ANNEX 1: METHODOLOGY

DESIGN

The present study used a ‘rapid review methodology’ to search and evaluate published evidence used by universities, UK government departments, and allied agencies. Definitions, methods and applications of rapid reviews vary from traditional systematic review methods by utilising more stringent search strategies with stricter eligibility criteria centring around year of publication, search databases, language, and sources beyond electronic searches.1,2 Rapid reviews involve the same level of rigour employed for a systematic review, but by agreeing sharply focused search parameters and limiting the searches and databases used, the process can be accelerated to deliver robust results within a limited time or resource framework.2

PROCEDURE

The review was implemented in the following stages: policy identification, literature search and evidence selection, data extraction, study quality rating, and synthesis of evidence.

POLICY IDENTIFICATION

Seven broad policy areas and 34 specific policies or interventions were identified and informed by previous expert reviews3–8 and guided discussion with an expert advisory group setup at the outset of this work (Table 1, Annex 3).

[TABLE 1 HERE]

SEARCH STRATEGY

RB searched electronic databases (MEDLINE; Pubmed) for studies assessing the effectiveness of alcohol control policies for reducing alcohol consumption or harm. Supplementary search strategies included hand searches of references from key publications and input from an expert advisory group. Inclusion periods ranged from 2000 to 2016 and varied across policy areas.

Keywords and phrases used in the literature search were selected in an attempt to balance sensitivity with specificity in line with the rapid review approach. In practice, this meant the search terms used were more focussed than those typically used in a full systematic review. An overview of the search terms used in this review can be seen in Annex 3.

STUDY SELECTION

Papers identified from the literature search were preferentially selected according to a hierarchy of evidence (Figure 1). This was operationalised as selecting the most recent review, including meta-analyses, and eligible studies published after this review. Where two or more reviews existed, preferential selection was given to higher-quality reviews, or those with most relevance to the English context. Higher quality reviews were defined as those which included studies which sat higher up the evidence hierarchy. Relevance to the English context was hierarchical, selecting first studies from England, Great Britain or the UK, then Western Europe, followed by the rest of Europe, and other OECD countries. If the reviews evaluated different outcomes, or there were a large number of high-quality reviews, all were included. In the case of policies where no reviews were identified, evidence was drawn only from single studies in accordance with the eligibility criteria with preferential selection given to studies higher up the evidence hierarchy, and relevance to the English context. Some studies were considered outside the scope of this time-limited review such as papers which evaluated narrow outcomes. The exclusion of these papers was agreed by the project team (RB, CH, DL, NS, JM) on a case-by-case basis. RB filtered identified abstracts against the following inclusion criteria: study had a stated aim to evaluate interventions to reduce alcohol consumption and/or alcohol-related harm, study presents a dose-response relationship, study reported outcome data on alcohol consumption and/or alcohol-related harm, or study predominantly conducted in an OECD country. OECD countries were chosen to have the same level of income and similar government structure. A review or pooled analysis which included some non-OECD countries was included if the majority of findings were derived from an OECD country. Exclusion criteria were as follows: study used an animal sample, study was not published in the English language, or evaluation was reported to be carried out or directly funded by the alcohol industry. Several studies have shown that conflicts of interest in health research are associated with biased research findings that favour commercial interests at the expense of public health and patient welfare. The decision to exclude industry funded evidence was based on ensuring the review was completely independent of possible conflicts of interests.

The evidence for the effectiveness of treatment for alcohol dependence was entirely derived from the National Institute for Health and Care Excellence (NICE) guidelines.9

Following the literature search, all included references were sent to nominated members of the advisory group assigned by speciality who advised on material that may have been overlooked. An overview of the screening process can be seen in Figure 2.

[FIGURE 1 HERE]

[FIGURE 2 HERE]

DATA EXTRACTION

Data were extracted from included studies using a standardised template (Table 2). Data extraction was split between five researchers and a random sample was checked for accuracy by a second (RB, CB, HW, VM, RW). Completed templates, alongside original research articles, were used by five reviewers (RB, CB, HW, BE, KR) to assign quality ratings using the Grading of Recommendations Assessment, Development and Evaluation (GRADE).10,11

[TABLE 2]

STUDY QUALITY RATING

The study used the GRADE method to rate the quality of the evidence identified by the search procedure (Table 3).11 Evidence based on randomised controlled trials (RCTs) begins as high quality evidence, but the confidence in the evidence may be decreased for several reasons, such as study limitations or reporting bias. Conversely the low rating of a cohort or case-control study might be upwardly revised if the study is of high quality with adequate control of confounders or evidence for a dose-response relationship.

[TABLE 3 HERE]

Most alcohol policies cannot be directly manipulated and subjected to experimental methods such as an RCT. Their evaluation has to rely on other research methods, namely natural experiments. Where natural experiments cannot be done, or when predicting long-term outcomes, modelling studies are used. On these occasions, natural experiments were considered the highest level of evidence followed by modelling studies (Figure 1). For reviews, the rating reflected the quality of the constituent primary studies.

Each study was independently rated according to GRADE by two researchers (RB, CB, HW, BE, KR). Discordant ratings were defined as a one point difference, (for example, one study is rated ‘very low’ by rater A and ‘low’ by rater B) and were resolved by local discussion resolution regarding the methodological rigour of the studies. GRADE ratings were considered alongside wider evidence and contextual factors to arrive at a consensus summary statement for each policy (AB, BF, RB, CH, DL, JM, KS and NS). These factors included:

* nature of evidence: research designs used by the retrieved literature;
* GRADE rating: very low quality, low quality, moderate quality, high quality;
* limitations: notable limitations above and beyond those reflected in GRADE;
* effect: impact of the intervention on outcome measures stated in the primary research;
* coverage: likely reach of an intervention such as a population, product or place;
* economic impact: cost-effective, cost-saving, not cost-effective or inconsistent;
* implementation: any known or assumed barriers to implementation; and
* inequalities: the impact of an intervention on an inequality group as defined by the *Equality Act 2010*

The GRADE rating, limitations, coverage and economic impact are all derived from the evidence included in the nature of evidence. Implementation issues and the impact on inequalities are derived from a combination of the nature of evidence but also from pragmatic judgements. For example, taxation is a government budgetary measure (implementation) and mass media campaigns can be designed to target and appeal to specific socioeconomic groups (inequalities).

STRENGTHS AND LIMITATIONS

Strengths of this review include the use of a pragmatic approach to reviewing scientific evidence for policy decisions in a Government environment, which has presented conclusions similar to those that have been reported previously.6–8,12,13 The review has also identified and assessed novel policy interventions that, to our knowledge, have not been subject to previous review. Limitations include the use of a deliberately constrained search methodology, which prioritised reviews, and the most recent primary research studies and the focus on medical databases which may have biased the results towards medical outcomes. This was mitigated by the presence of an expert advisory group.

The benefits of synthesising such a variable body of evidence must be weighed against the corresponding loss of detail. Further, including evidence that has been published only within the last ten years may exclude important evidence or long-established interventions that have not been recently studied. It is possible that the selection of policies considered were not exhaustive. Nonetheless, all evidence identified by the search process was circulated to an expert advisory group with the purpose that any key omissions relevant to the English policy setting would have been identified.

This report has been subject to extensive internal and external peer review throughout its genesis comprising leading UK and global experts. There is strong agreement in the outcome of this review with other expert reviews, particularly when the quality of evidence was judged to be high.

ROLE OF THE FUNDING SOURCE

The work was commissioned by the Department of Health. Resources were provided by PHE. The Department of Health had no role in study design, the synthesis and interpretation, or the writing of this report. The views expressed in this review may not reflect the stated position or policy of the Department of Health.

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ANNEX 3: FULL SEARCH TERMS USED IN THIS REVIEW

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| --- |
| {alcohol} AND {pric\\*} OR {tax} OR {cost} AND {review} OR {meta};  OR {alcohol} AND {density} OR {hours} OR {days} OR {spatial} OR {temporal} OR {licen\\*} OR {street drinking} OR {drinking ban} OR {server} AND {review} OR {meta};  OR {alcohol} AND {marketing} OR {advert\\*} OR {promot\\*} OR {campaigns} OR {mass media} OR {education} OR {label\\*} OR {responsibility deal} AND {review} OR {meta};  OR {alcohol} AND {identification} OR {screening} OR {intervention} OR {brief} OR {advice} OR {information} AND {review} OR {meta};  {alcohol} AND {blood} OR {breath} OR {enforce\\*} OR {graduated} OR {designated} OR {interlock} OR {licence revocation} OR {licence suspens\\*} AND {driv\\*} AND {review} OR {meta};  AND {econom\\*} OR {cost\\*} OR {pric\\*} OR {cost-effectiveness} OR {cost-utility} OR {cost-benefit} OR {budget\\*} OR {qaly} OR {daly} OR {value for money} OR {return on investment}; |