A cost-benefit analysis of enforcement efforts to reduce serving intoxicated patrons

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Enforcement of laws prohibiting service to intoxicated patrons (SIP programme) in order to reduce the number of alcohol related traffic crashes (DWI = driving while intoxicated).

Type of intervention
Primary prevention.

Economic study type
Cost-benefit analysis.

Study population
Tavern customers.

Setting
The setting was the community and the economic study was carried out in Michigan, USA.

Dates to which data relate
Effectiveness and resource data were collected during 1990/91. 1990 prices were used.

Source of effectiveness data
Single study.

Link between effectiveness and cost data
Costing was undertaken prospectively on the same sample as that used in the effectiveness study.

Study sample
105 of 205 tavern licensees attended workshops which disseminated information on the enforcement programme. 457 enforcement visits were made, half of which were concentrated on the 10 taverns most responsible for DWIs (based on arrest reports) with the other half randomly distributed over remaining establishments. No power calculations were used.

Study design
Before-and-after study. The follow-up period for tavern-related DWIs was for the first year of the programme only.
Analysis of effectiveness
Analysis of effectiveness was based on programme completers. The primary health outcome used in the analysis was the number of tavern-related DWIs from which expected social benefits were to derive.

Effectiveness results
Tavern-related DWIs fell from 128 to 112 after the implementation of the programme. However, total DWIs increased slightly from 404 to 435 in the year that the programme was implemented. The magnitude of expected social benefits was not clearly stated. The authors stated that, while the relationship of the SIP program with tavern-related DWIs was statistically significant at high levels of significance, the confidence intervals around the estimated effects are still quite large.

Modelling
Modelling was used to derive the magnitude of the social benefits which would occur from the decline in tavern-related DWIs.

Measure of benefits used in the economic analysis
Number of tavern-related DWIs and expected social benefits.

Direct costs
Costs and quantities were not reported separately. Costs were derived from the societal viewpoint. The costs included additional police and supervisory staff, publicity and training. Cost data were based on discussions of police officials and one published study. 1990 prices were used.

Currency
US dollars ($).

Sensitivity analysis
Not performed.

Estimated benefits used in the economic analysis
Tavern-related DWIs fell from 128 to 112 after the implementation of the programme. The overall expected social benefits were not clearly stated.

Cost results
The total intervention costs were $51,400. This comprised $48,400 for total police, supervisory and miscellaneous costs and 3,000 for publicity and training.

Synthesis of costs and benefits
It was stated that benefits greatly exceeded costs but no clear cost-benefit ratio was derived.

Authors' conclusions
Although a comprehensive cost measure is more desirable on economic grounds, the more restrictive measures of monetary and medical costs are often used. Whichever measure of benefits was used they are, in all cases, large relative to the costs of the SIP. However, the cost-benefit ratio is highly sensitive to whether the savings include personal losses and losses borne directly by intoxicated drivers, and whether harmful activity is diverted to other costly activities.
CRD Commentary
The internal validity of this before-and-after study is very questionable and this is highlighted by the authors in their discussion of the problems faced by analysts of programmes aimed at substance abuse and the possible confounding variables.

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