DRUG & ALCOHOL FINDINGS *Research analysis*

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. The summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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▶ Immediate impact of minimum unit pricing on alcohol purchases in Scotland: controlled interrupted time series analysis for 2015–18.

O'Donnell A., Anderson P., Jané-Llopis E. et al.

BMJ: 2019, 366.

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Did minimum unit pricing have an immediate impact in Scotland, and did any evidence emerge to support fears that the policy would unfairly target moderate drinkers, particularly in lower income groups?

SUMMARY As part of a comprehensive strategy to tackle the adverse consequences of heavy drinking, evidence suggests that policies which regulate the price and availability of alcohol are effective (1 2 3 4 5 6) and highly cost-effective.

Minimum unit pricing aims to reduce alcohol-related harm at the population level by preventing alcohol being sold cheaply – one of the facilitators of heavy drinking. It works by setting a mandatory minimum retail price (known as a 'floor price') per unit of ethanol (pure alcohol) sold. In May 2018, Scotland became the first nation in the UK to introduce a minimum price – settling at 50 pence (£0.50) per unit.

NHS Health Scotland is leading a comprehensive evaluation to assess the impact of minimum unit pricing in Scotland on a range of outcomes, the complete findings of which are due to be reported in 2023. In the meantime the featured paper provided an assessment of the immediate impact of minimum unit pricing in Scotland based on household expenditure.

Key points
From summary and commentary

Scotland introduced a minimum price of £0.50 per unit of alcohol sold in May 2018.

The featured study aimed to analyse the impact of this new minimum unit pricing policy on take-home alcohol purchases, comparing what a sample of households bought before and after its introduction in Scotland with what households bought in England over the same time periods.

From these early results, minimum unit pricing appears to have reduced alcohol purchases, particularly among households who buy the most alcohol.

To test the assumption that minimum unit pricing would result in a significant reduction in total grams of alcohol bought, researchers looked at the trends in purchases of take-home ('off-trade') alcohol products in Scottish households between 2015 and 2018 (spanning before and after minimum unit pricing), and compared this with purchases over the same period in England and Northern England. While England provided a large amount of data to conduct robust analyses, Northern England offered a more appropriate control group in terms of its similar socioeconomic characteristics and geographical proximity to Scotland. The source was a large household shopping dataset. Although the study could not assess the effect of minimum unit pricing in hotels, bars, and restaurants (known as 'on-trade' sales), off-trade sales accounted for a large proportion of total alcohol sales by volume of pure alcohol in Scotland – between 74% in 2015 and 73% in 2017.

Main findings

There was evidence that minimum unit pricing had an immediate impact through reducing total off-trade purchases in Scotland. Overall, minimum unit pricing led to a 7.6% reduction in purchases, equivalent to a reduction of 328 g of ethanol (or 41 UK units) sold per adult per household per year.

Before the introduction of minimum unit pricing, the average price of pure alcohol sold in Scotland was 8.11p per gram, and the amount of alcohol purchased per individual per household aggregated by week was 124.8 g. Minimum unit pricing brought about a price increase in Scotland of 0.64p per gram and a reduction of 9.5 g in alcohol purchased per adult per household per week. In greater detail:

- **Price** (in pence) per gram of alcohol purchased before and after minimum unit pricing: 8.11 to 9.03 in Scotland; 8.26 to 8.58 in England; and 8.09 to 8.43 in Northern England.
- **Grams purchased** per adult per household aggregated by week before and after minimum unit pricing: 124.84 to 117.88 in Scotland; 104.10 to 106.85 in England; and 110.78 to 116.03 in Northern England.
- **Money spent** (in pounds sterling per household per week) before and after minimum unit pricing: 17.63 to 19.39 in Scotland; 16.32 to 17.54 in England; and 16.67 to 18.21 in Northern England.

The largest reductions in consumption were found for beer, spirits, and cider. There was also a drop in consumption of wine, but the change was not statistically significant. There was no change for fortified wines and ready-to-drink products.

The increase in purchase price was higher for products bought by lower income households and households that purchased the largest amount of alcohol. Reductions in grams of alcohol purchased only occurred in the top fifth of households that bought the most alcohol, and reductions were greater in lower income than in higher income households.

Across all households, there was a non-significant weekly increase in off-trade expenditure on alcohol of 61p per adult per household. Changes in weekly expenditure were not systematically related to household income but increased with increasing household purchases. Expenditure increased with the amount of alcohol purchased to just under £3 per adult per household per week among the top fifth of purchasing households.

The authors' conclusions

Initial findings indicate that minimum unit pricing is an effective policy option for reducing take-home alcohol purchases. Evidence did not emerge to support fears that the policy would have a significant adverse effect on moderate drinkers, particularly those in lower income groups. The study found that minimum unit pricing was a targeted policy, predominantly reducing purchases among households that bought the most alcohol.

The largest reductions in consumption were found for beer, spirits, and cider – categories that include the own-brand spirits and high strength white ciders that minimum unit pricing sought to target. This provides evidence that the policy achieved its ambition to make relatively cheap and strong alcohol less affordable, which in turn should positively impact public health over time.

FINDINGS COMMENTARY Britain has substantially contributed to the evidence base about minimum unit 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. However, at the time the featured report was published, only Scotland had proceeded with minimum unit pricing, with Wales anticipating implementation in 2020.

As stakeholders await the results of a comprehensive evaluation of minimum unit pricing in Scotland (due to be published in 2023), the featured study provides an initial assessment of the policy, and for the first time shows its 'real life' rather than projected impact (unfold supplementary text). In the months following minimum unit pricing in Scotland, the level of alcohol purchases dropped as relatively cheap and strong alcohol were made less affordable. Furthermore, providing evidence that the policy succeeded in targeting heavy drinking, the impact was greatest among those buying the most alcohol. These findings were based on 34 full weeks of minimum unit pricing.

Close supplementary text

In 2017, a paper available to view in the Effectiveness Bank reviewed evidence to determine whether minimum unit pricing would be effective in reducing alcohol consumption and alcohol-related harms. The conclusion was that it is highly probable, but not certain, that introducing minimum unit pricing for alcohol would have the desired impacts, and that questions remain unanswered about the policy. Scotland's implementation of the policy offers further scope to assess its real-world impacts.

Close supplementary text

One of the key arguments made by critics, repeatedly attracting media coverage, is that minimum unit pricing would unfairly hit 'responsible' drinkers and disproportionately affect low-income drinkers. The featured study did not find evidence to support this, showing instead that reductions in grams of alcohol purchased primarily occurred among households buying the most alcohol. While the increase in purchase price was higher for products bought by lower income households and reductions in spending were indeed greater in lower as opposed to higher income households, the authors found that changes in weekly expenditure were not systematically related to household income but rather increased with increasing household purchases of alcohol.

The authors acknowledged that one of the limitations of the study was its underrepresentation or lack of representation of people with no fixed address or living in communal establishments because the analysis was based on data on *household* purchases. While in one respect household data provides a fitting picture of whole population impact – necessary for making inferences about the public health benefits of minimum unit pricing – it neglects the impact on vulnerable subpopulations, and importantly how they might adapt to higher prices of previously cheap, high-strength alcohol. Responding to this gap, a study funded by the Scottish Government's Chief Scientist Office and led by researchers from Glasgow Caledonian University will study the impact of Scotland's minimum price on people who are homeless and heavy drinkers. Announcing this in September 2019, the university's Professor Emslie said:

> *"We need to explore the potential benefits of this policy for homeless people but we also need to understand any potential negative consequences."*
>
> *"We do not know how vulnerable groups such as people experiencing homeless[ness] have adapted to the higher price of alcohol such as vodka and strong white cider. Our study will inform decisions about minimum unit pricing in Scotland and provide guidance for other countries planning to introduce the policy."*

Co-lead Professor Elliott, added:

> *"You might think [minimum unit pricing] would affect homeless people and street drinkers the most, given they represent the poorest groups in society and tend to consume cheap alcohol."*
>
> *"However, we don't know this, nor do we know about any unintended consequences of the legislation, for example, switching to illicit alcohol or drugs."*

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 to UK government policy which is influenced to a greater extent by prevailing beliefs about personal responsibility for one's drinking. For more on the research and policy context for implementing minimum unit pricing in the UK, turn now to a dedicated Effectiveness Bank hot topic.

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REVIEW 2016 A rapid evidence review of the effectiveness and cost-effectiveness of alcohol control policies: an English perspective

REVIEW 2017 Evidence for the effectiveness of minimum pricing of alcohol: a systematic review and assessment using the Bradford Hill criteria for causality

STUDY 2010 Policy options for alcohol price regulation: the importance of modelling population heterogeneity

STUDY 2016 Monitoring and evaluating Scotland's alcohol strategy: Final annual report