	17.8%	4.1%	74.6%	20.7%	4.7%	15223	70674	19575	4496
Chichester	8.5%	61.2%	23.0%	7.3%	66.9%	25.1%	8.0%	7674	55376	20773	6618
Chiltern	13.0%	63.6%	16.7%	6.7%	73.1%	19.2%	7.7%	9367	45725	12040	4803
Crawley	11.5%	62.1%	22.0%	4.3%	70.2%	24.9%	4.9%	9235	49749	17622	3477
Dartford	12.8%	69.1%	14.6%	3.4%	79.3%	16.8%	3.9%	9307	50080	10614	2478
Dover	12.7%	67.4%	14.4%	5.4%	77.3%	16.5%	6.2%	11047	58482	12498	4684
East Hampshire	6.9%	67.2%	20.3%	5.6%	72.2%	21.8%	6.0%	6171	59779	18054	4955
Eastbourne	12.3%	63.2%	17.6%	7.0%	72.0%	20.0%	8.0%	9730	49989	13888	5518
Eastleigh	8.6%	65.5%	21.1%	4.8%	71.7%	23.0%	5.3%	8346	63667	20476	4697
Elmbridge	9.9%	61.5%	21.9%	6.8%	68.2%	24.3%	7.5%	10297	64186	22844	7090
Epsom and Ewell	11.4%	56.8%	22.3%	9.5%	64.1%	25.2%	10.7%	6492	32513	12766	5428
Fareham	10.2%	63.6%	20.2%	6.0%	70.8%	22.5%	6.7%	9143	57096	18168	5399
Gosport	9.5%	63.0%	22.0%	5.5%	69.6%	24.3%	6.1%	6077	40405	14089	3556
Gravesham	16.8%	66.1%	12.7%	4.4%	79.5%	15.3%	5.2%	13128	51646	9947	3402
Guildford	10.9%	58.0%	22.9%	8.2%	65.1%	25.7%	9.2%	12034	64118	25334	9063
Hart	10.2%	63.2%	20.5%	6.1%	70.4%	22.8%	6.8%	7273	45298	14686	4380
Hastings	12.9%	62.2%	20.3%	4.6%	71.4%	23.3%	5.3%	8970	43197	14101	3187
Havant	10.3%	71.9%	14.4%	3.4%	80.1%	16.1%	3.8%	9827	68782	13828	3269
Horsham	8.8%	60.7%	23.9%	6.6%	66.5%	26.2%	7.2%	9146	63188	24927	6881
Isle of Wight	9.7%	73.0%	14.2%	3.1%	80.9%	15.7%	3.4%	11240	84714	16479	3577
Lewes	8.7%	61.1%	22.9%	7.3%	67.0%	25.1%	8.0%	6778	47562	17796	5677

South East Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
South East	12.1%	63.7%	18.3%	5.9%	72.5%	20.8%	6.7%	810924	4284160	1231994	396507
Maidstone	11.3%	69.9%	13.5%	5.3%	78.8%	15.3%	5.9%	13219	81589	15793	6134
Medway	13.6%	67.0%	15.0%	4.3%	77.6%	17.4%	5.0%	27313	134087	30120	8654
Mid Sussex	10.7%	58.3%	22.9%	8.2%	65.2%	25.6%	9.1%	11133	60628	23818	8497
Milton Keynes	15.2%	60.6%	17.8%	6.5%	71.4%	21.0%	7.6%	27244	108760	31910	11622
Mole Valley	7.7%	62.2%	22.6%	7.4%	67.4%	24.5%	8.1%	5080	40894	14890	4889
New Forest	7.4%	67.7%	19.7%	5.3%	73.1%	21.2%	5.7%	10726	98166	28516	7686
Oxford	16.9%	58.0%	18.4%	6.7%	69.8%	22.1%	8.1%	21462	73742	23397	8527
Portsmouth	11.9%	65.9%	17.3%	4.9%	74.8%	19.6%	5.6%	19462	107905	28332	8007
Reading	17.9%	59.2%	17.2%	5.6%	72.2%	20.9%	6.8%	21136	69773	20243	6610
Reigate and Banstead	9.5%	61.6%	22.1%	6.8%	68.0%	24.4%	7.6%	10097	65725	23608	7310
Rother	11.1%	59.1%	23.9%	5.9%	66.5%	26.9%	6.6%	8217	43564	17618	4332
Runnymede	11.4%	57.9%	22.6%	8.1%	65.4%	25.5%	9.1%	7885	39944	15592	5561
Rushmoor	11.0%	65.0%	20.7%	3.2%	73.1%	23.3%	3.6%	7870	46349	14776	2259
Sevenoaks	11.9%	68.3%	14.5%	5.3%	77.5%	16.4%	6.0%	10887	62751	13302	4872
Shepway	14.6%	70.3%	10.1%	5.0%	82.4%	11.8%	5.8%	11951	57559	8239	4088
Slough	33.4%	54.9%	8.8%	2.9%	82.4%	13.3%	4.4%	31358	51606	8312	2746
South Bucks	14.1%	63.0%	16.4%	6.5%	73.3%	19.1%	7.6%	7287	32469	8448	3363
South Oxfordshire	13.9%	62.2%	17.8%	6.0%	72.3%	20.7%	6.9%	14328	64023	18361	6151
Southampton	11.1%	67.2%	16.3%	5.4%	75.6%	18.4%	6.1%	21356	129662	31519	10413
Spelthorne	9.9%	58.1%	24.3%	7.8%	64.4%	26.9%	8.7%	7302	43050	17990	5788
Surrey Heath	10.1%	56.0%	24.3%	9.6%	62.3%	27.0%	10.7%	6701	37134	16093	6372
Swale	13.3%	70.9%	10.5%	5.3%	81.8%	12.1%	6.1%	13840	73624	10925	5467
Tandridge	7.9%	62.0%	22.6%	7.4%	67.4%	24.6%	8.1%	5247	40961	14931	4916
Test Valley	8.4%	65.6%	21.1%	4.9%	71.7%	23.0%	5.3%	7760	60492	19429	4471
Thanet	17.0%	66.0%	11.9%	5.1%	79.5%	14.4%	6.1%	17784	68937	12484	5278
Tonbridge and Malling	11.0%	70.1%	13.6%	5.3%	78.8%	15.3%	6.0%	10113	64378	12490	4872
Tunbridge Wells	10.8%	68.7%	14.4%	6.2%	77.0%	16.1%	6.9%	9033	57505	12045	5154
Vale of White Horse	14.0%	62.2%	17.8%	6.0%	72.3%	20.7%	6.9%	13066	58251	16703	5593
Waverley	9.1%	59.8%	21.8%	9.3%	65.8%	24.0%	10.2%	8487	56049	20457	8682

South East Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
South East	12.1%	63.7%	18.3%	5.9%	72.5%	20.8%	6.7%	810924	4284160	1231994	396507
Wealden	10.8%	61.1%	22.5%	5.5%	68.5%	25.3%	6.2%	12677	71589	26399	6458
West Berkshire	13.3%	63.3%	16.9%	6.4%	73.1%	19.5%	7.4%	15943	75768	20271	7663
West Oxfordshire	13.6%	62.5%	18.0%	6.0%	72.3%	20.8%	6.9%	11089	51102	14715	4907
Winchester	7.3%	67.2%	20.0%	5.5%	72.5%	21.6%	5.9%	6535	60476	18032	4936
Windsor and Maidenhead	13.7%	63.1%	16.6%	6.6%	73.1%	19.2%	7.7%	15443	71088	18713	7449
Woking	9.7%	57.0%	22.7%	10.6%	63.2%	25.1%	11.7%	7143	41794	16608	7763
Wokingham	15.0%	61.4%	17.6%	5.9%	72.3%	20.7%	7.0%	18803	76782	22017	7430
Worthing	10.9%	60.3%	23.8%	5.0%	67.6%	26.7%	5.6%	8926	49344	19485	4113
Wycombe	16.7%	61.5%	15.8%	6.0%	73.8%	19.0%	7.2%	21350	78743	20274	7665

Local authority values do not always sum to regional total due to rounding.

**Table 8:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the South West, by local authority

South West Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
South West	11.8%	63.7%	19.8%	4.7%	72.2%	22.4%	5.4%	503271	2708610	841012	201012
Bath and North East Somerset	9.0%	64.8%	21.5%	4.7%	71.2%	23.6%	5.1%	13245	95829	31807	6892
Bournemouth	16.0%	65.2%	13.3%	5.5%	77.6%	15.8%	6.6%	22039	89702	18248	7621
Bristol, City of	14.3%	64.8%	17.2%	3.7%	75.6%	20.1%	4.3%	49447	223969	59562	12780
Cheltenham	10.7%	65.6%	20.7%	3.0%	73.5%	23.2%	3.3%	9910	60546	19134	2741
Christchurch	13.6%	66.1%	16.5%	3.9%	76.4%	19.1%	4.5%	5195	25314	6317	1483
Cornwall	11.4%	63.4%	20.2%	5.0%	71.5%	22.8%	5.7%	49918	277528	88555	22043
Cotswold	10.8%	64.8%	19.7%	4.7%	72.6%	22.1%	5.3%	7414	44661	13615	3251
East Devon	8.4%	60.5%	26.0%	5.1%	66.1%	28.4%	5.5%	9322	67314	28938	5620
East Dorset	14.7%	65.7%	16.3%	3.3%	77.0%	19.0%	3.9%	10522	47085	11642	2387
Exeter	7.8%	52.8%	30.9%	8.5%	57.2%	33.5%	9.2%	8094	54693	32038	8813
Forest of Dean	10.2%	67.3%	19.2%	3.3%	74.9%	21.4%	3.7%	6809	45083	12889	2218
Gloucester	12.0%	70.0%	15.1%	2.9%	79.5%	17.2%	3.3%	10976	63930	13818	2653
Isles of Scilly	6.3%	54.6%	30.8%	8.3%	58.3%	32.8%	8.9%	109	945	532	144
Mendip	15.4%	64.4%	16.7%	3.5%	76.1%	19.7%	4.2%	13505	56576	14677	3119
Mid Devon	6.4%	59.3%	28.7%	5.5%	63.4%	30.7%	5.9%	3940	36524	17700	3409
North Devon	8.7%	58.1%	27.7%	5.5%	63.6%	30.3%	6.0%	6559	43909	20937	4144
North Dorset	16.6%	64.7%	15.7%	2.9%	77.6%	18.9%	3.5%	9105	35386	8613	1591
North Somerset	11.3%	67.2%	18.9%	2.6%	75.8%	21.3%	2.9%	18932	112585	31683	4299
Plymouth	11.2%	63.1%	20.6%	5.2%	71.1%	23.1%	5.8%	23054	130275	42425	10636
Poole	15.9%	65.0%	16.3%	2.8%	77.3%	19.4%	3.3%	18069	73845	18499	3197
Purbeck	16.7%	65.7%	14.5%	3.0%	78.9%	17.5%	3.6%	6402	25125	5561	1154
Sedgemoor	13.7%	63.6%	18.5%	4.1%	73.7%	21.5%	4.8%	12566	58247	16989	3800
South Gloucestershire	9.7%	64.2%	20.1%	6.0%	71.1%	22.2%	6.7%	20112	132914	41576	12442
South Hams	9.6%	56.7%	27.5%	6.2%	62.7%	30.4%	6.9%	6637	39357	19117	4339
South Somerset	15.2%	65.1%	16.0%	3.7%	76.8%	18.9%	4.3%	19628	84004	20649	4714
Stroud	8.6%	68.6%	20.2%	2.6%	75.1%	22.1%	2.8%	7728	61475	18118	2308
Swindon	15.8%	60.6%	17.6%	6.0%	71.9%	20.9%	7.2%	24049	92046	26759	9154
Taunton Deane	14.2%	66.6%	16.0%	3.2%	77.6%	18.6%	3.8%	12505	58706	14070	2839
Teignbridge	7.6%	55.8%	28.7%	7.9%	60.4%	31.1%	8.5%	8015	58591	30160	8248

South West Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
South West	11.8%	63.7%	19.8%	4.7%	72.2%	22.4%	5.4%	503271	2708610	841012	201012
Tewkesbury	9.7%	65.4%	21.0%	3.8%	72.5%	23.3%	4.2%	6302	42489	13659	2479
Torbay	10.5%	59.4%	21.9%	8.1%	66.4%	24.5%	9.1%	11738	66256	24449	9060
Torrige	11.0%	61.8%	21.3%	5.9%	69.4%	23.9%	6.7%	5923	33240	11449	3185
West Devon	9.6%	55.9%	28.5%	6.0%	61.9%	31.5%	6.6%	4122	24017	12229	2567
West Dorset	14.8%	67.6%	15.3%	2.3%	79.3%	18.0%	2.7%	11898	54397	12343	1820
West Somerset	16.2%	69.9%	11.0%	2.9%	83.4%	13.1%	3.5%	4899	21171	3332	890
Weymouth and Portland	18.7%	68.1%	11.0%	2.2%	83.8%	13.5%	2.7%	10081	36774	5912	1200
Wiltshire	9.5%	64.4%	20.1%	6.0%	71.2%	22.2%	6.6%	34500	234103	73010	21770

Local authority values do not always sum to regional total due to rounding.

**Table 9:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the West Midlands, by local authority

West Midlands Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
West Midlands	17.3%	63.5%	14.9%	4.3%	76.7%	18.1%	5.2%	747399	2748094	646774	186636
Birmingham	27.6%	58.4%	11.2%	2.8%	80.7%	15.4%	3.9%	217152	459743	87868	22188
Bromsgrove	11.7%	61.8%	18.4%	8.1%	70.0%	20.8%	9.2%	8778	46511	13808	6119
Cannock Chase	10.5%	68.8%	14.6%	6.0%	76.9%	16.4%	6.7%	7999	52334	11130	4571
Coventry	22.7%	59.7%	12.9%	4.7%	77.2%	16.7%	6.1%	56028	147251	31892	11629
Dudley	16.1%	69.5%	11.8%	2.6%	82.9%	14.0%	3.1%	39865	171939	29113	6462
East Staffordshire	10.5%	65.2%	19.0%	5.2%	72.9%	21.3%	5.8%	9161	56734	16539	4544
Herefordshire, County of	11.8%	65.7%	17.9%	4.6%	74.5%	20.3%	5.2%	17388	96592	26357	6704
Lichfield	10.6%	67.7%	16.9%	4.7%	75.8%	18.9%	5.3%	8482	53961	13430	3778
Malvern Hills	11.5%	64.8%	18.2%	5.5%	73.3%	20.5%	6.2%	6994	39513	11067	3360
Newcastle-under-Lyme	10.3%	64.0%	19.7%	6.1%	71.3%	21.9%	6.8%	10548	65871	20242	6246
North Warwickshire	13.0%	63.1%	18.8%	5.0%	72.6%	21.6%	5.8%	6640	32145	9563	2562
Nuneaton and Bedworth	15.7%	64.9%	14.0%	5.4%	77.0%	16.6%	6.4%	15314	63118	13651	5238
Redditch	15.3%	65.9%	15.4%	3.5%	77.7%	18.2%	4.1%	9749	42008	9808	2216
Rugby	12.5%	63.9%	18.1%	5.5%	73.0%	20.7%	6.3%	9070	46542	13172	4036
Sandwell	24.2%	60.7%	12.1%	3.0%	80.1%	15.9%	4.0%	55061	138412	27528	6906
Shropshire	10.6%	67.4%	17.4%	4.5%	75.4%	19.5%	5.1%	25298	160932	41637	10781
Solihull	13.1%	66.8%	16.3%	3.8%	76.9%	18.8%	4.4%	21423	109559	26756	6243
South Staffordshire	9.5%	66.3%	18.6%	5.5%	73.3%	20.6%	6.1%	8396	58352	16355	4867
Stafford	8.8%	64.9%	19.9%	6.5%	71.1%	21.8%	7.1%	9025	66586	20396	6669
Staffordshire Moorlands	10.2%	67.5%	17.7%	4.6%	75.2%	19.7%	5.1%	8108	53420	13985	3620
Stoke-on-Trent	13.6%	65.2%	16.0%	5.2%	75.5%	18.5%	6.0%	26348	126230	30984	10065
Stratford-on-Avon	14.0%	62.8%	16.8%	6.4%	73.1%	19.5%	7.4%	13527	60601	16184	6149
Tamworth	8.9%	63.3%	20.0%	7.8%	69.5%	21.9%	8.5%	5387	38128	12024	4681
Telford and Wrekin	10.2%	68.6%	15.1%	6.1%	76.4%	16.8%	6.8%	13002	87830	19331	7807
Walsall	21.2%	62.7%	12.9%	3.2%	79.6%	16.3%	4.1%	42677	126194	25888	6487
Warwick	14.3%	62.9%	17.9%	4.9%	73.3%	20.9%	5.7%	15950	70062	19974	5488
Wolverhampton	24.6%	61.4%	10.8%	3.2%	81.4%	14.3%	4.3%	46695	116341	20464	6107
Worcester	13.4%	63.3%	19.4%	3.9%	73.1%	22.4%	4.5%	10132	47986	14688	2963
Wychavon	12.7%	64.0%	18.0%	5.2%	73.4%	20.7%	5.9%	12242	61529	17314	4987

West Midlands Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
West Midlands	17.3%	63.5%	14.9%	4.3%	76.7%	18.1%	5.2%	747399	2748094	646774	186636
Wyre Forest	13.5%	63.5%	19.2%	3.9%	73.3%	22.2%	4.5%	10961	51671	15627	3165

Local authority values do not always sum to regional total due to rounding.

**Table 10:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in Yorkshire and Humber, by local authority

Yorkshire and Humber Local Authority	Population estimate for all groups				Population estimate for drinkers only			Population estimate per drinking group (N)			
	Abstain	Lower	Increasing	Higher	Lower	Increasing	Higher	Abstain	Lower	Increasing	Higher
Yorkshire and Humber	14.3%	58.6%	18.5%	8.6%	68.4%	21.6%	10.0%	601407	2463157	776496	359314
Barnsley	14.4%	61.2%	18.1%	6.4%	71.5%	21.1%	7.4%	26233	111212	32836	11555
Bradford	22.0%	49.7%	19.9%	8.3%	63.8%	25.5%	10.7%	84976	191647	76681	32116
Calderdale	14.3%	58.3%	20.0%	7.4%	68.0%	23.4%	8.6%	22936	93361	32071	11849
Craven	12.4%	61.9%	18.5%	7.1%	70.7%	21.2%	8.1%	5757	28655	8588	3300
Doncaster	13.3%	57.7%	17.8%	11.2%	66.6%	20.5%	12.9%	31330	135621	41695	26213
East Riding of Yorkshire	11.0%	64.3%	17.8%	6.8%	72.3%	20.0%	7.7%	30398	177045	48928	18843
Hambleton	11.9%	58.2%	19.7%	10.2%	66.0%	22.4%	11.6%	8472	41575	14089	7324
Harrogate	11.0%	61.3%	17.7%	9.9%	68.9%	19.9%	11.1%	14345	79947	23112	12932
Kingston upon Hull, City of	15.8%	63.0%	16.4%	4.9%	74.7%	19.5%	5.8%	32927	131493	34216	10204
Kirklees	14.5%	55.0%	20.1%	10.4%	64.3%	23.5%	12.1%	46283	175019	64023	33010
Leeds	14.5%	55.5%	19.7%	10.3%	64.9%	23.0%	12.1%	90595	347789	123345	64622
North East Lincolnshire	14.9%	64.0%	14.3%	6.7%	75.2%	16.9%	7.9%	18983	81345	18231	8536
North Lincolnshire	13.6%	65.6%	13.9%	6.9%	75.9%	16.1%	8.0%	17581	84764	17985	8902
Richmondshire	12.7%	62.3%	18.8%	6.1%	71.4%	21.6%	7.0%	5315	26056	7876	2566
Rotherham	12.3%	62.2%	17.3%	8.1%	71.0%	19.7%	9.3%	25143	126925	35311	16591
Ryedale	11.2%	65.1%	19.0%	4.7%	73.3%	21.4%	5.3%	4927	28701	8358	2088
Scarborough	11.2%	68.8%	14.6%	5.3%	77.5%	16.5%	6.0%	10133	62101	13205	4817
Selby	11.7%	61.0%	20.0%	7.2%	69.1%	22.7%	8.2%	7652	39854	13086	4702
Sheffield	14.2%	57.1%	17.7%	10.9%	66.6%	20.6%	12.8%	61851	249105	77218	47723
Wakefield	13.5%	57.6%	21.4%	7.5%	66.6%	24.7%	8.6%	35253	150533	55896	19484
York	12.5%	61.8%	18.3%	7.3%	70.7%	20.9%	8.4%	20317	100412	29746	11936

Local authority values do not always sum to regional total due to rounding.

## 4. Limitations

### Survey

The data used for these estimates are based on self-reported drinking behaviour from the General Lifestyle Survey and this may be prone to recall bias. Recent research suggests that current survey designs to measure alcohol consumption are likely to lead to underestimates in the size of the population being affected by alcohol-related harms. When recalling consumption, drinkers can ignore occasional (even routine) heavy drinking sessions, underestimate drink sizes and their alcohol content, and exclude holidays at home or abroad, special occasions or celebratory times of year when drinking may increase substantially. Even when recollection is complete, accuracy relies on individuals neither exaggerating nor underestimating consumption.<sup>22</sup> The actual physical effects of alcohol consumption can also hamper recall, with excessive consumption being linked to blackouts and forgetting events on a night out.<sup>23</sup> Taxation data provide an alternative source of information on consumption, detailing total quantities of alcohol purchased. Comparisons between taxation and survey data show that survey data only account for 60% of alcohol purchased.<sup>24</sup> However, even taxation data do not provide a full estimation of total quantities consumed, as they exclude consumption through homebrew, that imported from abroad (legally or illegally) and that consumed abroad. Surveys can be developed to more accurately capture consumption data but further work is needed to obtain a complete understanding using this methodology.<sup>25</sup>

The General Lifestyle Survey includes people in private households. A household is defined as a single person or a group of people who have the address as their only or main residence and who either share one meal a day or share the living accommodation;<sup>26</sup> and does not include people in institutions such as prisons or care homes nor those who are homeless.<sup>27</sup> The people excluded from participation may have a different pattern of alcohol consumption, and so the estimates reflect alcohol use among residents of private households only. Not all participants selected for inclusion participated in the survey, possibly introducing selection bias, if those that agreed to take part in the survey differed systematically from those who did not.

### Population

The analysis uses mid-2007 population estimates provided by the Office for National Statistics; the current populations of each local authority may be slightly different. Furthermore, the mid-2007 populations are provisional data.

### Modelling

The model uses data from a number of sources and any inaccuracies in these sources will affect the modelled estimates. For example, alcohol-attributable hospital admissions are estimates based on research-derived attributable fractions for each health condition.<sup>28</sup>

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<sup>22</sup> Off Measure: How we underestimate the amount we drink. Alcohol Concern. December, 2009.

<sup>23</sup> Teenage drinking, alcohol availability and pricing: A cross-sectional study of risk and protective factors for alcohol-related harms in school children. Bellis et al., 2009.

<sup>24</sup> Off Measure: How we underestimate the amount we drink. Alcohol Concern. December, 2009.

<sup>25</sup> Improving accuracy in recording alcohol consumption: A survey in greater manchester. Morleo et al., 2011.

<sup>26</sup> General Lifestyle Survey 2008. Definitions and Terms. Office for National Statistics, 2010.

<sup>27</sup> Personal communication with the Survey's Team, Office for National Statistics. June, 2011.

<sup>28</sup> Alcohol-attributable fractions for England. Alcohol-attributable mortality and hospital admissions. Jones et al., 2008.

The modelling process involves making assumptions that include: 1) that the relationships identified in the national General Lifestyle Survey between alcohol consumption and age, sex and ethnicity are the same at the local authority level; and 2) that the modelled estimate for a particular local authority is the expected prevalence based on its population characteristics and does not incorporate any local factors or initiatives that may have an impact on the true prevalence of drinking behaviour. As with all modelling, extreme values are more difficult to predict. The enhanced methodology employed by the North West Public Health Observatory to calculate these updated estimates results in relatively wide confidence intervals. This is because the confidence intervals take into account the uncertainty in the estimates of the model parameters, rather than solely the population size.

## 5. Quality Assurance

The estimates presented here have undergone rigorous quality assurance checks. In addition to being subject to the North West Public Health Observatory's internal quality assurance processes, the main principles of the methodology and the application of the model parameters to the population data have been externally checked by Yorkshire and Humber Public Health Observatory as part of their inclusion in the 2011 Health Profiles.<sup>29</sup>

## 6. Conclusions

Directors of Public Health and others involved with the health of the population require local information on which to base commissioning decisions about resource allocation and to measure changes over time, particularly in relation to evaluating the effectiveness of interventions on reducing the proportion of the population drinking above government guidelines. Currently, local data on the extent of alcohol use and misuse are unavailable so monitoring the level of alcohol consumption within local populations remains a challenge. These updated synthetic estimates of increasing risk and higher risk drinkers, together with new estimates of abstainers and lower risk drinkers provide the best available national intelligence for commissioners to understand the current level of alcohol misuse in their local areas. The existence of large geographical variations demonstrates the need for local surveys and intelligence that can provide bespoke information. Local authorities should use the experimental data presented here in combination with other local sources of information in order to develop and direct their responses to alcohol harm.

According to the General Lifestyle Survey, the proportion of the population who abstain from alcohol use has been rising steadily; about 7% of men abstained 1998 compared to about 12% in 2009 while the comparable figures for women are 13% and 18% respectively.<sup>30</sup> The provision of estimates of levels of abstinence at local authority level is of particular importance in understanding the true nature and scale of the problem. Despite evidence to show that they are already more likely to avoid venturing into towns at night because of alcohol-related behaviour,<sup>31</sup> abstainers are often ignored in the drinking debate.<sup>32</sup> Understanding the full

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<sup>29</sup> [http://www.apho.org.uk/default.aspx?QN=P\\_HEALTH\\_PROFILES](http://www.apho.org.uk/default.aspx?QN=P_HEALTH_PROFILES)

<sup>30</sup> General Lifestyle Survey, 2009. Smoking and Drinking Among Adults, 2009. Office for National Statistics, 2011.

<sup>31</sup> Opinions on the impact of alcohol on individuals and communities: early summary findings from the North West Big Drink Debate. Cook et al. 2008.

<sup>32</sup> The seven key messages of the alcohol industry. Addiction Info Switzerland et al., 2011.

range of drinking behaviours, from abstinence to higher risk is a critical element in planning actions to reduce consumption and avoid marginalisation of abstainers by policy makers. Local evaluations of drinking behaviour must, for example, be able to distinguish between changes in levels of abstinence which simply reflect demographic changes in age and ethnicity, and interventions which genuinely move higher and increasing risk drinkers into a lower category of harm.

The estimates presented here should be used in context with other local and national alcohol data, much of which is provided by the LAPE (Local Alcohol Profiles for England) tool at <http://www.nwph.net/alcohol/lape/>. These estimates will be made available through that tool and additional data, including estimates of levels of dependent drinkers, will be added over coming months.

## **7. Acknowledgements**

Thanks go to Mark Robinson, Simon Chambers and Sacha Wyke from the North West Public Health Observatory for the work they have conducted on quality assuring the estimates, to Neil Potter, also from the North West Public Health Observatory for preparing the maps, and to Michela Morleo and Elaine Steele of the Centre for Public Health for their comments on the report. We would also like to thank the Depart of Health for commissioning this work and for their helpful comments on an earlier draft.

## Appendix 1: Methodological Summary

There are no direct, robust and consistent measures available for the number of people within local authorities who abstain, or who drink at lower risk, increasing risk or higher risk levels. Comparable and consistent measures of alcohol consumption are available from national lifestyle surveys that measure individual drinking levels and this type of survey can be used to derive synthetic estimates; here we use the General Lifestyle Survey (2008) as the primary data source.

The General Lifestyle Survey (until 2008 known as the General Household Survey) is a module of the Integrated Household Survey and asks household respondents aged 16 and over across Great Britain a range of questions including those related to alcohol use. Respondents are asked how often over the last year they have drunk normal strength beer, strong beer (6% or greater ABV<sup>33</sup>), wine, spirits, fortified wines and alcopops; and how much they usually drink on any one day. This information is combined to give an estimate of the respondent's weekly alcohol consumption (averaged over a year) in units of alcohol. The method used for calculating usual weekly alcohol consumption is to multiply the number of units of each type drunk on a usual drinking day by the frequency with which it was drunk using the factors shown below, and then to total across all drinks.

<i>Drinking frequency</i>	<i>Multiplying factor</i>
Almost every day	7.0
5 or 6 days a week	5.5
3 or 4 days a week	3.5
Once or twice a week	1.5
Once or twice a month	0.375 (1.5 ÷ 4)
Once every couple of months	0.115 (6 ÷ 52)
Once or twice a year	0.029 (1.5 ÷ 52) <sup>34</sup>

While the General Lifestyle Survey provides a measure of an individual's average weekly alcohol consumption, the data are typically only reported and considered robust at a regional (Government Office) geography. On request, data can be provided at lower geographies, but because of sample sizes (total survey approximately 9,000 households per annum<sup>35</sup>) local estimates based on survey data alone are not sufficiently robust.

In order to calculate synthetic estimates, data on adults aged 16 and over and resident in England were extracted from the 2008 General Lifestyle Survey (N=14,036). Records which contained missing data for the variables later used in the analysis (age, sex, ethnicity and average weekly alcohol consumption) were removed leaving a final data set containing 12,470 individual records. A variable 'drinking category' was created for each individual based upon their value for average weekly alcohol consumption (see Table 1 for definitions): abstainer (N=1,766), lower risk (N=7,794), increasing risk (N=2,187) and higher risk (N=723).

The General Lifestyle Survey dataset contained a respondent's Lower Super Output Area<sup>36</sup> of residence and this was used to identify their local authority of residence. Local authority level data were appended to each individual record in the dataset. These local authority level measures are detailed in Table 11. All continuous variables were then categorised and ethnicity was re-categorised into a smaller number of categories; details of the categories used in the modelling process are reported in Table 12.

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<sup>33</sup> Alcohol by volume: standard measure of how much alcohol is contained within an alcoholic drink.

<sup>34</sup> General Lifestyle Survey, 2008. Smoking and Drinking Among Adults, 2008. Office for National Statistics, 2010.

<sup>35</sup> Summary Quality Report for General Lifestyle Survey (GLF) Releases. Office for National Statistics, 2009.

<sup>36</sup> These are small geographical areas designed for the collection of data for small area statistics.

**Table 11:** Local authority level measures included in the modelling

Variable	Year	Description	Source
Index of Multiple Deprivation	2007	A composite measure of deprivation for small areas. The overall score is a combination of seven domains, each including a number of indicators.	Department for Communities and Local Government.
The income domain of the Index of Multiple Deprivation	2007	One of the seven domains included within the Index of Multiple Deprivation.	Department for Communities and Local Government.
Alcohol-specific hospital admissions	2008/09	Admissions for conditions that are wholly related to alcohol (for example, alcoholic liver disease or alcohol overdose).	Calculated using Hospital Episode Statistics.
Alcohol-attributable hospital admissions	2008/09	Admissions for alcohol-specific conditions plus conditions that are caused by alcohol in some, but not all, cases (for example, stomach cancer and unintentional injury).*	Calculated using Hospital Episode Statistics.
Alcohol-specific mortality	2006 to 2008	Mortality from conditions that are wholly related to alcohol (for example, alcoholic liver disease or alcohol overdose).	Calculated using mortality data.
Alcohol-attributable mortality	2008	Mortality from alcohol-specific conditions plus conditions that are caused by alcohol in some, but not all, cases (for example, stomach cancer and unintentional injury).*	Calculated using mortality data.
Alcohol-attributable recorded crime	2009/10	Aggregation of six alcohol-related offences: violence against the person, sexual offences, robbery, burglary dwelling, theft of a motor vehicle and theft from a vehicle.**	Home Office recorded crime statistics.
Strategic Health Authority	2004	2004 configuration; 28 geographic areas.	Office for National Statistics.

\*A list of alcohol-attributable conditions with their ICD-10 codes and the method for calculating alcohol-attributable conditions can be found at: <http://www.nwph.net/nwpho/publications/AlcoholAttributableFractions.pdf>

\*\*Attributable fractions for alcohol-related crimes (i.e. the percentage of people arrested for a particular type of crime who test positive for alcohol during a urine test) were taken from the Home Office New English and Welsh Arrestee Drug Abuse Monitoring System (NEW-ADAM) arrestee survey (1999-2001). Data were taken from 16 police stations in England and Wales; only offences with sample sizes of more than 50 arrestees have been included. Intoxicated arrestees were not interviewed, which suggests that some figures are likely to be underestimates and explains why drunkenness offences are not included. These attributable fractions for each crime were then applied to recorded crime data.

**Table 12: Categorisation of the variables used in the modelling process**

Variable	Categorisation
<b>Individual level variables</b>	
Age	16-19, 20-24, 25-29, 30-34.....65-69, 70-74 and 75 and over.
Ethnic group	White, Asian, Black/Other.
<b>Local authority level variables</b>	
Index of Multiple Deprivation	Less than 11.0 (quintile 1), 11.0 to 14.9 (quintile 2), 15.0 to 20.4 (quintile 3), 20.5 to 26.5 (quintile 4), 26.6 or above (quintile 5).
Income domain of the Index of Multiple Deprivation:	Less than 0.087 (quintile 1), 0.087 to 0.110 (quintile 2), 0.111 to 0.141 (quintile 3), 0.142 to 0.182 (quintile 4), 0.183 or above (quintile 5).
Alcohol-specific mortality	Less than 5.5 (quintile 1), 5.5 to 7.12 (quintile 2), 7.13 to 9.21 (quintile 3), 9.22 to 11.9 (quintile 4), 12.0 and above (quintile 5).
Alcohol-attributable mortality	Less than 19.74 (quintile 1), 19.74 to 22.37 (quintile 2), 22.38 to 25.74 (quintile 3), 25.75 to 29.74 (quintile 4), 29.75 and above (quintile 5).
Alcohol-specific hospital admissions	Less than 171.3 (quintile 1), 171.3 to 215.5 (quintile 2), 215.6 to 276.7 (quintile 3), 276.8 to 360.1 (quintile 4), 360.2 or above (quintile 5).
Alcohol-attributable hospital admissions	Less than 765.1 (quintile 1), 765.1 to 848.8 (quintile 2), 848.9 to 968.8 (quintile 3), 968.9 to 1173.3 (quintile 4), 1173.4 or above (quintile 5).
Alcohol-attributable recorded crime	Less than 4.71 (quintile 1), 4.71 to 6.03 (quintile 2), 6.04 to 7.54 (quintile 3), 7.55 to 9.47 (quintile 4), 9.48 or above (quintile 5).

Forward, stepwise, multinomial logistic regression modelling was used to identify which of the variables were significantly associated with drinking category, using SPSS statistical software (version 16). Another 20 models were created using forward, stepwise, multinomial logistic regression, each based upon a randomly selected sample of records containing 80% of the total data in order to test robustness of the contribution of different variables. The income domain was highly correlated with the Index of Multiple Deprivation, so the latter was included in the final model. Alcohol-attributable and alcohol-specific hospital admissions were highly correlated, as were alcohol-attributable and alcohol-specific mortality; alcohol-specific mortality and alcohol-attributable hospital admissions were chosen for inclusion in the final model because they were significantly associated with drinking category in a greater proportion of the exploratory models. The final model therefore contained seven variables: age, sex, ethnicity, Strategic Health Authority, Index of Multiple Deprivation, alcohol-specific mortality and alcohol-attributable hospital admissions. Using abstainers as the baseline category, the final model was used to predict the probability of being an abstainer, a lower risk drinker, an increasing risk drinker and a higher risk drinker according to age, sex, ethnicity and so on (see Tables 13 to 15 for the model parameters).

Mid-2007 population estimates for local authorities were obtained through a bespoke request to the Office for National Statistics and were grouped into combinations by age group/sex/ethnicity (for example, of females, aged 20 to 24 who were Asian). An estimate of the 16 to 19 year olds' population was calculated by assuming the population for the 15 to 19 quinary age band was evenly spread across the individual age bands. These populations were multiplied by the predicted probabilities obtained from the multinomial logistic regression model for abstainers, lower risk, increasing risk and higher risk drinkers in the respective age/sex/ethnic group for each local authority. Overall prevalence estimates for each drinking category were then obtained by summing the predicted number of abstainers, lower risk, increasing risk and higher risk drinkers within all sex/age/ethnicity groups in each local authority. Using Monte Carlo methods, 95% confidence intervals were generated for each local authority (see Appendices 2 and 3 for further details of the modelling and calculation of confidence intervals respectively).

## Appendix 2: Multinomial Regression Model

The overall process of producing local authority level prevalence estimates for abstainers, lower risk, increasing risk and higher risk drinking involved a number of steps:

1. The probability of being an abstainer, lower risk, increasing risk or higher risk drinker was modelled using multinomial logistic regression as a function of variables measured at the individual (age, sex, ethnicity) and area (index of multiple deprivation, alcohol-attributable hospital admissions and alcohol-specific mortality, Strategic Health Authority) level.
2. The model was used to generate estimated probabilities of abstainers, lower risk, increasing risk, and higher risk drinking by age group, sex and ethnicity for all English local authorities.
3. Age, sex and ethnicity specific probabilities were applied to the age, sex and ethnicity specific population estimates for each local authority to provide an estimate of the overall number, and prevalence (as a percentage) of abstainers, lower risk, increasing risk and higher risk drinkers in each area.

Two regression models were considered for modelling the data, namely, ordinal and multinomial logistic regression. The latter was chosen as there was evidence that the assumption of proportionality for the ordinal regression model did not hold. Only the multinomial regression results are reported for which predicted probabilities were obtained for the selected covariates in the multinomial logistic regression model:

$$P_s(x_i) = \frac{\exp(x_i^T \beta_s)}{1 + \sum_t \exp(x_i^T \beta_t)} \quad \text{for } s \neq 1$$

$$P_1(x_i) = \frac{1}{1 + \sum_t \exp(x_i^T \beta_t)}$$

Where

s are the states:

1. Abstainers
2. Lower risk drinkers
3. Increasing risk drinkers
4. Higher risk drinkers

$x_i$  is the vector of attributes of the  $i$ th local authority

$\beta_s$  is the vector of coefficients for state s (tables 13 to 15)

$\beta_t$  are the vector of coefficients for states 2 to 4

**Table 13:** Estimated model parameters for lower risk drinking with respect to the base category (abstainers)

Lower risk drinking	B	Exp(B)	95% Confidence Interval for Exp(B)	
			Lower Bound	Upper Bound
Intercept	-1.982			
Male	.536	1.709	1.524	1.917
Female	0	.	.	.
White	2.452	11.611	9.058	14.884
Black/other	.793	2.209	1.621	3.011
Asian	0	.	.	.
Norfolk	.152	1.164	.791	1.712
Bedfordshire and Hertfordshire	.031	1.031	.664	1.602
Essex	.334	1.397	.873	2.234
North West London	-.038	.962	.591	1.567
North Central London	-.287	.750	.457	1.233
North East London	-.526	.591	.356	.979
South East London	.024	1.024	.635	1.652
South West London	-.162	.850	.547	1.323
Northumberland	-.310	.734	.477	1.129
County Durham and Tees Valley	.062	1.064	.643	1.760
North and East Yorkshire and Northern Lincolnshire	.036	1.037	.679	1.584
West Yorkshire	.088	1.092	.721	1.655
Cumbria and Lancashire	.136	1.146	.759	1.729
Greater Manchester	.196	1.216	.815	1.815
Cheshire & Merseyside	-.023	.978	.660	1.448
Thames Valley	-.186	.830	.552	1.249
Hampshire and Isle of Wight	.375	1.455	.943	2.247
Kent and Medway	.117	1.124	.723	1.748
Surrey and Sussex	.316	1.372	.906	2.079
Avon	.358	1.431	.951	2.153
South West Peninsula	.323	1.381	.876	2.176
Dorset and Somerset	-.149	.861	.560	1.325
South Yorkshire	.143	1.154	.742	1.795
Trent	.158	1.171	.809	1.697
Leicestershire	.114	1.120	.728	1.724
Shropshire and Staffordshire	.342	1.408	.899	2.204
Birmingham and the Black Country	.054	1.055	.709	1.572
West Midlands South	0	.	.	.
16-19 yrs	.433	1.542	1.177	2.020
20-24 yrs	1.271	3.563	2.557	4.964
25-29 yrs	.979	2.662	2.026	3.496
30-34 yrs	1.052	2.865	2.217	3.702
35-39 yrs	1.260	3.524	2.733	4.544
40-44 yrs	1.191	3.289	2.572	4.207
45-49 yrs	.999	2.715	2.132	3.456
50-54 yrs	1.071	2.918	2.251	3.783

<b>Lower risk drinking</b>	<b>B</b>	<b>Exp(B)</b>	<b>95% Confidence Interval for Exp(B)</b>	
55-59 yrs	.850	2.339	1.844	2.966
60-64 yrs	.697	2.007	1.608	2.504
65-69 yrs	.450	1.568	1.251	1.966
70-74 yrs	.455	1.576	1.246	1.992
75 yrs and over	0	.	.	.
IMD q1	.185	1.203	.866	1.672
IMD q2	.216	1.241	.934	1.649
IMD q3	.185	1.204	.938	1.545
IMD q4	.150	1.162	.950	1.421
IMD q5	0	.	.	.
AS Mortality q1	-.117	.890	.644	1.228
AS Mortality q2	.110	1.117	.835	1.494
AS Mortality q3	-.080	.923	.725	1.174
AS Mortality q4	.028	1.028	.841	1.258
AS Mortality q5	0	.	.	.
AA Hosp Admissions q1	.327	1.386	.991	1.940
AA Hosp Admissions q2	.098	1.103	.818	1.488
AA Hosp Admissions q3	.150	1.162	.885	1.526
AA Hosp Admissions q4	.025	1.025	.823	1.277
AA Hosp Admissions q5	0	.	.	.

IMD: Index of Multiple Deprivation. AS: alcohol-specific. AA Hosp: alcohol-attributable hospital. q: quintile.

**Table 14:** Estimated model parameters for increasing risk drinking with respect to the base category (abstainers)

Increasing risk drinking	B	Exp(B)	95% Confidence Interval for Exp(B)	
			Lower Bound	Upper Bound
Intercept	-5.124			
Male	.935	2.546	2.219	2.921
Female	0	.	.	.
White	3.371	29.107	17.369	48.776
Black/other	.631	1.879	.946	3.734
Asian	0	.	.	.
Norfolk	-.193	.824	.505	1.345
Bedfordshire and Hertfordshire	.108	1.115	.652	1.905
Essex	.122	1.130	.634	2.013
North West London	.005	1.005	.520	1.943
North Central London	.068	1.070	.555	2.061
North East London	-.045	.956	.488	1.875
South East London	.485	1.623	.898	2.935
South West London	.239	1.270	.733	2.202
Northumberland	-.045	.956	.559	1.635
County Durham and Tees Valley	.588	1.801	.990	3.275
North and East Yorkshire and Northern Lincolnshire	.094	1.098	.658	1.832
West Yorkshire	.627	1.871	1.132	3.094
Cumbria and Lancashire	.513	1.670	1.019	2.737
Greater Manchester	.477	1.611	.992	2.616
Cheshire & Merseyside	.005	1.005	.617	1.637
Thames Valley	-.206	.813	.493	1.342
Hampshire and Isle of Wight	.473	1.605	.951	2.708
Kent and Medway	-.190	.827	.474	1.443
Surrey and Sussex	.640	1.897	1.161	3.101
Avon	.420	1.522	.934	2.481
South West Peninsula	.910	2.485	1.448	4.264
Dorset and Somerset	-.277	.758	.443	1.297
South Yorkshire	.452	1.572	.915	2.700
Trent	.211	1.235	.782	1.953
Leicestershire	.326	1.385	.819	2.343
Shropshire and Staffordshire	.314	1.369	.799	2.345
Birmingham and the Black Country	-.129	.879	.522	1.481
West Midlands South	0	.	.	.
16-19 yrs	1.031	2.804	1.949	4.035
20-24 yrs	2.100	8.169	5.448	12.248
25-29 yrs	1.717	5.569	3.913	7.925
30-34 yrs	1.604	4.971	3.536	6.990
35-39 yrs	2.031	7.625	5.511	10.551
40-44 yrs	1.987	7.293	5.323	9.994
45-49 yrs	1.810	6.109	4.470	8.347
50-54 yrs	1.946	6.998	5.044	9.709

<b>Increasing risk drinking</b>	<b>B</b>	<b>Exp(B)</b>	<b>95% Confidence Interval for Exp(B)</b>	
55-59 yrs	1.703	5.492	4.036	7.473
60-64 yrs	1.204	3.333	2.464	4.510
65-69 yrs	1.032	2.805	2.057	3.827
70-74 yrs	.719	2.053	1.471	2.864
75 yrs and over	0	.	.	.
IMD q1	.528	1.696	1.138	2.527
IMD q2	.511	1.667	1.180	2.357
IMD q3	.525	1.690	1.247	2.292
IMD q4	.097	1.102	.861	1.412
IMD q5	0	.	.	.
AS Mortality q1	-.207	.813	.550	1.202
AS Mortality q2	-.038	.963	.676	1.371
AS Mortality q3	-.253	.777	.580	1.041
AS Mortality q4	-.021	.979	.769	1.247
AS Mortality q5	0	.	.	.
AA Hosp Admissions q1	.220	1.247	.827	1.880
AA Hosp Admissions q2	-.012	.988	.681	1.434
AA Hosp Admissions q3	.132	1.141	.814	1.598
AA Hosp Admissions q4	-.088	.916	.696	1.205
AA Hosp Admissions q5	0	.	.	.

IMD: Index of Multiple Deprivation. AS: alcohol-specific. AA Hosp: alcohol-attributable hospital. q: quintile.

**Table 15:** Estimated model parameters for higher risk drinking with respect to the base category (abstainers)

Higher risk drinking	B	Exp(B)	95% Confidence Interval for Exp(B)	
			Lower Bound	Upper Bound
Intercept	-6.888			
Male	1.043	2.837	2.361	3.409
Female	0	.	.	.
White	3.176	23.959	11.498	49.923
Black/other	.578	1.782	.667	4.765
Asian	0	.	.	.
Norfolk	-.247	.781	.385	1.585
Bedfordshire and Hertfordshire	-.130	.878	.401	1.921
Essex	.403	1.496	.682	3.283
North West London	1.201	3.323	1.489	7.418
North Central London	.113	1.120	.453	2.772
North East London	.646	1.907	.781	4.661
South East London	.819	2.268	1.018	5.051
South West London	.664	1.942	.917	4.112
Northumberland	.363	1.438	.692	2.986
County Durham and Tees Valley	.441	1.554	.659	3.665
North and East Yorkshire and Northern Lincolnshire	.428	1.535	.784	3.005
West Yorkshire	.944	2.571	1.322	5.001
Cumbria and Lancashire	.808	2.243	1.155	4.357
Greater Manchester	.474	1.607	.815	3.168
Cheshire & Merseyside	.229	1.257	.637	2.480
Thames Valley	.042	1.043	.529	2.056
Hampshire and Isle of Wight	.346	1.413	.684	2.919
Kent and Medway	.151	1.163	.537	2.518
Surrey and Sussex	.701	2.017	1.040	3.910
Avon	.080	1.083	.542	2.165
South West Peninsula	.894	2.444	1.151	5.189
Dorset and Somerset	-.507	.602	.265	1.370
South Yorkshire	1.009	2.742	1.359	5.533
Trent	.599	1.820	.975	3.397
Leicestershire	.159	1.173	.556	2.476
Shropshire and Staffordshire	.384	1.468	.709	3.042
Birmingham and the Black Country	-.324	.723	.328	1.595
West Midlands South	0	.	.	.
16-19 yrs	1.972	7.188	4.001	12.914
20-24 yrs	2.861	17.485	9.439	32.390
25-29 yrs	2.278	9.761	5.411	17.608
30-34 yrs	2.206	9.083	5.097	16.185
35-39 yrs	2.668	14.408	8.335	24.905
40-44 yrs	2.661	14.311	8.379	24.444
45-49 yrs	2.752	15.670	9.275	26.475
50-54 yrs	2.588	13.307	7.692	23.023

<b>Higher risk drinking</b>	<b>B</b>	<b>Exp(B)</b>	<b>95% Confidence Interval for Exp(B)</b>	
55-59 yrs	2.205	9.071	5.279	15.587
60-64 yrs	2.210	9.115	5.424	15.317
65-69 yrs	1.745	5.725	3.314	9.891
70-74 yrs	1.321	3.747	2.081	6.748
75 yrs and over	0	.	.	.
IMD q1	.756	2.129	1.244	3.643
IMD q2	.363	1.438	.903	2.290
IMD q3	.299	1.349	.895	2.033
IMD q4	.154	1.166	.840	1.618
IMD q5	0	.	.	.
AS Mortality q1	-.733	.480	.283	.816
AS Mortality q2	-.389	.678	.422	1.087
AS Mortality q3	-.660	.517	.347	.769
AS Mortality q4	-.372	.690	.499	.954
AS Mortality q5	0	.	.	.
AA Hosp Admissions q1	.370	1.447	.830	2.525
AA Hosp Admissions q2	.395	1.484	.897	2.455
AA Hosp Admissions q3	.639	1.895	1.210	2.968
AA Hosp Admissions q4	.088	1.092	.752	1.584
AA Hosp Admissions q5	0	.	.	.

IMD: Index of Multiple Deprivation. AS: alcohol-specific. AA Hosp: alcohol-attributable hospital. q: quintile.

### Appendix 3: Generating 95% Confidence Intervals

Using Monte Carlo methods, 95% confidence intervals were generated for each local authority by modelling the variation in the coefficients for each covariate in Tables 13 to 15, sampling from the normal distribution:

$$N(\beta_{ij}, se_{ij}^2)$$

Where

$N$  is the normal distribution

$i$  are the covariates

$j$  are the model states (lower risk, increasing risk or higher risk drinkers)

$\beta_{ij}$  is the mean coefficient value for covariate  $i$ , state  $j$  (listed in Tables 13 to 15)

$se$  is the standard error of  $\beta$  (listed in Tables 13 to 15)

For these confidence intervals, 30,000 samples were generated in order to obtain robust estimates. So, for each sample, the mean  $\beta$  values given in Tables 13 to 15 were replaced with the samples from the  $\beta$  distribution, this gave a different estimate for the prevalence of abstainers, lower risk, increasing risk and higher risk drinkers calculated using equations:

$$P_s(x_i) = \frac{\exp(x_i^T \beta_s)}{1 + \sum_t \exp(x_i^T \beta_t)} \quad \text{for } s \neq 1$$

$$P_1(x_i) = \frac{1}{1 + \sum_t \exp(x_i^T \beta_t)}$$

Where

$s$  are the states:

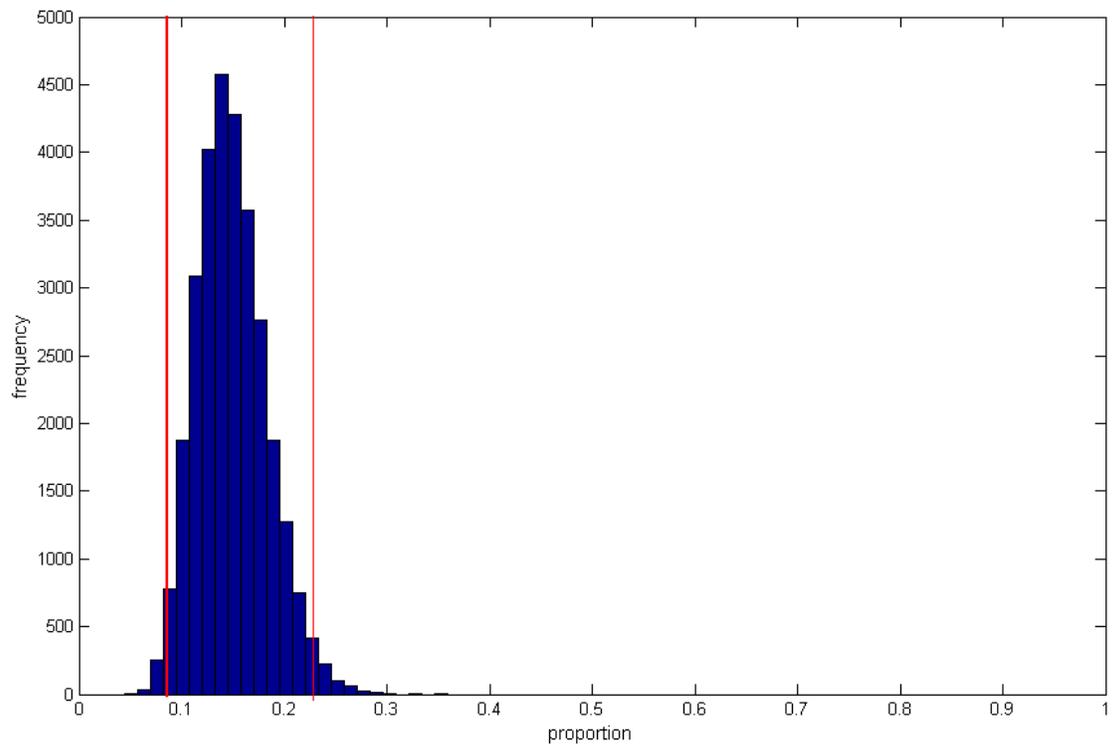
1. Abstainers
2. Lower risk drinkers
3. Increasing risk drinkers
4. Higher risk drinkers

$x_i$  is the vector of attributes of the  $i$ th local authority

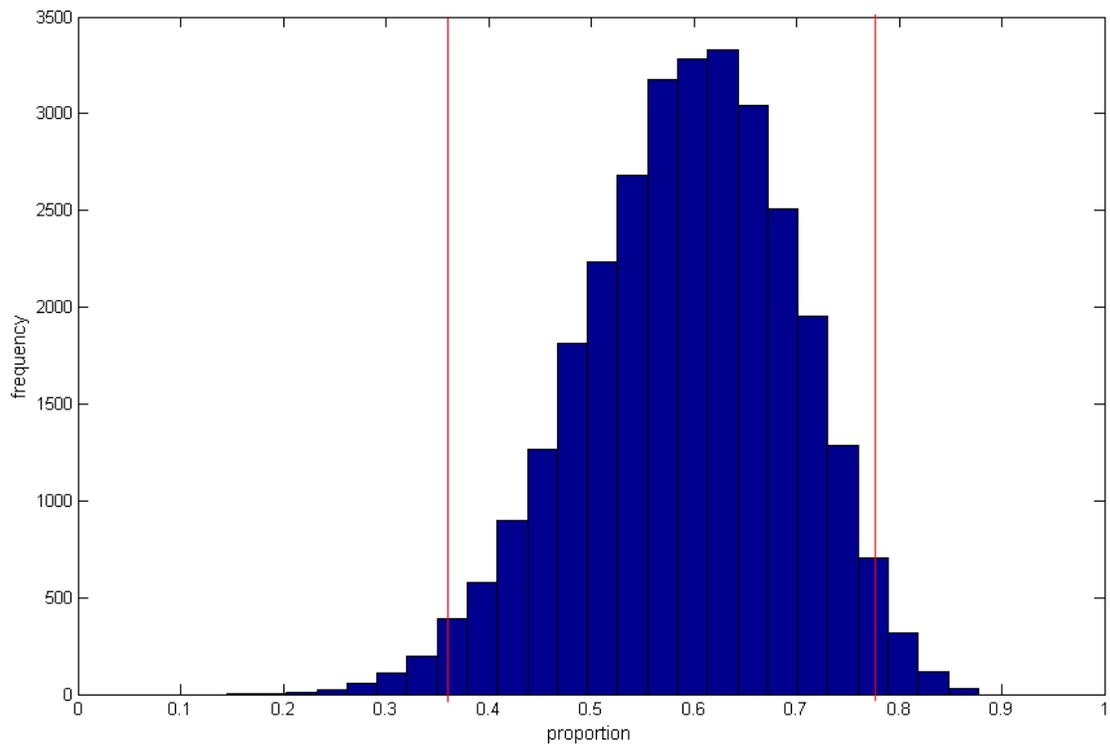
$\beta_s$  is the sampld vector of coefficients for state  $s$

$\beta_t$  are the sampld vector of coefficients for states 2 to 4.

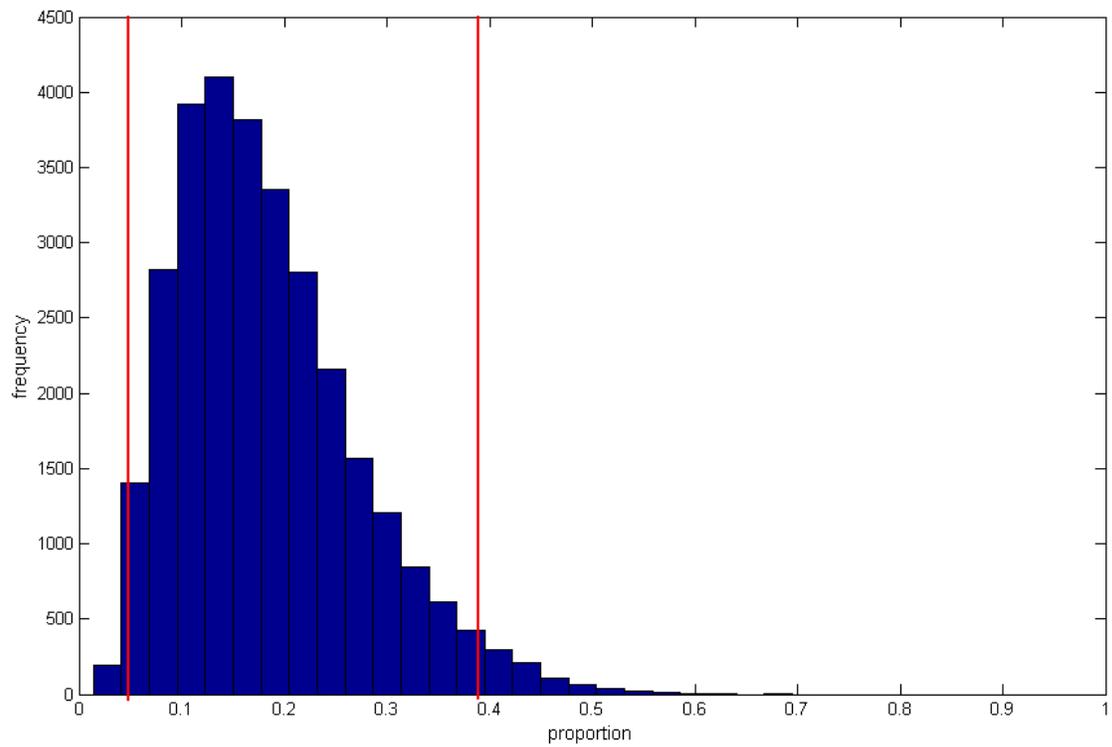
for each sample, therefore building a distribution of results. By sorting the respective estimates in ascending order and removing the first and last 2.5% of observations gives a sampled 95% confidence interval. An example of the distributions with 95% thresholds for one local authority for each state (abstainers, lower risk, increasing risk and higher risk drinkers) are presented in Figures 1 to 4. The confidence intervals are therefore relatively wide because they take into account, not only the uncertainty coming from the population total but also the uncertainty in the estimates of the model parameters.



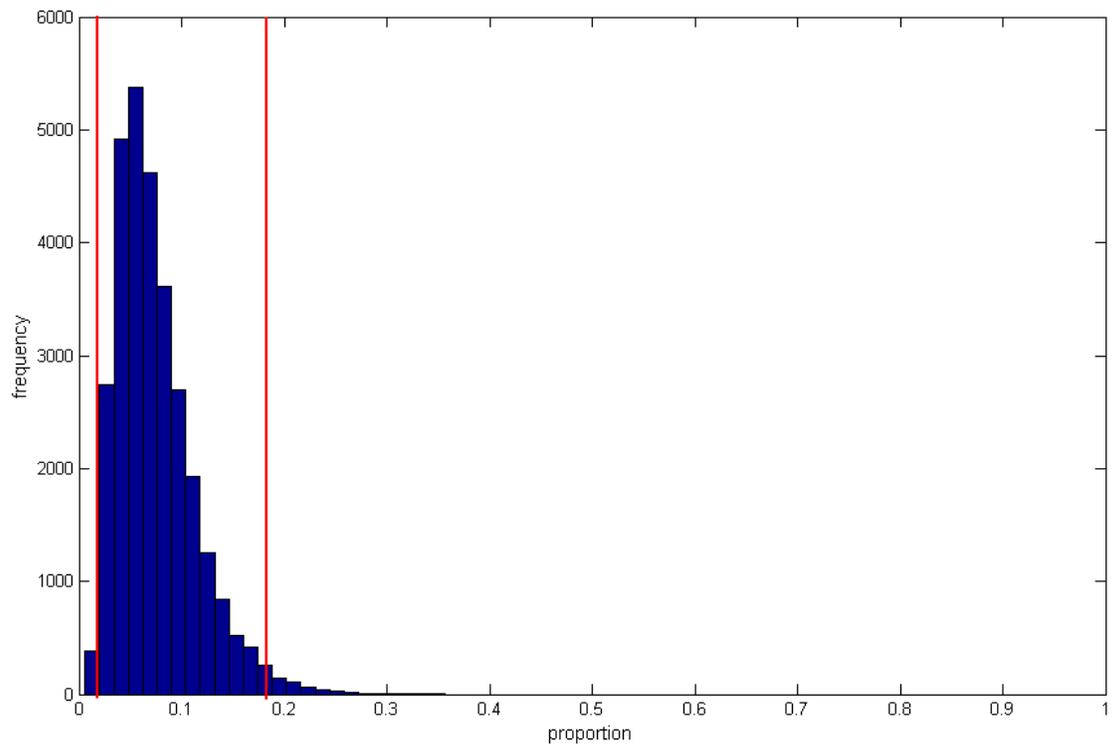
**Figure 1:** An example of a sampled distribution for abstainers with 95% thresholds that describes the uncertainty of the mean estimate of abstainers within a local authority



**Figure 2:** An example of a sampled distribution for lower risk drinkers with 95% thresholds that describes the uncertainty of the mean estimate of lower risk drinkers within a local authority



**Figure 3:** An example of a sampled distribution for increasing risk drinkers with 95% thresholds that describes the uncertainty of the mean estimate of increasing risk drinkers within a local authority



**Figure 4:** An example of a sampled distribution for higher risk drinkers with 95% thresholds that describes the uncertainty of the mean estimate of higher risk drinkers within a local authority

**Appendix 4: Estimated Percentage of Abstainers, Lower Risk, Increasing Risk and Higher Risk Drinkers with 95% Confidence Intervals, by Local Authority**

**Table 16:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the East Midlands, by local authority

East Midlands	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
East Midlands	8.8%	13.7%	19.8%	36.5%	62.3%	78.4%	5.8%	17.9%	42.6%	2.0%	6.1%	18.4%	42.3%	72.2%	90.9%	6.7%	20.7%	49.4%	2.3%	7.0%	21.3%	
Amber Valley	6.2%	11.1%	17.1%	35.5%	62.8%	80.2%	6.3%	20.1%	46.9%	1.9%	6.0%	18.6%	40.1%	70.6%	87.4%	7.0%	22.6%	52.2%	2.1%	6.7%	21.2%	
Ashfield	7.0%	11.9%	18.0%	39.9%	64.9%	80.1%	4.8%	14.8%	37.3%	3.0%	8.4%	22.6%	45.8%	73.7%	87.8%	5.3%	16.8%	42.2%	3.3%	9.5%	26.1%	
Bassetlaw	7.7%	13.8%	21.9%	40.7%	67.3%	82.5%	4.1%	14.2%	38.1%	1.4%	4.7%	15.6%	48.4%	78.1%	91.3%	4.7%	16.4%	44.3%	1.6%	5.5%	18.8%	
Blaby	7.0%	11.6%	17.4%	33.0%	61.0%	78.9%	6.3%	20.4%	47.9%	2.0%	6.9%	22.0%	37.5%	69.1%	86.7%	7.0%	23.1%	53.7%	2.2%	7.8%	25.3%	
Bolsover	8.0%	13.3%	19.7%	39.2%	63.3%	78.5%	5.1%	15.3%	37.3%	3.0%	8.1%	21.2%	45.9%	73.0%	87.2%	5.8%	17.6%	42.7%	3.4%	9.4%	25.0%	
Boston	7.3%	12.9%	20.1%	38.8%	65.6%	81.5%	4.3%	14.7%	38.7%	2.0%	6.8%	20.9%	45.4%	75.3%	89.7%	4.9%	16.9%	44.4%	2.3%	7.8%	24.6%	
Broxtowe	8.0%	13.2%	19.7%	36.9%	63.6%	79.7%	5.1%	16.8%	41.7%	2.0%	6.5%	20.1%	43.1%	73.2%	88.5%	5.8%	19.4%	47.8%	2.2%	7.4%	23.6%	
Charnwood	9.7%	15.0%	21.6%	35.3%	61.6%	78.1%	6.1%	19.2%	44.8%	1.3%	4.3%	14.3%	41.9%	72.4%	88.6%	7.0%	22.5%	52.3%	1.5%	5.0%	17.2%	
Chesterfield	7.1%	12.4%	19.2%	40.2%	66.2%	81.6%	5.0%	16.0%	40.4%	1.7%	5.3%	16.2%	46.4%	75.6%	89.7%	5.6%	18.3%	45.9%	1.9%	6.1%	19.0%	
Corby	8.7%	14.1%	20.6%	36.6%	61.3%	77.5%	6.8%	19.6%	44.2%	1.8%	5.0%	14.2%	42.8%	71.3%	87.1%	7.9%	22.8%	50.6%	2.1%	5.9%	17.1%	
Daventry	4.8%	8.6%	13.7%	33.9%	63.7%	81.9%	6.6%	21.9%	51.2%	1.6%	5.8%	19.5%	37.2%	69.7%	87.7%	7.2%	24.0%	55.7%	1.7%	6.4%	21.8%	
Derby	11.9%	16.7%	22.4%	38.7%	61.3%	75.4%	5.2%	14.9%	35.8%	2.6%	7.0%	19.1%	46.9%	73.7%	87.4%	6.1%	17.9%	42.7%	3.0%	8.5%	23.3%	
Derbyshire Dales	6.1%	11.2%	17.8%	33.1%	61.7%	80.2%	5.8%	19.7%	47.2%	2.1%	7.4%	23.4%	37.6%	69.5%	87.3%	6.4%	22.2%	52.7%	2.3%	8.3%	26.8%	
East Lindsey	7.6%	13.5%	21.1%	42.5%	67.8%	82.2%	3.8%	12.7%	34.6%	1.9%	6.0%	18.4%	50.3%	78.4%	90.9%	4.3%	14.7%	40.1%	2.1%	6.9%	21.8%	
East Northamptonshire	5.8%	10.3%	16.3%	35.3%	64.0%	81.5%	6.4%	20.8%	49.3%	1.4%	4.9%	16.6%	39.6%	71.4%	88.3%	7.0%	23.2%	54.5%	1.5%	5.4%	18.8%	
Erewash	6.5%	11.3%	17.3%	35.5%	62.7%	80.0%	6.3%	20.0%	46.6%	1.9%	6.0%	18.5%	40.3%	70.7%	87.4%	7.0%	22.6%	52.0%	2.1%	6.7%	21.1%	
Gedling	6.5%	11.0%	16.7%	36.5%	64.1%	80.7%	5.6%	18.2%	44.2%	2.1%	6.8%	21.1%	41.3%	71.9%	88.0%	6.2%	20.4%	49.3%	2.3%	7.6%	24.1%	
Harborough	6.1%	10.8%	17.1%	32.2%	61.9%	80.8%	6.6%	22.3%	51.9%	1.3%	4.9%	17.4%	36.2%	69.5%	88.0%	7.3%	25.0%	57.6%	1.5%	5.5%	19.9%	
High Peak	6.3%	11.1%	17.0%	35.4%	62.7%	80.0%	6.4%	20.2%	46.9%	1.9%	6.0%	18.7%	40.0%	70.5%	87.3%	7.1%	22.7%	52.2%	2.1%	6.8%	21.3%	
Hinckley and Bosworth	6.1%	10.7%	16.7%	35.2%	63.8%	81.3%	6.3%	20.7%	49.0%	1.4%	4.8%	16.4%	39.6%	71.5%	88.3%	7.0%	23.1%	54.5%	1.5%	5.4%	18.7%	
Kettering	6.2%	10.7%	16.6%	35.3%	63.9%	81.2%	6.3%	20.6%	48.9%	1.4%	4.8%	16.4%	39.8%	71.5%	88.3%	7.0%	23.1%	54.2%	1.5%	5.4%	18.7%	
Leicester	24.8%	29.5%	34.4%	35.8%	52.4%	63.6%	5.9%	14.3%	30.7%	1.6%	3.7%	10.0%	51.0%	74.4%	87.0%	8.3%	20.3%	42.9%	2.2%	5.3%	14.5%	
Lincoln	8.4%	13.9%	20.6%	40.6%	65.4%	80.2%	4.9%	15.1%	37.7%	1.9%	5.7%	16.5%	47.9%	75.9%	89.4%	5.6%	17.5%	43.8%	2.2%	6.6%	19.7%	
Mansfield	8.2%	13.6%	20.0%	37.8%	62.1%	77.7%	5.7%	16.8%	39.7%	2.8%	7.5%	19.8%	44.4%	71.9%	86.7%	6.5%	19.4%	45.6%	3.1%	8.7%	23.5%	
Melton	5.4%	9.9%	16.0%	34.0%	63.5%	81.7%	6.4%	21.2%	50.2%	1.5%	5.3%	17.8%	37.8%	70.6%	88.2%	7.1%	23.6%	55.4%	1.6%	5.9%	20.1%	

East Midlands	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
East Midlands	8.8%	13.7%	19.8%	36.5%	62.3%	78.4%	5.8%	17.9%	42.6%	2.0%	6.1%	18.4%	42.3%	72.2%	90.9%	6.7%	20.7%	49.4%	2.3%	7.0%	21.3%
Newark and Sherwood	6.2%	11.0%	17.2%	34.5%	62.2%	79.7%	6.0%	19.2%	45.5%	2.3%	7.5%	22.4%	39.1%	70.0%	86.9%	6.6%	21.6%	50.7%	2.5%	8.5%	25.6%
North East Derbyshire	7.1%	12.6%	19.9%	36.8%	64.2%	80.9%	5.6%	18.1%	44.2%	1.6%	5.1%	16.4%	42.6%	73.4%	89.1%	6.3%	20.7%	50.2%	1.7%	5.9%	19.2%
North Kesteven	5.2%	9.8%	15.8%	33.5%	63.4%	81.7%	5.5%	19.4%	48.1%	2.0%	7.4%	24.2%	37.4%	70.3%	88.0%	6.0%	21.5%	52.8%	2.2%	8.2%	27.2%
North West Leicestershire	5.6%	9.8%	15.3%	32.1%	60.3%	79.1%	7.7%	23.7%	52.3%	1.8%	6.1%	19.1%	35.6%	66.9%	85.7%	8.5%	26.3%	57.2%	2.0%	6.8%	21.5%
Northampton	10.0%	15.2%	21.7%	40.5%	65.0%	79.5%	5.3%	16.1%	39.4%	1.2%	3.7%	11.7%	48.2%	76.6%	90.3%	6.2%	19.0%	46.4%	1.4%	4.3%	14.1%
Nottingham	13.8%	18.5%	23.9%	38.2%	59.3%	72.8%	5.6%	15.3%	35.3%	2.7%	6.9%	18.0%	47.3%	72.8%	86.4%	6.7%	18.8%	42.8%	3.2%	8.5%	22.5%
Oadby and Wigston	11.8%	17.3%	23.6%	31.5%	56.7%	73.7%	6.2%	19.2%	43.7%	2.1%	6.9%	20.9%	38.2%	68.5%	85.9%	7.4%	23.2%	52.4%	2.5%	8.3%	25.6%
Rushcliffe	5.2%	9.0%	14.0%	35.4%	64.3%	81.5%	5.4%	18.3%	45.4%	2.4%	8.4%	25.9%	39.1%	70.6%	87.4%	5.9%	20.2%	49.7%	2.6%	9.2%	28.8%
Rutland	7.0%	12.7%	19.8%	31.1%	59.8%	79.0%	6.4%	21.3%	50.1%	1.7%	6.2%	20.5%	35.8%	68.5%	87.3%	7.1%	24.4%	56.5%	1.9%	7.0%	23.8%
South Derbyshire	6.4%	11.1%	17.0%	34.6%	62.4%	79.7%	5.6%	18.6%	45.1%	2.4%	7.9%	23.9%	39.2%	70.2%	87.0%	6.2%	20.9%	50.4%	2.6%	8.9%	27.2%
South Holland	6.5%	11.8%	18.4%	33.2%	61.3%	79.6%	6.1%	20.0%	47.2%	2.0%	6.9%	21.6%	37.9%	69.4%	87.1%	6.8%	22.7%	52.9%	2.2%	7.8%	25.1%
South Kesteven	5.5%	10.0%	15.8%	36.7%	64.9%	81.8%	5.3%	17.9%	44.6%	2.1%	7.3%	22.9%	41.0%	72.1%	88.1%	5.7%	19.8%	49.4%	2.3%	8.1%	25.7%
South Northamptonshire	5.5%	10.0%	16.0%	32.1%	62.2%	81.3%	6.8%	22.8%	52.8%	1.4%	5.1%	17.8%	35.7%	69.1%	87.9%	7.4%	25.3%	58.1%	1.5%	5.6%	20.1%
Wellingborough	8.4%	12.4%	17.2%	31.5%	56.2%	73.9%	8.4%	23.4%	48.8%	2.8%	7.9%	21.6%	35.8%	64.2%	82.6%	9.5%	26.7%	54.8%	3.1%	9.1%	25.1%
West Lindsey	4.4%	8.2%	13.5%	37.8%	66.8%	83.6%	5.8%	19.3%	47.2%	1.6%	5.6%	18.5%	41.3%	72.8%	88.9%	6.2%	21.0%	51.3%	1.8%	6.1%	20.5%

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 17: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the East of England, by local authority**

East of England	Population estimate for all groups												Population estimate for drinkers only								
	Abstain			Lower risk			Increasing risk			Higher risk			Lower risk			Increasing risk			Higher risk		
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
East of England	7.5%	13.1%	20.6%	40.7%	68.4%	83.6%	4.1%	14.6%	39.5%	1.1%	4.0%	14.7%	46.8%	78.7%	96.2%	4.7%	16.8%	45.5%	1.2%	4.6%	16.9%
Babergh	5.6%	11.0%	19.3%	42.6%	72.4%	87.3%	3.7%	14.2%	41.3%	0.6%	2.4%	10.3%	49.2%	81.4%	94.0%	4.0%	15.9%	46.9%	0.6%	2.7%	12.0%
Basildon	6.1%	10.6%	17.2%	47.5%	73.5%	86.0%	3.0%	11.0%	32.7%	1.4%	4.9%	17.2%	54.5%	82.2%	93.0%	3.3%	12.3%	37.0%	1.5%	5.5%	19.8%
Bedford	12.0%	18.5%	26.7%	35.6%	61.6%	78.0%	5.3%	17.3%	42.3%	0.7%	2.6%	9.8%	44.2%	75.6%	90.9%	6.4%	21.2%	51.5%	0.9%	3.2%	12.5%
Braintree	4.7%	8.8%	14.8%	43.3%	72.1%	86.5%	4.2%	15.1%	41.4%	1.1%	4.0%	15.0%	48.2%	79.1%	92.2%	4.5%	16.5%	45.5%	1.2%	4.4%	16.8%
Breckland	7.0%	13.4%	22.3%	40.8%	69.5%	85.1%	3.8%	14.3%	40.3%	0.7%	2.9%	11.7%	48.4%	80.2%	93.2%	4.2%	16.5%	46.8%	0.8%	3.3%	14.1%
Brentwood	6.0%	10.6%	17.0%	38.8%	68.4%	84.3%	4.3%	15.6%	42.3%	1.4%	5.4%	19.8%	44.2%	76.5%	91.3%	4.7%	17.5%	47.4%	1.5%	6.0%	22.6%
Broadland	5.5%	11.0%	18.9%	40.4%	70.8%	86.5%	3.7%	14.6%	42.0%	0.9%	3.6%	14.9%	46.5%	79.6%	93.1%	4.0%	16.4%	47.5%	0.9%	4.0%	17.3%
Broxbourne	7.5%	12.9%	19.9%	36.4%	64.6%	81.5%	5.6%	18.8%	46.3%	1.0%	3.8%	14.0%	42.1%	74.1%	90.1%	6.3%	21.5%	52.7%	1.1%	4.3%	16.5%
Cambridge	10.4%	16.8%	25.2%	42.7%	68.6%	82.4%	3.5%	12.3%	35.1%	0.6%	2.4%	9.9%	52.9%	82.4%	93.7%	4.1%	14.7%	42.6%	0.7%	2.9%	12.2%
Castle Point	6.2%	11.5%	18.9%	39.7%	68.6%	84.4%	4.2%	15.2%	41.1%	1.2%	4.7%	17.3%	45.6%	77.5%	91.6%	4.6%	17.2%	46.6%	1.4%	5.3%	20.0%
Central Bedfordshire	7.8%	14.0%	21.8%	31.8%	61.3%	80.0%	5.5%	19.5%	48.2%	1.3%	5.2%	19.3%	37.3%	71.2%	89.1%	6.3%	22.7%	55.4%	1.5%	6.1%	22.9%
Chelmsford	5.3%	9.7%	15.7%	38.5%	68.6%	84.7%	4.4%	16.2%	43.5%	1.4%	5.6%	20.5%	43.2%	75.9%	91.1%	4.7%	17.9%	48.3%	1.6%	6.2%	23.0%
Colchester	5.5%	9.6%	15.5%	43.6%	71.7%	85.8%	4.2%	14.8%	40.4%	1.1%	4.0%	14.8%	48.9%	79.3%	92.2%	4.5%	16.4%	44.8%	1.2%	4.4%	16.6%
Dacorum	6.1%	10.7%	17.0%	35.4%	65.4%	82.8%	5.4%	19.1%	47.9%	1.2%	4.7%	17.5%	40.0%	73.3%	89.9%	6.0%	21.4%	53.5%	1.3%	5.3%	19.9%
East Cambridgeshire	7.0%	13.3%	22.1%	41.0%	69.9%	85.3%	3.6%	13.8%	39.8%	0.8%	3.0%	12.4%	48.7%	80.6%	93.4%	4.1%	15.9%	46.2%	0.8%	3.5%	14.8%
East Hertfordshire	5.5%	9.9%	16.1%	35.2%	65.8%	83.4%	5.5%	19.5%	48.9%	1.2%	4.8%	17.9%	39.5%	73.1%	89.9%	6.0%	21.6%	54.0%	1.3%	5.3%	20.1%
Epping Forest	7.5%	12.9%	20.2%	39.8%	67.7%	83.2%	4.2%	14.8%	39.7%	1.2%	4.5%	16.7%	46.6%	77.8%	91.6%	4.7%	17.0%	45.7%	1.4%	5.2%	19.6%
Fenland	7.7%	14.2%	23.3%	42.7%	70.1%	84.8%	3.7%	13.3%	37.8%	0.6%	2.4%	9.6%	51.3%	81.7%	93.7%	4.1%	15.5%	44.6%	0.7%	2.8%	11.7%
Forest Heath	7.0%	12.3%	19.5%	43.7%	71.3%	85.3%	3.6%	13.1%	37.9%	0.9%	3.4%	13.4%	51.2%	81.2%	93.2%	4.0%	14.9%	43.3%	1.0%	3.9%	15.7%
Great Yarmouth	9.0%	15.7%	24.4%	45.2%	69.4%	83.0%	3.3%	11.1%	31.4%	1.2%	3.8%	12.5%	55.7%	82.3%	93.1%	3.8%	13.2%	37.8%	1.4%	4.5%	15.4%
Harlow	8.3%	13.8%	21.8%	47.4%	72.2%	84.6%	3.0%	10.5%	31.0%	1.0%	3.5%	12.6%	57.0%	83.8%	93.7%	3.4%	12.1%	36.6%	1.2%	4.1%	15.2%
Hertsmere	8.8%	14.4%	21.5%	36.8%	64.4%	80.8%	5.1%	17.4%	44.1%	1.0%	3.8%	14.0%	43.4%	75.2%	90.5%	5.8%	20.4%	51.1%	1.1%	4.4%	16.9%
Huntingdonshire	5.6%	10.4%	16.9%	39.0%	68.5%	84.6%	4.0%	14.8%	41.5%	1.6%	6.3%	22.5%	44.2%	76.5%	91.1%	4.3%	16.5%	46.4%	1.7%	7.0%	25.6%
Ipswich	9.7%	16.3%	25.4%	47.7%	71.9%	84.2%	2.5%	9.1%	28.5%	0.8%	2.7%	10.6%	59.9%	85.9%	94.9%	2.9%	10.8%	34.6%	0.9%	3.3%	13.3%
King's Lynn and West Norfolk	8.2%	15.4%	25.6%	48.2%	73.1%	86.0%	2.5%	9.3%	29.4%	0.6%	2.2%	8.8%	60.0%	86.4%	95.3%	2.9%	11.0%	35.3%	0.7%	2.6%	11.1%
Luton	18.3%	25.0%	32.3%	39.5%	60.4%	73.2%	4.0%	12.0%	30.5%	0.8%	2.6%	8.9%	54.4%	80.6%	92.0%	5.2%	16.0%	40.9%	1.1%	3.4%	12.3%
Maldon	4.7%	9.0%	15.4%	41.2%	71.0%	86.5%	4.4%	16.1%	43.5%	1.0%	3.8%	15.0%	45.9%	78.1%	92.2%	4.7%	17.7%	47.9%	1.1%	4.2%	16.8%
Mid Suffolk	5.3%	10.7%	18.5%	40.3%	70.8%	86.5%	3.8%	14.8%	42.4%	0.9%	3.7%	15.1%	46.2%	79.3%	93.0%	4.1%	16.6%	47.9%	0.9%	4.1%	17.5%

East of England	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
East of England	7.5%	13.1%	20.6%	40.7%	68.4%	83.6%	4.1%	14.6%	39.5%	1.1%	4.0%	14.7%	46.8%	78.7%	96.2%	4.7%	16.8%	45.5%	1.2%	4.6%	16.9%
North Hertfordshire	7.5%	13.1%	20.4%	33.5%	63.3%	81.5%	5.5%	19.6%	48.5%	1.0%	4.0%	15.7%	39.0%	72.8%	90.2%	6.2%	22.5%	55.6%	1.1%	4.6%	18.5%
North Norfolk	7.2%	13.8%	23.0%	42.9%	70.4%	85.1%	3.5%	12.9%	37.0%	0.8%	2.9%	11.4%	51.5%	81.7%	93.5%	4.0%	15.0%	43.6%	0.9%	3.4%	13.7%
Norwich	9.6%	16.0%	24.6%	46.2%	70.6%	83.7%	3.2%	10.9%	31.6%	0.8%	2.6%	9.6%	57.2%	84.0%	94.1%	3.7%	12.9%	38.2%	0.9%	3.1%	11.8%
Peterborough	11.2%	18.1%	27.5%	45.7%	69.9%	82.7%	2.8%	10.0%	30.3%	0.6%	2.0%	8.0%	58.3%	85.4%	94.9%	3.3%	12.2%	37.6%	0.7%	2.5%	10.3%
Rochford	6.0%	11.2%	18.2%	36.7%	66.4%	83.3%	4.2%	15.5%	41.9%	1.8%	6.9%	23.8%	42.0%	74.8%	90.3%	4.6%	17.4%	47.2%	2.0%	7.8%	27.3%
South Cambridgeshire	7.0%	12.9%	20.8%	37.1%	66.7%	83.4%	4.0%	15.1%	41.9%	1.3%	5.3%	20.2%	43.4%	76.5%	91.5%	4.5%	17.3%	48.2%	1.5%	6.1%	23.8%
South Norfolk	5.6%	11.1%	19.1%	40.5%	70.8%	86.4%	3.7%	14.5%	41.8%	0.9%	3.6%	14.9%	46.6%	79.6%	93.1%	4.0%	16.4%	47.4%	0.9%	4.0%	17.3%
Southend-on-Sea	7.9%	12.8%	19.4%	45.2%	69.5%	82.8%	3.6%	11.7%	32.3%	1.9%	5.9%	18.0%	53.0%	79.8%	91.3%	4.1%	13.5%	37.4%	2.1%	6.8%	21.2%
St Albans	6.5%	11.1%	17.4%	35.5%	65.3%	82.4%	5.4%	18.9%	47.4%	1.2%	4.6%	17.3%	40.4%	73.5%	90.0%	6.0%	21.3%	53.2%	1.3%	5.2%	19.7%
St Edmundsbury	6.4%	12.3%	20.6%	39.5%	69.1%	85.1%	4.0%	15.0%	42.0%	0.9%	3.6%	14.4%	46.1%	78.8%	92.6%	4.4%	17.1%	48.1%	1.0%	4.1%	17.0%
Stevenage	7.3%	12.5%	19.5%	37.2%	65.8%	82.6%	5.7%	18.9%	46.6%	0.8%	2.8%	10.7%	42.9%	75.2%	90.9%	6.3%	21.6%	53.0%	0.8%	3.2%	12.6%
Suffolk Coastal	5.9%	11.5%	19.9%	42.8%	72.1%	86.9%	3.6%	14.0%	40.6%	0.6%	2.4%	10.1%	49.6%	81.5%	94.0%	4.0%	15.8%	46.4%	0.6%	2.7%	11.9%
Tendring	5.6%	10.1%	16.6%	48.8%	74.3%	86.8%	3.3%	11.7%	33.5%	1.2%	4.0%	13.9%	55.6%	82.6%	93.3%	3.6%	13.0%	37.7%	1.3%	4.4%	16.0%
Three Rivers	8.7%	14.3%	21.3%	34.0%	62.3%	79.5%	5.2%	17.8%	44.7%	1.5%	5.6%	19.8%	40.0%	72.6%	89.2%	5.9%	20.8%	51.8%	1.7%	6.6%	23.5%
Thurrock	7.8%	13.0%	20.3%	47.0%	72.0%	84.5%	3.0%	10.5%	31.0%	1.3%	4.5%	15.5%	55.8%	82.8%	93.2%	3.4%	12.1%	36.1%	1.5%	5.1%	18.4%
Uttlesford	6.1%	11.2%	18.0%	36.6%	66.1%	83.0%	4.3%	15.7%	42.1%	1.8%	7.0%	24.2%	41.7%	74.4%	90.1%	4.7%	17.6%	47.5%	2.0%	7.9%	27.6%
Watford	10.4%	15.6%	21.7%	33.5%	59.5%	76.8%	6.6%	20.4%	46.0%	1.4%	4.5%	15.4%	40.0%	70.5%	87.8%	7.6%	24.1%	54.0%	1.6%	5.4%	18.6%
Waveney	6.2%	11.8%	20.0%	47.6%	74.1%	87.0%	2.8%	10.4%	32.4%	1.0%	3.7%	13.9%	55.8%	84.0%	94.1%	3.1%	11.8%	37.3%	1.1%	4.2%	16.3%
Welwyn Hatfield	8.3%	14.0%	21.5%	36.2%	64.6%	81.7%	5.4%	18.7%	46.0%	0.7%	2.7%	10.7%	42.6%	75.2%	91.3%	6.1%	21.8%	53.3%	0.8%	3.1%	12.9%

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 18: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in London, by local authority**

London	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
London	18.5%	24.5%	30.6%	31.4%	52.1%	67.0%	5.6%	15.8%	35.3%	2.7%	7.6%	20.7%	41.7%	69.1%	88.8%	7.4%	20.9%	46.8%	3.5%	10.0%	27.4%	
Barking and Dagenham	20.5%	28.1%	35.6%	28.9%	49.0%	64.5%	5.7%	16.1%	36.5%	2.4%	6.9%	18.6%	40.2%	68.1%	84.5%	7.7%	22.4%	49.2%	3.3%	9.5%	26.2%	
Barnet	21.2%	28.6%	36.6%	32.9%	53.7%	68.2%	4.6%	13.6%	32.8%	1.3%	4.1%	12.7%	47.4%	75.2%	89.3%	6.2%	19.1%	45.6%	1.8%	5.7%	18.3%	
Bexley	7.1%	11.2%	16.1%	31.5%	58.4%	76.8%	8.0%	23.8%	51.1%	2.0%	6.6%	20.4%	35.5%	65.8%	84.6%	8.9%	26.8%	56.9%	2.2%	7.4%	23.3%	
Brent	29.0%	35.4%	41.1%	33.5%	48.7%	59.6%	3.4%	8.6%	20.2%	3.0%	7.3%	18.4%	53.3%	75.4%	86.7%	5.1%	13.3%	31.2%	4.5%	11.4%	28.3%	
Bromley	8.8%	14.1%	20.2%	27.1%	53.2%	73.2%	7.8%	24.1%	51.3%	2.5%	8.5%	25.5%	31.5%	62.0%	82.7%	9.0%	28.1%	58.5%	2.8%	9.9%	30.1%	
Camden	19.5%	24.5%	29.6%	31.8%	50.4%	64.1%	6.4%	16.5%	35.3%	3.5%	8.6%	20.7%	42.2%	66.8%	82.1%	8.4%	21.8%	45.9%	4.5%	11.4%	27.7%	
City of London	13.0%	19.3%	26.2%	26.1%	50.4%	69.9%	7.3%	22.4%	47.7%	2.3%	7.9%	23.7%	32.1%	62.5%	83.1%	8.9%	27.7%	57.7%	2.8%	9.8%	29.9%	
Croydon	21.8%	28.5%	35.5%	34.5%	53.7%	66.8%	4.6%	12.8%	30.2%	1.8%	5.0%	14.7%	49.2%	75.1%	88.3%	6.2%	17.8%	42.0%	2.4%	7.0%	20.8%	
Ealing	20.6%	27.1%	33.6%	35.3%	55.1%	68.0%	3.5%	10.2%	25.8%	2.6%	7.6%	21.3%	49.8%	75.6%	88.2%	4.7%	13.9%	35.5%	3.5%	10.5%	29.4%	
Enfield	16.6%	22.7%	29.3%	35.3%	56.8%	71.0%	5.1%	14.7%	34.7%	2.0%	5.8%	17.0%	46.2%	73.4%	87.6%	6.4%	19.0%	44.6%	2.5%	7.5%	22.3%	
Greenwich	15.3%	20.3%	25.6%	34.5%	55.1%	69.6%	6.3%	16.9%	37.1%	2.9%	7.6%	19.8%	43.5%	69.2%	84.4%	7.8%	21.3%	46.0%	3.5%	9.5%	25.2%	
Hackney	26.4%	33.0%	39.0%	28.9%	45.7%	59.0%	5.5%	14.1%	30.8%	2.8%	7.2%	18.2%	43.4%	68.2%	83.4%	7.9%	21.1%	44.9%	4.0%	10.7%	27.3%	
Hammersmith and Fulham	14.9%	20.6%	26.7%	34.5%	56.5%	71.3%	4.5%	13.5%	33.1%	3.3%	9.3%	24.8%	43.9%	71.2%	86.0%	5.6%	17.0%	41.4%	4.1%	11.8%	31.3%	
Haringey	23.8%	30.7%	38.0%	34.1%	52.8%	65.7%	4.8%	13.2%	30.7%	1.2%	3.3%	9.9%	50.3%	76.2%	89.1%	6.8%	19.0%	43.8%	1.7%	4.8%	14.8%	
Harrow	19.7%	26.2%	32.0%	30.0%	49.8%	64.3%	4.4%	12.3%	28.7%	4.2%	11.7%	29.0%	41.2%	67.5%	82.9%	5.8%	16.7%	38.9%	5.5%	15.9%	38.9%	
Havering	12.3%	19.6%	27.2%	22.8%	46.4%	66.7%	7.5%	23.1%	49.3%	3.4%	10.9%	29.5%	27.9%	57.7%	79.5%	9.2%	28.8%	59.0%	4.0%	13.5%	36.9%	
Hillingdon	15.4%	21.1%	27.0%	31.1%	53.3%	69.1%	5.1%	15.2%	35.7%	3.5%	10.3%	27.2%	39.7%	67.6%	84.1%	6.3%	19.3%	44.8%	4.3%	13.0%	34.4%	
Hounslow	22.1%	27.7%	32.8%	31.8%	49.8%	62.8%	4.1%	10.9%	25.9%	4.6%	11.7%	26.7%	44.3%	68.9%	83.4%	5.4%	15.0%	35.6%	6.2%	16.1%	36.9%	
Islington	19.2%	24.9%	30.9%	32.2%	51.7%	66.0%	6.8%	17.8%	38.0%	2.2%	5.6%	14.7%	42.8%	68.9%	84.5%	8.9%	23.7%	49.4%	2.8%	7.4%	20.1%	
Kensington and Chelsea	12.4%	18.2%	24.9%	37.4%	61.6%	76.4%	3.5%	11.7%	31.4%	2.6%	8.4%	24.9%	46.6%	75.4%	89.1%	4.2%	14.3%	38.5%	3.1%	10.3%	30.7%	
Kingston upon Thames	10.2%	15.0%	20.4%	32.1%	57.3%	74.6%	6.9%	20.9%	46.2%	2.1%	6.8%	21.1%	37.9%	67.4%	85.1%	8.0%	24.6%	53.8%	2.4%	8.0%	25.0%	
Lambeth	17.0%	21.9%	27.0%	35.3%	55.2%	69.0%	6.5%	17.0%	36.5%	2.2%	5.9%	16.3%	45.4%	70.7%	85.4%	8.1%	21.7%	46.3%	2.8%	7.6%	21.1%	
Lewisham	16.7%	22.2%	28.0%	36.8%	57.0%	70.4%	5.7%	15.4%	34.5%	2.0%	5.5%	15.6%	47.7%	73.2%	87.0%	7.2%	19.7%	44.0%	2.5%	7.0%	20.3%	
Merton	16.1%	22.5%	29.3%	28.5%	51.4%	68.6%	6.5%	19.3%	42.0%	2.1%	6.8%	20.6%	37.1%	66.3%	84.6%	8.2%	24.9%	53.3%	2.6%	8.8%	26.9%	
Newham	41.1%	48.0%	53.9%	25.3%	37.5%	47.8%	4.4%	10.2%	21.6%	1.7%	4.3%	11.2%	49.8%	72.1%	84.9%	8.1%	19.7%	40.5%	3.2%	8.2%	21.6%	
Redbridge	26.1%	33.2%	39.7%	25.7%	43.7%	58.3%	6.1%	16.4%	34.5%	2.4%	6.7%	18.5%	38.8%	65.4%	82.5%	9.0%	24.5%	50.5%	3.4%	10.0%	27.8%	
Richmond upon Thames	7.6%	12.1%	17.3%	28.6%	55.5%	74.8%	6.9%	22.0%	49.3%	3.1%	10.4%	29.7%	32.4%	63.1%	82.8%	7.8%	25.1%	55.4%	3.4%	11.8%	34.1%	
Southwark	15.9%	20.5%	25.1%	34.2%	53.5%	67.5%	6.8%	17.3%	36.3%	3.4%	8.6%	21.5%	43.1%	67.4%	82.5%	8.4%	21.8%	45.2%	4.1%	10.8%	27.2%	

London	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
London	18.5%	24.5%	30.6%	31.4%	52.1%	67.0%	5.6%	15.8%	35.3%	2.7%	7.6%	20.7%	41.7%	69.1%	88.8%	7.4%	20.9%	46.8%	3.5%	10.0%	27.4%	
Sutton	11.3%	17.2%	23.7%	26.7%	51.7%	71.1%	7.3%	22.4%	48.2%	2.6%	8.7%	25.7%	32.2%	62.5%	82.8%	8.6%	27.0%	57.0%	3.0%	10.5%	31.3%	
Tower Hamlets	27.3%	33.6%	39.2%	26.7%	43.6%	56.9%	5.0%	13.4%	29.7%	3.6%	9.4%	22.8%	40.4%	65.7%	81.6%	7.4%	20.1%	44.0%	5.3%	14.1%	34.2%	
Waltham Forest	25.6%	32.7%	39.5%	29.4%	47.2%	60.7%	4.9%	13.3%	30.4%	2.5%	6.8%	18.0%	44.1%	70.2%	84.9%	7.1%	19.8%	44.2%	3.6%	10.1%	26.9%	
Wandsworth	11.0%	15.8%	20.9%	28.7%	53.0%	70.9%	7.5%	22.0%	46.8%	2.9%	9.2%	25.9%	33.9%	62.9%	82.0%	8.8%	26.1%	54.8%	3.4%	10.9%	31.0%	
Westminster	16.2%	22.4%	28.9%	35.5%	57.4%	71.4%	3.2%	9.9%	26.2%	3.5%	10.4%	27.5%	46.6%	73.9%	87.7%	4.0%	12.7%	34.0%	4.4%	13.3%	35.6%	

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 19: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the North East, by local authority**

North East	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
North East	10.3%	16.6%	23.7%	31.9%	56.4%	73.8%	7.1%	20.5%	45.3%	2.4%	6.5%	17.9%	38.3%	67.6%	88.5%	8.5%	24.6%	54.3%	2.8%	7.8%	21.5%	
County Durham	7.9%	13.5%	20.3%	32.0%	58.1%	76.6%	8.3%	24.0%	51.0%	1.5%	4.4%	13.3%	36.9%	67.2%	85.8%	9.5%	27.7%	58.0%	1.6%	5.1%	15.8%	
Darlington	7.3%	12.6%	19.1%	32.9%	59.8%	78.2%	7.8%	23.1%	50.7%	1.4%	4.5%	14.0%	37.3%	68.4%	86.6%	8.7%	26.4%	57.1%	1.6%	5.1%	16.4%	
Gateshead	12.2%	19.3%	26.9%	31.6%	54.4%	71.3%	6.3%	18.1%	41.0%	3.1%	8.2%	20.8%	39.5%	67.4%	84.1%	7.7%	22.4%	49.6%	3.7%	10.2%	26.5%	
Hartlepool	8.1%	13.5%	19.7%	31.1%	56.0%	74.1%	8.8%	24.2%	50.5%	2.3%	6.3%	17.2%	35.7%	64.7%	83.3%	10.0%	28.0%	57.0%	2.6%	7.3%	20.4%	
Middlesbrough	10.5%	15.7%	21.6%	31.3%	54.8%	72.1%	8.7%	23.3%	48.2%	2.3%	6.1%	16.5%	36.9%	65.1%	83.1%	10.2%	27.7%	55.8%	2.6%	7.3%	20.1%	
Newcastle upon Tyne	15.1%	21.7%	28.7%	31.4%	52.9%	68.8%	6.3%	17.4%	39.0%	3.1%	8.0%	20.2%	40.4%	67.6%	83.8%	7.8%	22.3%	48.6%	3.8%	10.2%	26.3%	
North Tyneside	10.7%	17.4%	24.9%	32.5%	56.4%	73.5%	6.0%	17.7%	41.2%	3.0%	8.5%	22.2%	39.5%	68.3%	84.9%	7.1%	21.5%	49.0%	3.5%	10.3%	27.5%	
Northumberland	9.9%	17.0%	25.3%	33.7%	59.0%	76.5%	5.7%	17.9%	42.7%	2.0%	6.1%	17.8%	40.9%	71.2%	87.4%	6.7%	21.5%	50.6%	2.3%	7.3%	22.0%	
Redcar and Cleveland	8.3%	14.0%	21.0%	32.0%	58.0%	76.4%	8.2%	23.6%	50.5%	1.4%	4.4%	13.1%	37.2%	67.4%	86.0%	9.4%	27.5%	57.8%	1.6%	5.1%	15.7%	
South Tyneside	13.3%	20.4%	27.9%	31.4%	53.8%	70.4%	6.3%	17.8%	40.2%	3.1%	8.1%	20.4%	39.8%	67.5%	84.0%	7.7%	22.3%	49.3%	3.7%	10.1%	26.4%	
Stockton-on-Tees	7.7%	12.6%	18.5%	31.9%	57.4%	75.5%	8.2%	23.5%	50.0%	2.2%	6.5%	18.3%	36.2%	65.7%	84.0%	9.4%	26.9%	56.2%	2.5%	7.4%	21.3%	
Sunderland	11.9%	18.9%	26.5%	31.5%	54.4%	71.4%	6.4%	18.3%	41.3%	3.1%	8.3%	21.1%	39.2%	67.2%	83.9%	7.7%	22.6%	49.8%	3.7%	10.3%	26.8%	

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 20:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the North West, by local authority

North West	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
North West	9.5%	14.7%	21.0%	35.0%	59.7%	76.1%	6.7%	19.3%	43.6%	2.2%	6.3%	17.6%	41.1%	70.0%	89.2%	7.8%	22.7%	51.1%	2.6%	7.3%	20.7%	
Allerdale	6.5%	11.6%	17.9%	36.1%	62.9%	79.9%	6.0%	18.8%	44.8%	2.2%	6.8%	19.8%	41.1%	71.1%	87.3%	6.6%	21.2%	50.1%	2.4%	7.6%	22.8%	
Barrow-in-Furness	7.6%	12.7%	18.7%	32.6%	57.3%	74.8%	7.5%	21.3%	46.5%	3.2%	8.7%	22.2%	37.4%	65.7%	83.2%	8.4%	24.4%	52.3%	3.6%	9.9%	26.0%	
Blackburn with Darwen	16.2%	20.9%	25.9%	32.4%	53.0%	67.5%	7.1%	18.5%	39.4%	3.0%	7.6%	19.0%	41.1%	66.9%	82.8%	8.8%	23.4%	49.0%	3.7%	9.6%	24.5%	
Blackpool	8.4%	13.6%	19.6%	32.9%	57.1%	74.2%	7.4%	20.9%	45.5%	3.2%	8.4%	21.6%	38.1%	66.1%	83.3%	8.4%	24.2%	51.8%	3.6%	9.8%	25.6%	
Bolton	11.8%	16.7%	22.4%	35.5%	58.4%	73.7%	7.0%	19.1%	42.1%	2.2%	5.8%	15.6%	42.7%	70.1%	85.8%	8.2%	23.0%	49.7%	2.6%	7.0%	19.2%	
Burnley	11.1%	16.1%	21.7%	32.6%	55.6%	71.9%	7.3%	20.1%	43.6%	3.1%	8.2%	20.9%	38.8%	66.2%	83.1%	8.6%	24.0%	51.1%	3.6%	9.8%	25.4%	
Bury	8.6%	13.5%	19.6%	37.4%	63.3%	79.3%	6.3%	19.0%	44.3%	1.4%	4.3%	13.4%	43.4%	73.1%	88.7%	7.1%	21.9%	50.8%	1.5%	4.9%	15.8%	
Carlisle	6.5%	11.6%	17.8%	36.1%	62.9%	79.8%	6.0%	18.8%	44.8%	2.2%	6.8%	19.8%	41.0%	71.1%	87.2%	6.7%	21.2%	50.1%	2.4%	7.6%	22.8%	
Cheshire East	8.3%	14.7%	22.9%	37.0%	64.0%	80.6%	5.1%	16.9%	42.6%	1.3%	4.4%	14.7%	44.1%	75.0%	90.1%	5.8%	19.8%	49.8%	1.5%	5.1%	17.8%	
Cheshire West and Chester	7.7%	13.1%	19.6%	34.3%	60.1%	77.3%	6.6%	19.7%	45.1%	2.4%	7.1%	20.1%	39.6%	69.2%	86.0%	7.4%	22.7%	51.1%	2.7%	8.1%	23.6%	
Chorley	6.0%	10.4%	15.9%	28.3%	55.6%	75.9%	9.4%	27.7%	56.4%	2.0%	6.3%	19.3%	31.4%	62.0%	82.9%	10.4%	30.9%	61.8%	2.1%	7.1%	21.9%	
Copeland	7.1%	12.8%	20.0%	35.8%	62.9%	79.8%	6.0%	18.9%	45.4%	1.7%	5.4%	16.9%	41.3%	72.1%	88.3%	6.7%	21.7%	51.4%	1.9%	6.2%	19.8%	
Eden	4.7%	9.1%	15.0%	30.7%	60.6%	80.6%	7.4%	24.5%	54.4%	1.6%	5.9%	19.8%	33.8%	66.6%	86.5%	8.1%	26.9%	59.2%	1.7%	6.5%	22.1%	
Fylde	5.5%	9.7%	14.8%	28.5%	55.7%	75.6%	8.0%	24.7%	53.2%	3.1%	10.0%	27.7%	31.4%	61.6%	81.8%	8.8%	27.3%	57.8%	3.4%	11.0%	31.0%	
Halton	9.1%	15.2%	22.4%	37.7%	61.9%	77.6%	5.6%	16.7%	39.7%	2.3%	6.3%	17.2%	45.0%	72.9%	87.5%	6.5%	19.6%	46.2%	2.6%	7.4%	20.9%	
Hyndburn	10.9%	15.8%	21.4%	32.5%	55.6%	72.0%	7.3%	20.3%	43.9%	3.1%	8.3%	21.0%	38.7%	66.1%	83.1%	8.6%	24.1%	51.2%	3.6%	9.8%	25.4%	
Knowsley	9.5%	15.7%	22.9%	37.8%	61.7%	77.3%	5.6%	16.4%	39.0%	2.3%	6.2%	17.0%	45.5%	73.2%	87.6%	6.5%	19.4%	45.8%	2.6%	7.4%	20.8%	
Lancaster	7.5%	12.6%	18.6%	34.8%	61.1%	78.3%	6.7%	20.2%	46.3%	2.0%	6.1%	18.2%	39.9%	69.9%	86.6%	7.5%	23.1%	52.4%	2.2%	7.0%	21.2%	
Liverpool	11.6%	17.5%	24.3%	37.9%	60.6%	75.4%	5.5%	15.8%	37.3%	2.3%	6.0%	16.3%	46.6%	73.5%	87.5%	6.6%	19.2%	44.7%	2.7%	7.3%	20.3%	
Manchester	15.1%	19.5%	24.5%	36.6%	57.1%	70.7%	6.9%	17.9%	38.4%	2.2%	5.4%	14.5%	45.5%	71.0%	85.6%	8.5%	22.3%	47.0%	2.6%	6.8%	18.4%	
Oldham	13.1%	17.9%	23.5%	35.4%	57.7%	72.6%	6.9%	18.7%	41.0%	2.2%	5.7%	15.3%	43.2%	70.2%	85.7%	8.3%	22.8%	49.2%	2.6%	6.9%	19.1%	
Pendle	13.1%	18.3%	24.3%	34.9%	57.9%	73.4%	6.2%	17.7%	40.2%	2.1%	6.1%	16.9%	42.9%	70.9%	86.5%	7.4%	21.6%	48.8%	2.5%	7.4%	21.1%	
Preston	13.0%	17.7%	22.9%	32.7%	54.7%	70.2%	7.3%	19.6%	42.0%	3.1%	8.0%	20.3%	39.8%	66.4%	82.9%	8.7%	23.8%	50.2%	3.7%	9.7%	25.0%	
Ribble Valley	6.6%	11.4%	17.3%	28.3%	55.9%	75.6%	6.7%	21.6%	49.3%	3.3%	11.1%	31.0%	31.9%	63.1%	83.0%	7.4%	24.4%	54.9%	3.7%	12.5%	35.1%	
Rochdale	12.3%	17.1%	22.8%	35.3%	58.0%	73.2%	7.0%	19.1%	41.8%	2.2%	5.8%	15.6%	42.8%	70.0%	85.6%	8.3%	23.0%	49.7%	2.6%	7.0%	19.2%	
Rossendale	8.4%	14.0%	21.1%	35.7%	62.1%	78.6%	5.9%	18.5%	44.3%	1.7%	5.3%	16.6%	41.7%	72.2%	88.3%	6.7%	21.6%	50.9%	1.9%	6.2%	19.8%	
Salford	9.4%	14.3%	20.1%	35.9%	59.8%	75.6%	7.2%	19.9%	43.8%	2.2%	6.0%	16.3%	42.0%	69.8%	85.7%	8.3%	23.2%	50.3%	2.5%	7.0%	19.5%	
Sefton	8.8%	14.8%	22.2%	38.8%	63.4%	78.9%	5.1%	15.6%	38.5%	2.2%	6.2%	17.6%	46.2%	74.4%	88.5%	5.9%	18.3%	44.9%	2.5%	7.3%	21.2%	

North West	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
North West	9.5%	14.7%	21.0%	35.0%	59.7%	76.1%	6.7%	19.3%	43.6%	2.2%	6.3%	17.6%	41.1%	70.0%	89.2%	7.8%	22.7%	51.1%	2.6%	7.3%	20.7%
South Lakeland	4.8%	9.0%	14.1%	29.6%	58.1%	77.8%	7.2%	23.5%	52.6%	2.8%	9.5%	27.9%	32.5%	63.8%	83.5%	7.9%	25.8%	57.1%	3.0%	10.4%	31.0%
South Ribble	6.0%	10.6%	16.2%	28.7%	56.4%	76.5%	8.8%	26.5%	55.6%	2.0%	6.5%	20.2%	31.9%	63.1%	83.5%	9.9%	29.6%	60.9%	2.1%	7.3%	22.8%
St Helens	9.4%	15.6%	22.9%	37.7%	61.8%	77.4%	5.6%	16.4%	39.2%	2.3%	6.2%	16.9%	45.4%	73.2%	87.7%	6.5%	19.5%	45.9%	2.6%	7.4%	20.7%
Stockport	7.3%	11.7%	17.0%	32.0%	57.8%	76.0%	8.3%	23.7%	50.2%	2.3%	6.8%	19.3%	36.0%	65.4%	83.9%	9.3%	26.9%	55.8%	2.6%	7.7%	22.3%
Tameside	9.4%	14.6%	20.9%	36.4%	61.5%	77.8%	6.7%	19.7%	44.6%	1.4%	4.2%	12.6%	42.8%	72.1%	88.0%	7.7%	23.0%	51.8%	1.6%	4.9%	15.2%
Trafford	8.6%	13.1%	18.7%	33.4%	59.4%	77.0%	7.8%	22.9%	49.2%	1.5%	4.6%	14.6%	38.4%	68.4%	86.3%	8.8%	26.3%	55.9%	1.7%	5.3%	17.2%
Warrington	7.5%	13.0%	19.7%	33.8%	60.9%	78.8%	7.0%	21.6%	48.7%	1.4%	4.6%	14.8%	38.9%	69.9%	87.4%	7.8%	24.8%	55.2%	1.6%	5.3%	17.4%
West Lancashire	6.8%	11.5%	17.2%	34.5%	60.1%	77.2%	6.3%	18.8%	43.5%	3.4%	9.6%	25.1%	39.1%	67.9%	84.5%	7.0%	21.2%	48.7%	3.7%	10.9%	28.8%
Wigan	7.6%	12.6%	18.6%	35.5%	60.5%	77.2%	7.2%	20.7%	45.9%	2.3%	6.3%	17.0%	40.7%	69.2%	85.7%	8.2%	23.6%	51.6%	2.5%	7.1%	20.0%
Wirral	10.0%	16.5%	24.0%	37.8%	61.5%	77.0%	5.4%	16.0%	38.3%	2.2%	6.0%	16.4%	46.0%	73.6%	87.9%	6.4%	19.2%	45.3%	2.6%	7.2%	20.3%
Wyre	6.6%	11.4%	17.4%	29.7%	56.9%	76.2%	7.6%	23.3%	50.9%	2.6%	8.3%	23.9%	33.6%	64.3%	83.7%	8.5%	26.4%	56.5%	2.8%	9.3%	27.4%

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 21:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the South East, by local authority

South East	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
South East	7.3%	12.1%	18.1%	36.7%	63.7%	80.3%	5.7%	18.3%	44.1%	1.8%	5.9%	18.8%	41.7%	72.5%	91.3%	6.4%	20.8%	50.1%	2.0%	6.7%	21.4%
Adur	7.5%	12.9%	20.0%	40.5%	66.7%	81.7%	5.0%	16.1%	40.6%	1.4%	4.3%	13.9%	47.2%	76.6%	90.4%	5.6%	18.5%	46.5%	1.5%	5.0%	16.5%
Arun	6.2%	10.8%	16.5%	33.2%	60.6%	79.1%	7.8%	23.7%	51.5%	1.6%	5.0%	15.7%	37.2%	67.9%	86.2%	8.6%	26.5%	56.8%	1.7%	5.6%	18.0%
Ashford	6.3%	11.3%	18.5%	42.9%	70.6%	85.3%	4.1%	14.5%	39.3%	1.0%	3.7%	13.4%	49.6%	79.6%	92.5%	4.5%	16.3%	44.5%	1.1%	4.1%	15.7%
Aylesbury Vale	7.4%	12.4%	18.8%	35.7%	63.6%	80.3%	5.1%	17.1%	43.2%	2.0%	6.9%	22.0%	41.2%	72.6%	88.5%	5.7%	19.6%	49.1%	2.2%	7.8%	25.6%
Basingstoke and Deane	4.1%	7.2%	11.6%	37.0%	66.8%	83.8%	6.1%	20.4%	49.1%	1.6%	5.6%	19.0%	40.0%	72.0%	88.8%	6.5%	21.9%	52.9%	1.7%	6.0%	20.8%
Bracknell Forest	9.0%	14.6%	21.3%	33.5%	60.5%	77.6%	4.9%	16.4%	41.4%	2.5%	8.5%	25.6%	39.7%	70.8%	87.3%	5.6%	19.2%	48.1%	2.9%	10.0%	30.3%
Brighton and Hove	7.8%	11.9%	16.9%	36.5%	61.4%	77.4%	7.0%	20.0%	44.6%	2.4%	6.7%	18.7%	41.4%	69.7%	85.7%	7.9%	22.7%	50.2%	2.6%	7.6%	21.6%
Canterbury	7.1%	12.0%	18.3%	41.2%	67.7%	82.3%	4.4%	14.5%	38.0%	1.8%	5.8%	18.5%	47.7%	76.9%	90.4%	4.9%	16.5%	43.3%	2.0%	6.6%	21.5%
Cherwell	8.0%	13.8%	21.6%	36.2%	64.3%	81.3%	5.2%	17.8%	44.3%	1.1%	4.1%	14.6%	42.8%	74.6%	90.4%	5.9%	20.7%	51.2%	1.3%	4.7%	17.5%
Chichester	4.7%	8.5%	13.5%	32.4%	61.2%	80.0%	7.1%	23.0%	52.0%	2.1%	7.3%	22.9%	35.4%	66.9%	85.5%	7.7%	25.1%	56.4%	2.3%	8.0%	25.4%
Chiltern	7.7%	13.0%	19.8%	35.8%	63.6%	80.2%	4.9%	16.7%	42.5%	1.9%	6.7%	21.5%	41.7%	73.1%	88.8%	5.6%	19.2%	48.7%	2.1%	7.7%	25.2%
Crawley	7.7%	11.5%	16.5%	35.1%	62.1%	79.0%	7.4%	22.0%	48.6%	1.3%	4.3%	14.2%	39.7%	70.2%	87.3%	8.2%	24.9%	54.4%	1.5%	4.9%	16.3%
Dartford	7.8%	12.8%	19.7%	42.6%	69.1%	83.5%	4.3%	14.6%	38.9%	1.0%	3.4%	12.3%	49.9%	79.3%	92.1%	4.8%	16.8%	44.7%	1.1%	3.9%	14.6%
Dover	7.2%	12.7%	20.1%	40.9%	67.4%	82.5%	4.4%	14.4%	37.9%	1.7%	5.4%	17.2%	48.0%	77.3%	90.7%	4.9%	16.5%	43.5%	1.8%	6.2%	20.2%
East Hampshire	3.7%	6.9%	11.5%	37.0%	67.2%	84.4%	6.0%	20.3%	49.4%	1.5%	5.6%	19.0%	39.8%	72.2%	89.0%	6.4%	21.8%	53.1%	1.6%	6.0%	20.8%
Eastbourne	7.7%	12.3%	18.0%	38.4%	63.2%	78.7%	5.9%	17.6%	41.2%	2.5%	7.0%	19.2%	44.1%	72.0%	87.0%	6.7%	20.0%	46.8%	2.8%	8.0%	22.3%
Eastleigh	4.7%	8.6%	14.0%	35.1%	65.5%	83.4%	6.2%	21.1%	50.7%	1.3%	4.8%	17.3%	38.6%	71.7%	89.1%	6.7%	23.0%	55.1%	1.4%	5.3%	19.2%
Elmbridge	6.0%	9.9%	14.8%	33.1%	61.5%	79.5%	6.9%	21.9%	49.7%	2.0%	6.8%	21.5%	36.8%	68.2%	86.3%	7.6%	24.3%	54.8%	2.2%	7.5%	24.1%
Epsom and Ewell	7.4%	11.4%	16.1%	30.6%	56.8%	75.3%	7.4%	22.3%	48.8%	3.0%	9.5%	26.6%	34.5%	64.1%	83.1%	8.2%	25.2%	54.4%	3.3%	10.7%	30.2%
Fareham	5.5%	10.2%	16.4%	34.1%	63.6%	81.8%	5.9%	20.2%	49.1%	1.7%	6.0%	20.3%	38.3%	70.8%	88.4%	6.5%	22.5%	54.1%	1.8%	6.7%	23.0%
Gosport	5.5%	9.5%	14.6%	36.0%	63.0%	80.3%	7.4%	22.0%	48.9%	1.8%	5.5%	16.6%	39.7%	69.6%	86.7%	8.1%	24.3%	53.4%	2.0%	6.1%	18.7%
Gravesham	11.1%	16.8%	24.2%	41.9%	66.1%	79.8%	4.0%	12.7%	33.8%	1.4%	4.4%	14.2%	51.8%	79.5%	91.5%	4.7%	15.3%	40.8%	1.6%	5.2%	17.5%
Guildford	6.4%	10.9%	16.4%	29.6%	58.0%	77.6%	7.0%	22.9%	51.5%	2.3%	8.2%	25.6%	33.3%	65.1%	84.9%	7.8%	25.7%	57.2%	2.6%	9.2%	29.0%
Hart	5.7%	10.2%	16.0%	33.9%	63.2%	81.4%	6.0%	20.5%	49.3%	1.7%	6.1%	20.6%	38.0%	70.4%	88.2%	6.6%	22.8%	54.3%	1.9%	6.8%	23.3%
Hastings	8.0%	12.9%	18.9%	36.7%	62.2%	78.7%	7.0%	20.3%	45.6%	1.6%	4.6%	13.7%	42.3%	71.4%	87.6%	7.8%	23.3%	52.0%	1.7%	5.3%	16.1%
Havant	5.7%	10.3%	16.8%	45.2%	71.9%	85.6%	4.3%	14.4%	39.0%	1.0%	3.4%	11.7%	51.2%	80.1%	92.3%	4.7%	16.1%	43.6%	1.1%	3.8%	13.4%
Horsham	4.9%	8.8%	14.0%	30.7%	60.7%	80.4%	7.2%	23.9%	54.1%	1.8%	6.6%	22.1%	33.6%	66.5%	86.2%	7.8%	26.2%	58.7%	1.9%	7.2%	24.5%
Isle of Wight	5.4%	9.7%	15.9%	46.6%	73.0%	86.3%	4.3%	14.2%	38.4%	0.9%	3.1%	10.7%	52.4%	80.9%	92.6%	4.6%	15.7%	42.7%	1.0%	3.4%	12.2%

South East	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
South East	7.3%	12.1%	18.1%	36.7%	63.7%	80.3%	5.7%	18.3%	44.1%	1.8%	5.9%	18.8%	41.7%	72.5%	91.3%	6.4%	20.8%	50.1%	2.0%	6.7%	21.4%
Lewes	4.9%	8.7%	13.7%	32.5%	61.1%	79.8%	7.1%	22.9%	51.7%	2.1%	7.3%	22.8%	35.6%	67.0%	85.5%	7.7%	25.1%	56.2%	2.3%	8.0%	25.3%
Maidstone	6.4%	11.3%	18.0%	43.2%	69.9%	84.2%	3.9%	13.5%	37.3%	1.5%	5.3%	17.7%	49.6%	78.8%	91.4%	4.3%	15.3%	42.3%	1.7%	5.9%	20.4%
Medway	8.5%	13.6%	20.2%	41.6%	67.0%	81.5%	4.6%	15.0%	38.4%	1.4%	4.3%	14.0%	49.0%	77.6%	90.7%	5.3%	17.4%	44.4%	1.6%	5.0%	16.7%
Mid Sussex	6.1%	10.7%	16.5%	29.5%	58.3%	78.0%	6.9%	22.9%	51.9%	2.3%	8.2%	25.6%	33.2%	65.2%	85.1%	7.7%	25.6%	57.3%	2.5%	9.1%	28.9%
Milton Keynes	9.9%	15.2%	21.4%	34.8%	60.6%	76.9%	5.7%	17.8%	42.3%	2.0%	6.5%	20.0%	41.3%	71.4%	87.5%	6.6%	21.0%	49.5%	2.3%	7.6%	23.9%
Mole Valley	4.4%	7.7%	12.2%	32.6%	62.2%	80.9%	6.9%	22.6%	51.8%	2.1%	7.4%	23.6%	35.4%	67.4%	86.1%	7.4%	24.5%	55.7%	2.2%	8.1%	26.0%
New Forest	3.9%	7.4%	12.4%	37.7%	67.7%	84.5%	5.8%	19.7%	48.4%	1.5%	5.3%	18.2%	40.8%	73.1%	89.3%	6.2%	21.2%	52.3%	1.6%	5.7%	20.0%
Oxford	11.6%	16.9%	22.8%	34.0%	58.0%	74.2%	6.2%	18.4%	41.9%	2.2%	6.7%	19.8%	41.1%	69.8%	86.0%	7.3%	22.1%	49.7%	2.6%	8.1%	24.2%
Portsmouth	7.8%	11.9%	17.2%	41.1%	65.9%	80.4%	5.9%	17.3%	41.0%	1.7%	4.9%	14.5%	47.0%	74.8%	88.7%	6.7%	19.6%	46.4%	1.9%	5.6%	16.8%
Reading	12.4%	17.9%	24.4%	35.4%	59.2%	74.9%	5.7%	17.2%	40.2%	1.9%	5.6%	17.0%	43.5%	72.2%	87.5%	6.8%	20.9%	48.5%	2.2%	6.8%	21.0%
Reigate and Banstead	5.7%	9.5%	14.4%	32.9%	61.6%	79.9%	6.9%	22.1%	50.3%	2.0%	6.8%	21.7%	36.4%	68.0%	86.2%	7.6%	24.4%	55.2%	2.2%	7.6%	24.2%
Rother	6.2%	11.1%	17.3%	31.0%	59.1%	78.6%	7.5%	23.9%	52.3%	1.7%	5.9%	19.0%	34.8%	66.5%	85.9%	8.4%	26.9%	58.0%	1.9%	6.6%	21.7%
Runnymede	6.9%	11.4%	17.0%	29.8%	57.9%	77.3%	7.0%	22.6%	50.8%	2.3%	8.1%	25.2%	33.7%	65.4%	85.0%	7.8%	25.5%	56.7%	2.6%	9.1%	28.7%
Rushmoor	6.5%	11.0%	17.2%	36.9%	65.0%	82.0%	6.5%	20.7%	48.7%	0.9%	3.2%	11.2%	41.7%	73.1%	89.6%	7.2%	23.3%	54.4%	1.0%	3.6%	12.9%
Sevenoaks	6.6%	11.9%	18.9%	40.1%	68.3%	83.7%	4.0%	14.5%	39.7%	1.5%	5.3%	18.6%	46.4%	77.5%	91.4%	4.5%	16.4%	45.2%	1.6%	6.0%	21.5%
Shepway	8.6%	14.6%	22.7%	46.6%	70.3%	83.2%	3.0%	10.1%	29.1%	1.6%	5.0%	15.9%	56.6%	82.4%	92.7%	3.4%	11.8%	34.5%	1.8%	5.8%	19.2%
Slough	26.3%	33.4%	41.0%	37.4%	54.9%	66.2%	3.1%	8.8%	23.2%	1.0%	2.9%	9.2%	58.7%	82.4%	92.3%	4.4%	13.3%	35.1%	1.5%	4.4%	14.3%
South Bucks	8.8%	14.1%	20.9%	35.8%	63.0%	79.3%	4.9%	16.4%	41.4%	1.9%	6.5%	21.0%	42.4%	73.3%	88.8%	5.6%	19.1%	48.1%	2.1%	7.6%	24.9%
South Oxfordshire	7.9%	13.9%	21.6%	33.7%	62.2%	80.0%	5.1%	17.8%	45.1%	1.7%	6.0%	20.2%	39.7%	72.3%	89.1%	5.8%	20.7%	51.9%	1.9%	6.9%	23.9%
Southampton	7.3%	11.1%	15.9%	41.9%	67.2%	81.4%	5.4%	16.3%	39.9%	1.8%	5.4%	16.4%	47.5%	75.6%	89.2%	6.0%	18.4%	44.9%	2.0%	6.1%	18.8%
Spelthorne	6.2%	9.9%	14.3%	31.1%	58.1%	76.8%	8.2%	24.3%	51.8%	2.4%	7.8%	22.9%	34.5%	64.4%	83.5%	9.0%	26.9%	56.7%	2.7%	8.7%	25.7%
Surrey Heath	6.0%	10.1%	15.2%	27.7%	56.0%	76.5%	7.5%	24.3%	53.4%	2.8%	9.6%	28.8%	30.9%	62.3%	83.2%	8.2%	27.0%	58.6%	3.0%	10.7%	32.3%
Swale	7.7%	13.3%	21.0%	46.6%	70.9%	83.8%	3.1%	10.5%	30.4%	1.7%	5.3%	16.7%	55.5%	81.8%	92.5%	3.5%	12.1%	35.4%	1.9%	6.1%	19.8%
Tandridge	4.6%	7.9%	12.4%	32.8%	62.0%	80.6%	7.0%	22.6%	51.5%	2.1%	7.4%	23.6%	35.6%	67.4%	86.0%	7.5%	24.6%	55.5%	2.3%	8.1%	26.0%
Test Valley	4.5%	8.4%	13.9%	35.1%	65.6%	83.6%	6.1%	21.1%	50.9%	1.3%	4.9%	17.3%	38.6%	71.7%	89.1%	6.6%	23.0%	55.2%	1.4%	5.3%	19.3%
Thanet	10.8%	17.0%	24.7%	43.8%	66.0%	79.3%	4.0%	11.9%	31.0%	1.9%	5.1%	14.1%	54.5%	79.5%	90.8%	4.7%	14.4%	37.4%	2.2%	6.1%	17.7%
Tonbridge and Malling	6.1%	11.0%	17.7%	43.2%	70.1%	84.5%	3.9%	13.6%	37.6%	1.5%	5.3%	17.9%	49.5%	78.8%	91.4%	4.3%	15.3%	42.4%	1.7%	6.0%	20.5%
Tunbridge Wells	6.1%	10.8%	17.1%	41.5%	68.7%	83.6%	4.2%	14.4%	38.8%	1.8%	6.2%	20.1%	47.3%	77.0%	90.5%	4.6%	16.1%	43.6%	2.0%	6.9%	22.9%

South East	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
South East	7.3%	12.1%	18.1%	36.7%	63.7%	80.3%	5.7%	18.3%	44.1%	1.8%	5.9%	18.8%	41.7%	72.5%	91.3%	6.4%	20.8%	50.1%	2.0%	6.7%	21.4%	
Vale of White Horse	7.9%	14.0%	21.7%	33.7%	62.2%	80.0%	5.1%	17.8%	45.1%	1.7%	6.0%	20.2%	39.7%	72.3%	89.1%	5.8%	20.7%	51.8%	1.9%	6.9%	23.8%	
Waverley	5.2%	9.1%	14.0%	31.2%	59.8%	78.8%	6.7%	21.8%	50.3%	2.7%	9.3%	27.7%	34.5%	65.8%	84.8%	7.3%	24.0%	54.8%	2.9%	10.2%	30.7%	
Wealden	6.0%	10.8%	17.2%	32.3%	61.1%	80.2%	6.9%	22.5%	51.2%	1.5%	5.5%	18.5%	36.4%	68.5%	87.2%	7.6%	25.3%	56.8%	1.7%	6.2%	21.3%	
West Berkshire	7.6%	13.3%	20.6%	35.4%	63.3%	80.3%	5.0%	16.9%	42.9%	1.9%	6.4%	20.7%	41.4%	73.1%	88.9%	5.7%	19.5%	49.4%	2.1%	7.4%	24.2%	
West Oxfordshire	7.5%	13.6%	21.3%	33.7%	62.5%	80.4%	5.2%	18.0%	45.5%	1.7%	6.0%	20.3%	39.4%	72.3%	89.1%	5.8%	20.8%	52.1%	1.9%	6.9%	23.9%	
Winchester	4.0%	7.3%	11.9%	37.3%	67.2%	84.2%	5.9%	20.0%	48.9%	1.5%	5.5%	18.7%	40.3%	72.5%	89.0%	6.3%	21.6%	52.7%	1.6%	5.9%	20.5%	
Windsor and Maidenhead	8.5%	13.7%	20.3%	35.8%	63.1%	79.5%	5.0%	16.6%	41.9%	1.9%	6.6%	21.2%	42.1%	73.1%	88.7%	5.6%	19.2%	48.4%	2.2%	7.7%	25.1%	
Woking	6.1%	9.7%	14.1%	29.6%	57.0%	76.1%	7.2%	22.7%	50.3%	3.2%	10.6%	30.1%	32.9%	63.2%	82.8%	7.9%	25.1%	55.2%	3.5%	11.7%	33.5%	
Wokingham	9.1%	15.0%	22.4%	33.6%	61.4%	78.7%	5.2%	17.6%	44.1%	1.7%	5.9%	20.0%	40.1%	72.3%	88.9%	5.9%	20.7%	51.4%	1.9%	7.0%	23.8%	
Worthing	6.5%	10.9%	16.4%	33.1%	60.3%	78.7%	7.9%	23.8%	51.3%	1.6%	5.0%	15.9%	37.2%	67.6%	86.0%	8.8%	26.7%	56.9%	1.7%	5.6%	18.1%	
Wycombe	10.8%	16.7%	23.9%	35.4%	61.5%	77.5%	4.8%	15.8%	39.9%	1.8%	6.0%	19.2%	43.1%	73.8%	89.0%	5.7%	19.0%	47.8%	2.1%	7.2%	23.4%	

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 22: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the South West, by local authority**

South West	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
South West	6.8%	11.8%	18.3%	36.5%	63.7%	80.6%	6.3%	19.8%	46.2%	1.5%	4.7%	15.1%	41.4%	72.2%	91.4%	7.1%	22.4%	52.4%	1.6%	5.4%	17.2%	
Bath and North East Somerset	5.2%	9.0%	13.9%	36.7%	64.8%	81.9%	7.0%	21.5%	49.3%	1.4%	4.7%	15.3%	40.5%	71.2%	88.0%	7.5%	23.6%	53.8%	1.5%	5.1%	17.1%	
Bournemouth	10.0%	16.0%	23.4%	41.7%	65.2%	79.3%	4.3%	13.3%	34.0%	2.0%	5.5%	15.9%	50.9%	77.6%	90.0%	5.1%	15.8%	40.5%	2.3%	6.6%	19.5%	
Bristol, City of	9.9%	14.3%	19.8%	41.5%	64.8%	78.6%	6.2%	17.2%	39.8%	1.4%	3.7%	10.8%	48.8%	75.6%	89.1%	7.1%	20.1%	46.2%	1.6%	4.3%	12.9%	
Cheltenham	6.4%	10.7%	16.5%	38.4%	65.6%	82.1%	6.7%	20.7%	47.7%	0.9%	3.0%	10.2%	43.1%	73.5%	89.5%	7.4%	23.2%	53.0%	1.0%	3.3%	11.6%	
Christchurch	7.7%	13.6%	21.1%	40.3%	66.1%	81.7%	5.2%	16.5%	41.0%	1.2%	3.9%	12.5%	47.2%	76.4%	90.5%	5.9%	19.1%	47.3%	1.4%	4.5%	14.9%	
Cornwall	6.4%	11.4%	17.9%	35.9%	63.4%	80.4%	6.5%	20.2%	47.2%	1.6%	5.0%	15.9%	40.7%	71.5%	88.1%	7.2%	22.8%	52.8%	1.7%	5.7%	18.3%	
Cotswold	5.8%	10.8%	17.4%	35.3%	64.8%	82.5%	5.8%	19.7%	48.4%	1.3%	4.7%	16.7%	40.0%	72.6%	89.5%	6.3%	22.1%	53.8%	1.4%	5.3%	19.1%	
East Devon	4.5%	8.4%	13.7%	31.1%	60.5%	80.3%	8.3%	26.0%	56.1%	1.4%	5.1%	16.8%	33.9%	66.1%	86.0%	9.0%	28.4%	60.5%	1.5%	5.5%	18.6%	
East Dorset	7.9%	14.7%	23.7%	37.3%	65.7%	82.5%	4.6%	16.3%	42.8%	0.9%	3.3%	12.4%	44.7%	77.0%	91.7%	5.2%	19.0%	50.1%	1.0%	3.9%	15.1%	
Exeter	4.6%	7.8%	11.7%	26.2%	52.8%	74.0%	10.9%	30.9%	59.6%	2.7%	8.5%	24.6%	28.2%	57.2%	79.2%	11.7%	33.5%	63.6%	2.8%	9.2%	26.9%	
Forest of Dean	5.6%	10.2%	16.6%	39.0%	67.3%	83.6%	6.0%	19.2%	46.6%	1.0%	3.3%	11.3%	43.7%	74.9%	90.3%	6.6%	21.4%	51.6%	1.1%	3.7%	13.0%	
Gloucester	7.5%	12.0%	18.1%	44.8%	70.0%	83.6%	4.8%	15.1%	38.7%	0.9%	2.9%	9.6%	51.5%	79.5%	91.9%	5.4%	17.2%	44.1%	1.0%	3.3%	11.3%	
Isles of Scilly	3.4%	6.3%	10.1%	27.2%	54.6%	75.8%	10.9%	30.8%	60.0%	2.7%	8.3%	23.3%	28.8%	58.3%	80.0%	11.5%	32.8%	63.1%	2.8%	8.9%	25.1%	
Mendip	8.8%	15.4%	23.9%	37.8%	64.4%	80.6%	5.2%	16.7%	41.8%	1.1%	3.5%	11.9%	45.5%	76.1%	90.6%	6.0%	19.7%	49.1%	1.2%	4.2%	14.6%	
Mid Devon	3.4%	6.4%	10.5%	29.4%	59.3%	80.2%	9.4%	28.7%	59.5%	1.6%	5.5%	18.3%	31.3%	63.4%	84.4%	10.0%	30.7%	62.9%	1.7%	5.9%	19.8%	
North Devon	4.7%	8.7%	13.8%	29.1%	58.1%	78.6%	9.1%	27.7%	57.5%	1.6%	5.5%	17.8%	31.7%	63.6%	84.5%	9.9%	30.3%	62.1%	1.7%	6.0%	19.8%	
North Dorset	9.2%	16.6%	26.3%	37.5%	64.7%	81.4%	4.6%	15.7%	40.9%	0.8%	2.9%	10.7%	46.3%	77.6%	91.9%	5.3%	18.9%	49.1%	0.9%	3.5%	13.4%	
North Somerset	6.4%	11.3%	18.2%	39.4%	67.2%	83.3%	5.9%	18.9%	45.9%	0.8%	2.6%	9.0%	44.8%	75.8%	90.8%	6.6%	21.3%	51.5%	0.8%	2.9%	10.5%	
Plymouth	6.5%	11.2%	17.3%	35.7%	63.1%	80.2%	6.6%	20.6%	47.6%	1.6%	5.2%	16.3%	40.3%	71.1%	87.8%	7.4%	23.1%	53.0%	1.8%	5.8%	18.7%	
Poole	9.1%	15.9%	24.5%	38.9%	65.0%	81.0%	5.0%	16.3%	41.2%	0.9%	2.8%	9.8%	47.0%	77.3%	91.4%	5.8%	19.4%	48.6%	1.0%	3.3%	12.1%	
Purbeck	9.5%	16.7%	26.1%	39.7%	65.7%	81.3%	4.3%	14.5%	38.3%	0.9%	3.0%	10.6%	49.1%	78.9%	92.1%	5.0%	17.5%	46.3%	1.0%	3.6%	13.3%	
Sedgemoor	7.8%	13.7%	21.1%	36.9%	63.6%	80.4%	5.8%	18.5%	44.3%	1.3%	4.1%	13.5%	43.3%	73.7%	89.3%	6.6%	21.5%	50.9%	1.5%	4.8%	16.1%	
South Gloucestershire	5.5%	9.7%	15.4%	35.3%	64.2%	81.6%	6.2%	20.1%	48.0%	1.8%	6.0%	19.6%	39.3%	71.1%	88.1%	6.7%	22.2%	52.8%	1.9%	6.7%	22.2%	
South Hams	5.1%	9.6%	15.3%	27.8%	56.7%	78.0%	8.8%	27.5%	57.6%	1.7%	6.2%	20.5%	30.6%	62.7%	84.2%	9.6%	30.4%	62.6%	1.9%	6.9%	23.1%	
South Somerset	8.5%	15.2%	23.9%	38.3%	65.1%	81.3%	4.8%	16.0%	41.1%	1.1%	3.7%	12.5%	46.2%	76.8%	91.1%	5.5%	18.9%	48.5%	1.2%	4.3%	15.4%	
Stroud	4.6%	8.6%	14.6%	38.7%	68.6%	85.5%	6.0%	20.2%	49.2%	0.7%	2.6%	9.9%	42.6%	75.1%	91.2%	6.4%	22.1%	53.7%	0.7%	2.8%	11.2%	
Swindon	9.8%	15.8%	23.3%	34.5%	60.6%	77.3%	5.6%	17.6%	42.4%	1.9%	6.0%	18.5%	41.5%	71.9%	88.0%	6.4%	20.9%	49.7%	2.2%	7.2%	22.5%	
Taunton Deane	8.0%	14.2%	22.3%	39.7%	66.6%	82.3%	4.8%	16.0%	41.0%	1.0%	3.2%	11.2%	47.1%	77.6%	91.5%	5.4%	18.6%	47.8%	1.1%	3.8%	13.6%	

South West	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
South West	6.8%	11.8%	18.3%	36.5%	63.7%	80.6%	6.3%	19.8%	46.2%	1.5%	4.7%	15.1%	41.4%	72.2%	91.4%	7.1%	22.4%	52.4%	1.6%	5.4%	17.2%
Teignbridge	4.2%	7.6%	12.1%	27.3%	55.8%	76.9%	9.5%	28.7%	58.5%	2.3%	7.9%	23.8%	29.4%	60.4%	82.0%	10.2%	31.1%	62.5%	2.5%	8.5%	25.9%
Tewkesbury	5.2%	9.7%	16.0%	36.0%	65.4%	83.2%	6.3%	21.0%	49.9%	1.1%	3.8%	13.8%	40.0%	72.5%	89.6%	6.9%	23.3%	55.0%	1.1%	4.2%	15.7%
Torbay	6.2%	10.5%	15.8%	33.7%	59.4%	77.1%	7.5%	21.9%	48.1%	2.8%	8.1%	21.9%	37.5%	66.4%	84.0%	8.3%	24.5%	53.1%	3.1%	9.1%	24.8%
Torrige	6.1%	11.0%	17.3%	33.7%	61.8%	80.0%	6.6%	21.3%	49.4%	1.7%	5.9%	18.6%	38.0%	69.4%	87.2%	7.3%	23.9%	54.9%	1.9%	6.7%	21.4%
West Devon	5.2%	9.6%	15.2%	27.4%	55.9%	77.3%	9.3%	28.5%	58.4%	1.7%	6.0%	19.5%	30.0%	61.9%	83.6%	10.2%	31.5%	63.3%	1.8%	6.6%	21.9%
West Dorset	8.3%	14.8%	23.6%	41.0%	67.6%	82.8%	4.7%	15.3%	40.0%	0.7%	2.3%	8.1%	49.4%	79.3%	92.4%	5.3%	18.0%	46.9%	0.8%	2.7%	9.8%
West Somerset	9.0%	16.2%	25.7%	45.4%	69.9%	83.5%	3.2%	11.0%	31.7%	0.9%	2.9%	10.1%	56.6%	83.4%	93.7%	3.7%	13.1%	38.2%	1.0%	3.5%	12.6%
Weymouth and Portland	10.8%	18.7%	29.0%	44.6%	68.1%	81.9%	3.3%	11.0%	31.1%	0.7%	2.2%	7.7%	57.2%	83.8%	94.0%	3.9%	13.5%	38.8%	0.8%	2.7%	10.0%
Wiltshire	5.2%	9.5%	15.3%	35.3%	64.4%	82.0%	6.1%	20.1%	48.3%	1.7%	6.0%	19.6%	39.2%	71.2%	88.2%	6.7%	22.2%	52.9%	1.9%	6.6%	22.1%

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 23: Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in the West Midlands, by local authority**

West Midlands	Population estimate for all groups												Population estimate for drinkers only								
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI
Local Authority																					
West Midlands	12.1%	17.3%	23.7%	40.1%	63.5%	77.5%	5.0%	14.9%	36.7%	1.5%	4.3%	13.2%	48.5%	76.7%	93.6%	6.0%	18.1%	44.3%	1.8%	5.2%	15.9%
Birmingham	22.3%	27.6%	33.6%	41.1%	58.4%	69.1%	4.3%	11.2%	26.8%	1.1%	2.8%	8.0%	58.1%	80.7%	90.9%	5.8%	15.4%	36.9%	1.5%	3.9%	11.4%
Bromsgrove	6.7%	11.7%	17.9%	33.7%	61.8%	79.5%	5.5%	18.4%	45.1%	2.4%	8.1%	24.9%	38.6%	70.0%	87.1%	6.1%	20.8%	50.7%	2.6%	9.2%	28.6%
Cannock Chase	6.2%	10.5%	16.2%	43.8%	68.8%	82.8%	4.7%	14.6%	37.4%	2.1%	6.0%	17.4%	49.6%	76.9%	89.8%	5.2%	16.4%	41.9%	2.3%	6.7%	19.9%
Coventry	17.2%	22.7%	29.1%	39.8%	59.7%	72.1%	4.7%	12.9%	31.1%	1.9%	4.7%	12.8%	52.4%	77.2%	89.2%	5.9%	16.7%	40.0%	2.3%	6.1%	17.1%
Dudley	10.1%	16.1%	24.1%	46.2%	69.5%	82.3%	3.7%	11.8%	32.3%	0.8%	2.6%	8.7%	56.8%	82.9%	93.4%	4.3%	14.0%	38.8%	1.0%	3.1%	10.8%
East Staffordshire	6.5%	10.5%	15.7%	38.4%	65.2%	81.3%	6.0%	19.0%	44.9%	1.7%	5.2%	16.5%	43.2%	72.9%	88.5%	6.6%	21.3%	49.9%	1.8%	5.8%	18.7%
Herefordshire, County of	6.5%	11.8%	18.9%	37.7%	65.7%	82.3%	5.4%	17.9%	44.4%	1.3%	4.6%	15.2%	43.2%	74.5%	89.9%	6.0%	20.3%	50.1%	1.5%	5.2%	17.8%
Lichfield	6.0%	10.6%	17.0%	40.1%	67.7%	83.3%	5.0%	16.9%	42.8%	1.4%	4.7%	15.9%	45.4%	75.8%	90.3%	5.5%	18.9%	48.1%	1.5%	5.3%	18.3%
Malvern Hills	6.3%	11.5%	18.2%	36.8%	64.8%	81.8%	5.4%	18.2%	45.1%	1.6%	5.5%	18.2%	42.0%	73.3%	89.0%	6.0%	20.5%	50.8%	1.8%	6.2%	21.0%
Newcastle-under-Lyme	6.1%	10.3%	15.6%	37.6%	64.0%	80.4%	6.6%	19.7%	45.3%	2.0%	6.1%	17.8%	41.9%	71.3%	87.3%	7.2%	21.9%	50.1%	2.2%	6.8%	20.2%
North Warwickshire	7.5%	13.0%	20.1%	35.9%	63.1%	80.0%	5.9%	18.8%	45.1%	1.5%	5.0%	16.1%	41.7%	72.6%	88.7%	6.7%	21.6%	51.3%	1.7%	5.8%	19.0%
Nuneaton and Bedworth	10.1%	15.7%	22.7%	41.2%	64.9%	79.1%	4.6%	14.0%	35.5%	1.9%	5.4%	15.5%	49.8%	77.0%	89.8%	5.3%	16.6%	42.1%	2.2%	6.4%	19.0%
Redditch	9.5%	15.3%	22.7%	40.9%	65.9%	80.7%	4.9%	15.4%	38.9%	1.1%	3.5%	11.2%	48.9%	77.7%	91.1%	5.7%	18.2%	45.8%	1.3%	4.1%	13.7%
Rugby	7.5%	12.5%	18.8%	36.5%	63.9%	80.5%	5.5%	18.1%	44.4%	1.6%	5.5%	18.2%	42.2%	73.0%	88.7%	6.2%	20.7%	50.5%	1.8%	6.3%	21.2%
Sandwell	18.5%	24.2%	30.8%	41.6%	60.7%	72.5%	4.4%	12.1%	29.6%	1.2%	3.0%	8.7%	56.0%	80.1%	91.0%	5.6%	15.9%	38.9%	1.5%	4.0%	11.9%
Shropshire	5.9%	10.6%	17.1%	39.8%	67.4%	83.2%	5.4%	17.4%	43.5%	1.4%	4.5%	14.8%	45.1%	75.4%	90.1%	5.9%	19.5%	48.5%	1.5%	5.1%	17.0%
Solihull	8.0%	13.1%	19.7%	40.2%	66.8%	81.9%	5.0%	16.3%	41.1%	1.1%	3.8%	13.0%	46.9%	76.9%	90.9%	5.7%	18.8%	47.3%	1.3%	4.4%	15.4%
South Staffordshire	5.5%	9.5%	14.9%	38.6%	66.3%	82.5%	5.8%	18.6%	45.3%	1.7%	5.5%	17.7%	42.9%	73.3%	88.8%	6.3%	20.6%	49.7%	1.8%	6.1%	19.9%
Stafford	5.0%	8.8%	13.7%	36.7%	64.9%	81.7%	6.2%	19.9%	47.2%	2.0%	6.5%	20.2%	40.5%	71.1%	87.6%	6.8%	21.8%	51.2%	2.1%	7.1%	22.4%
Staffordshire Moorlands	5.6%	10.2%	16.6%	39.6%	67.5%	83.4%	5.4%	17.7%	44.0%	1.4%	4.6%	15.0%	44.7%	75.2%	90.0%	5.9%	19.7%	48.9%	1.5%	5.1%	17.2%
Stoke-on-Trent	8.9%	13.6%	19.5%	41.5%	65.2%	79.3%	5.5%	16.0%	38.3%	1.9%	5.2%	14.5%	48.7%	75.5%	88.8%	6.3%	18.5%	44.1%	2.2%	6.0%	17.3%
Stratford-on-Avon	7.9%	14.0%	21.8%	35.2%	62.8%	79.9%	5.0%	16.8%	42.5%	1.9%	6.4%	20.3%	41.6%	73.1%	88.9%	5.7%	19.5%	49.1%	2.1%	7.4%	24.2%
Tamworth	5.3%	8.9%	13.6%	36.5%	63.3%	80.0%	6.6%	20.0%	45.9%	2.6%	7.8%	22.0%	40.2%	69.5%	86.0%	7.2%	21.9%	49.9%	2.8%	8.5%	24.5%
Telford and Wrekin	6.2%	10.2%	15.3%	42.8%	68.6%	82.8%	4.8%	15.1%	38.7%	2.0%	6.1%	18.3%	48.1%	76.4%	89.7%	5.2%	16.8%	43.0%	2.2%	6.8%	20.8%
Walsall	15.3%	21.2%	28.4%	41.9%	62.7%	75.4%	4.5%	12.9%	31.9%	1.2%	3.2%	9.3%	54.4%	79.6%	91.1%	5.6%	16.3%	40.4%	1.5%	4.1%	12.3%
Warwick	9.1%	14.3%	20.7%	36.8%	62.9%	78.9%	5.8%	17.9%	42.9%	1.5%	4.9%	15.8%	43.3%	73.3%	88.7%	6.6%	20.9%	49.9%	1.7%	5.7%	18.8%
Wolverhampton	19.0%	24.6%	31.2%	42.9%	61.4%	72.5%	3.9%	10.8%	27.1%	1.3%	3.2%	9.1%	58.4%	81.4%	91.5%	5.1%	14.3%	36.0%	1.6%	4.3%	12.6%
Worcester	7.9%	13.4%	20.2%	36.6%	63.3%	80.1%	6.2%	19.4%	45.6%	1.2%	3.9%	12.9%	42.5%	73.1%	89.1%	6.9%	22.4%	52.1%	1.4%	4.5%	15.2%

West Midlands	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
West Midlands	12.1%	17.3%	23.7%	40.1%	63.5%	77.5%	5.0%	14.9%	36.7%	1.5%	4.3%	13.2%	48.5%	76.7%	93.6%	6.0%	18.1%	44.3%	1.8%	5.2%	15.9%	
Wychavon	7.1%	12.7%	20.1%	36.4%	64.0%	81.0%	5.4%	18.0%	44.5%	1.5%	5.2%	16.9%	42.2%	73.4%	89.2%	6.1%	20.7%	50.8%	1.7%	5.9%	20.0%	
Wyre Forest	7.8%	13.5%	20.6%	36.7%	63.5%	80.3%	6.1%	19.2%	45.3%	1.2%	3.9%	12.8%	42.8%	73.3%	89.2%	6.8%	22.2%	51.9%	1.4%	4.5%	15.1%	

LCI: lower confidence interval. UCI: upper confidence interval.

**Table 24:** Estimates of abstainers, lower risk, increasing risk and higher risk drinkers in Yorkshire and Humber, by local authority

Yorkshire and Humber	Population estimate for all groups												Population estimate for drinkers only									
	LCI	Abstain value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	LCI	Lower risk value	UCI	LCI	Increasing risk value	UCI	LCI	Higher risk value	UCI	
Local Authority																						
Yorkshire and Humber	9.3%	14.3%	20.2%	33.8%	58.6%	75.2%	6.2%	18.5%	42.6%	3.0%	8.6%	23.1%	39.5%	68.4%	87.8%	7.3%	21.6%	49.7%	3.5%	10.0%	27.0%	
Barnsley	8.4%	14.4%	21.8%	35.4%	61.2%	77.8%	5.8%	18.1%	43.1%	2.1%	6.4%	18.6%	41.7%	71.5%	87.4%	6.7%	21.1%	49.7%	2.4%	7.4%	22.2%	
Bradford	17.3%	22.0%	26.9%	30.2%	49.7%	64.5%	7.9%	19.9%	40.5%	3.4%	8.3%	20.3%	38.6%	63.8%	80.5%	10.0%	25.5%	50.9%	4.2%	10.7%	26.3%	
Calderdale	9.4%	14.3%	20.1%	33.1%	58.3%	75.3%	6.7%	20.0%	45.2%	2.5%	7.4%	21.0%	38.6%	68.0%	85.2%	7.7%	23.4%	52.0%	2.8%	8.6%	24.7%	
Craven	7.2%	12.4%	18.8%	35.1%	61.9%	79.1%	5.8%	18.5%	44.5%	2.2%	7.1%	21.4%	40.2%	70.7%	87.2%	6.6%	21.2%	50.2%	2.5%	8.1%	24.8%	
Doncaster	8.4%	13.3%	19.0%	33.9%	57.7%	74.3%	6.1%	17.8%	40.7%	4.3%	11.2%	27.0%	39.4%	66.6%	83.1%	7.0%	20.5%	46.4%	4.8%	12.9%	31.6%	
East Riding of Yorkshire	6.1%	11.0%	17.5%	36.3%	64.3%	81.4%	5.3%	17.8%	44.5%	2.0%	6.8%	21.7%	41.2%	72.3%	88.3%	5.8%	20.0%	49.8%	2.2%	7.7%	24.8%	
Hambleton	6.4%	11.9%	18.6%	29.6%	58.2%	77.9%	5.7%	19.7%	47.7%	2.9%	10.2%	30.2%	33.8%	66.0%	85.3%	6.4%	22.4%	53.4%	3.2%	11.6%	34.5%	
Harrogate	6.1%	11.0%	17.1%	33.1%	61.3%	79.3%	5.2%	17.7%	44.3%	2.9%	9.9%	29.0%	37.5%	68.9%	86.4%	5.7%	19.9%	49.3%	3.2%	11.1%	32.9%	
Kingston upon Hull, City of	9.9%	15.8%	22.9%	38.6%	63.0%	78.4%	5.5%	16.4%	39.5%	1.7%	4.9%	14.4%	46.4%	74.7%	89.0%	6.3%	19.5%	46.7%	1.9%	5.8%	17.7%	
Kirklees	10.2%	14.5%	19.3%	31.1%	55.0%	72.0%	7.0%	20.1%	44.1%	3.6%	10.4%	26.8%	36.2%	64.3%	82.2%	8.0%	23.5%	51.1%	4.1%	12.1%	31.5%	
Leeds	9.9%	14.5%	19.5%	32.1%	55.5%	72.2%	7.0%	19.7%	43.1%	3.8%	10.3%	25.9%	37.4%	64.9%	82.1%	8.1%	23.0%	49.8%	4.3%	12.1%	30.5%	
North East Lincolnshire	8.8%	14.9%	22.6%	39.1%	64.0%	79.2%	4.5%	14.3%	36.8%	2.2%	6.7%	19.5%	46.8%	75.2%	89.1%	5.2%	16.9%	43.1%	2.6%	7.9%	23.4%	
North Lincolnshire	7.9%	13.6%	20.9%	39.9%	65.6%	80.7%	4.2%	13.9%	36.6%	2.2%	6.9%	20.6%	47.0%	75.9%	89.7%	4.8%	16.1%	42.4%	2.5%	8.0%	24.3%	
Richmondshire	7.0%	12.7%	20.0%	33.9%	62.3%	80.3%	5.6%	18.8%	45.8%	1.7%	6.1%	20.1%	39.3%	71.4%	88.4%	6.3%	21.6%	52.1%	1.9%	7.0%	23.7%	
Rotherham	7.4%	12.3%	18.3%	36.3%	62.2%	78.6%	5.6%	17.3%	41.9%	2.7%	8.1%	22.9%	41.7%	71.0%	86.8%	6.2%	19.7%	47.5%	3.0%	9.3%	26.5%	
Ryedale	5.9%	11.2%	18.3%	36.1%	65.1%	82.7%	5.5%	19.0%	46.6%	1.3%	4.7%	16.6%	41.1%	73.3%	89.8%	6.1%	21.4%	52.2%	1.4%	5.3%	19.2%	
Scarborough	6.3%	11.2%	17.7%	42.5%	68.8%	83.3%	4.5%	14.6%	38.3%	1.7%	5.3%	16.6%	48.8%	77.5%	90.5%	4.9%	16.5%	43.3%	1.9%	6.0%	19.2%	
Selby	6.4%	11.7%	18.6%	32.4%	61.0%	79.7%	6.0%	20.0%	47.7%	2.0%	7.2%	23.0%	37.0%	69.1%	87.2%	6.6%	22.7%	53.5%	2.2%	8.2%	26.5%	
Sheffield	9.7%	14.2%	19.2%	33.6%	57.1%	73.4%	6.1%	17.7%	40.4%	4.0%	10.9%	27.3%	39.3%	66.6%	83.1%	7.0%	20.6%	46.6%	4.6%	12.8%	32.0%	
Wakefield	8.2%	13.5%	19.6%	32.3%	57.6%	75.5%	7.3%	21.4%	47.1%	2.6%	7.5%	20.5%	37.3%	66.6%	84.4%	8.3%	24.7%	53.7%	2.9%	8.6%	24.2%	
York	7.3%	12.5%	19.0%	34.5%	61.8%	79.0%	5.6%	18.3%	44.4%	2.2%	7.3%	22.4%	39.8%	70.7%	87.3%	6.2%	20.9%	50.3%	2.5%	8.4%	26.0%	

LCI: lower confidence interval. UCI: upper confidence interval.



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