Final results from a meta-analysis of remedial interventions with drink/drive offenders
Wells-Parker E, Bangert-Drowns R, McMillen R, Williams M

Authors' objectives
To assess the efficacy of interventions to reduce recidivism among drink-driving offenders. More specifically, to determine the following: whether some types of intervention are more effective than others; whether some interventions work better for some types of offenders than others; whether the length and hours of the intervention period were related to effectiveness; and whether combining licensing penalties with remediation was more effective than remediation alone.

Searching
Twenty-two computerised databases (general, discipline-specific and specialised databases) were searched up to mid-1991. A survey of 700 practitioners and researchers was conducted to identify additional sources. Foreign language publications were included. The full search strategy appears in a document detailed at the end of the abstract.

Study selection
Study designs of evaluations included in the review
Studies comparing either remediation to no remediation, or two or more forms of remediation. Randomised controlled trials, studies with matched or non-matched controls, and pre- and post-test single group designs.

Specific interventions included in the review
Psychotherapy or counselling, education, contact probation, Alcoholics Anonymous, antabuse, general alcohol treatment and combined interventions.

Participants included in the review
Drink-driving offenders were included.

Outcomes assessed in the review
Various outcomes were assessed including alcohol- and non-alcohol-related crashes, self-report, observer ratings, other measures of drinking and drink driving, knowledge, attitude and behavioural intention.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
Four key methodological criteria were assessed: grouping strategies (method of allocation to study groups and assessment of equivalence of comparison groups); equivalence of procedures to measure outcomes in the study groups; reliability, validity and appropriateness of outcome measures; and extent to which the intended interventions were administered as intended. Two raters completed a 7-point rating scale for each of the 4 dimensions of methodological quality.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
The effect sizes were calculated for each individual study. The means and medians of these effect sizes were presented.

**How were differences between studies investigated?**
Average study effect sizes were plotted against methodological variables and sample sizes, and regression analyses were used to examine the relationships between methodological variables and effect sizes. Mean effect size increased with decreasing methodological quality, and smaller sample size was associated with larger effect sizes.

**Results of the review**
Of the 194 primary studies (215 discrete studies or substudies) included, 15 met fairly rigorous standards of random allocation. The effect sizes were calculated for 105 studies.

The effect sizes given here exclude those derived from studies that were non-randomised, and in which intervention and comparison groups were not clearly comparable.

Educational interventions (48 studies): mean effect size 0.08 (standard error, SE 0.02); median effect size 0.07; 15 studies had a negative effect size.

Education alone (24 studies): mean effect size 0.04 (SE 0.03); median effect size 0.02; 8 studies had a negative effect size.

Education with another intervention (21 studies): mean effect size 0.12 (SE 0.03); median effect size 0.09; 5 studies had a negative effect size.

Psychotherapy or counselling (25 studies): mean effect size 0.07 (SE 0.04); median effect size 0.09; 7 studies had a negative effect size.

Psychotherapy or counselling with education (19 studies): mean effect size 0.13 (SE 0.03); median effect size 0.09; 4 studies had a negative effect size. Probation (16 studies): mean effect size 0.01 (SE 0.02); median effect size 0.03; 7 studies had a negative effect size.

Alcoholics Anonymous (3 studies): mean effect size -0.12 (SE 0.20); median effect size -0.15; 2 studies had a negative effect size.

Antabuse (5 studies): mean effect size 0.08 (SE 0.06); median effect size 0.06; 1 study had a negative effect size.

Effects on number of alcohol-related crashes (10 studies): mean effect size 0.07 (SE 0.03).

Results showed the mean effect size was larger for studies in which treatment was combined with more severe license sanctions, despite this no definitive patterns could be identified.

**Authors' conclusions**
This meta-analysis established that drink-driving remediation generally has a positive effect on alcohol-related traffic events: a reduction of at least 7 to 9% in drink-driving recidivism and alcohol-related crashes. It also suggested that some combined interventions may be more effective than single strategy approaches. Meta-analysis can establish the magnitude of intervention effects for different outcomes, but the social and policy significance of intervention effects must be determined in the broader arena of personal and social values.

**CRD commentary**
This was a very complex review. The number of studies examining the impact of a specific intervention on a specific outcome was small. Detailed descriptions of individual studies were not supplied and interventions were discussed in broad categories. The authors were rigorous in their assessment of the quality of included studies, and restricted calculations of mean effect sizes to those studies that employed random allocation or gave reasonable assurance of
comparability of intervention and control groups. The authors comment appropriately on the weaknesses of the primary studies on which this review was based.

**Funding**

National Institute on Alcohol Abuse (USA).

**Bibliographic details**


**PubMedID**

7663313

**Other publications of related interest**


**Indexing Status**

Subject indexing assigned by NLM

**MeSH**

Accidents, Traffic /legislation & jurisprudence /prevention & control /psychology; Alcohol Drinking /legislation & jurisprudence /prevention & control /psychology; Alcoholism /psychology /rehabilitation; Combined Modality Therapy; Follow-Up Studies; Humans; Recurrence; Treatment Outcome

**AccessionNumber**

11995000357

**Date bibliographic record published**

08/08/1995

**Date abstract record published**

08/08/1995

**Record Status**

This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.