Public Health England

Protecting and improving the nation's health

Working years of life lost due to alcohol mortality

Ad hoc statistical release

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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Executive summary

The aim of this ad hoc statistical release is to quantify the burden that alcohol is placing upon the working age population of England, with a view to possibly including the topic as a new indicator in the Local Alcohol Profiles for England (LAPE). The main findings are as follows:

- in 2018, there were an estimated 178,933 working years lost due to alcohol in England which amounts to 18% of the total working years lost
- in 2018, the number of working years of life lost due to alcohol consumption was the highest since 2011
- the age group 45 to 54 contributed the most, with a total of 57,558 working years of life lost in 2018
- the number of working years of life lost in the most deprived decile was 3 times higher in 2018 than in the least deprived decile
- premature deaths from liver disease due to alcohol consumption led to nearly 50,000 working years of life lost in 2018

Background

Years of life lost is a measure of premature mortality. The purpose of this measure is to estimate the length of time a person would have lived had they not died prematurely. As the calculation includes the age at which death occurs it is an attempt to quantify the burden on society from the specified cause of mortality[1]. The Local Alcohol Profiles for England (LAPE) currently include a years of life lost measure for premature mortality due to alcohol, where 'premature' is defined as deaths that occur under 75 years of age.

Alcohol-related deaths often occur at relatively young ages. One of the ways to consider the full impact of alcohol on both the individual and wider society is to look at how many working years are lost each year due to premature death as a result of alcohol. Furthermore, liver disease – 60% of which is caused by alcohol – is now the leading cause of death in those aged between 35-49 years old[2]. The aim of this brief report is to quantify the burden alcohol is placing specifically upon the working age population of England.

Working years of life lost are calculated as the number of years between a death in those aged 16 to 64 years and the age of 65 years. Deaths in those aged under 16 are allocated a loss of 49 years. An alcohol-related death is defined by an underlying cause of death with a condition taken from the corresponding alcohol attributable fraction lookup table (see Appendix 1 in the LAPE User Guide[3] for more information). For partially attributable conditions, the number of working years lost are multiplied by the associated alcohol attributable fraction before summing to provide a total for all alcohol-related conditions.

This report is an update of a previously released analysis[4] originally prepared for inclusion in 'The Public Health Burden of Alcohol and the Effectiveness and Cost-Effectiveness of Alcohol Control Policies: An evidence review', published 2016.

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[1] NHS Digital (2019) Compendium: Mortality
https://digital.nhs.uk/data-and-information/publications/clinical-indicators/compendium-of-population-health-indicators/compendium-mortality/current/years-of-life-lost
[2] Office of National Statistics (2019) Deaths registered in England and Wales: 2018
https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregistrationsummarytables/2018
[3] Public Health England (2017) LAPE User Guide
https://fingertips.phe.org.uk/profile/local-alcohol-profiles/supporting-information/supporting_docsLAPE2
[4] Public Health England (2016) Working Years of Life Lost due to Alcohol: Ad hoc statistical release
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/574053/alcohol_public_health_burden_statistics.pdf

Results

Mortality data for 2018 from the Office for National Statistics (ONS) has been used to calculate the potential working years of life lost for individuals who died before the age of 65 years. With the exception of the age cut-off, the methodology used is consistent with the methodology used to calculate years of life lost due to alcohol published in LAPE[5].

In 2018 there were over 1 million (1,005,868) working years of life lost in England and 18% of these (180,000 years) can be attributed to alcohol consumption.

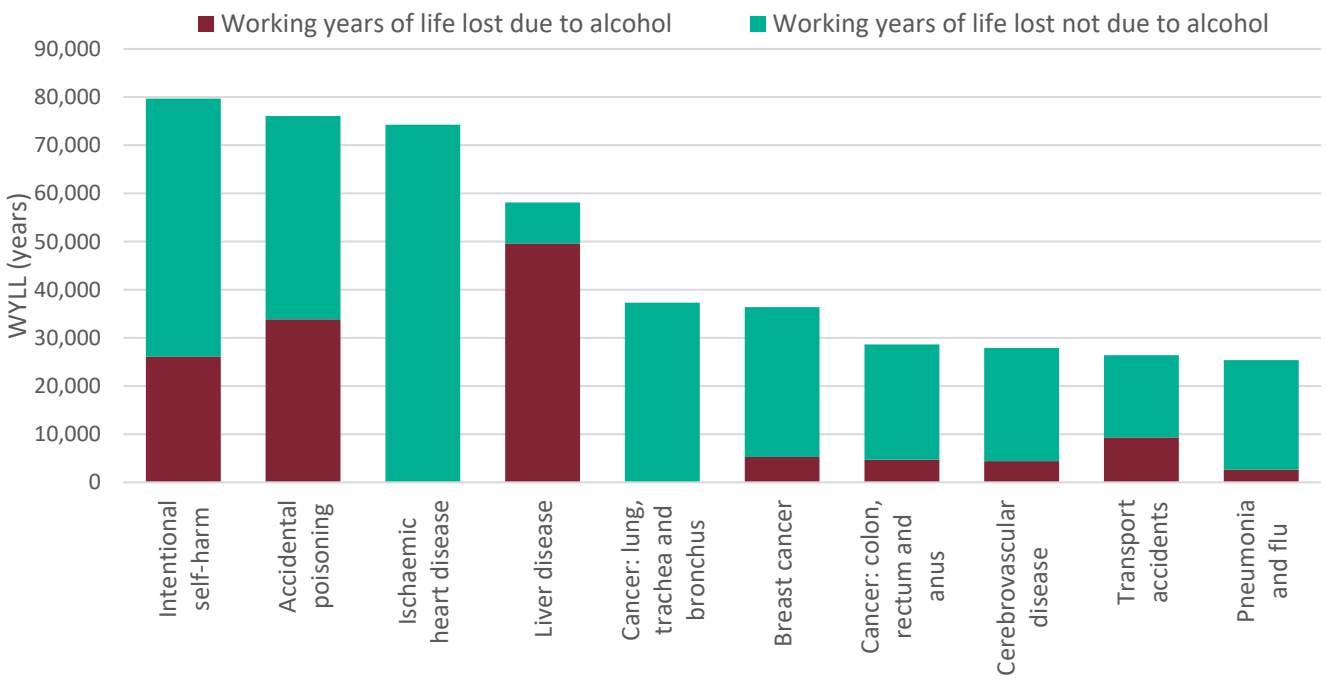
Table 1 shows the causes of death that led to the largest number of working years lost and the alcohol-attributable element for each cause, where relevant. This data is also displayed in Figure 1.

Table 1. 10 greatest causes of working years of life lost, England 2018

ICD-10 code	Cause of death	All working years of life lost (16-64)	Working years of life lost due to alcohol (16-64)	Proportion of all working years of life lost due to alcohol (%)
X60-X84	Intentional self-harm	79,685	26,145	32.8
X40-X49	Accidental poisoning	76,045	33,851	44.5
I20-I25	Ischaemic heart disease	74,262	70	0.1
K70-K77	Liver disease	58,104	49,612	85.4
C33-C34	Cancer of the lung, trachea and bronchus	37,308	0	0.0
C50	Breast cancer	36,391	5,262	14.5
C18-C21	Cancer of the colon, rectum and anus	28,624	4,699	16.4
I60-I69	Cerebrovascular disease	27,884	4,404	15.8
V01-V89	Transport accidents	26,393	9,305	35.3
J09-J18	Pneumonia and flu	25,386	2,630	10.4

[5] Public Health England (2020) LAPE
https://fingertips.phe.org.uk/profile/local-alcohol-profiles

Figure 1: 10 largest causes of working years of life lost, England 2018



Source: Annual mortality extract from ONS (analysed by Public Health England); ONS mid-year population estimates.

To put the total 180,000 working years of life lost due to alcohol in context comparisons can be made with cancer. Considering the 10 leading causes of cancer death in 2018 and their associated working years of life lost, it can be observed that these 10 cancer types combined led to 136,559 working years lost in England, which is around 40,000 years fewer than the estimated years lost due to alcohol. However, it is important to note, that C18-C21 Cancer of the colon, rectum, and anus, C50 Breast cancer, C15 Cancer of the oesophagus, and C22 Liver cancer all have an alcohol-attributable component.

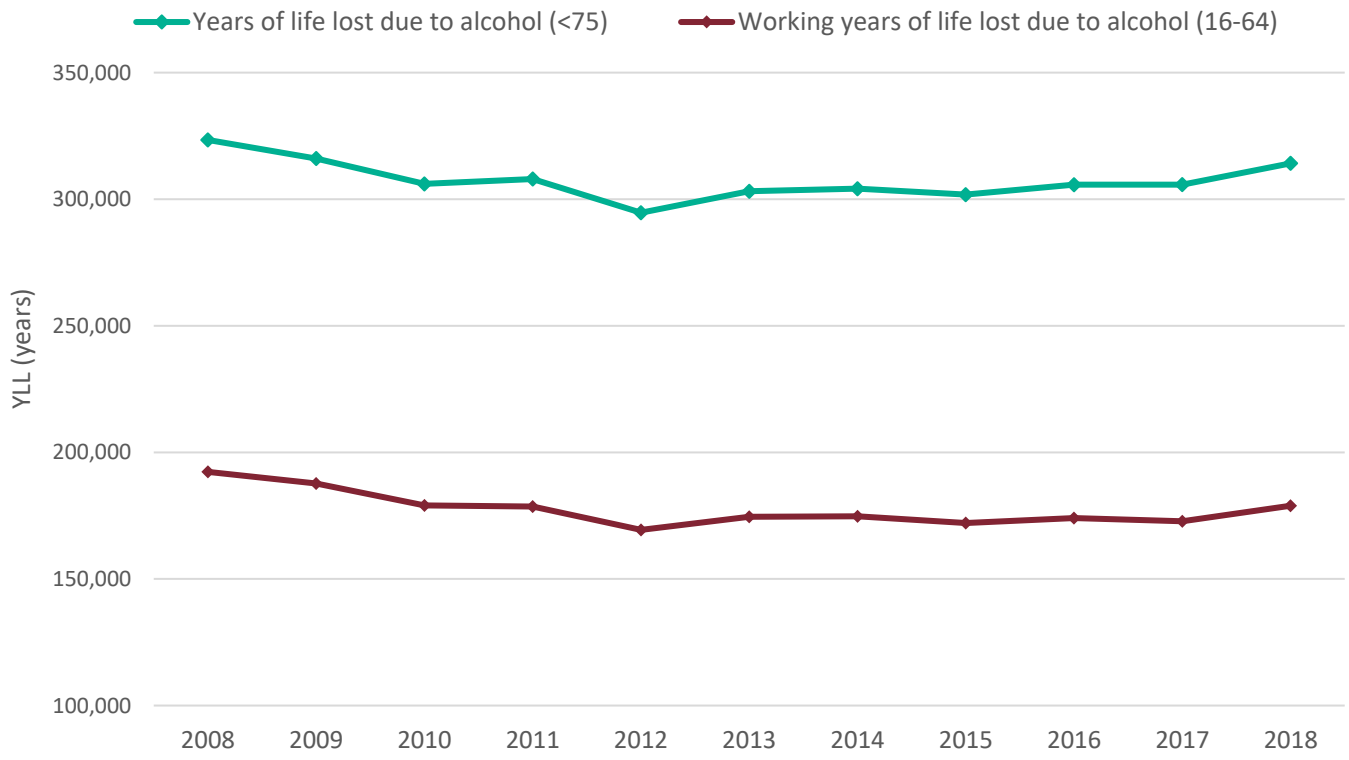
Table 2 below shows the trend for both years of life lost and working years of life lost due to alcohol consumption. Both trends show a decline in the number of working years and years of life lost from 2008 to 2013, which has now been fluctuating since 2013.

The most recent year had the highest number of working years of life lost due to alcohol since 2011. Figure 2 shows this trend.

Table 2: Years of life lost due to alcohol and working years of life lost due to alcohol 2008-2018, England

Year	Years of life lost due to alcohol (<75)	Working years of life lost due to alcohol (16-64)
2008	323,405	192,294
2009	316,054	187,697
2010	306,043	179,058
2011	307,968	178,585
2012	294,662	169,383
2013	303,129	174,551
2014	304,139	174,753
2015	301,813	172,071
2016	305,718	174,051
2017	305,769	172,763
2018	314,170	178,933

Figure 2: Trend of years of life lost due to alcohol and working years of life lost due to alcohol 2008-2018, England



Source: Annual mortality extract from ONS (analysed by Public Health England); ONS mid-year population estimates.

Table 3 shows the contribution from different age groups to the working years of life lost in 2018. It is worth noting that the younger the person is, the more they individually contribute, as there are more working years of life lost. In 2018, the age group 45-54 contributed the most with a total of 57,558 working years of life lost, closely followed by the 35-44 age group who contributed 47,243 working years of life lost.

Table 3: Contribution of age groups to working years of life lost due to alcohol, England 2018

Age group	Working years of life lost due to alcohol (16-64)	Contribution (%)
0-15	73	0.0
16-24	16,500	9.2
25-34	33,048	18.5
35-44	47,243	26.4
45-54	57,558	32.2
55-64	24,511	13.7
Total	178,933	100.0

Finally, inequalities persist in working years of life lost due to alcohol in England. Men (131,403) had almost 3 times more working years of life lost than women (47,530); which is consistent with the data for those aged under 75 years published in LAPE.

When considered by deprivation decile, the most deprived decile (34,697) had over 3 times more working years of life lost than the least deprived decile (8,748); this represents a slightly reduced inequality gradient compared to the data for those aged under 75 years published in LAPE.

Next steps

We will conduct analysis of working years of life lost due to alcohol at local authority level to ascertain degree of variability across England.

Based on the findings of this report and the above mentioned variability analysis, we will assess the suitability of working years of life lost for inclusion as a new indicator in LAPE.