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BRIEFING

Alcohol energy (calorie) labelling: Evidence, public support, alternatives, and wider labelling considerations

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Summary

- Alcohol is a highly energy dense foodstuff, and is estimated to comprise nearly 10% of calorie intake for those who drink
- Unlike pre-packaged foods, nutrition labelling - including calories - is not currently required on alcohol packaging in the UK
- People's knowledge of the calories in alcohol is poor
- There is limited evidence that alcohol energy (calorie) labelling impacts on consumer behaviour, but the evidence is low quality and mostly measures intended rather than actual behaviour
- Across multiple studies and polls, at least 60% of the UK public support alcohol energy (calorie) labelling
- Energy content can also be conveyed using food equivalents or physical activity equivalents, which may be easier to understand
- Energy (calorie) labelling is one aspect of alcohol labelling, alongside health information and health warnings. The World Health Organization recommends that consumers deserve to know the contents of alcoholic beverages and the possible risks of drinking them
- Knowledge of the UK low risk drinking guidelines and health risks of alcohol is low. Health warning labels (e.g. cancer labels) increase awareness of alcohol-related harms, and evidence supports an impact on alcohol purchasing and consumption. Most of the UK public support alcohol health warning labels
- Alcohol energy labelling will help to provide consistent information, but should be considered alongside other aspects of alcohol labelling. Alcohol labelling is one component of a strategy to reduce alcohol harm, alongside other policies such as taxation and price regulation, and regulating availability and marketing

Background

Behind fat, alcohol is the second most energy-dense foodstuff, at seven calories per gram.¹

For the 80% of the population who drink, alcohol is estimated to comprise nearly 10% of total calorie intake.² Alcohol is estimated to contribute an extra day's worth of calories each week for 3.4 million adults in the UK.² A narrative review published in 2021 found there is a relatively robust association between acute alcohol intake and greater food and energy intake, but evidence on the relationship between alcohol consumption and weight is equivocal.³ However a subsequent longitudinal study found that alcohol consumption was associated with a higher body mass index in men, but not women. In the UK, pre-packaged foods are legally required to display nutritional information as a consumer right for education and healthy decision-making.⁴ However, nutrition labelling, including calories, is not currently required on alcohol packaging. The only information that is legally required for alcohol products in the UK is the container size, the percentage alcohol by volume (ABV), allergen information, and other basic information.⁵ Any other information is provided on a voluntary basis.⁶

A 2020 report by the Alcohol Health Alliance UK (AHA) found more than half (56%) of labels included no nutritional information, a further 37% listed the calories without any further nutritional information, and only 7% displayed full nutritional information including calories.⁵ This was based on a random sample of 424 alcohol containers on shop shelves in Great Britain in October 2019.

The UK Government announced plans for a consultation on alcohol calorie labelling as part of a new Obesity Strategy launched in 2020.⁷

This briefing synthesises existing evidence on alcohol energy (calorie) labelling, spanning the past five years (2016-2021). This briefing covers reviews in the academic literature about the impact of alcohol energy labelling, studies and opinion polling around public support for energy labelling, alternative approaches to energy labelling beyond calories, and broader options for alcohol labelling which could address alcohol harm.

What is the potential impact of alcohol energy (calorie) labelling?

Knowledge of the calories in alcoholic drinks is poor. The most recent polling of over 12,000 adults in Great Britain conducted by YouGov on behalf of Action on Smoking and Health found that 23% of people correctly estimated the calories in a pint of lager, 20% correctly estimated calories in a glass of wine, and 9% correctly estimated calories in a measure of spirits.⁸ This is broadly comparable with an international rapid systematic review and meta-analysis, which combined nine results from six studies, finding the proportion of people correctly estimating energy content of alcoholic drinks was 26%.⁹ A separate rapid review identified some evidence that people believe nutrition information on alcohol would be useful, but few studies have explored the impact on people's attention, recall and comprehension.¹⁰

The above meta-analysis identified six studies which had examined the effect of energy labelling of alcoholic drinks on consumer behaviour.⁹ The six studies varied in their methods and outcome measures (intended or hypothetical consumption in some cases, actual consumption in others). Of these six studies, the majority concluded that energy labelling did not have an effect on consumer behaviour, though the findings were inconsistent, and the quality of this evidence was rated as very low.⁹ Most previous studies measured intended consumption, and there is little research on actual consumption in experimental settings, or in the real world.

A further rapid review which included energy labelling within a broader scope of health messaging and product information on alcohol labels drew similar conclusions.¹⁰ This review also found some evidence that exposure to energy labels increased people's accuracy of energy estimates.¹⁰

Given the gaps in the evidence base on alcohol energy labelling, related evidence from the nutrition field on food energy labelling may be relevant to understand the potential real-world impact and any unintended consequences. A 2018 Cochrane systematic review and meta-analysis of nutritional labelling combined the results of three randomised controlled trials of energy labelling for food on restaurant menus. It was estimated that energy labelling reduced energy purchased per meal by 7.8%, however this conclusion was based on a small body of low-quality evidence.¹¹ Other systematic reviews have drawn similar conclusions to the Cochrane review^{12,13}, including a meta-analysis of 23 studies finding food labelling (any kind, and on packaging or menus) reduced energy intake by 6.6%¹³.

Does the UK public support alcohol energy (calorie) labelling?

There is a moderate to high level of public support for alcohol energy labelling in recent UK surveys and opinion polls (see Table). This is comparable with an international meta-analysis of nine studies, which found that 64% of participants support energy labelling of alcoholic drinks.⁹

UK public support for alcohol energy (calorie) labelling

Source	Participants	Findings
YouGov polling for Action on Smoking and Health, 2021 ¹⁴	12,247 adults representative of those 18+ in Great Britain	61% wanted calorie information on alcohol labels.
Maynard <i>et al</i> 2018 ¹⁵	450 UK adults aged 18+ who drink alcohol, recruited through Prolific website and wider network	81% agreed that calorie information on alcoholic drinks is a good idea.
Royal Society for Public Health, 2018 ¹⁶	Focus groups (4x 6 people) with adults who drink alcohol, aged 25-50 in London and Manchester. Conducted by BritainThinks. Survey of 1,783 adults who drink alcohol, representative of UK population. Conducted by Populus Data Solutions.	Focus groups identified calorie content in the top three priorities for alcohol labelling (along with ABV and units). Survey used a scale of importance from 0-10 of various aspects of labelling, and calorie content scored 5.36. Among women and older participants, it was viewed as more important (5.8 and 5.84 points, respectively).
<i>Note: this research was jointly commissioned with the Portman Group, but reported by RSPH independently</i>		
YouGov polling for Alcohol Health Alliance UK, 2018 ¹⁷	1,633 adults, representative of those 18+ in Great Britain	62% of participants thought nutritional information including calorie content should be required on alcohol labels or packaging.
Peddireddy <i>et al</i> (personal communication) ¹⁸	3,388 adolescents aged 11-19, representative of UK adolescents. Conducted by YouGov for Cancer Research UK's Youth Alcohol Policy Survey in 2019	60% supported inclusion of calorie information. Support for including number of calories was higher among girls, those in the least deprived neighbourhoods, higher risk drinkers, those who believe alcohol is harmful, those with higher awareness of health risks, and those who were more aware of alcohol labelling.

Note: further data on public support for alcohol policies expected from the Alcohol Toolkit Study in October 2021 (nationally representative sample of adults in England)

Are there other ways of alcohol energy labelling?

Labelling products with the number of calories is one way of displaying the energy content, but energy content can also be conveyed using food equivalents or physical activity equivalents. These are thought to be easier for consumers to understand.

The NHS website provides some information on calories in alcohol in terms of food equivalents, for example: a standard 175ml glass of 12% wine contains the same number of calories as three Jaffa Cakes.¹ Attitudes towards food equivalent alcohol energy labelling were investigated in the Global Drug Survey, an annual, cross-sectional, self-report survey of alcohol and other drug use with 75,969 participants internationally in 2018. When asked if a label reading “a bottle of wine or 6 bottles of beer contain as many calories as a burger and fries” would make them consider drinking less, 28.4% said yes or maybe.¹⁹ However, as with several other studies, it is not known if this measure of intentions would translate into a change in consumption. The Global Drug Survey is also an international self-selecting sample, with relatively young participants likely to report illicit substance use.¹⁹

Other forms of energy labelling include physical activity calorie equivalent (‘PACE’) labelling (example below), which conveys how many minutes of physical activity it would take to expend the calories of the product in question, for example: “it takes 45 minutes of cycling to burn the calories in this beer”. There is little evidence on alcohol PACE labelling, but in the nutrition field a 2020 systematic review of 15 randomised trials found PACE labelling on food/drink menus led to significant reductions in calories selected and consumed, relative to comparator food labelling.²⁰

10 calorie-dense food and drinks and their activity equivalence			
FOOD TYPE	CALORIES APROX.	 WALK OFF KCAL (medium walk 3-5mph)	 RUN OFF KCAL (slow running 5mph)
 Sugary soft drink (330ml can)	138	26 min	13 min
 Standard chocolate bar	229	42 min	22 min
 Sandwich (chicken & bacon)	445	1 hr 22 min	42 min

Credit: Royal Society for Public Health

There is an absence of evidence on these types of alcohol energy labelling. An ongoing Cochrane systematic review will estimate the effect of calorie labelling for both food and alcoholic drinks, as well as how this effect may vary by calorie label type, which will establish the effectiveness of these types of labelling and directions for future research.²¹

Wider considerations for alcohol labelling

Energy labelling is one of several aspects of alcohol labelling

The UK requires less information on alcohol labels than several other countries. The European Commission is planning to propose mandatory nutrition and ingredient labelling and health warnings as part of Europe's Beating Cancer Plan.²² Separately, in Ireland, energy labelling is among the measures due to come into force as part of the 2018 Public Health (Alcohol) Act, but these parts of the Act are yet to be introduced.^{23,24} Currently, in total, 10 countries in the World Health Organization (WHO) European Region have legislation requiring nutritional values. A greater number of countries in the WHO European Region – currently 15 – have legislation requiring alcohol to be labelled with health information.²⁵ These include messages about harms to health, drinking during pregnancy, underage drinking, or drink-driving.²⁵

Health information is not routinely included on alcohol labels in the UK. A 2020 AHA report which reviewed a random sample of 424 alcohol containers on shop shelves in Great Britain found:

- More than three years after the UK Chief Medical Officers (CMOs) lower risk drinking guidelines were updated, 70% of alcohol labels did not include current drinking guidelines
- Just one of 424 labels featured a warning to explain that alcohol consumption is harmful to health
- Almost all (97%) labels displayed a pregnancy warning logo, but only 15% of labels included written information about the risks of drinking during pregnancy
- Nearly three-quarters (73%) of labels did not include a warning about drink-driving⁵

Knowledge of the UK low-risk drinking guidelines and health risks of alcohol is low

One month after the release of the updated CMOs' low-risk drinking guidelines in 2016, only 8% of drinkers in the UK knew the updated guidelines.²⁶ In 2021, YouGov polling of 12,247 adults (representative of those 18+ in Great Britain) for Action on Smoking and Health found that only 18% of the public knew the CMOs' drinking guidelines.¹⁴ This is not a new problem, with an earlier study finding only one in four drinkers in England were able to accurately estimate the previous drinking guidelines which were in place until 2016.²⁷

One of the health risks of alcohol is cancer, including breast, mouth and bowel cancer.²⁸ In a 2016 study with a representative sample of 2,100 adults in England, only 12.9% named cancer as a potential consequence of drinking alcohol unprompted. When prompted, more than half of participants still did not identify cancer as a consequence of drinking alcohol.²⁹ In YouGov polling of 1,633 adults (representative of those 18+ in Great Britain) for the AHA in 2018, when asked to name which health conditions can result from alcohol (unprompted), the two most commonly named conditions were liver disease (41% participants) and cancer (31% participants).¹⁷ When prompted, these proportions increased to 94% and 66% respectively, but even when prompted only 23% identified breast cancer as being caused by alcohol.¹⁷

Health warning labels increase awareness of alcohol-related harms, and may impact on alcohol purchasing and consumption

It is established that health information on alcohol labels can improve knowledge and awareness of alcohol harms.³⁰ Health warning labels have also been shown to impact on selection of unhealthy commodities in randomised controlled trials.

A 2020 systematic review and meta-analysis of randomised trials of health warning labels on food and alcohol products found that participants were 26% less likely to choose a product displaying a health warning label, compared with a product with no label (based on 12 comparisons from nine studies).³¹ The results were similar for the two trials which investigated the effect of health warning labels on alcohol product selection, with participants 24% less likely to select the product with the health warning label.³¹ In the same review, health warning labels were also associated with statistically significant reductions in purchasing or consumption intentions (based on five comparisons from four studies), however none of these studies investigated alcohol.³¹

The content of health warning labels makes a difference, with the above review finding health warning labels comprising images and text having a larger effect (though not statistically significant) on product selection compared with text-only health warning labels.³¹ This is similar to findings from the tobacco field, where a systematic review of 28 studies found pictorial health warning labels to be more effective than text health warnings for a range of tobacco-related outcomes among young people.³²

Evidence is currently lacking on the best way of framing or phrasing health warning labels for alcohol, with mixed findings from a small number of studies.³⁰ The majority of studies have also been conducted in an online experimental or laboratory setting, however there is some recent real-world evidence from Canada.

A quasi-experimental study tested the effect of health warning labels (cancer warning, low-risk drinking guidelines, and standard drink messages) temporarily applied to 300,000 alcohol containers in a liquor store in the Yukon territory in Canada^{33,34}. These warning labels were associated with a 6.31% decrease in per capita retail alcohol sales.³⁴ Based on surveys with a cohort of 2,049 adults examining the cancer warning labels, these were noticed by participants, and exposure to the cancer warning labels was associated with a 10% greater increase in knowledge that alcohol can cause cancer.³³ Among participants whose knowledge of the link between alcohol and cancer increased, there was also a higher level of support for alcohol pricing policies, indicating that alcohol labelling may interact with public attitudes towards other aspects of alcohol policy.³⁵



Example labels from Canadian study⁴⁰

Most of the UK public support alcohol health warning labels

YouGov polling of 1,633 adults (representative of those 18+ in Great Britain) for the AHA in 2018 found 70% of participants believed warnings that exceeding the drinking guidelines can be damaging to health should be legally required on alcohol labels.¹⁷ In addition, 55% of participants wanted a specific warning that alcohol use can increase the risk of developing cancer.¹⁷

Similarly, in an online survey of 450 UK adults aged 18+ who drink alcohol, 77% thought that health warnings on alcoholic drinks were a good idea.¹⁵ In a further online population-based survey experiment examining support for tactics to reduce consumption of unhealthy commodities (alcohol, tobacco and food), graphic warning labels on alcohol were supported by 78% of those surveyed.³⁶

Children and young people are also supportive of health warning labels, with 70% of 3,338 adolescents aged 11-19 (representative of UK adolescents) supporting the addition of information on alcohol-related health conditions on alcohol packaging.¹⁸

Conclusion

The optional provision of nutritional and health information on a voluntary basis has failed to inform consumers of the contents and risks of alcoholic drinks. The 2016 evidence review of alcohol control policies by Public Health England concluded that the evidence supports a statutory approach to labelling, with the low costs borne by commercial operators.³⁷

Alcohol energy (calorie) labelling will help to provide consistent information. It is, however, seen by policy stakeholders as unlikely to have a strong impact on tackling obesity.³⁸ Evidence is lacking around the impact of alcohol energy labelling on alcohol consumption or harm. There is potential for alcohol energy labelling to increase awareness of calories in alcohol from its current low level, and there is a moderate to high level of public support.

Setting energy labelling in the context of alcohol labelling more broadly, there is a stronger evidence base for health warning labels. This is both in terms of increasing awareness of alcohol-related harms, and on alcohol purchasing and consumption, with evidence both from experimental studies and a real-world setting. There is also a high level of public support for alcohol health warning labels.

The WHO recommendation for alcohol labelling is that consumers deserve to know the contents of alcoholic beverages and the possible risks of drinking them.³⁹ The

WHO recommends that successful alcohol labelling legislation should address ingredients and nutritional information (including energy (calories)); health information; ensure regulated message presentation; and be independently monitored and evaluated.²⁵

Similarly, the AHA UK recommends alcohol labelling should include: the UK CMOs' 14-units weekly low-risk drinking guidelines, alcohol units in container and per serving, a pregnancy warning, a health warning, ingredients and nutritional content (including calories), a drink-driving warning, and an age (under-18) warning.⁵ The AHA UK also recommends an independent agency with appropriate powers to require, monitor and enforce what appears on alcohol labels, working in the interests of public health and consumer rights, and free from influence or interference from corporate interests.⁵

While alcohol energy labelling helps consistent information to be provided to consumers, it is just one of several aspects of alcohol labelling. Health information and health warnings are other aspects of alcohol labelling that are recommended, and are likely more effective in reducing alcohol harm. Alcohol labelling is also just one component of a strategy to reduce alcohol harm, alongside other policies such as taxation and price regulation (for example duty reform and minimum unit pricing), and regulating availability and marketing.

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