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► [Effectiveness of limiting alcohol outlet density as a means of reducing excessive alcohol consumption and alcohol-related harms.](#)

Campbell C.A., Hahn R.A., Elder R. et al. [Request reprint](#)

American Journal of Preventive Medicine: 2009, 37(6), p. 556–569.

The review which led a national US task force to recommend limiting the concentration of retail alcohol outlets as an important public health measure to curb excessive alcohol use and related harms. In much of the UK though, licensing law severely limits the scope for action.

Abstract This systematic review of whether the geographical density of retail alcohol outlets affects excessive alcohol consumption and related harms was conducted for the [Guide to Community Preventive Services](#) according to the Guide's rigorous common template. The Guide is supported by the US government's Centers for Disease Control and Prevention, which appoints a task force of independent public health and prevention experts to oversee the reviews and make recommendations ([these](#) are the ones associated with the featured review) to promote the health of the US population based not just on effectiveness, but also other potential benefits and harms and real-world applicability. Below the theory behind the review and some methodological details.

Reducing outlet density is thought to curb excessive alcohol consumption and related harms by increasing the distance people need to travel to and fro to buy drink, relieving competitive pressures and increasing prices, reducing exposure to alcohol marketing, and potentially by strengthening anti-drinking social norms. Concentrations of pubs and other premises serving alcohol can also lead to concentrations of people drinking excessively, fertile ground for aggression and violence, while drink bought in off-licenses and drunk at home may be associated with domestic violence and suicide attempts. A possible counterproductive impact is that more and longer car journey to buy drink may generate alcohol-related crashes.

The review searched for studies capable of testing these theories which had been published in English and conducted in high-income nations. Among the 88 reports, none concerned studies of the effects of policies directly intended to alter outlet density, but unlike some predecessors, the review included studies of interventions which would have the *effect* of changing the number of sites where alcohol can legally be

obtained, even if this was not the explicit intention. Because these are most capable of attributing effect to cause, most weight was given to studies which compared alcohol-related outcomes before and after a density-related change. Studies which simply related outlet densities in different areas to alcohol consumption/harm were also analysed, but suffer more from the possibility that density was not a **causal factor**.

Most studies found that greater outlet density was associated with higher alcohol consumption and more related harms, including illness, injuries, crime, and violence. This convergent evidence derived from studies which directly evaluated outlet density (or changes in density) and those evaluating policy changes which indirectly had a substantial impact on density such as privatisation of government off-premises monopolies, the reverse process, local bans on alcohol sales and the reverse, and licensing regulation changes. Studies assessing the relationship between alcohol outlet density and motor-vehicle crashes produced mixed results. Selected details below.

The four studies of national or local licensing policy changes consistently indicated that more permissive licensing increased the number of on- and off-licence alcohol outlets, which in turn led to increased alcohol consumption, in two studies most notably among heavy drinkers. A US study also found substantial proportionate rises in night-time single-vehicle crashes among men of legal drinking age. Privatisation of previous government off-licence monopolies usually results in a substantial increase in outlets, but also changes in alcohol price, opening hours and marketing which complicate attribution of impacts to outlet density. The 11 privatisation initiatives studied to date typically resulted in a 42% increase in sales of the privatised beverage with (where this was reported) no impact on other drinks, meaning consumption overall increased. Just one study documented the reverse process – the re-monopolisation of sales of medium-strength beer in Sweden; among 10–19-year-olds indicators of heavy drinking fell, as in most age groups did motor-vehicle crashes. A more drastic curtailing of outlets is achieved through local bans of on- or off-licence sales or consumption, creating 'dry' localities. In isolated communities these can substantially reduce alcohol-related harms, but where alcohol is available in nearby adjacent areas, travel to and from these areas may lead to serious harms.

The review also included studies linking alcohol-related outcomes to differences in outlet density not explicitly linked to any particular initiative or policy. Most weight was placed on studies of changes in density over time. These consistently found higher density related to higher consumption but impacts on harms were sometimes complex. In [one US study](#), more densely clustered *on*-licensed premises were associated with more traffic accidents but the reverse was the case for *off*-licensed premises. The few studies of violent incidents found these more numerous where outlets are densely clustered, in [one study](#), not entirely due just to increased drinking, but other factors presumed to include the congregation of drinkers. A particularly sophisticated [study in California](#) found changes over time in the concentration of on-licence bars in the focal area and in neighbouring areas were both related to the number of serious assaults in the focal area, the more so in areas with relatively high proportions of men in the population. Relative to the aggravation of violence associated with growing poor minority populations, the effect was small, but appreciable in urban areas with many bars and pubs. Studies of differences between areas not tracked over time were consistent with outlet density contributing to alcohol consumption and related harms, especially violent crime, but possibly with the exception of injuries.

The reviewers concluded that regulation of alcohol outlet density can help control excessive alcohol consumption and related harms, but cautioned that most studies were of the opposite process (ie, de-regulation) and derived from North America and Scandinavia. Also the mechanisms leading from increased density to adverse consequences are unclear; it could for example be that high density areas attract prostitution and drug dealing, and that these activities are related to public health and violence and might directly be tackled. Lacking too were studies of the costs and benefits of limiting alcohol outlet density. Alcoholic industry interests are likely to lose

economically and can be expected to be oppose further regulation.

FINDINGS Regulating outlet density is one of the ways of restricting the physical availability of alcohol. By making it harder and less convenient to obtain and consume alcohol – effectively, [increasing the 'price'](#) in terms of time and effort – these low-cost measures [are thought](#) to harvest savings in drink-related harm which can be expected to be much greater than their costs. Except at the extremes and in special circumstances, evasive tactics such as home/illicit production and smuggling do not counterbalance the benefits.

On public health grounds, the Task Force on Community Preventive Services which assessed the review's implications thought it sufficient to warrant a [recommendation](#) for regulatory action (such as licensing and zoning) to limit alcohol outlet density. But a major weakness in the evidence was the absence of studies of policies explicitly intended to alter outlet density, and only outlet density; initiatives which affect density as a by-product of other changes make it difficult to attribute outcomes to the density element. All but a few studies documented the impacts of *increased* outlet density. The implicit assumption is that the reverse process would lead to similarly dramatic cuts in consumption, but this remains to be adequately demonstrated.

Aware of the limitations, in the US context the task force nevertheless felt the circumstantial evidence weighty enough to support regulatory action. However, US and UK drinking and geographical contexts are quite different. The USA has a stronger tradition of more or less 'dry' areas, and total abstinence, a rarity in Britain, is [not uncommon](#). Within this context, US legislatures have been able to make dramatic departures from low-level availability or the reverse, departures whose impacts are magnified in communities whose size or isolation make them difficult to sidestep. Compared to the featured review, an [almost contemporary review](#) was less convinced about the impact on consumption of non-dramatic, gradual changes in density, and remarked that little was known about density fluctuations in countries like the modern UK with plentiful outlets. In such regions, the studies which have been done found mixed impacts on consumption which were unlikely to affect alcohol-related chronic health problems except (perhaps via price falls due to competition) among socially marginalised drinkers.

Where alcohol outlets are already plentiful, and in the UK in particular, density concerns relate more to the bunching of on-licence outlets reaching the point where they coalesce into an 'entertainment' district blighted by alcohol-related nuisance such as violence, disorderly conduct, noise, fouling from vomit or urine, and litter. As well as the sheer volume of alcohol consumed, mechanisms include the aggregation of young drinkers and sharpened [competition](#) between outlets. This may be seen not just in terms of price, but also in special offers encouraging rapid and heavy drinking, preparedness to attract and embrace the heaviest drinkers, and to engage in more risky serving practices such as [underage sales](#). Except for outright violence, focused as it was on public health, the featured review had little to say about these concerns. There are in any event [very few](#) relevant studies.

As the featured review commented, such concerns raise the issue of when density becomes dense enough to constitute bunching which risks an escalation in alcohol-related

nuisance, an issue addressed by a [study in Melbourne](#). When an otherwise typical district hosted up to about 30 of the Australian equivalent of pubs, there was little increase in violence [presumed](#) to be alcohol-related, but as outlets increased beyond this threshold, the rate of violent incidents rose steeply. In respect of on-licence establishments devoted to drinking, the same principle may apply elsewhere. Such an effect partially hampered a [major project in Cardiff](#) intended to curb violence and disorder related to licensed premises. One of its least successful strands was the attempt to influence licensing and planning decisions. In major violence hot spot in the city, other strands were overwhelmed by decisions which increased the density of drinking outlets.

In the UK there is some evidence that the relationships most clearly revealed by dramatic density-related alterations elsewhere have been operative in more gradual, long-term trends. What seems the most [recent analysis](#) found that as the number of off-licenses rose between 1952 and 1991, so too did beer consumption. Given inconsistent and sometimes negative relationships with other beverages, it was unclear how expansion of the licensed trade affected alcohol consumption as a whole.

Official regulation of outlet density [cuts against the grain](#) of market economies. Prospects for density controls as a means to curb alcohol-related harm depend on the degree to which legislatures prioritise these harms against the untrammelled response of supply to demand and the right of legitimate industries to promote their products. UK nations uniformly concede the primacy of the market in determining whether demand is sufficient to warrant a new or revised licence, but differ in the counterbalancing weight given to social and health concerns. Details in [background notes](#); main points below. Faced with the most severe drinking problems in the UK, [Scotland](#) has gone farthest. Unlike other nations, alongside crime, disorder and antisocial behaviour, public health is a consideration in Scottish licensing decisions, and licensing boards are required to monitor density-related problems or impending problems and take action by banning new premises or the type likely to aggravate the situation. In [England](#) and [Wales](#) such initiatives are expressly forbidden. The most licensing authorities can do is identify areas where the concentration of (normally on-licence) premises is *already* giving rise to serious problems of nuisance and disorder. In such areas, but only if cogent objections on these grounds are received, the presumption would be that new licences or variations in licences which would aggravate the situation will be refused. This option has been used by about a fifth of authorities. Rather than curtailing density, in England and Wales much more emphasis is being placed on tackling the problems to which density may contribute by enforcing laws and supporting multi-agency campaigns relating to alcohol and resultant crime and disorder.

Thanks for their comments on this entry in draft to Robert Hahn of the US Centers for Disease Control and Prevention. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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2009

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2008

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REVIEW ABSTRACT 2008

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Not just for the patients: community health and safety benefit from alcohol treatment NUGGET 2000

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