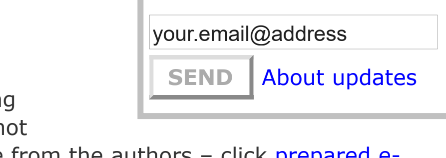

analysis

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. 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.

▶ The intervention effect of local alcohol licensing policies on hospital admission and crime: a natural experiment using a novel Bayesian synthetic time-series method.

de Vocht F., Tilling K., Pliakas T. et al.

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Variations in the implementation of alcohol licensing policies across England presented a natural opportunity to study the impact of discretionary powers. Between 2011 and 2015, local areas with a more 'hands on' approach to enforcement saw moderate reductions in alcohol-related hospital admissions and violent and sexual crimes.

SUMMARY Rather than national government, alcohol licensing in England is under the control of local councils, and significant geographical variations in alcohol-related harm mean there tends to be considerable variation in the means and extent to which councils use licensing policies to attempt to mitigate the health and social harms of heavy drinking.

The Licensing Act 2003 and additional guidance issued in 2005 centred around four statutory licensing objectives:

- preventing crime and disorder;
- public safety;
- preventing public nuisance;
- protecting children from harm.

One of the discretionary powers under the licensing legislation gave local authorities the ability to develop cumulative impact policies; new applications for licences in areas designated 'cumulative impact zones' were required to demonstrate that the premises would not negatively impact on licensing objectives.

Key points

From summary and commentary

The Licensing Act 2003 and guidance issued in 2005 gave local areas additional powers to control the number and density of premises selling alcohol.

Unable to conduct a randomised controlled trial of their effectiveness, the featured study sought to estimate impact by comparing local areas which did versus did not implement tighter licensing policies.

Five local areas were identified as using cumulative impact zones and increasing licensing enforcement after 2011, compared to 86 with unchanged policies. The introduction of these licensing policies was associated with moderate reductions in alcohol-related hospital admissions and violent and sexual crimes, but no clear effect on antisocial behaviour.

The featured study offered a robust alternative to the randomised controlled trial, using a novel natural design to estimate the impact of new local alcohol licensing policies by comparing local areas which did versus did not implement tighter licensing policies. This was achieved by:

- Identifying 'intervention areas': those areas which implemented cumulative impact zones *and* increased licensing enforcement in 2011/2012, but which had not done this in 2007/2008.
- Identifying 'control areas': those areas which had no cumulative impact zones and no recorded rejection of new licensing applications throughout the 2009–2015 time period. These represented areas whose licensing policy did not change.

Of 353 local authorities in England, five were classified as intervention areas, and 86 as control areas. A large number were excluded because of missing intervention information or boundary changes (76), because areas reported either cumulative impact zones or increased licensing enforcement in 2011/2012 but not both (129), or because areas implemented cumulative impact zones and increased licensing enforcement outside of the time period under study (57).

At issue was whether in the five intervention areas alcohol-related harm decreased more after the interventions were implemented than would have been expected based on trends in the control areas. If it did, this would be consistent with the interventions having caused the extra reductions. The harms the study assessed were alcohol-related hospital admissions, violent and sexual crimes, and antisocial behaviour over the period 2009–2015.

Main findings

Between 2011 and 2015, the introduction of new licensing policies was associated with a reduction in alcohol-related hospital admissions in all five intervention areas, a reduction in alcohol-related violent crimes in four of five areas, a reduction in alcohol-related sexual crimes in all five areas, and a reduction in rates of alcohol-related antisocial behaviour in three of five areas.

Based on the differences between measured and expected trends, the extent of these reductions differed, with moderate reductions in alcohol-related hospital admissions and violent and sexual crimes, and insufficient evidence of an effect on antisocial behaviour. Licensing interventions were associated with an average reduction in alcohol-related hospital admissions of 6%, violent crimes 4%, and sexual crimes 5% relative to expected trends. Restricting the crime analyses to the year 2013 nearly doubled the effect on alcohol-related sexual crimes to 8% (without rounding the figures were 4.6 and 8.4%), whereas violent crimes stayed roughly the same at 5% (without rounding the figures were 4.4 and 4.6%).

Separate analyses were performed to validate the findings. If no significant improvements in alcohol-related harms were seen in 'dummy' intervention areas relative to other control areas, this would reinforce the implication that the initiatives undertaken in the true intervention areas were responsible for any improvements:

- For alcohol-related hospital admissions and violent crimes, trends in the dummy areas were indeed almost the same as in other control areas.
- For alcohol-related sexual crimes, over the full period of the study trends in dummy areas were actually worse than in other control areas, though similar when the analyses were restricted to 2013, reinforcing the implication that the initiatives undertaken in the true intervention areas were responsible for improvements in alcohol-related sexual crimes.
- For antisocial behaviour the true analysis had found large but not statistically significant differences (a 14% relative reduction in 2011 to 2015 in intervention areas), but at 20%, the reductions were even greater in the dummy intervention areas, reinforcing the finding that the interventions could not be shown to have affected antisocial behaviour.

The authors' conclusions

The introduction of tighter local alcohol licensing policies was associated with moderate reductions in alcohol-related hospital admissions and violent and sexual crimes between 2011 and 2015. The effect observed with alcohol-related hospital admissions was comparable to a previous study by the same research team, whereby 5% fewer admissions were found in local areas with more 'intense' policies.

The estimated impact of cumulative impact zones and licensing restrictions on alcohol-related sexual crimes was more pronounced between 2011 and 2013 (as opposed to the whole period 2011–2015). This may have been due to a change in reporting and the sharp post-2012 increase in reported rates of sexual crimes following the Metropolitan Police's highly publicised investigation into sex offences.

Insufficient evidence of an effect on antisocial behaviour could also have been due to a change in reporting following the replacement of the Crime and Disorder Act 1998 with the Anti-Social Behaviour, Crime and Policing Act 2014.

One limitation of the study was that the analysis was based on discrete local areas that did not necessarily correspond to the geographical reach of the interventions. A cumulative impact zone, for example, is generally smaller than a local area, and an area can have more than one cumulative impact zone, potentially diluting effects assessed across the entire local area. Furthermore, the researchers could not exclude the possibility that other factors influenced the observed trends, for example, changes in the extent and delivery of screening and brief interventions. Similarly, some trends could have been a result of 'regression to the mean', a

phenomenon whereby extreme measurements (either very high or very low) tend to move closer to the average the next time they are taken.

FINDINGS COMMENTARY Among a handful of English local councils, there were moderate reductions in alcohol-related hospital admissions and violent and sexual crimes following the introduction of tighter licensing policies. For antisocial behaviour, on the other hand, there was insufficient evidence that cumulative impact zones and increased licensing enforcement had an impact. These findings reinforce those from other studies indicating that licensing reforms can modestly affect some of the most policy-relevant and serious consequences of heavy or less responsible drinking.

The sample on which the study's findings were based was very small – only five local authorities out of a maximum 353 implemented both cumulative impact zones and increased licensing enforcement after 2011, versus 86 which implemented neither.

The research did not take into account the different *degrees* to which local areas enforced licensing, instead categorising them into an 'intervention' group and a 'control' group, defining intervention areas as those which implemented both the licensing changes assessed by the study. This meant the analysis could not, for example, assess effects in areas which had implemented only one of the licensing policies.

Another study (also analysed in the Effectiveness Bank and involving the same lead author) took a different approach – evaluating whether the relative intensity with which local areas enforced licensing had an impact on population health at a local level. The use of cumulative impact zones *and* decisions to block new licenses were taken to be indications of intense licensing policies which would restrict alcohol licences, thus reducing the availability of alcohol, and modifying the drinking environment. Across the period 2007–2015, 16% of local areas were high intensity, 19% were medium intensity, 21% were low intensity, and 43% were inactive (meaning the areas had no cumulative impact zones and no licensing applications were refused). That study showed, for the first time, that the more strongly a local government area regulates the licensing of alcohol outlets, the greater the reduction in alcohol-related harm within the population. However, as with the featured study, 'intense' alcohol policies were not introduced randomly, but were likely introduced in areas with greater levels of harm as their starting point. In the featured paper the authors described widely different rates of alcohol-related hospital admission at baseline, with areas included in the study ranking between 6th and 298th of the 353 total local authorities.

Such variations mean that in turn differences in licensing policies may be not just the cause but the effect of differences in alcohol-related harm, obscuring the attempt to determine the impacts of the policy changes. An Effectiveness Bank hot topic has examined why, due to inequalities across different areas and social groups, the weight of the burden of alcohol-related harm depends to a large degree on where you look and who you look at. Regional disparities are tied up with and seem partly to parallel disparities in socioeconomic deprivation. In 2016, the rate of alcohol-specific deaths among males in the most deprived fifth of areas of England was about 30 per 100,000 and for women about 13 per 100,000 – 4.5 and 3.3 times higher than in the least deprived fifth of areas. Hospital admissions in which alcohol contributed to the primary reason for the admission follow a similar pattern to deaths, being most frequent among people living in the most deprived areas of England and progressively less frequent among those in better-off areas. In 2015/16 the disparity ranged from 790 admissions per 100,000 in the most deprived tenth of areas to 493 in the least deprived tenth.

The focal point of this study was alcohol licensing policies allowed for and guided, but not imposed, by national legislation. There are however reasons to believe that these provisions were too limited for large and consistent effects to be expected, even in areas which took advantage of the possibilities made available for licensing law.

Ten years on from the Licensing Act 2003 a report from the Institute of Alcohol Studies found "limited evidence to suggest that cumulative impact areas have any meaningful effect beyond slowing the growth of the licenced trade, and their use to actually reduce acute concentrations of premises appears to be very rare. Many of the problems related to high concentrations of licenced premises were created before the Act was implemented, yet even with [cumulative impact policies] the Act gives local authorities no power to address this." As of 2014, 86% of license applications or applications to change a license were granted in cumulative impact zones – only slightly lower than the 91% in areas not designated cumulative impact zones. The caution from Alcohol Policy UK was that the "majority of applications being approved … seems counter to the intention of the policy". While cumulative impact zones could work by deterring applications, "the numbers of applications suggest this is not likely to be significant".

A review of UK alcohol policy found that despite some provisions across the UK to enable local control of the availability of alcohol, such as those discussed in the present study, current legislation does not allow for reductions in the numbers of premises by revoking existing licences in the interests of public health. Reforms to Scottish legislation have improved the ability of licensing boards to control outlet density, requiring them to refuse an application for a new licence if this would result in too many of the 'wrong kind' of drinking venues in a given area, and to remove the option of new outlets applying for licenses in areas which are already oversaturated.

Interviews with stakeholders revisiting the 2003 Licensing Act for England and Wales revealed they were critical of the legislation's exclusion of health concerns – health was not among the licensing objectives – and the individualistic and 'premises-by-premises' approach it cultivated. Nevertheless, they felt it could be used to address public health and to implement licensing policies and decisions based on likely overall local impact, perceptions further unpacked in the Effectiveness Bank.

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