Smoking Cessation, Physicians and Medical Office Staff: A Significant Opportunity for Clinical Tobacco Intervention in Prince Edward Island

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Clinical tobacco intervention in Prince Edward Island

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ABSTRACT

OBJECTIVE To assess attitudes and self-reported behaviours of physicians and medical office staff in Prince Edward Island concerning clinical tobacco intervention (CTI).

DESIGN Mail survey of PEI primary care physicians and their medical office staff. Most surveys were not mailed back but picked up in person by research staff.

SETTING Primary care settings in PEI.

PARTICIPANTS All active primary care physicians in PEI identified in the Canadian Medical Association database and medical office staff. Respondents included 63/88 (71.6%) physicians and 59/88 (67.0%) medical office staff. Fifty-seven physicians and medical office staff surveys overlapped.

MAIN OUTCOME MEASURES Attitudes and self-reported behaviours in CTI.

RESULTS More than 70% of the time, 68.3% of physicians reported asking new patients about their smoking behaviour and 66.7% reported that they listen to and acknowledge patients' feelings and fears about stopping smoking. Close to half (43.3%) of physicians reported thinking about or planning to do more CTI. Physicians and medical office staff reported that staff had limited involvement in methods to cue smoking interventions. Only half (50.8%) of physicians reported that their offices are well set up to identify smokers and to help them quit smoking. Offices were well set up for CTI if physicians perceived that office staff had an active role in CTI and if follow-up visits were frequently arranged.

CONCLUSIONS This study identified apparent opportunities for improving CTI, particularly in the areas of physician training, involvement of medical office staff, and awareness of billing codes. This could improve the quality of preventive care for patients in PEI.

This article has been peer reviewed.

Cet article a fait l'objet d'une évaluation externe.

here is strong evidence from randomized clinical trials that physicians' counseling for smoking cessation is effective.14 Expert committees and organizations have developed policies advocating smoking cessation counseling by physicians with the support of medical office staff.7,6 One would expect that counseling for tobacco cessation would be routine for every patient-physician encounter; however, it is not.7,10

What motivates physicians to do tobacco interventions? At least four factors influence them: training, attitudes, office staff involvement, and reimbursement.

Training is key to ensuring that physicians have the knowledge and skills to prevent smoking and to help patients quit.6,11-14 In a randomized controlled trial, Lindsay and associates15 found that validated, 3-month cessation rates at 1-year follow up for patients treated by trained physicians were significantly greater (8.8%) than rates for patients receiving care from physicians not trained in tobacco cessation (4.4%).

Physicians go through various attitudinal stages in their readiness to carry out clinical tobacco intervention (CTI).16,18 Goldstein and colleagues19 suggest five stages: precontemplation, when physicians are not ready to accept the idea of adopting smoking interventions into their office practices; contemplation, when physicians seriously consider delivering smoking interventions but have not taken action; preparation, when physicians have taken steps to do smoking interventions; action, when physicians have begun to apply smoking interventions routinely; and maintenance, when physicians are actively involved in smoking cessation.

Several authors have recognized a role for medical office staff in smoking interventions.6,17,20-22 In a controlled trial of two health maintenance organizations, Duncan and co-workers23 found staff and administrators' involvement in planning and support of smoking cessation counseling enhanced the effect of trained physicians.

Reimbursement can increase the likelihood of physicians' undertaking CTI.5,10,24,25 Ockene and colleagues26 found, in a survey of 292 community-based physicians, that 56% reported that reimbursement for treating smoking patients was considered valuable or very valuable.

The current survey was designed to answer the research question: what is the state of CTI among physicians and medical office staff in PEI? This province is of particular interest because its smokers use the highest daily average number of cigarettes in Canada, at 20 daily.27 Physicians in PEI are permitted to bill for health promotion counseling (eg, CTI) for up to 20 minutes under code 2505 or for more than 20 minutes, not to exceed 45 minutes, and limited to two services per 30 days for the same topic, under code 2506.28

The research was undertaken in February and March 1996 as part of the Mobilizing Physicians in Clinical Tobacco Intervention (MP-CTI) project. The project began in April 1995 with several partners: Health Canada, Canadian Medical Association, Ontario Medical Association, Medical Society of PEI, British Columbia (BC) Medical Association through the BC Doctors' Stop Smoking Program, Physicians for a Smoke-Free Canada, and Guide Your Patients to a Smoke-Free Future Program of the Canadian Council on Smoking and Health (now known as the Canadian Council for Tobacco Control).

Clinical tobacco intervention was defined by project partners as "the consistent effort in a medical setting to: identify all patients who smoke, advise and assist them to quit, follow them up on a continuing basis and offer repeated advice to youth to avoid beginning smoking."29

The research was directed by the MP-CTI Evaluation Subcommittee, which the first author (M.S.R) chaired. The second and third authors (R.B.C. and P.J.) were contracted to design the survey, analyze data, and write a report. The Subcommittee intended to apply what was learned from the PEI study to development of a set of CTI surveys for physicians' use in other parts of Canada. Information from the survey was to be used to establish a baseline measure of CTI and to develop a database to track CTI activities.

METHODS

Subjects
The survey involved active general practice and family practice physicians in Prince Edward Island identified in the Canadian Medical Association database. The sampling method for selecting medical office staff was tailored to specific medical offices. In those with a solo physician and one medical office staff person, one survey was completed by the physician and
one by the staff member. Where there was more than one office staff member, one survey was completed by group consensus. In group practices, each physician completed a survey and medical office staff surveys were replicated and "matched" with each physician survey.

A total of 88 physicians and medical office staff were mailed surveys and encouraged to answer the survey independently. Participation was voluntary. In most cases, the provincial coordinator visited each medical office to collect the surveys. Some surveys were mailed to the Medical Society of PEI.

Survey instrument

Physician and medical office staff questionnaire items were developed from three sources: information about effective tobacco intervention from Guide Your Patients to a Smoke-free Future and from the BC Doctors' Stop Smoking Program and relevant items from the Health Canada survey on physicians' attitudes and behaviours toward smoking cessation. Surveys were pilot tested on a sample of physicians (n = 3), medical office staff (n = 3), and project staff (n = 5) to ensure that content and format were appropriate. The smoking status of physicians and their staff was not obtained.

The physician survey included 20 items describing background characteristics, office set-up, asking and advising patients about smoking, roles of medical office staff, knowledge of billing codes, and stage of change. Most items were answered on 7-point modified-Likert scales (from 1 = never or 0% of the time to 7 = always or 91% to 100% of the time).

The 21 items on the staff survey included background characteristics, involvement in CTI, office policies, knowledge of billing codes, and methods of cueing CTI. Survey items usually contained two to three response options (e.g., yes, no, and don't know).

Statistical analysis

For the physician survey, the unit of analysis was the individual physician; for the medical office staff survey, the unit of analysis was the staff associated with that physician. Data were analyzed using mostly descriptive and univariate statistics. A forward stepwise regression was used to predict factors associated with a good office set-up for identifying smokers and helping them stop smoking. Separate correlation analyses between physician and medical office staff variables were done for the matched sample (n = 57). No significant differences were found between matched samples of duplicated and nonduplicated medical office staff surveys.

Predictor variables for the regression model were drawn from a pool of 22 items from the physician survey. The regression equation was accepted when the results made sense theoretically, the variables had stable parameters with additive variance indicating that multicollinearity (a high correlation among predictive variables) was not a problem, and the significance level of the model was 0.01 or higher.

Several derived variables were created about the physical office set-up: a summation of items about physicians' asking patients about their smoking status and advising them to quit and a summation of items that measured physician activity in helping patients interested or not interested in quitting smoking.

RESULTS

For the 63 physician and 59 medical office staff surveys that were completed, data were collected from the same practice in 57 cases. Of these matched surveys, 47 medical office staff surveys were originals and 10 were duplications. Six physician surveys were completed without corresponding medical office
staff surveys; two medical office staff surveys did not have matched physician surveys.

**Background characteristics**

Table 1 outlines the demographic characteristics of general practice and family physicians in PEI. The total population of PEI general practitioners and family physicians is similar to those responding to the survey (range of absolute percentage differences: 0.1 to 3.8). Of the 63 family physicians who responded to the survey, most were male, worked in an urban centre, worked 8 hours a day, saw 34 patients daily, and estimated that approximately one third of their patients were smokers. Most medical office staff (94.9%) were women.

**Main findings**

Mean scores noted below refer to mean responses on a scale of 1 to 7 and, unless otherwise noted, no less than 94% item response rates.

Approximately 68.3% of physicians indicated that they ask new patients about their smoking behaviour more than 70% of the time (Table 2). More than half of the time, 71.0% of physicians reported that they repeat strong, personalized advice to smokers to stop smoking.

Average scores on clinical activities for physicians with patients not interested in quitting were not as high as those with patients interested in quitting. Most physicians (66.7%) indicated that, if patients were interested in quitting, they listened to and acknowledged patient feelings and fears about stopping smoking more than 70% of the time.

Physicians reported that medical office staff infrequently play a role in CTI. This was reflected in physicians’ reporting little to no involvement of medical office staff in methods to cue smoking interventions (eg, noted in problem list). Medical office staff also reported limited involvement in cueing methods.

Close to half (43.3%) of physicians were in either the contemplation or preparation stage. A full fifth (21.7%) were in the maintenance stage. Approximately 16.7% were in the action stage. Less than a fifth (18.3%) of physicians were in the precontemplation stage. None reported being in the relapse stage.

Approximately half (50.8%) of physicians reported that their offices are well to very well set up to identify smokers and to help them quit smoking. The more a physician perceived the office to be set up for CTI, the more he or she asked and advised patients about smoking behaviour ($r = - .47, P < .001$).

Forward stepwise regression results indicate an overall significant model, $f(2,57) = 19.71, P < .001, R^2 = .42$ (Tables 3 and 4). This suggests that an office is likely to be well set up for CTI if a physician perceives that office staff have an active role in CTI and if follow-up visits are frequently arranged for patients interested in quitting smoking. These two predictors were independent of each other, although related conceptually ($r = .010, P = .472$).

Slightly more than half of physicians (53.3%) and less than half of medical office staff (40.4%) knew that code 2505 and code 2506 could be used to bill for CTI.

**DISCUSSION**

Physicians in PEI appear to be selectively active in CTI. Physicians report that new patients are more frequently asked about their smoking behaviour than those they have seen before; those interested in quitting smoking are more often counseled about their smoking behaviour than those who are not interested. Opportunities exist to improve CTI, particularly in the areas of physician training, involvement of medical office staff, and awareness of billing codes.

Many physicians reported considering or planning to do more CTI and are likely to be receptive to training. Others are not planning to do more CTI because they perceive themselves to be active enough or inactive and likely to remain so. Physicians in the latter group are in the precontemplation stage and are unlikely to be responsive to training due to their lack of interest. Instead, Burns$^{16}$ suggests that grand rounds presentations, published results, interactions with peers, or using examples of peers who are active in CTI are more effective strategies for influencing physicians at the beginning stage.

Physicians and medical office staff report that staff have limited involvement in methods for cueing smoking interventions. Unpublished data from a Health Canada survey$^{32}$ indicate that very rarely did physicians across Canada report that nurses, medical assistants, or secretaries were responsible for cueing smoking intervention. For example, two thirds of physicians (66% of 3817) reported that they were personally responsible for writing progress notes. Yet many studies have highlighted the role of office staff in tobacco interventions.$^{17,20-23}$ Involving office staff is in Bass’s$^{33}$ list of 12 components of clinical intervention in tobacco use (Table 5).
Table 2. Mean scores and frequencies for estimated percentage of time physicians ask and advise patients about smoking and perform clinical activities with patients interested and not interested in quitting smoking, perceived involvement of medical office staff in CTI (n = 63), and medical staffs' reported involvement in CTI (n = 59)

<table>
<thead>
<tr>
<th>AREAS</th>
<th>MEAN SCORE (1-7)</th>
<th>FREQUENCIES FOR ESTIMATED % OF TIME</th>
<th>NONRESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask and Advise Patients about Smoking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask new patients about their smoking behaviour</td>
<td>5.7</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Ask patients who smoke if they are ready to stop</td>
<td>5.3</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Repeat strong, personalized advice to smokers to stop smoking</td>
<td>5.2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Ask patients they have seen before about their smoking behaviour</td>
<td>4.8</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Repeat advice on not smoking to young non-smoking patients</td>
<td>4.7</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

CLINICAL ACTIVITIES WITH PATIENTS INTERESTED AND NOT INTERESTED IN QUITTING SMOKING

Listen to and acknowledge patients' feelings and fears about stopping smoking
- Interested | 5.9 | 2 | 3 | 2 | 14 | 13 | 29 | 0 |
- Not interested | 5.0 | 2 | 4 | 6 | 7 | 16 | 15 | 13 | 0 |

Discuss nicotine chewing pieces or patch
- Interested | 5.4 | 1 | 3 | 7 | 5 | 9 | 16 | 22 | 0 |
- Not interested | 4.1 | 5 | 6 | 12 | 13 | 12 | 11 | 4 | 0 |

Provide printed materials
- Interested | 4.5 | 2 | 8 | 9 | 10 | 12 | 14 | 8 | 0 |
- Not interested | 3.7 | 4 | 14 | 10 | 10 | 8 | 10 | 4 | 1 |

CLINICAL ACTIVITIES WITH PATIENTS INTERESTED IN QUITTING SMOKING ONLY

Recommend or prescribe nicotine patch | 5.0 | 2 | 4 | 19 | 12 | 20 | 6 | 0 |
Arrange follow-up visits | 4.8 | 2 | 8 | 4 | 10 | 11 | 16 | 12 | 0 |
Discuss a date for stopping smoking | 4.7 | 2 | 9 | 7 | 7 | 11 | 14 | 13 | 0 |
Refer smokers to other cessation programs | 3.7 | 4 | 11 | 15 | 13 | 11 | 6 | 3 | 0 |
Recommend or prescribe nicotine chewing pieces | 3.5 | 4 | 17 | 14 | 11 | 9 | 4 | 3 | 1 |

INVESTMENT OF MEDICAL OFFICE STAFF IN CTI PERCEIVED BY PHYSICIANS AND BY MEDICAL OFFICE STAFF

Noted in problem list
- Physicians | 2.4 | 34 | 9 | 1 | 4 | 6 | 2 | 4 | 3 |
- Staff | 3.7 | 13 | 3 | 2 | 7 | 7 | 5 | 6 | 16 |

Written in progress notes
- Physicians | 2.1 | 32 | 14 | 1 | 6 | 4 | 2 | 1 | 3 |
- Staff | 4.6 | 9 | 2 | 1 | 9 | 8 | 9 | 11 | 10 |

Chart stickers
- Physicians | 1.4 | 47 | 9 | 1 | 0 | 0 | 2 | 0 | 4 |
- Staff | 1.2 | 33 | 2 | 2 | 1 | 0 | 0 | 0 | 21 |

Computerized reminders
- Physicians | 1.3 | 50 | 6 | 0 | 1 | 1 | 1 | 0 | 4 |
- Staff | 1.5 | 34 | 1 | 0 | 1 | 1 | 0 | 2 | 20 |
Smoking cessation, physicians, and medical office staff

Table 3. Multilinear regression model for predicting office set-up conducive to clinical tobacco intervention (N = 58): $R^2 = .418$, adjusted $R^2 = .396$ ($F = 19.7$, $P < .001$).

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>COEFFICIENT ($b$)</th>
<th>STANDARD ERROR</th>
<th>STANDARDIZED COEFFICIENT</th>
<th>$T$ STATISTIC</th>
<th>$P$ VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.814</td>
<td>.261</td>
<td>—</td>
<td>14.618</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Staff role in clinical tobacco intervention</td>
<td>-2.50</td>
<td>.047</td>
<td>-.549</td>
<td>-5.337</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Follow-up visits</td>
<td>-.144</td>
<td>.044</td>
<td>-.335</td>
<td>-3.255</td>
<td>.002</td>
</tr>
</tbody>
</table>

Table 4. Variables considered for inclusion, but excluded by stepwise procedure

<table>
<thead>
<tr>
<th>VARIABLES EXCLUDED</th>
<th>$\beta$ IN</th>
<th>SIGNIFICANCE</th>
<th>PARTIAL CORRELATION</th>
<th>TOLERANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often give repeat advice to young non-smoking patients</td>
<td>-.194</td>
<td>.072</td>
<td>-.242</td>
<td>.907</td>
</tr>
<tr>
<td>How often ask smokers if they are ready to stop smoking</td>
<td>-.053</td>
<td>.635</td>
<td>-.065</td>
<td>.871</td>
</tr>
<tr>
<td>How often routinely ask new patients about smoking behaviour</td>
<td>-.096</td>
<td>.408</td>
<td>-.113</td>
<td>.810</td>
</tr>
<tr>
<td>How often repeat strong, personalized advice to smokers to stop</td>
<td>-.114</td>
<td>.357</td>
<td>-.125</td>
<td>.698</td>
</tr>
<tr>
<td>How often ask patients they have seen before about smoking behaviour</td>
<td>-.115</td>
<td>.293</td>
<td>-.143</td>
<td>.902</td>
</tr>
</tbody>
</table>

Interestingly, PEI physicians who reported having offices that are well set up for CTI were likely to have medical office staff involved and frequently arrange follow-up visits. Yet, limited involvement of office staff is reported. This apparent discrepancy between office set-up and office staff involvement is partly explained by higher mean scores on the overall perceived role of office staff than on individual activity items (eg, noted in problem list). The former scores were used in the prediction model. It is possible that physicians believe that office staff are involved in CTI in ways not measured by individual activity items.

Many physicians and medical office staff who reported they were unaware of the billing codes for CTI were subsequently informed of these codes. It would be interesting to assess whether receiving this information will lead to an increase in CTI activities, as the literature predicts.6,10,24,25

The relatively high response from physician and medical office staff provides some assurance that the results are an accurate portrayal of CTI in PEI. These findings may not be generalized to the rest of Canada due to the unique characteristics of PEI (eg, size). Statements about what physicians say they are doing need to be verified by examining clinical behaviours, asking patients, and observing office set-up. The study lacks information on physician training for CTI because it was not an objective of the MP-CTI project. Patient outcomes were not addressed. The survey has not been tested for reliability or validity other than content validity. While visiting each office to collect finished surveys helped to obtain high completion rates in a short period, this data collection method could have biased results in a positive direction.

In the future, researchers could develop an instrument to assess clinical practice stages of change for CTI. This instrument would fit with current ideas that having the whole office involved in tobacco cessation greatly enhances CTI.23,24 One component could examine attitudes of physicians toward medical office staff involvement in CTI. This instrument could be added to the core and comprehensive set of CTI surveys and user’s guide developed by the MP-CTI Evaluation Subcommittee with input from
**Table 5. Specific components of clinical intervention in tobacco use**

- Asking each smoker and recent ex-smoker about smoking as well as updating patient record
- Putting a label or computer-generated reminder in patient record to prompt regular attention to smoking
- Offering strong advice and personalized risk information to patients repeatedly
- Listening empathically and reflectively to patients who smoke in order to motivate them to stop smoking
- Giving patients printed information about the risks of smoking and how to stop smoking
- Stressing behavioural self-management
- Helping those ready to stop smoking to set a target date
- Offering nicotine-replacement therapy to those who are ready to stop and who are addicted to nicotine
- Using a stepped-care algorithm to match treatment to patients' needs
- Referring patients to community programs and to addiction specialists as required
- Maintaining long-term follow up of all patients who smoke or who have quit smoking
- Involving office staff in clinical tobacco interventions

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the PEI study for use by physicians in other provinces and territories.

This study identified apparent opportunities for physicians and their medical office staff to strengthen CTI. The ultimate and most important beneficiaries of future program enhancements will be patients who receive better preventive care.

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Acknowledgment

We thank members of the MP-CTI Evaluation Subcommittee for their valuable advice and Owen Adams, MA, and Millicent Toombs, MHA, of the Canadian Medical Association for editorial comments.

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RESEARCH

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