

Review topic:

Review on which this evidence summary is based:

Hoffman S. J., & Tan C. (2015). Overview of systematic reviews on the health-related effects of government tobacco control policies. *BMC Public Health*, 15 (744).

Review Focus

- P** Global general population
I Tobacco control policies
C No intervention
O Smoking cessation, tobacco use, secondhand smoke exposure, primary health outcomes

Review Quality Rating:

9 (Strong) Details on the methodological quality are available [here](#).

Considerations for Public Health Practice

Conclusions from Health Evidence

- This is a strong quality systematic review of 59 systematic reviews with a combined total of 1150 primary studies. 38 of these 59 systematic reviews were of either strong or moderate quality and published from 2000-2014. These 38 reviews were prioritized in the qualitative synthesis.

Results:

- Smoking bans and restrictions reduced smoking prevalence and cigarette consumption and reduced second hand smoke exposure in adults and children
- Smoker-directed financial assistance and offering smokers incentives led to higher levels of smoking cessation. No impact was found for incentives on long-term quit rates or for provider-directed financial interventions for smoking abstinence and prevalence
- Health warning labels showed a decrease in smoking behaviour in 2 of 3 reviews. Mass media campaigns as part of comprehensive tobacco control programs also led to reductions in smoking behaviour (4 of 5 reviews)
- Inconclusive evidence as to whether tobacco advertising bans and restrictions reduce smoking behaviours (4 reviews)
- Inconclusive evidence for restricting or prohibiting tobacco product sales to minors to reduce smoking behaviour (5 reviews)
- 5 of 6 reviews found that increasing the price of tobacco reduces smoking behaviour

General Implications

Public health should support:

- Smoke-free policies/legislation
- Financial interventions or incentives to quit smoking and interventions that aim to make cessation therapies more affordable
- Anti-smoking mass media campaigns, as part of multicomponent programs
- Increases in the price of tobacco products

Public health should not support:

- Financial incentives that are directed at healthcare professionals to influence individual's smoking behaviour

Evidence and Implications

What's the evidence?

Implications for practice and policy

<p>1. Smoking bans and restrictions in public spaces, workplaces or residences (12 reviews)</p> <ul style="list-style-type: none"> 8 moderate and strong quality reviews found smoking bans and restrictions reduced smoking prevalence and cigarette consumption. These bans and restrictions also led to increases in smoking cessation. 1 strong quality review found workplace smoke-free policies led to: 3.4% absolute reduction in smoking prevalence (interquartile range (IQR)= -6.3 to -1.4), decreased cigarette consumption by 2.2 cigarettes/day (IQR= -1.7 to -3.3), increased quit attempts by 4.1% (IQR= -0.7 to 6.8) and more successful cessation by 6.4% (IQR= 2.0 to 9.7) 3 moderate and strong quality reviews found that smoke-free policies reduced second hand smoke exposure in adults and children in a variety of settings such as workplaces, public spaces, and hospitality establishments 5 moderate and one strong quality review found smoking bans and restrictions led to decreases in adverse primary health outcomes/events 1 moderate quality review found that smoke-free policies led to a reduced risk of: admission for coronary events (RR=0.61, 95% CI= 0.82 to 0.88), other heart diseases (RR= 0.61, 95% CI= 0.44 to 0.85), cerebrovascular accidents (RR= 0.81, 95% CI= 0.70 to 0.94) and respiratory diseases (RR= 0.76, 95% CI= 0.68 to 0.85). The reductions were highest with comprehensive policies that banned smoking in workplaces, restaurants and bars 	<p>1. Smoking bans and restrictions in public spaces, workplaces or residences</p> <p>Public Health should support smoke-free legislation, as this may reduce smoking behaviour, exposure to second hand smoke and adverse health outcomes. Public Health should also support comprehensive policies that ban smoking in workplaces, restaurants and bars.</p>
<p>2. Financial assistance or incentives to quit smoking and for healthcare professionals to provide smoking cessation interventions (12 reviews; 8 of strong quality and 4 of moderate quality)</p> <ul style="list-style-type: none"> 2 moderate quality reviews found smoker-directed financial assistance was linked to increased uptake of cessation therapies and higher levels of smoking cessation 2 reviews of strong quality found that when smokers were offered incentives they were 2.48 times (95% CI= 1.77 to 3.46) and 1.60 times (95% CI= 1.12 to 2.30) more likely to quit smoking One review of strong quality reported that financial incentives increased smoking cessation among pregnant women and were the most important component of multicomponent cessation programs <u>No impact</u> for incentives on long-term quit rates (1 strong quality review) or smoking abstinence and prevalence in patients from provider-directed financial interventions (2 strong reviews, 1 moderate quality) 	<p>2. Financial assistance or incentives to quit smoking and for healthcare professionals to provide smoking cessation interventions</p> <p>Public Health should support financial interventions or incentives to quit smoking and interventions that aim to make cessation therapies more affordable. Public Health should not support financial incentives that are directed at healthcare professionals to influence individual's smoking behaviour.</p>
<p>3. Warning about the dangers of tobacco products (9 reviews; 5 of moderate quality and 4 of strong quality)</p> <ul style="list-style-type: none"> 2 of 3 moderate quality reviews found that health warning labels decreased smoking behaviour, with reductions in tobacco use and increases in: motivation to quit, quitting likelihood, and likelihood of abstinence after quitting 4 of 7 moderate and strong quality reviews assessing mass media campaigns reported reductions in smoking behaviour. 4 strong and moderate quality reviews of 5 reported that media campaigns, part of comprehensive tobacco control programs, led to reductions in smoking behaviour. Effective campaigns 	<p>3. Warning about the dangers of tobacco products</p> <p>Mass media campaigns, part of multicomponent programs, promote smoking cessation. Public Health should consider supporting media interventions disseminating negative health effects of smoking.</p>

<p>were: wide population reach, high intensity, long duration, and television/messages on the negative health effects of smoking</p>	
<p>4. Tobacco advertising bans and restrictions (4 reviews; all of moderate quality)</p> <ul style="list-style-type: none"> Among the 4 moderate quality reviews, the findings were unclear, meaning the evidence is inconclusive for tobacco advertising bans and restrictions in reducing smoking behaviours 	<p>4. Tobacco advertising bans and restrictions</p> <p>Although the systematic reviews found no clear reductions in smoking behaviour from tobacco advertising bans and restrictions, Public Health should assess the scope of advertising restrictions and how they are enforced, as this may influence their effectiveness.</p>
<p>5. Raising taxes on tobacco (6 reviews; 1 of high quality and 5 of moderate quality)</p> <ul style="list-style-type: none"> 5 strong quality reviews of 6 found that increasing the price of tobacco reduces smoking behaviour, with decreases in cigarette consumption/smoking prevalence and increases in smoking cessation. 1 of these 5 reviews found that every 10% increase in the price of cigarettes decreased smoking prevalence and cigarette consumption by 3.7% and 2.3% respectively 	<p>5. Raising taxes on tobacco</p> <p>Public Health should support increasing the price of tobacco products in order to reduce smoking behaviour and cigarette consumption.</p>
<p>6. Restricting/prohibiting tobacco product sales to minors (5 reviews; all of moderate quality)</p> <ul style="list-style-type: none"> Among the five reviews of moderate quality, the findings were mixed, meaning the evidence is inconclusive for restricting/prohibiting tobacco product sales to minors on reducing smoking behaviour, unless restrictions are strongly enforced 	<p>6. Restricting/prohibiting tobacco product sales to minors</p> <p>The effectiveness of restricting/prohibiting tobacco product sales to minors on smoking behaviour is dependent on robust enforcement. Public Health should ensure there are adequate resources to support enforcement of legislation restricting sales to minors.</p>
<p>Legend: P – Population; I – Intervention; C – Comparison group; O – Outcomes</p> <p>**For definitions see the healthevidence.org glossary at http://www.healthevidence.org/glossary.aspx</p>	

Why this issue is of interest to public health:

Lung cancer is the leading cause of cancer death in Canada, with smoking being related to more than 85% of these cases.¹ Moreover, smokers are 20 times more likely to develop lung cancer in comparison to non-smokers.¹ Risk of developing other types of cancer, respiratory diseases or cardiovascular disease are also increased by smoking.² Within 10 years of quitting smoking, one's risk of death related to lung cancer is reduced by 50%.³ Risks for many other cancers and diseases are also reduced by quitting smoking, illustrating the importance of interventions to help with smoking cessation.³

¹ Canadian Cancer Society. (2015). *Smoking and cancer*. Retrieved from <http://www.cancer.ca/en/prevention-and-screening/live-well/smoking-and-tobacco/smoking-and-cancer/?region=on>

² Health Canada. (2011). *Smoking and your body*. Retrieved from <http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/body-corps/index-eng.php>

³ Centers for Disease Control and Prevention. (2015). *Quitting smoking*. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm#benefits

Other quality reviews on this topic are available on www.healthevidence.org.

Suggested citation:

Sully, E., & Dobbins, M. (2016). Health-related effects of government tobacco control policies: Evidence and implications for public health. Hamilton, ON: McMaster University. Retrieved from http://www.healthevidence.org/documents/byid/28889/Hoffman2016_EvidenceSummary_EN.pdf

This evidence summary was written to condense the work of the authors of the review referenced on page one. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

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