Balancing efficiency and equity in addressing tobacco-related disparities

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Background

- Improving overall population health and reducing health inequities are the dual goals of public health
- Tobacco-related disparities are differences by social classes in patterns of tobacco use and exposure, burden of disease and health outcomes, and access to prevention and treatment services[1]
- Addressing such disparities is important from an ethical perspective, but may also be key to improving population health outcomes, where the burden of tobacco use is concentrated in socially disadvantaged populations
- Certain groups in Canada have long been identified as having a higher prevalence of tobacco users, including those with low income, low educational attainment, mental health concerns and those who identify as members of First Nations[2]
- This analysis presents information on specific sub-populations in Ontario with higher tobacco use and discusses some of the challenges of balancing efficiency and equity within a comprehensive tobacco control (CTC) strategy

Methods

- This study occurred as part of the work of the Scientific Advisory Committee, convened by the Ministry of Health Promotion and Sport to provide evidence to inform the province-wide Smoke-Free Ontario strategy
- Primary data was drawn from peer-reviewed publications and the Canadian Community Health Survey 2007/08, as compiled by the Ontario Tobacco Research Unit[3]
- MEDLINE and GoogleScholar were searched from 1999 to the present, using terms such as "equity", "tobacco-related disparities" and "social determinants of health"
- Public reports by government sources in Canada and abroad were reviewed, including those from the Centers for Disease Control and Prevention, the United Kingdom's National Health Service and the Australian Public Health Service

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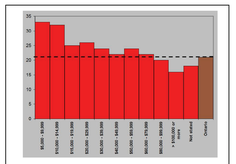
Tobacco-related disparities in Ontario

Sub-populations:

Low-income

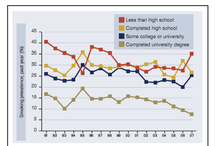
- Higher tobacco use and exposure
- Social networks play an important role
- Influenced by responses to stress and heavier marketing in certain communities
- Tobacco-use may account for a large proportion of the difference in life expectancy seen between high and low-income groups, especially in males[4]



Smoking prevalence %, by household income, age 18+, Ontario[3]

Low educational attainment

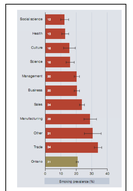
- Strong, independent inverse relationship between education level and tobacco-use
- Marked difference between university graduates and other groups
- May be related to lower uptake of health promotion messages & cessation aids
- Benefits of CTC appear independent of education level



Smoking prevalence, by education level, 18+, Ontario[5]

Blue-collar and outdoor workers

- White-collar workplaces earlier to adopt smoke-free policies
- Unenclosed workplaces particularly missed
- Access to health services and benefits are key factors
- Social norms about certain occupations may reinforce tobacco-use behaviours



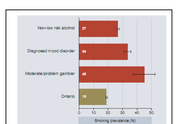
Smoking prevalence, by job sector, 15-75, Ontario 2007-08[3,5]

First Nation populations

- Limited data for Ontario poses a significant challenge
- Estimated that 40% of Canadians who identify as First Nation are daily smokers
- Tobacco taxes do not apply to First Nations smokers who purchase tobacco on reserves
- General health promotion campaigns are rarely culturally sensitive

Mental illness

- Well documented association with tobacco-use
- Due to a combination of genetic factors, environment, behaviour response and the use of cigarettes as rewards at institutions
- Lower likelihood of long-term cessation, particularly with a recurrence of depression



Smoking prevalence, by risk factor, 12+, Ontario, 2007-08[3,5]

Key additional factors:

- **Geography**
- **Age**
- **Gender**

Evidence for Interventions[5,6]

	Low-income	Low educational attainment	Blue-collar & outdoor workers	First Nation/ Aboriginal	Mental illness
General interventions					
Taxation	++	-	+	- - -	+
Anti-tobacco advertising	EQ	- -	?	?	?
Quit-lines	?	EQ	?	-	?
Workplace restrictions	?	?	- -	?	?
Targeted interventions					
Targeted social marketing	?	+	+	+	?
Targeted cessation programs	+	?	+	+	+
Community mobilization efforts	?	?	?	+	?

+ Evidence of greater impact on tobacco-use
- Evidence of less impact on tobacco-use
EQ Equivalent impact, compared to other groups
? Lack of or conflicting evidence

This represents an attempt to synthesize the literature and does not fully capture all available studies.

Efficiency and equity

- Efficiency: use resources to achieve the greatest overall reduction in tobacco use and exposure
- Equity: use resources to reduce unfair and unjust differences between social groups
- Do not necessarily need to prioritize one over the other. Can aim to find a balance between them:
  1. Identify priority populations starting with social determinants, looking for those who were "left behind" by past policies and programs. May use an *equity lens*, a tool to identify inequities and ways to address them.[7]
  2. Consider the degree of overlap between groups.
  3. Understand the differential impact of policies, programs and interventions on priority populations.
  4. Predict and quantify, accounting for uncertainty, the impact of universal and targeted interventions.
  5. Implement and evaluate a collection of interventions that address the majority of priority populations.

Considerations:

- Burden of disease (timing of initiation, consumption level, smoking typography, presence of co-morbidities) more important than prevalence
- Ensure community involvement throughout

Discussion

Limitations

- Our approach to identify priority populations was based on well-recognized social determinants of health. However, this approach only identifies a limited number of potential groups.
- We have conducted only a partial review of interventions, and cannot prioritize interventions by group.
- Enormous challenges in data availability and quality.
- Currently unable to quantify the degree of risk factor clustering and tobacco use in these sub-populations.

Theory into practice

- Equity considerations have been woven into recommendations to inform the renewal of CTC in Ontario, building on provincial and national commitments to reduce health inequities
- Framed as consistent with Canadian values about access to health care regardless of socioeconomic or ethinic status

Recommendations

1. Incorporate equity considerations into comprehensive tobacco control strategies.
2. Develop transparent, systematic mechanisms to identify priority sub-populations.
3. Ensure monitoring and surveillance of tobacco-related disparities, and that evaluation of policies and services capture the differential impact on priority groups.
4. Involve representatives of priority sub-populations in the conceptualization, design, implementation and evaluation of interventions.
5. Increase tobacco tax as an effective universal intervention that will reduce tobacco-related disparities. Counter the regressive nature of taxation by dedicating these funds to effective targeted interventions for those groups that may be left behind by universal interventions.

Acknowledgements

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