


# DRUG & ALCOHOL FINDINGS *Research*

## analysis

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This entry is our analysis of a study considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original study was not published by Findings; click [Title](#) to order a copy. Free reprints may be available from the authors – click [prepared e-mail](#). [Links](#) to other documents. [Hover over](#) for notes. [Click to](#) highlight passage referred to. Unfold extra text  The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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### ▶ [The impacts of minimum alcohol pricing on alcohol attributable morbidity in regions of British Columbia, Canada with low, medium and high mean family income.](#)

**Zhao J., Stockwell T.**

**Addiction: 2017, 112, p. 1942–1951.**

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*Minimum price increases of alcoholic beverages in a Canadian province between 2002 and 2013 set the stage for a real-world study of minimum unit pricing. Reductions in alcohol-related hospital admissions, particularly in lower income areas, tentatively suggest that low income regions may experience the greatest health benefits of such a policy.*

**SUMMARY** There is a substantial body of literature indicating that higher prices of and taxes on alcohol can be highly effective in reducing problem drinking, alcohol-related harm, and alcohol-related mortality (1 2). This [includes](#) minimum pricing policies (setting a 'floor price' per unit of alcohol), which in Canada have been associated with reduced alcohol consumption (3 4), fewer offences for impaired driving (5), and reduced alcohol-related harm and disease (6 7).

Although people with a lower income are [more likely](#) to abstain from drinking, those who do drink are more likely to experience harm. Low-income drinkers as a whole therefore potentially stand to [benefit](#) the most from minimum pricing, but also to be [disproportionately affected](#) by the increase in the cost of previously cheap alcohol.

The impact of income on the effect of minimum unit pricing has yet to be tested in 'real life' in relation to the cost of living. However, a UK modelling study has [estimated](#) that minimum pricing will have the greatest impact on low-income drinkers.

The featured study examined whether increases in the minimum price of alcohol in British Columbia (Canada) affected regions differently according to their population's average income based on rates of:

- [acute](#) alcohol-related hospital admissions (eg, injuries, poisoning);
- [chronic](#) alcohol-related hospital admissions (eg, liver disease, cancer).

The study also explored whether such relationships applied to hospital admissions that were 'partially' related to alcohol and/or '100%' related to alcohol.

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#### Key points

##### From summary and commentary

Minimum pricing policies have been used in Canada since the 1920s, and are now applied in all 10 provinces, setting a 'floor price' for alcohol sold for consumption on and off premises.

In British Columbia, minimum alcohol price increases have been associated with a greater impact on alcohol-related hospital admissions in populations with a lower level of income, both in terms of immediate effects on acute 100% alcohol-related hospital admissions and delayed effects on chronic alcohol-related hospital admissions.

These findings combined with the higher overall rates of alcohol-related harm in lower-income regions, suggest that low income regions could experience the greatest health benefits of a minimum pricing policy.

This was not a study of an across-the-board minimum price per unit of alcohol, but minimum pricing per volume of beverage set differently for different types of beverages. During the study period (2002–2013), the minimum price of spirits increased in five increments from \$25.91 (Canadian dollars) to \$31.66 per litre, and packaged and draft beer prices each increased in increments from \$3.00 and \$2.05, to \$3.54 and \$2.22 respectively.

Data from 89 local health areas was analysed to test whether the link between minimum price increases and hospital admissions depended on the area's average income and if it did, to estimate the relationships between minimum price and admissions within each income group.

## Main findings

During the study period, there were an estimated 239,022 alcohol-related hospital admissions – 48% of which were acute and 52% chronic.

### Acute alcohol-related harm

Across all health regions in British Columbia from 2002–2013, a 1% increase in minimum price was associated with an immediate and significant 1.6% decrease in the rate of acute 100% alcohol-related hospital admissions.

The lower the average family income, the greater the effect of the minimum price increase: the rate of acute 100% alcohol-related hospital admissions decreased by 3.5% in regions with low average annual family income, by 0.9% in regions with medium family income, and by 0.6% in regions with high family income.

There was no significant effect for acute partially alcohol-related hospital admissions.

### Chronic alcohol-related harm

A 1% increase in minimum price was associated with a significant 1.3% reduction in total chronic (100% and partial) alcohol-related hospital admissions two years later for the province. This effect varied by regions with different incomes, but not in a linear manner: in both high- and low-income regions, a 1% increase in minimum prices was associated with a significant reduction (1.1% and 2.5% respectively) in total admissions related to the chronic effects of drinking; in between, in regions with a medium average income, no significant link was found.

Analysing the percentage change in the rate of 100% alcohol-related hospital admissions for chronic illnesses, there was no significant effect for the province as a whole. However, analysing by income level showed that a 1% increase in minimum price was associated with a significant 2.2% reduction two years later in regions with low average annual family income, while no significant association was found in the regions with medium or high average annual family income. For chronic partially alcohol-related hospital admissions, there were significant reductions two years later for the entire province (1.1%), low-income regions (2.5%), and high-income regions (1.5%). No significant association was found in regions with medium average annual family income.

## The authors' conclusions

This study partially confirmed the pattern observed in an [earlier publication](#) from the authors. When they analysed data for the period 2002–2009, a 1% increase in the minimum unit price of alcohol was associated with a significant and immediate 0.9% decrease for acute hospital admissions (both those 100% and only partially related to drinking), whereas in the featured study between 2002 and 2013, a significant reduction in acute hospital admissions was observed only for those deemed 100% alcohol-related. The previous observation of delayed reductions in chronic alcohol-related admissions approximately two years after increasing minimum price was confirmed.

The headline finding that minimum price increases are associated with reductions in alcohol-related hospital admissions, particularly in lower income areas (and for 100% alcohol-related hospital admissions), suggests that low income regions of British Columbia may experience the greatest health benefits of a minimum pricing policy.

**FINDINGS COMMENTARY** Minimum unit pricing aims to reduce alcohol-related harm at the population level; removing cheap alcohol from the market – one of the facilitators of heavy drinking – by instituting an increase in the unit price of alcohol.

In the featured study across the entire population there was no significant immediate link between an increase in minimum price and total acute alcohol-related hospital admissions. There were, however, delayed associations with total chronic alcohol-related hospital admissions; but

when segmented into those 100% and partially related to alcohol, associations only remained for partially alcohol-related admissions.

The authors also suspected that their findings for those chronic admissions partially related to alcohol were less reliable than for 100% alcohol-attributable admissions:

*"It is noteworthy that we tended to find larger and more significant effects for 100% [alcohol-attributable] diagnoses compared with those considered to be partially [alcohol-attributable]. It is possible that the methodology we applied to estimate partially [alcohol-attributable] conditions results in less accurate estimates of trends than obtained from 100% [alcohol-attributable] conditions.*

These details are important when considering the extent to which this study provides evidence of a population-level effect of a minimum pricing policy – specifically, that across an entire area, raising the minimum price reduces alcohol-related morbidity.

The study also did not compare trends in British Columbia with a set of **control** areas – for example, similar areas from another province. Therefore, it could be that the observed trends were seen in provinces which did not increase prices, and were due to other influences which a set of control areas would have been able to at least partially eliminate.

Britain has substantially contributed to the evidence base about minimum pricing with simulation exercises based on data from **England**, **Scotland** and **Wales**, which on public health grounds supported setting a **relatively high** minimum price per unit of alcohol. With some of these analyses available to them, the UK's National Institute for Health and Care Excellence (NICE) **argued** that price rises and licensing changes to reduce the number of outlets were the key public health levers.


Arguably more persuasive or tangible are real-world studies of minimum pricing in action, for which Canadian provinces have been the prime source. Extrapolating from the actual figures, the **most relevant** study on consumption estimated that these were equivalent to a 10% rise in the minimum price leading to an 8% reduction in consumption, and, it seemed, an improvement in health. Although, like the featured study, this did not have a comparison or control jurisdiction against which to benchmark trends, additional confidence came from 'internal controls' – comparing outcomes for beverages not affected by minimum price increases with those that were – and by contrasting sales from off-licence versus on-licence premises. In addition, the neighbouring province of Alberta, which did not implement minimum prices in off-licensed premises, experienced no change in annual per capita alcohol consumption before and after the major price changes in Saskatchewan.

In the absence of randomised controlled trials, considered the 'gold standard' in research, a **review** of minimum pricing applied nine criteria to the evidence base to assess the degree of confidence we can have in the expectation that minimum unit pricing will have an effect on drinking and related harm. On balance, it found that it was likely that introducing a minimum price per unit of alcohol would reduce alcohol consumption and alcohol-related harms. The review could not, however, reach a definite verdict due to the lack of conclusive evidence from rigorous trials.

In 2013, **it was the** "absence" of "empirical" and "conclusive" evidence that purportedly persuaded the Home Secretary that "it would be a mistake" to implement minimum pricing in the UK. **However**, the previous year, when presumably the evidence had been no more conclusive and empirical, the government had pledged their commitment to a uniform minimum price per unit (about 8g) of alcohol across all drinks, substantially raising the cost of cheaper and stronger products.

An Effectiveness bank hot topic **covered** this U-turn, discussing how what one year may be judged a sufficiently robust platform for radical action may the next be pronounced too flimsy. Even whether the evidence needs to be conclusive – or whether uncertainty can be tolerated – is a judgement which too can change.

Approaches to alcohol policy **differ widely** across the UK. Scottish policy appears to be most closely aligned with evidence-based recommendations, framing alcohol as a whole population issue, in contrast with UK government policy which is influenced to a greater extent by prevailing beliefs about personal responsibility for alcohol issues.

After five years' opposition from the Scotch Whisky Association (**unfold**  **supplementary text**), in November 2017 the UK supreme court **backed** the Scottish government's plans to introduce a minimum price for all alcoholic drinks, its seven judges **agreeing** unanimously that it was "a proportionate means of achieving a legitimate aim". The Scottish Government **subsequently** implemented its **original plans** to set a £0.50 minimum price in May 2018. As of June 2018,

legislation allowing for a minimum price per unit of alcohol has been approved in Wales, with a public consultation expected by the end of the year on what the minimum price should be.

 [Close supplementary text](#)

Drinks industry actors such as the Scotch Whisky Association overwhelmingly [oppose](#) whole population approaches for curbing drinking and alcohol-related harms, claiming they are 'blunt instruments' which fail to address the real policy problems and have unintended negative consequences. On minimum unit pricing, common objections from the drinks industry are that it is ineffective and counterproductive, and that it unfairly targets moderate and less wealthy drinkers.

 [Close supplementary text](#)

The research and policy context for minimum pricing is examined in detail in a dedicated Effectiveness Bank [hot topic](#), including a section (skip to it [here](#)) addressing arguments that minimum pricing would unfairly hit 'responsible' drinkers and disproportionately affect low-income drinkers.

*Thanks for their comments on this entry in draft to Colin Angus and Dr John Holmes of the [Sheffield Alcohol Research Group](#). Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

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