

The effectiveness of anti-illicit drug public service announcements: A systematic review and meta-analysis

Dan Werb, Edward J. Mills, Kora DeBeck, Thomas Kerr,
Julio S. G. Montaner, and Evan Wood

British Columbia Centre for Excellence in HIV/AIDS
Vancouver, Canada

November 13, 2009



PROVIDENCE HEALTH CARE
Research Institute



Background



- Anti-illicit drug public service announcements (PSAs) are a social marketing tool used in a variety of settings internationally
- In Canada, the National Anti-Drug Strategy contains \$10 million in funding over two years for an awareness campaign including anti-illicit drug PSAs
- In the United States, over \$1.2 billion has been spent on anti-illicit drug PSAs since 1999
- While a number of meta-analyses of school-based education programs (D.A.R.E.) have been completed, no such reviews of studies of anti-illicit drug PSAs have been undertaken

Methods

It's called
fiction for
a reason.

learn the truth about drugs and alcohol ▶



Outcomes of interest:

Primary: Use of illicit drugs // Secondary: Intention to use illicit drugs

Search strategy:

- Included 10 scientific databases, from inception to July 29, 2008
- Restricted to full peer-reviewed article, conference abstract, or non-peer-reviewed governmental report

Excluded:

- Evaluations of anti-licit drug PSAs
- Evaluations of multi-component interventions*

Methods, con't

It's called
fiction for
a reason.

learn the truth about drugs and alcohol ▶



Meta-Analysis:

- Random-effects, weighted mean difference design
- Separate meta-analyses for RCTs and observational studies (heterogeneity)
- Where possible, data was disaggregated into target groups

Results

DON'T LET DRUGS GET IN THE WAY OF SUPPORTING ONE ANOTHER. ⬆️

▶ Find out how drugs can affect friendships

▶ Countdown your events with our calendar widget



49 potential studies identified in electronic databases

13 studies excluded (not peer-reviewed or published by government agency)

18 studies excluded (no direct evaluation of primary or secondary outcome of interest)

4 papers excluded (only evaluated anti-licit drug PSAs)

2 studies excluded (multi-component interventions)

1 studies excluded (duplicate findings)

11 studies included in systematic review
7 RCTs
4 Observational

**Systematic review
search process**

Results – Systematic Review

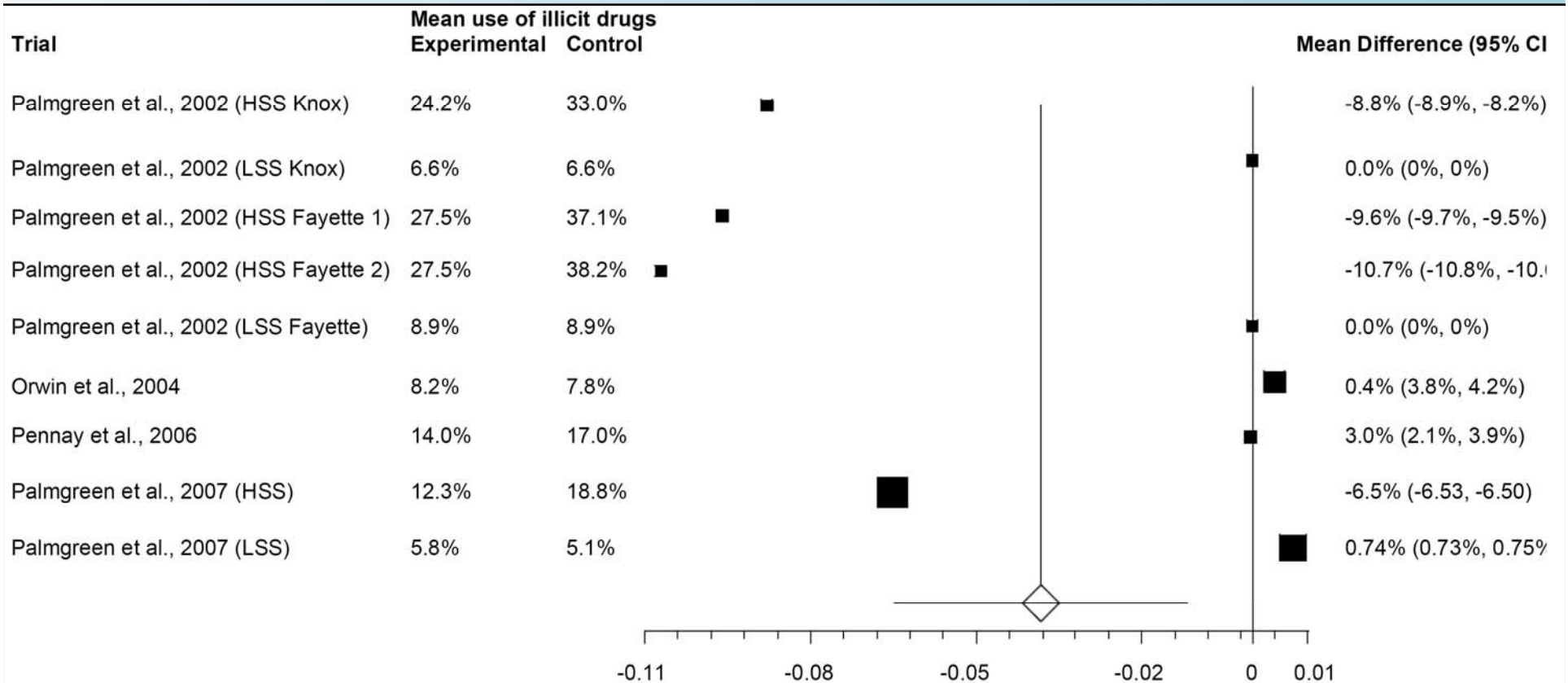
RCTs:

- All measured intention to use
- 6 measured immediate post-exposure intention, 1 measured intention over a period of four weeks
- 2 reported positive effects, with small effect sizes
- 5 reported both non-significant and/or negative effects, with small effect sizes

Observational:

- All measured actual use of illicit drugs
- Study periods ranged from 1-5 years
- 2 found significant reductions in illicit drug use among sample exposed to PSAs
- 1 observed a 3% reduction in use among study participants but did not report on levels of significance
- 1 national observational study (5 years) observed a non-significant 0.4% increase in use

Results: Meta-Analysis of observational studies

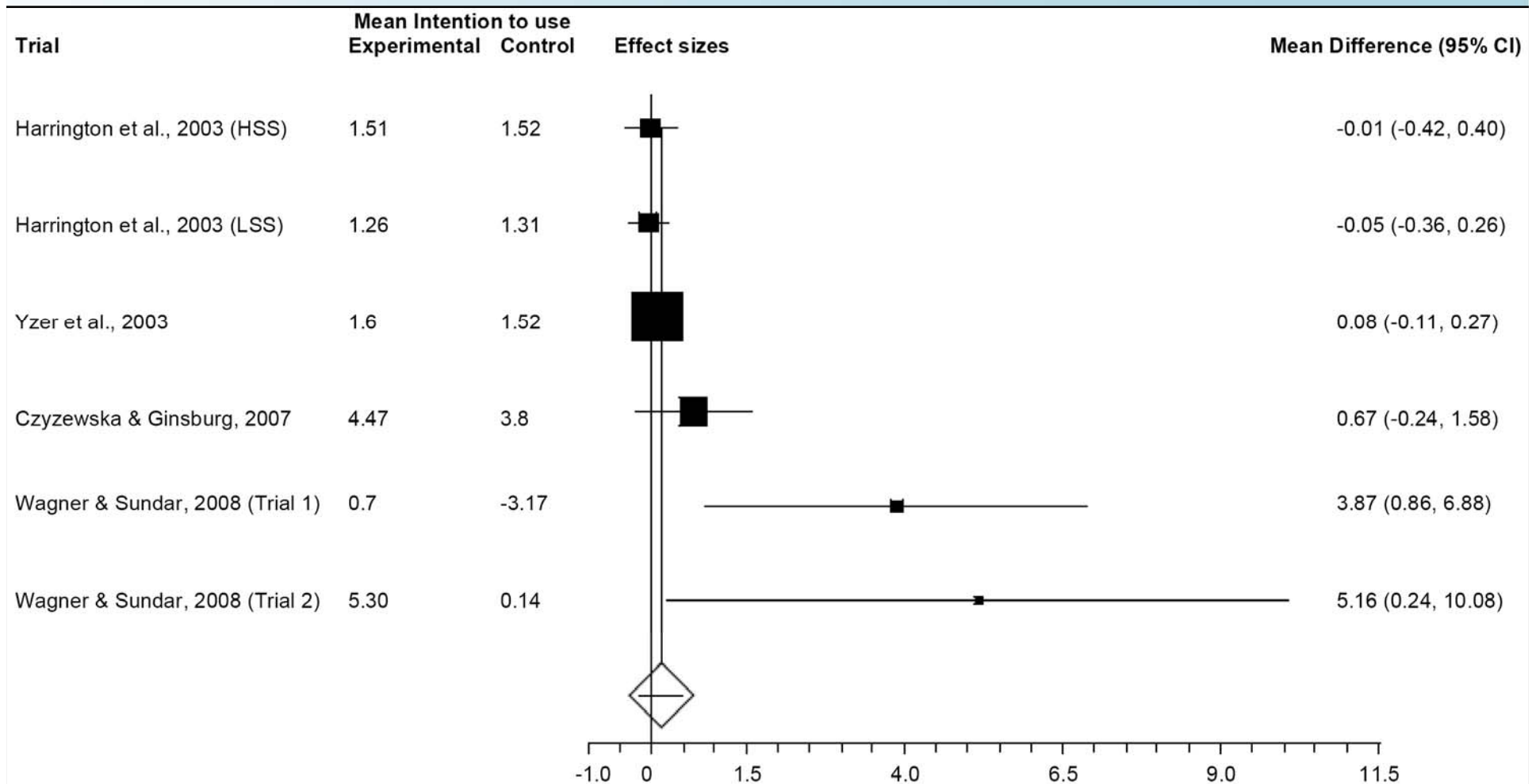


Total

Total events = 17,404

Overall effect size = -0.04 (95% CI: -0.06, -0.01), $p = 0.004$

Results: Meta-Analysis of RCTs



Total
 Total events = 574 (Exposed), 444 (Control)
 Overall effect size = 0.15 (95% CI: -0.19, 0.49), $p = 0.382$

Interpretation

- Evaluations of anti-drug PSAs have been unable to provide evidence of sustained effectiveness
- RCTs provide measures of efficacy but not effectiveness
- Potential for harm (i.e., a weakening of anti-drug norms) is of concern
- Study samples highly homogeneous, particularly among RCTs
- As such, long-term observational studies that adjust for SES, ethnicity, income, etc are needed
- Despite lack of evidence of effectiveness, anti-drug PSAs are still funded in a variety of settings

Limitations

- Lack of published research on effectiveness of anti-drug PSAs, particularly on long-term outcomes
- RCTs limited by lack of true effectiveness measures
- Publication bias may be present in the literature on anti-drug PSAs, similar to the situation with respect to anti-drug education programs
- Heterogeneity in assessing intention among studies

Acknowledgments

Funders:

Michael Smith Foundation for Health Research
Canadian Institutes of Health Research

Additional thanks:

Beth Rachlis, Philip Palmgreen, Nancy Harrington, Marco Yzer, Maria Czyzewska, and S. Shyam Sundar