Improving Canadian Quitline Reach: Methods to Evaluate the Impact of a Quitline Number on Cigarette Packages

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North American Quitline Consortium
VISION
Transforming the health of populations in Canada and around the world.

MISSION
The Propel Centre for Population Health Impact is a collaborative enterprise that conducts solution-oriented research, evaluation and knowledge exchange to accelerate improvements in the health of populations.
Presentation Outline

- Canadian Institutes of Health Research (CIHR) Grant Overview
- Background
  - Tobacco packaging policy
  - Canadian quitlines
  - Vulnerable populations
- Research Objectives
- Methods
- Questions and Discussion
The specific objectives of this CIHR funding opportunity are to:

- support population health intervention research on rapidly unfolding "natural experiments" of programs, policies and resource distribution approaches that have the potential to promote health and health equity at a population level.
- encourage collaboration of community, non-profit, private, and/or public partners, where appropriate.
- develop knowledge exchange opportunities between researchers and community, non-profit, private, and/or public partners.
Tobacco Packaging Policy regulations have been drafted and await government approval.

The labeling regulations mandating the quitline number and website URL on packages are expected to be introduced January 2012.

Implementation of the new warning labels and pan-Canadian quitline number is an ideal example of a rapidly unfolding policy that is not under the control of the investigation team – a natural experiment.

Canadian Quitlines

Back of the package:

- Quitlines were first established in Canada in 2000 and by 2005 all provinces were offering quitline services.

- Propel funded by Health Canada and the Canadian Cancer Society to evaluate the NL quitline and all quitlines operating through the Ontario Smokers’ Helpline (ON, SK, MB, NB, NS & PEI).

- Tobacco packaging is expected to impact reach. Reach (currently less than 3% of smokers) is a challenge for the majority of quitlines in North America. In Canada, only one quitline (NL) is reaching over 1% of smokers in the population.
Vulnerable Population Groups and Smoking

Ontario population sub-groups that bear a greater burden from tobacco:

<table>
<thead>
<tr>
<th>Sub-population group</th>
<th>% Smoking</th>
<th>95% CI</th>
<th>Pop Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal</td>
<td>40.5</td>
<td>36.1-44.9</td>
<td>106,500</td>
</tr>
<tr>
<td>25-29 year old males</td>
<td>37.1</td>
<td>33.2-41.0</td>
<td>148,700</td>
</tr>
<tr>
<td>Works in trades</td>
<td>34.0</td>
<td>31.7-36.3</td>
<td>312,100</td>
</tr>
<tr>
<td>&lt; $14,999 income</td>
<td>32.8</td>
<td>27.4-39.6</td>
<td>107,500</td>
</tr>
<tr>
<td>Less than high school</td>
<td>26.9</td>
<td>25.2-28.6</td>
<td>365,200</td>
</tr>
<tr>
<td>Unemployed</td>
<td>26.3</td>
<td>22.9-29.6</td>
<td>104,400</td>
</tr>
</tbody>
</table>

Source: The Ontario Tobacco Research Unit, Evidence to Inform Smoking Cessation Policymaking in Ontario, August 2010.

- Quitlines reach significantly fewer young adult male smokers as compared to the general smoking population of young adult males.
The two research questions are addressed via a mixed-methods approach:

**Study #1** - How will the federal tobacco packaging policy change a) provincial quitline reach, reach equity and quitting success for vulnerable populations, and b) provincial health professional’s quitline referral patterns?

**Study #2** - How does the federal tobacco packaging policy decision impact the response of quitlines and provincial governments’ promotion of quitlines?

To our knowledge, no other study of toll free quitline numbers on tobacco packaging has examined reach as defined by NAQC, inequities in reach or effect on health professional referrals. Most studies report only on call volumes or the count of calls to the quitline. This study will add to our knowledge of the effect of toll free numbers on overall reach, inequities and reach inequity.
Methods - Study #1

Setting: Seven Canadian quitlines (SK, MB, ON, NB, NS, PEI & NL)

Target population: 18 years and older smokers who call the quitline and are seeking help to quit or stay quit.

Measures:

Independent Variable
• Policy Implementation - the date by which the new warning labels and toll-free number appear on tobacco packages.

Dependent Variables
• Quitline Reach - proportion of eligible smokers in the population who receive evidence-based treatment (NAQC).
• Reach Equity (Reach Ratio) - defined as the proportion of quitline callers from a priority group divided by the proportion of smokers from that group in the geographic area served by the quitline (Ossip 2010): Aboriginal, rural smokers, those with low education and young adult males (25-29).
• Health Professional Referrals - the number of HPs sending referrals and the number of smokers referred per HP.
• Quit Success - seven-day, 30-day and six month quit rates.
Data collection:

i) *Reach and reach equity* - Intake data will be used to extract reach variables for all provinces and create a dataset for analysis over time.

ii) *Health Professional Referrals* - Admin data on the number of unique professionals, by discipline (medicine, public health, optometry), who have referred at least one smoker to the quitline will be collected for analysis over time (before launch of policy and 12 months after).

iii) *Quit data* - Participants will be followed-up seven months after their initial call to the quitline, allowing at least one month for intervention counseling followed by a phone interview six months later. Quit rate data will be collected before the implementation of the tobacco packaging policy and once again six months after implementation.

Quantitative Data analysis:

- ARIMA (AutoRegressive Integrated Moving Average) analyses - Reach
- GENMOD (Generalized Estimating Equation model) analyses - Referrals and Quits
Methods - Study #2

Data collection: Semi-structured telephone key informant interviews (government and NGO) before and six months after policy implementation.

Measures:

All participants will be asked to:
1. Describe their organization including structure, mandate, scope of services and associated funding;
2. Describe their organization’s function within the provincial tobacco strategy;
3. Describe the effect of federal tobacco packaging on their role;

Government key informants will be asked to:
4. Describe existing programs and any plans for increasing quitline reach overall, and in vulnerable or hard-to-reach populations;
5. Describe any changes to the quitline service, funding levels, promotion plans, tobacco taxation initiatives or legislation, other key cessation programming initiatives and programs taking place in the province that might affect quitline reach;

Quitline key informants will also be asked to:
6. Describe the capacity of the program to handle the calls and how overload calls are handled and any other challenges faced by the program; and
7. Describe any changes to the quitline operations, service protocols, promotion and priority to their organization that might affect quitline reach.

Qualitative Analysis: Grounded Theory - Constant comparison method.
Over to you!

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The Propel Centre for Population Health Impact™ is a partnership between the Canadian Cancer Society and the University of Waterloo (UW).