Evidence based prevention: the contribution of systematic reviews

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Evidence based prevention: the contribution of systematic reviews

1. **What is the evidence base for prevention?**

2. How do policy and practice reflect this evidence base?

Evidence from Cochrane reviews - I

CDAG Reviews	Evidence of Effectivene	Evidence of Ineffectiveness
School-based prevention of illicit drug use	✓ ?	✓
Non-school based prevention of illicit drug use	?	✓
Alcohol misuse prevention for youth	?	✓
Social normative feedback for youth	✓ ?	?
Brief interventions in primary care	✓ ?	?

Evidence from Cochrane reviews - II

CTAG & CIG Reviews	Evidence of Effectiveness	Evidence of Ineffectiveness
School-based prevention of smoking	❓	✔️
Mass media to prevent smoking in youth	❓	❓
Relapse prevention for smokers trying to give up		
Alcohol server training for injury prevention		
Injury prevention for problem drinkers	✔️ ❓	❓

Summary: uncertainties and certainties

- there is some good evidence of efficacy of **uncertain** benefit, for some interventions
- there is provisional evidence of efficacy for some interventions, but **uncertainties** remain
- there are many interventions where there is insufficient evidence for even preliminary conclusions, so many **uncertainties**
- there is some fairly **certain** evidence of ineffectiveness for some interventions

*Evidence based prevention:
the contribution of systematic
reviews*

1. What is the evidence base for
   prevention?

2. **How do policy and practice reflect this
   evidence base?**

How long did we used to have to wait between evidence and policy?

Almost 50 years between Lind's controlled trials on HMS Salisbury and the Navy adopting a policy of lemon juice to prevent scurvy

How long do we wait now?

- Probably not 50 years...
- Cochrane reviews increasingly influential

- But still widespread use of prevention interventions despite evidence of ineffectiveness
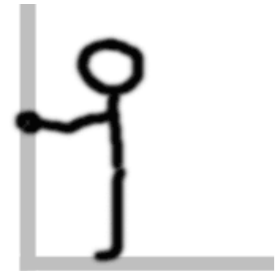
- Also tendency for policy and practice to get ahead of the evidence

Transition: *ad hoc* or organised?

- Cochrane reviews provide an important resource when trying to figure out what to do **and** what not to do

- But the transition to evidence based prevention can be complex and *ad hoc*

  Would it be a good idea to have a higher level organising principle that moves us beyond such ad hoc developments?

What do others do?
The precautionary principle

Prohibiting an activity where there is scientific uncertainty of potential harm from the activity is justified;

Extending the principle would add the following:

Supporting an activity where there is scientific uncertainty of potential benefit from the activity may be justified.

Supporting a <u>prevention</u> activity where there is scientific uncertainty of potential benefit from the activity <u>may</u> be justified

But only with qualifying criteria, e.g.:

- The costs and harms associated with a lack of effective action are considered to be high

- There is some provisional high quality evidence for a specific prevention activity, but further research is needed

- Further high quality research is fully resourced to provide convincing evidence

Conclusions

1. Cochrane systematic reviews have helped identify uncertainties and certainties
2. The transition from scientific evidence to prevention policy and practice is complex
3. An organising principle might provide a systematic approach for future evidence based prevention

Hand in hand: science for policy and policy for science

2001 U.S. NRC Report: uncertainties

TABLE 7.2 Gaps in Knowledge about Prevention Effectiveness

Modality	Target Population	Outcomes Affected	Content	Characteristics of Deliverer	Duration	Timing
Mass Media Campaigns	X	X	X	X	X	X
Community Organizing/Coalitions	X	X	X	X	X	X
Family Training, Counseling, or Case Management	X	X	X	X	X	X
Instruction	X	X	X	X	X	X
Behavior Modification and Cognitive/Behavioral Strategies	X	X	X	X	X	X
Other Counseling, Social Work, Psychological, or Therapeutic Strategies	X	X	X	X	X	X
Tutoring, Mentoring, and other Individual-Attention Strategies	X	X	X	X	X	X
Recreational, Enrichment, and Leisure Activities	X	X	X	X	X	X
School/Discipline Management		X				X
Establishment of Norms for Behavior	X	X	X	X	X	X
Classroom Management		X				X
Regrouping Students	X	X			X	X
Exclusion of Intruders and Contraband		X				X
Manipulation of School Composition	X	X			X	X

Note – "X" indicates areas in which additional research is needed.