



Office for Health
Improvement
& Disparities

Atlas of health variation in head and neck cancer in England

Risk factors

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6. Risk factors

As described in the introduction of this atlas, tobacco smoking and alcohol consumption are established risk factors for head and neck cancer. In this section, data on these risk factors are described.

Smoking is a leading cause of preventable illness and premature death.⁷⁰ The Office for Health Improvement and Disparities (OHID) estimate that there were approximately 64,000 deaths attributed to smoking in England in 2019.⁷¹ Smoking attributable hospital admissions were an estimated 448,000 in England in the financial year ending 2020, which corresponds to over 1,200 every day.⁷¹ Despite a continued decline in smoking prevalence, 12.7% of adults (5.3 million people) in England still smoked in 2022.^{71 72}

Current cigarette smoking is socially patterned and is associated with level of education and socio-economic status.⁷² The proportion of current smokers was found to be higher in those who were unemployed compared with those in paid employment.⁷² Likewise, 22.8% of people classified as being in “routine and manual” occupations were current smokers compared with 8.3% of those with “managerial and professional” occupations.⁷² This highlights that although the number of people smoking is decreasing nationally, inequalities in smoking prevalence remain.

Morbidity and mortality from alcohol consumption is high in England, particularly for those in the most socio-economically deprived groups.^{73 74} The proportion of adults who reported drinking more than the weekly recommended limit of 14 units has decreased since 2012.⁷⁵ However, despite this in England in the financial year ending 2022 there were 948,312 hospital admissions related to alcohol conditions (broad definition), 13% higher than in financial year ending 2017.⁷⁴ There is also regional variation in alcohol consumption, with consumption highest in adults from the North West, North East and South West.⁷⁵

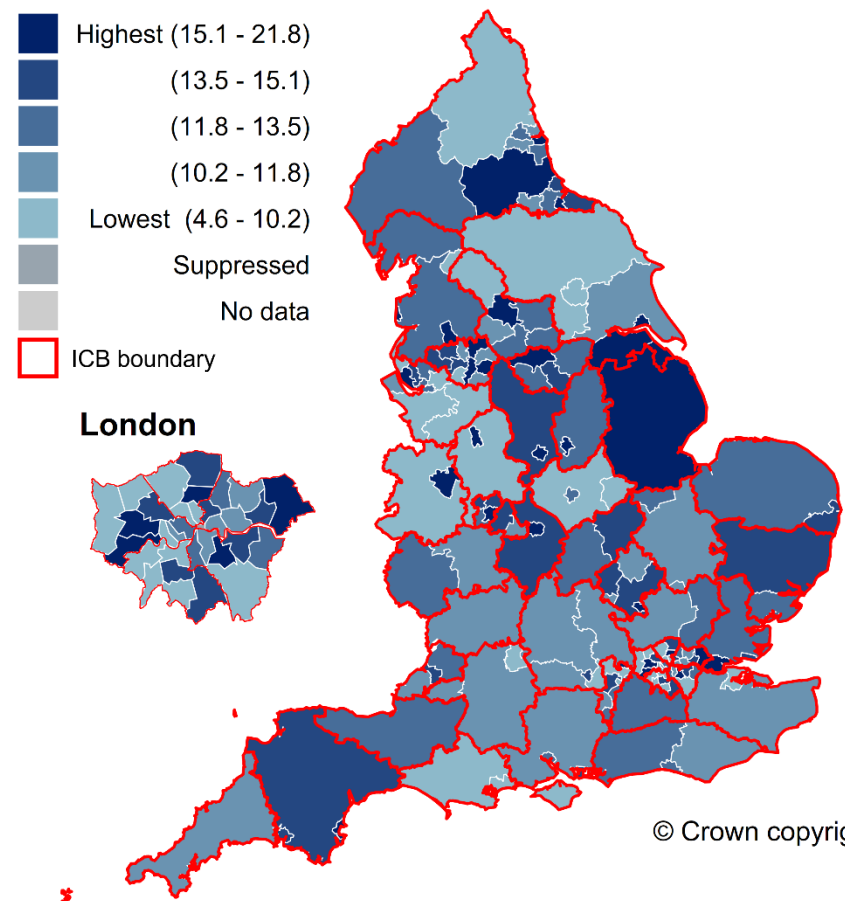
Alcohol consumption data at local authority level is collected through the Health Survey for England. The survey was disrupted and delayed due to the COVID-19 pandemic and robust, up-to-date alcohol consumption data was not available for this atlas. Hospital admission episode data for alcohol-related conditions (narrow definition) has been used as a proxy to estimate variation in harmful alcohol consumption. The narrow definition is a measure of hospital admissions where the primary diagnosis is an alcohol-related condition, so primarily due to alcohol consumption. This provides the best indication of trends in alcohol-related hospital admissions. The broad definition is where an alcohol-related condition could be the primary or secondary (contributory) diagnosis and provides an indication of the total alcohol burden placed on the NHS.⁷⁶

6.1: Variation in percentage of people aged 18 years and over who are self-reported smokers

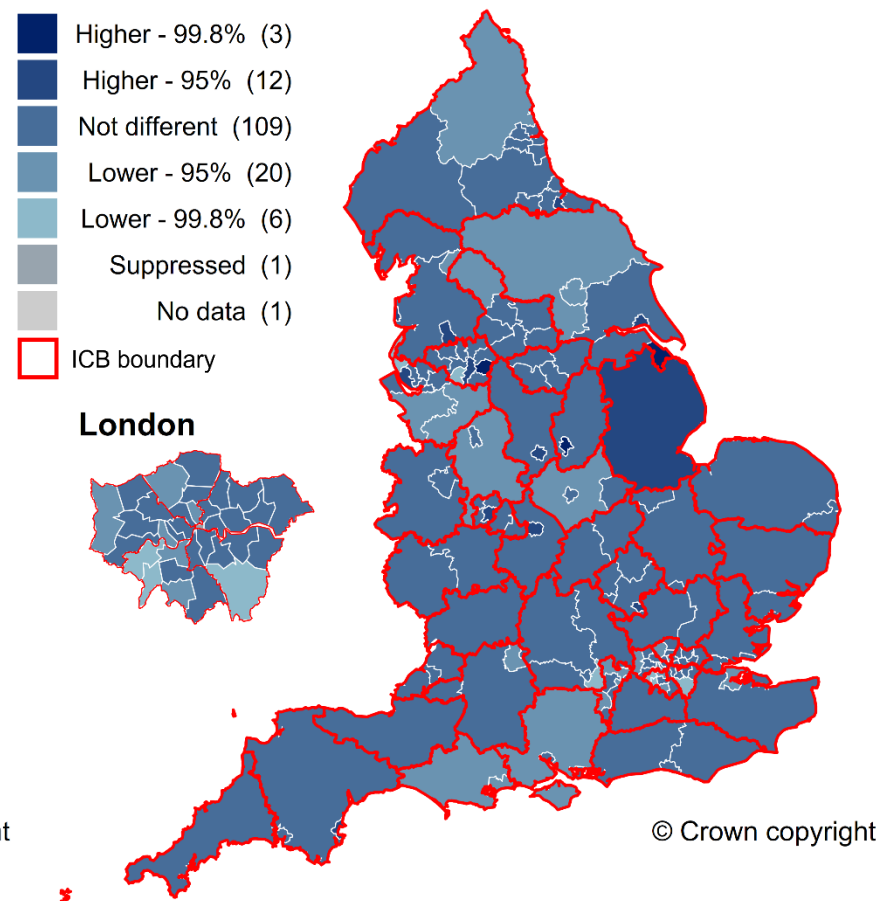
Map 6.1: Variation in the percentage of people aged 18 years and over who are self-reported smokers in the annual population survey by upper-tier local authority (UTLA) (2022)

Optimum value: low

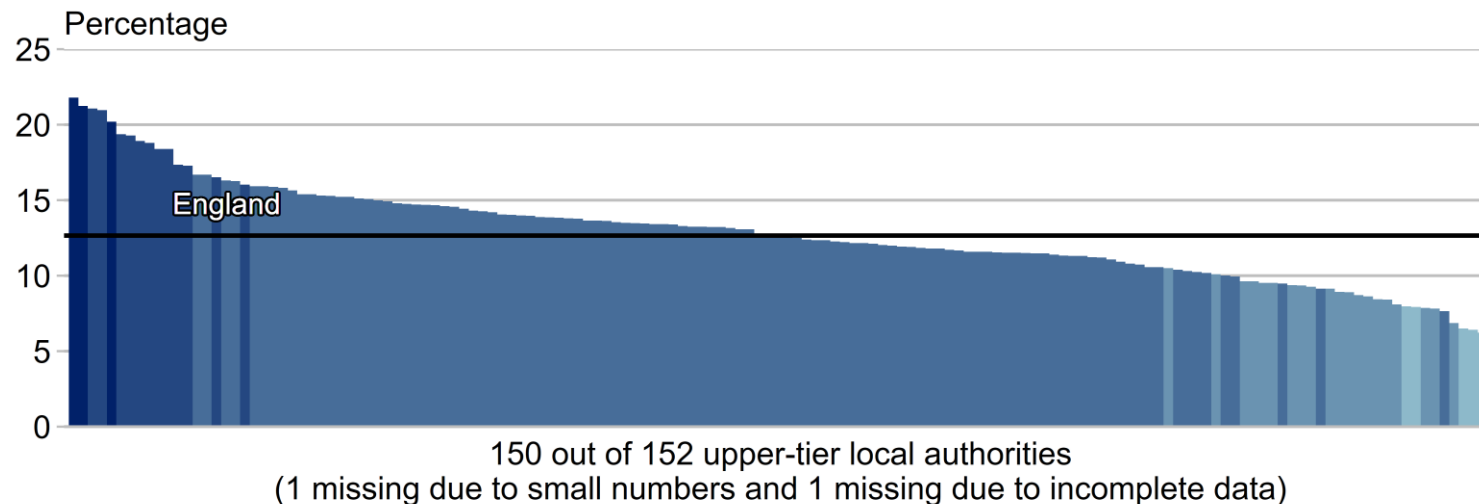
Equal-sized quintiles of geographies



Significance level compared with England



Bar chart 6.1: Variation in the percentage of people aged 18 years and over who are self-reported smokers in the annual population survey by UTLA (2022)



The maps and column chart display the latest period (2022), during which UTLA values ranged from 4.6% to 21.8%, which is a 4.8-fold difference between UTLAs. The England value for 2022 was 12.7%.

Of the 152 UTLAs (2022 UTLA configuration), 15 were statistically significantly higher than the England value (12 at the 95% confidence level and 3 at the 99.8% confidence level) and 26 were statistically significantly lower than the England value (20 at the 95% confidence level and 6 at the 99.8% confidence level), 1 was missing due to small numbers and 1 was missing due to incomplete data.

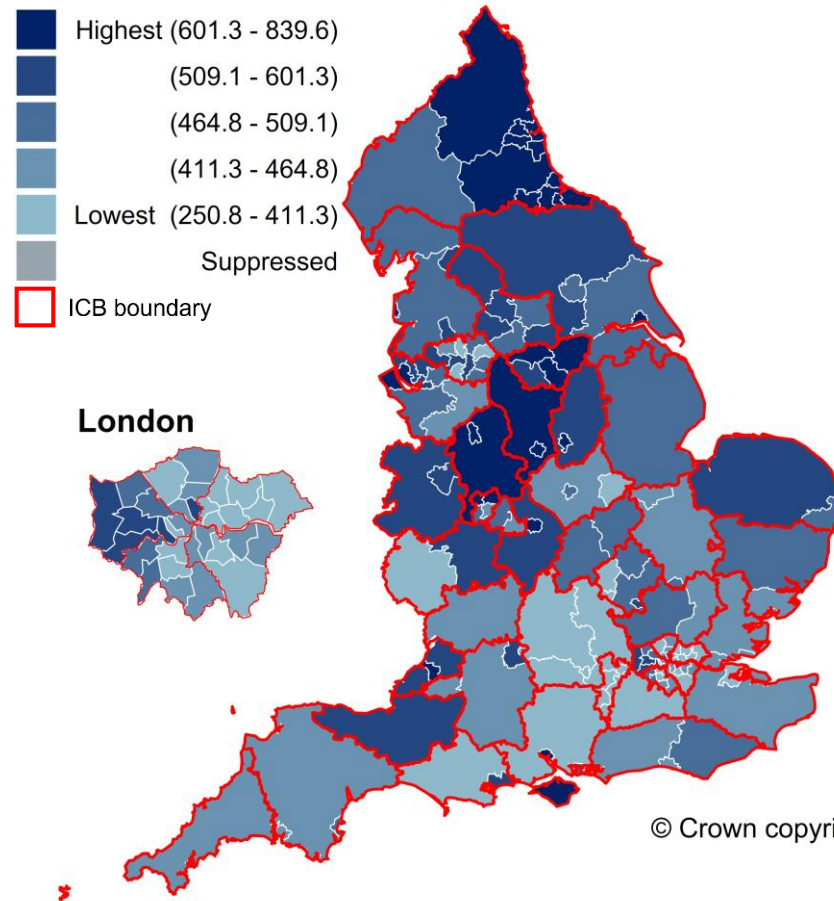
The data showing the values for all UTLAs is available in the [head and neck cancer atlas data file](#).

6.2: Variation in the rate of hospital admission episodes for alcohol-related conditions

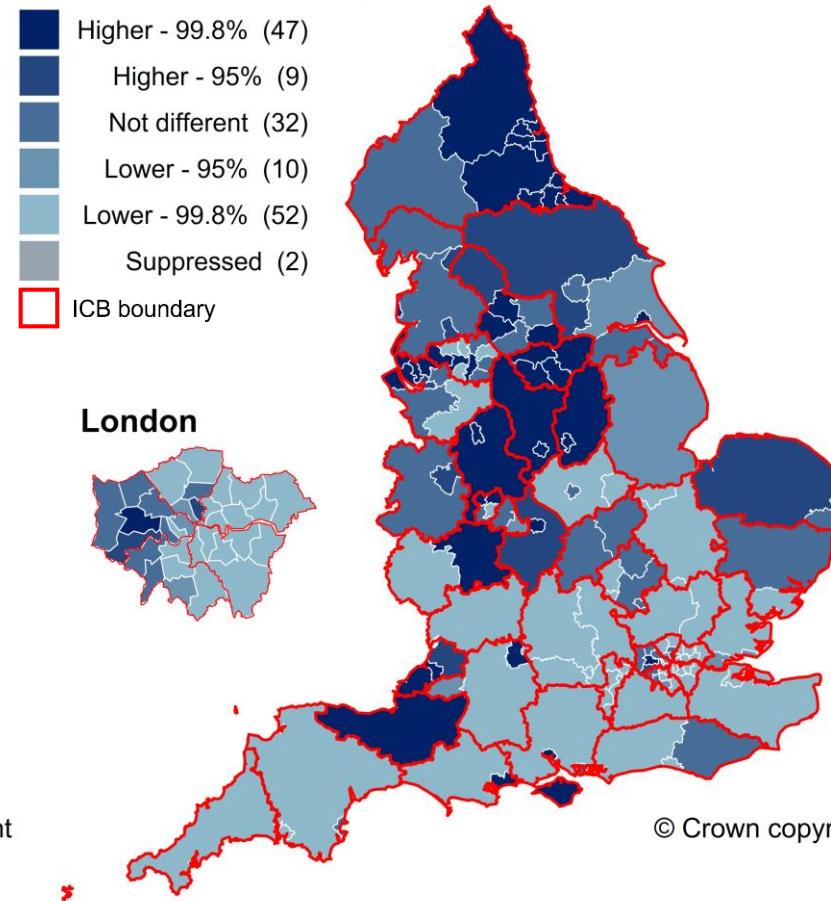
Map 6.2: Variation in the rate of hospital admission episodes for alcohol-related conditions, narrow definition by UTLA (financial year ending 2022)

DSR per 100,000 population (optimum value: low)

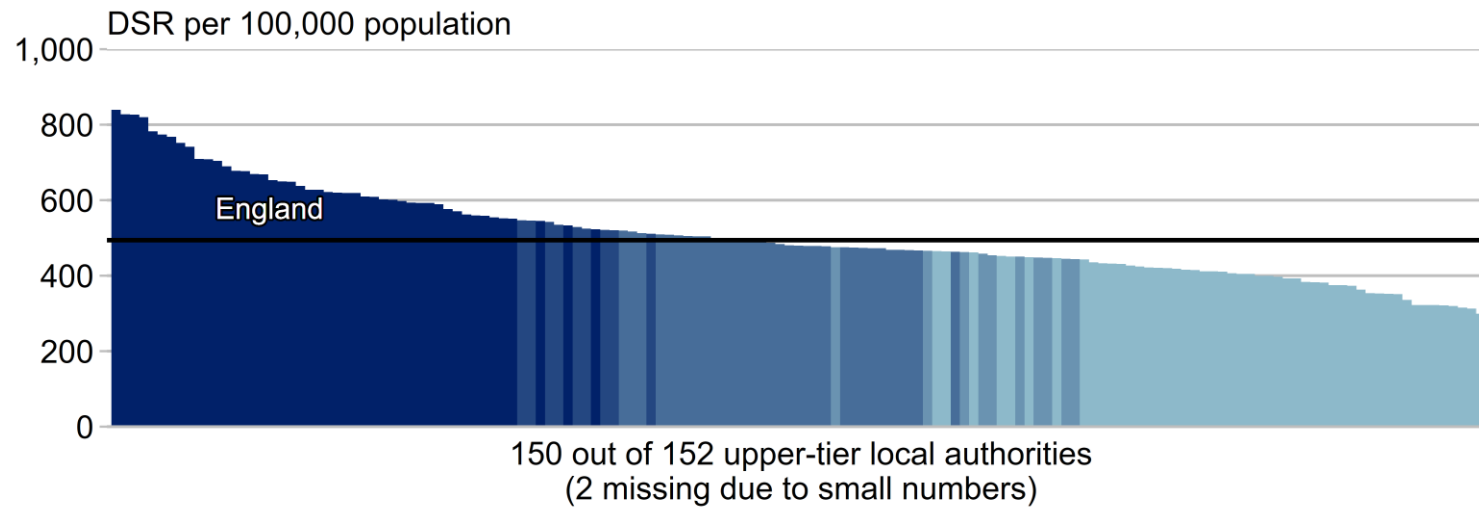
Equal-sized quintiles of geographies



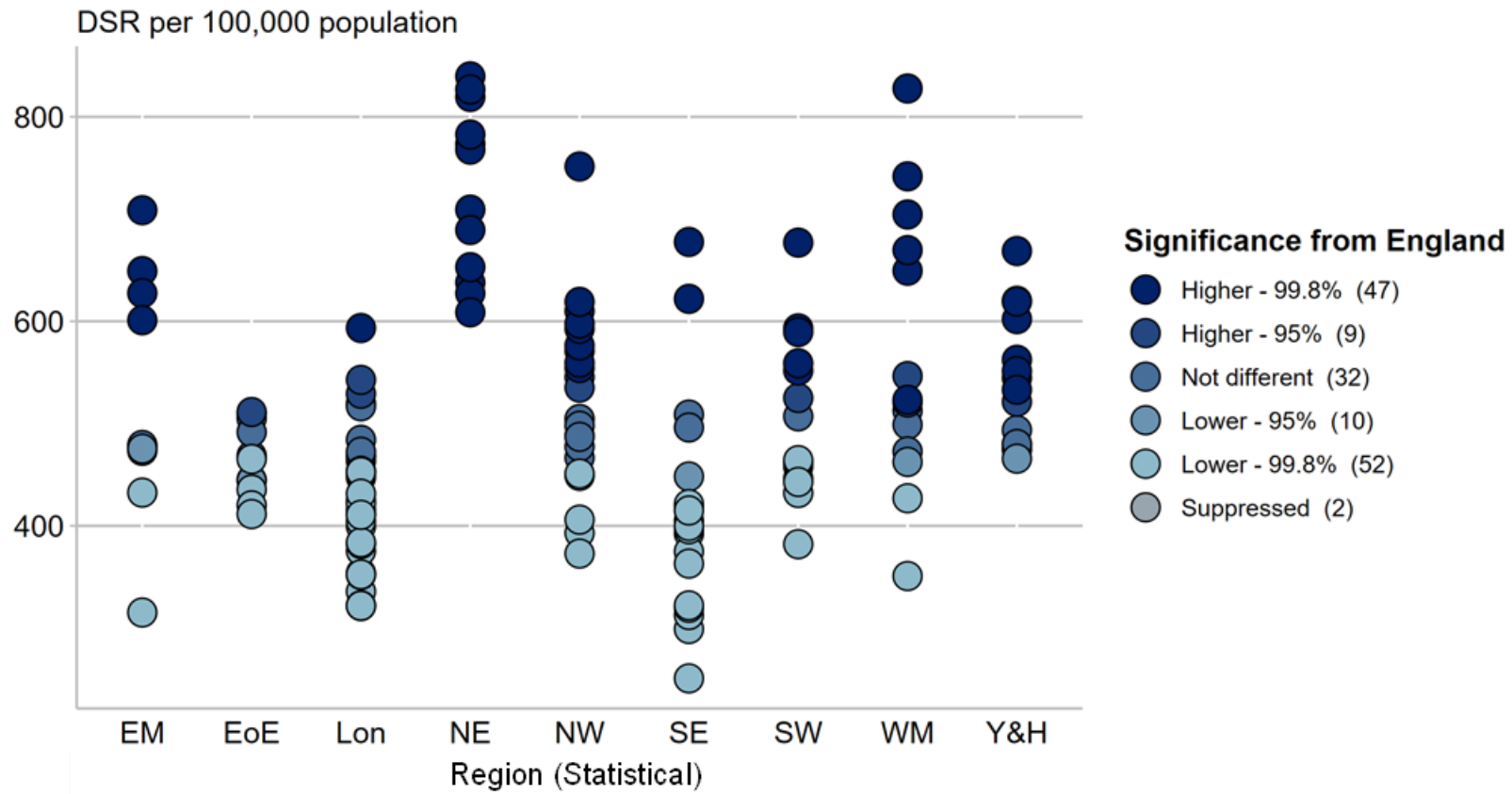
Significance level compared with England



Bar chart 6.2: Variation in the rate of hospital admission episodes for alcohol-related conditions, narrow definition by UTLA (financial year ending 2022)



Regional dot plot 6.2: Variation in the rate of hospital admission episodes for alcohol-related conditions, narrow definition by UTLA and region (financial year ending 2022)



The maps, column chart and regional dot plot display the latest period (for financial year ending 2022), during which UTLA values ranged from 250.8 per 100,000 population to 839.6 per 100,000 population, which is a 3.3-fold difference between UTLAs. The England value for financial year ending 2022 was 494.0 per 100,000 population.

Of the 152 UTLAs (2022 UTLA configuration), 56 were statistically significantly higher than the England value (9 at the 95% confidence level and 47 at the 99.8% confidence level) and 62 were statistically significantly lower than the England value (10 at the 95% confidence level and 52 at the 99.8% confidence level) and 2 were missing due to small numbers.

The data showing the values for all UTLAs is available in the [head and neck cancer atlas data file](#).

Reasons for variation in smoking prevalence and alcohol-related hospital admissions

There is geographical variation in smoking prevalence in adults aged 18 years and over and in alcohol-related hospital admissions by UTLA. These variations may reflect social, cultural and demographic factors and access to alcohol or tobacco services. For alcohol, it is particularly worth noting the 'alcohol harm paradox' whereby those living in more deprived areas are at higher risk of alcohol-related harm even though gradients in consumption across socio-economic deprivation levels at an international level are small or even absent.²⁸

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