Authors' objectives
To review systematically published studies evaluating substance use prevention programmes, to determine whether iatrogenic effects have occurred, and if so what types of harmful effects resulted and under what circumstances.

Searching
MEDLINE, CINAHL, ERIC, PsycINFO and ProQuest were searched from 1980 to 2000. The search terms were described in the paper. In addition, published papers from the Center for Drug Prevention Research archive were handsearched, and published research and articles were examined for additional citations.

Study selection
Study designs of evaluations included in the review
Experimental or quasi-experimental research designs were included in the review.

Specific interventions included in the review
The studies had to include a prevention programme aimed at either slowing the onset of alcohol, tobacco or drug use, or reducing misuse. The programmes described in the studies were drug prevention programmes (n=9) and alcohol prevention programmes (n=8); both types of programme included tobacco use.

Participants included in the review
Studies targeting youths or young adults, especially those in grades 4 to 12 (U.S. education system, and/or equivalent) and college students, were eligible. Only one study included college students.

Outcomes assessed in the review
The studies had to report negative outcomes associated with the alcohol or drug prevention programme, i.e. the participants showed a significant increase in alcohol, tobacco or other drug consumption, or a negative change in a drug-related variable.

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 reviewers performed the selection.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. The data extracted included the authors and year, purpose of study, sample, intervention/model, design, follow-up and negative results.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review.

How were differences between studies investigated?
Variations between the studies were discussed in terms of the theoretical model employed, the numbers of negative
effects, the type of drug programme employed (drug, alcohol, tobacco or combinations), and behavioural and nonbehavioural changes.

Results of the review
Seventeen studies were included. Ten trials were randomised, either at the individual classroom or school level. The sample sizes ranged from 130 to 11,995 youths; six studies had fewer than 500 participants.

In the 17 evaluation studies included in the review, some 43 negative outcomes were reported. The most common negative outcomes resulting from prevention programmes were behavioural effects; these consisted primarily of increases in consumption, especially alcohol use.

Drug prevention programmes resulted in 24 harmful effects, which included increases in alcohol use, cigarette use, marijuana use and multiple drug use. These effects were greater than those reported for alcohol prevention programmes. The majority of negative effects were behavioural measures, resulting in increased consumption. The nonbehavioural measures included less self-efficacy to resist alcohol use, greater perceived benefits of drinking and increased drug-use offers.

The alcohol prevention programmes resulted in 19 harmful effects. The majority (58%) were nonbehavioural measures, with the most found in alcohol use, followed by cigarettes and marijuana. These nonbehavioural measures included increased estimates of alcohol, cigarette and marijuana offers, pro-alcohol attitudes and increased expectations about drinking in the future. The behavioural measures all resulted in increased alcohol use or related problems.

Authors' conclusions
Researchers, publishers and practitioners should pay special attention to monitoring, measuring and reporting negative outcomes of prevention programmes. It is important that more is learned about which programme elements interact with which contextual factors to cause harm to which groups of young people.

CRD commentary
This review commenced with a clearly outlined objective. A reasonable literature search was conducted and the authors attempted to locate unpublished studies. However, it is unknown whether any language restrictions were employed, thus there is a possibility that some studies may have been missed. The inclusion criteria were reported and details of the studies were tabulated. The authors provided details of what data were extracted, but not of the processes used to undertake the review nor the number of reviewers involved. The narrative synthesis was appropriate to the data collected. The evidence presented supports the authors’ conclusions.

Implications of the review for practice and research
Practice: The authors state that researchers, publishers and practitioners should pay special attention to monitoring, measuring and reporting negative outcomes of prevention programmes. It is important that more is learned about which programme elements interact with which contextual factors to cause harm to which groups of young people.

Research: The authors state that researchers, publishers and practitioners should pay special attention to monitoring, measuring and reporting negative outcomes of prevention programmes. It is important that more is learned about which programme elements interact with which contextual factors to cause harm to which groups of young people.

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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.