Physicians Taking Action Against Smoking: an intervention program to optimize smoking cessation counselling by Montreal general practitioners

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Abstract

IN 1997 THE DIRECTION DE LA SANTÉ PUBLIQUE de Montréal-Centre initiated "Physicians Taking Action Against Smoking," a 5-year intervention program to improve the smoking cessation counselling practices of general practitioners (GPs) in Montreal. Program development was guided by the precede-proceed model. This model advocates identifying factors influencing the outcome, in this case counselling practices. These factors are then used to determine the program objectives, to develop and tailor program activities and to design the evaluation. Program activities during the first 3 years included cessation counselling workshops and conferences for GPs, publication of articles in professional interest journals, publication of clinical guidelines for smoking cessation counselling and dissemination of educational material for both GPs and smokers. The program also supported activities encouraging smokers to ask their GPs to help them stop smoking. Results from 2 cross-sectional surveys, conducted in 1998 and 2000, of random samples of approximately 300 GPs suggest some improvements over time in several counselling practices, including offering counselling to more patients and discussing setting a quit date. More improvements were observed among female than male GPs in both psychosocial factors related to counselling and specific counselling practices. For example, improvements were noted among female GPs in self-perceived ability to provide effective counselling and in the belief that it is important to schedule specific appointments to help patients quit; in addition, the perceived importance of several barriers to counselling decreased among female GPs. A greater proportion of the female respondents to the 2000 survey offered written educational material than was the case in 1998, and a greater proportion of the male GPs devoted more time to counselling in 2000 than in 1998; however, among male GPs the proportion who discussed the pros and cons of smoking with patients in the precontemplation stage declined between 1998 and 2000, as did the proportion who referred patients in the preparation stage to community resources. Our experience suggests that an integrated, theory-based program to improve physicians' counselling practices could be a key component of a comprehensive strategy to reduce tobacco use.

The health benefits of smoking cessation are well established,[1] and physicians are acknowledged as the health care providers of choice for provision of cessation counselling.[2] Over the past decade several training programs have been developed in Canada to improve counselling practices among physicians, including the BC Doctors' Stop-Smoking Program,[3] introduced in May 1990 by the British Columbia Medical Association; the Guide Your Patients to a Smoke-Free Future program,[4] initiated in August 1992 by the Canadian Council on Smoking and Health and the College of Family Physicians of Canada;[5] and the Mobilizing Physicians for Clinical Tobacco Intervention, developed by the Canadian

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Synthèse

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Medical Association, Physicians for a Smoke-Free Canada, the BC Doctors' Stop-Smoking Program, and the medical associations of Ontario and Prince Edward Island.[6]

Physicians Taking Action Against Smoking is a 5-year program, initiated in 1997 by the Direction de la santé publique de Montréal-Centre, to improve cessation counselling practices among general practitioners (GPs) in Montreal. In addition to having features common to previous initiatives, the Montreal program is based on behaviour change models and therefore incorporates objectives to improve psychosocial precursors to behaviour change, including beliefs, attitudes and self-perceived ability to provide effective counselling. The program was developed as an integral component of a comprehensive province-wide initiative for smoking prevention, protection and cessation,[7] which calls for health care professionals, physicians in particular, to deliver smoking cessation interventions.

This paper describes the theoretical model underlying the Physicians Taking Action Against Smoking program, as well as selected components of the program implemented during its first 3 years. The results of 2 cross-sectional surveys of independent random samples of GPs in 1998 and 2000, to monitor cessation counselling practices, are also reported.

Program description

The Physicians Taking Action Against Smoking program was developed and implemented by a team of physicians (M.T., A.G. and C.L., representing one full-time equivalent position) at the Direction de la santé publique de Montréal-Centre. Program conceptualization and implementation were informed by the precede-proceed model[8] and by the 5-year results of the BC Doctors' Stop-Smoking Program.[3] A comprehensive literature review identified key predisposing, enabling and reinforcing factors for cessation counselling in medical practice[9–15] (Fig. 1), each of which were targeted for intervention during the program.

The target population for our program comprised all 2130 GPs practising in Montreal in 1997: 165 GPs in 29 local community health centres, 1062 GPs in group practices and 903 GPs in solo practices.

Nine distinct component activities have been developed and implemented since program inception in 1997 (Table 1), ranging in scope and intensity from collaboration with province-wide awareness campaigns to encourage smokers to quit, through a variety of publications for both physi-

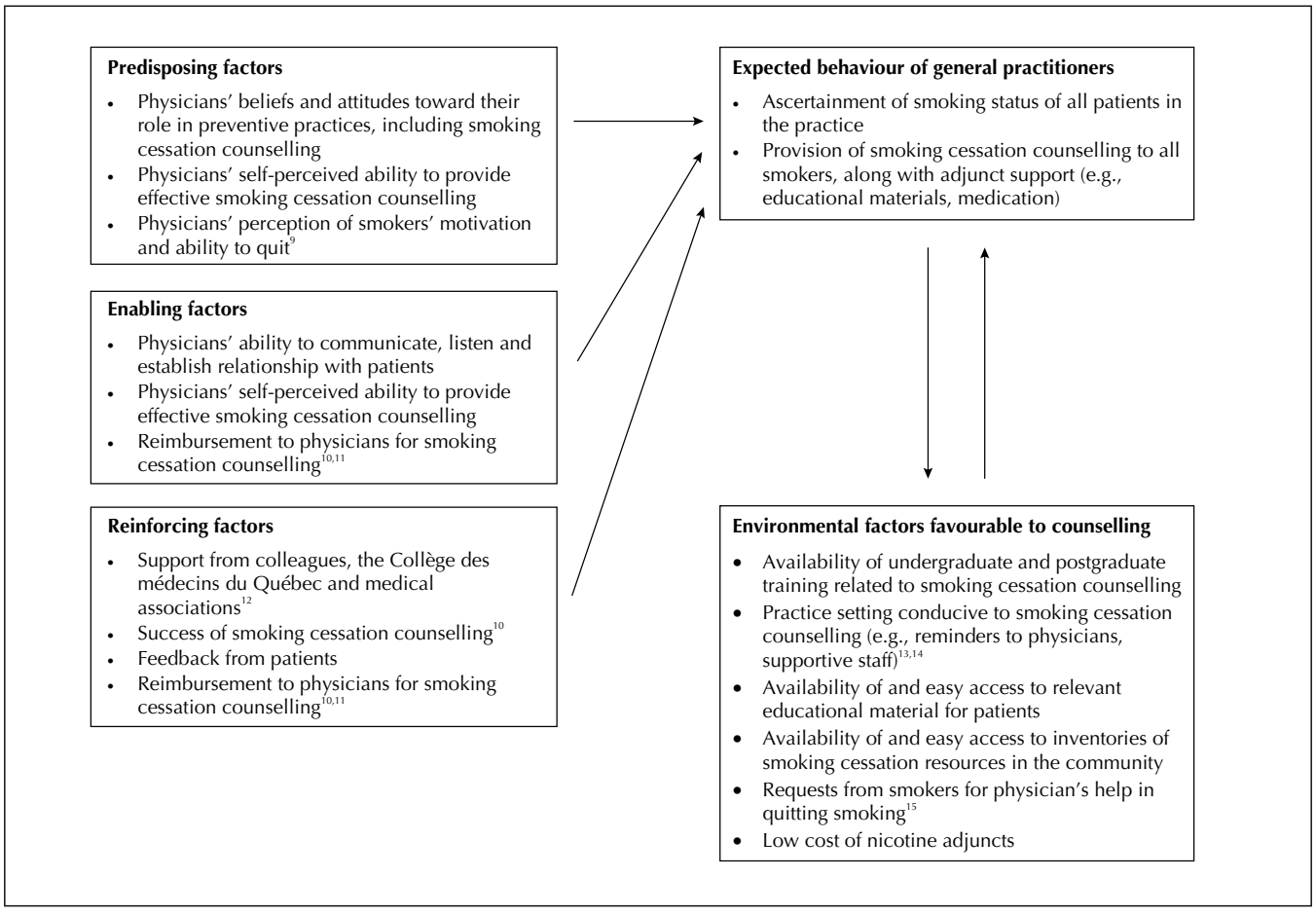

Fig. 1: Theoretical model of factors affecting behaviour change in the Physicians Taking Action Against Smoking intervention program.

cians and the public,[16–34] to intensive training workshops for GPs to enhance their knowledge and skills related to smoking cessation counselling. These activities were selected to be complementary and to provide reciprocal reinforcement. Details on each activity are provided in the following paragraphs.

Over the first 3 years of the program, 180 GPs, 37 specialists, 27 residents and 373 other health care professionals participated in a total of thirty-two 1- to 2-hour intensive training workshops designed to increase knowledge about and skills in smoking cessation counselling. Participants were recruited through word of mouth, mailings to physicians' offices and advertisements in professional interest journals, although the yield from the latter 2 recruitment strategies was low. Interest in the workshops intensified after the introduction of bupropion SR into the Canadian market in August 1998.

Workshops were moderated by trained physicians and were delivered to groups of 10 to 15 participants. Three to five clinical scenarios featuring smokers at different stages of readiness to quit were presented, and participants worked in groups of 4 or 5 to assess the cases and share their evaluations with the entire group. The moderator then described appropriate counselling interventions tailored to the smoker's stage of readiness to quit, including the use of nicotine replacement therapy and bupropion SR. During the workshops, participants were informed that billing for smoking cessation counselling is permitted by the Régie de l'assurance maladie du Québec.[11] Take-home materials included a summary of the workshop, a list of smoking cessation resources in Montreal, an educational booklet to motivate smokers to stop smoking and an order form for more materials.

Two 30-minute conferences on smoking cessation counselling were provided in conjunction with continuing medical education activities organized by the Université de Montréal; a total of 239 GPs participated in these conferences. Medical students at the Université de Montréal also received training in smoking cessation counselling.

For many physicians, reading is a preferred method for remaining current with medical knowledge,[35] so we published 11 articles on smoking cessation counselling in the most widely read professional interest journals in Quebec.[16–26] Several of these articles addressed cessation counselling in general, and others had a more specific focus such as pharmacotherapy for withdrawal symptoms and smoking cessation among women.

Using principally the evidence-based US clinical guidelines,[10] the project team developed clinical guidelines for smoking cessation counselling in collaboration with the Collège des médecins du Québec, the body responsible for monitoring the quality of medical practice in the province.[27] These guidelines were ratified by the Fédération des médecins omnipraticiens du Québec, by several associations of medical specialists and by the Ministère de la Santé et des Services sociaux du Québec. The objectives were to

Table 1: Training activities undertaken and educational materials developed in the Physicians Taking Action Against Smoking program (June 1997 to June 2000)

Activity or educational material	No. of Montreal GPs who received training or educational material	Cost, $*
Thirty-two 1- to 2-h workshops about smoking cessation counselling	180	
Two 30-min conferences on smoking cessation counselling	239	
Publication of 11 articles about smoking cessation counselling in journals for Quebec physicians[16–26]	17 000†	
Publication of clinical guidelines for smoking cessation[27]	17 000†	23 000
Production and distribution of a 2-sided plastic-coated card presenting a summary, in algorithm format, of smoking cessation interventions[28]	2 275‡	8 700
Publication and distribution of a smoking cessation guide,[29] presented in a cigarette pack format	2 275‡	30 000
Publication and distribution of *Breathe Free for Life*,[30] a list of smoking cessation resources in Montreal	2 275‡	14 000
Support of involvement of the Collège des médecins du Québec in awareness campaigns by the Quebec Council on Tobacco and Health to encourage patients to stop smoking and to ask for help from their physicians	8 500§	
Collaboration in the publication of 2 newspaper articles[31,32] and 2 articles in a consumer magazine[33,34] to reinforce the importance of physicians in smoking cessation and to encourage smokers to ask for help from their physicians	Quebec population	

Note: GP = general practitioner. The educational materials are available at www.santepub-mtl.qc.ca/Tabagie/tabagisme.html (accessed 2001 Jul 31).
*Excludes the cost of human resources at the Direction de la santé publique de Montréal-Centre and the cost of distributing educational materials. For cells with no entry, the only costs associated with the activity or the educational material were related to human resources or distribution of educational material.
†All registered physicians in Quebec.
‡Number of GPs who were on the authors' distribution list at the time educational material was distributed.
§Number of general practitioners in Quebec.

establish smoking cessation counselling as a norm of good medical practice, to encourage physicians to intervene using the stages-of-change model, to encourage physicians to recommend or prescribe medications to alleviate withdrawal symptoms, and to inform physicians of resources available to assist patients in their smoking cessation efforts. The guidelines were distributed in January 1999 to all 17 000 registered physicians (both GPs and specialists) in the province of Quebec.

Practice aids and educational materials to facilitate counselling were developed in French and English and were distributed free of charge to Montreal GPs. These materials included a 2-sided, plastic-coated card depicting an algorithm that summarized optimal cessation counselling practices, according to the patient's stage of readiness to quit;[28] a smoking cessation guide for patients called *Freedom*, presented in a cigarette pack format;[29] and *Breathe Free for Life*, a 2-sided handout for patients containing a list of smoking cessation resources available in Montreal.[30] Educational materials designed specifically for pregnant women and teenagers were also distributed to GPs.

The Physicians Taking Action Against Smoking program supported existing public awareness stop-smoking campaigns by fostering new partnerships among health organizations. For example, in January of both 1999 and 2000 our program supported the involvement of the Collège des médecins du Québec in the annual smoke-free week organized by the Quebec Council on Tobacco and Health. Information packages, including a letter signed by the presidents of the Collège des médecins du Québec and the Quebec Council on Tobacco and Health, a poster and sample pamphlets for smokers, were distributed to all GPs in Quebec. Additional patient education materials from the Quebec Council on Tobacco and Health, for display in waiting rooms, were distributed to Montreal GPs in May 1999 and May 2000.

To promote public awareness, 2 articles[31–32] were published in the health column of *La Presse*, a popular daily newspaper in Montreal. These articles described steps to stop smoking and resources available to help smokers quit. Smokers were advised to consult their physicians for help. Finally, 2 articles on smoking cessation were published in *Protégez-vous*,[33,34] the most popular consumer magazine in Quebec, once again promoting the role of physicians in smoking cessation and encouraging smokers to request help from their physicians.

Monitoring the smoking cessation counselling practices of GPs

Two cross-sectional surveys were conducted to monitor trends in the smoking cessation counselling practices of Montreal GPs, as well as trends in psychosocial factors related to counselling. The first survey was conducted in the period April–July 1998 and the second in April–September 2000. Data were collected by means of self-administered mailed questionnaires and included sociodemographic characteristics, beliefs and attitudes related to cessation counselling, self-perceived ability to provide effective smoking cessation counselling, perceived importance of selected barriers to counselling and use of counselling behaviours relevant to smokers at each stage of readiness to quit. In 1998, of 440 GPs randomly selected from the 1997 Collège des médecins du Québec database for Montreal and eligible to participate, 337 (76.6%) completed the questionnaire. Detailed descriptions of subject selection, sampling, data collection and study variables, as well as the results of the 1998 survey, are reported elsewhere.[36] The 2000 survey was completed by 316 (69.6%) of 454 randomly selected GPs.

Respondents to the 1998 survey were younger than the respondents in 2000 (mean age 45.3 [standard deviation 9.5] v. 47.8 [standard deviation 10.4] years; $p = 0.002$), but the 2 groups of respondents were similar in terms of sex ratio (133 [39.5%] v. 132 [41.8%] female; $p = 0.55$) and language (259 [76.9%] v. 241 [76.3%] French-speaking; $p = 0.86$). Similar proportions had completed family medicine residency training (115 [38.6%] v. 132 [42.2%]; $p = 0.37$).

Beliefs and attitudes toward cessation counselling were generally favourable (Table 2). Self-perceived ability to provide effective counselling was low among both male and female GPs. About half of male GPs and two-thirds of female GPs were interested in updating their cessation counselling skills. Finally, GPs perceived many barriers to counselling, the most important of which was lack of time.

There were more positive changes in psychosocial aspects of counselling among female GPs over time than among male GPs (Table 2). Specifically, the proportion of female GPs who felt that GPs should schedule specific appointments to help patients quit increased from 1998 to 2000, ratings for 2 of the 3 indicators of self-perceived ability to provide effective counselling improved among female GPs, and the perception of the importance of several barriers to cessation decreased. Notably, the perceived importance of lack of time as a barrier to counselling increased over time among both male and female GPs.

Among female GPs, several indicators of counselling behaviours improved (Table 3). For example, the proportion who offered written educational material and discussed setting a quit date increased from 1998 to 2000. The proportion of GPs, both male and female, recommending nicotine replacement therapy decreased over time, which might have been related to the introduction of bupropion SR into the market late in 1998; in 2000, 44.1% of male and 52.5% of female GPs prescribed this drug. Male GPs devoted more time to counselling and were significantly more likely to discuss setting a quit date in 2000 than in 1998. However, the proportion of male GPs who discussed the pros and cons of smoking with patients in the precontemplation stage and the proportion who referred patients in the preparation stage to community resources declined from 1998 to 2000.

Many of the indicators of counselling behaviour suggest that female GPs' counselling practices are significantly better than those of their male counterparts, and that these differences were more pronounced in 2000 than in 1998. In 2000, a significantly greater proportion of female GPs than male GPs used a system to identify smokers, offered cessation counselling to more than half of their patients who smoked, discussed strategies for quitting, discussed setting a quit date, offered written educational material, referred patients to community resources and offered a follow-up visit.

Interpretation

Even though the implementation of the Physicians Taking Action Against Smoking program is still in progress, our experience so far suggests that it is feasible to implement a multidimensional program aimed at improving the smoking cessation counselling practices of GPs with limited resources (3 physicians working the equivalent of one full-time position and educational material estimated to cost $28 000 per year).

Although previous one-dimensional interventions aimed at physicians have failed to improve medical practice,[37] our data suggest that targeting the predisposing, enabling and reinforcing factors, as suggested by our theoretical model, might potentiate the impact of the program on GPs' counselling behaviours. The absence of a control group precludes attribution of the observed positive changes to our program, but the data from 2 cross-sectional surveys conducted 2 years apart suggest improvements over time in some counselling behaviours and in several psychosocial precursors to behaviours, particularly among female GPs.

Table 2: Beliefs and attitudes, self-perceived ability to provide effective smoking cessation counselling, interest in updating skills and perceived barriers related to smoking cessation counselling among Montreal GPs, as determined by surveys in 1998 and 2000*

	Year; % (and no.) of male physicians			Year; % (and no.) of female physicians		
Survey item	1998 *n = 204*	2000 *n = 184*	*p* value†	1998 *n = 133*	2000 *n = 132*	*p* value†
Beliefs and attitudes (% who strongly agree or agree)						
GPs should advise patients to quit smoking, even if this is not the reason for visit	77.4 (151)	71.7 (128)	0.44	75.4 (95)	79.1 (102)	0.64
Counselling by a GP helps motivate smokers to quit‡	73.9 (144)	75.6 (136)	0.66	62.7 (79)	70.5 (91)	0.41
GPs should set up appointments specifically to help patients to quit	48.7 (90)	50.0 (90)	0.81	53.2 (67)	60.2 (77)	0.10
Self-perceived ability to provide effective counselling (% who strongly agree or agree)						
I have the required skills to help my patients quit smoking‡	46.2 (90)	50.3 (90)	0.50	32.8 (41)	48.1 (62)	0.028
I am able to tailor cessation counselling to patients' needs	41.5 (81)	43.0 (77)	0.86	34.4 (43)	46.9 (60)	0.07
I know to which community resources to refer patients	27.5 (53)	22.2 (40)	0.34	22.4 (28)	28.9 (37)	0.44
Have an interest in updating counselling skills (%)‡	49.7 (88)	51.4 (91)	0.75	62.7 (74)	60.9 (78)	0.78
Perceived importance of selected barriers to counselling (% rating barrier as very important or important)						
Lack of time	51.3 (99)	60.7 (108)	0.16	48.4 (59)	60.9 (78)	0.12
Patients do not comply	47.9 (92)	46.0 (81)	0.46	45.1 (55)	38.3 (49)	0.17
Patients not interested	45.1 (87)	42.5 (76)	0.48	56.6 (69)	43.0 (55)	0.019
Lack of reimbursement	40.6 (78)	46.0 (81)	0.53	46.3 (56)	42.9 (54)	0.84
Lack of community resources	31.9 (61)	26.2 (45)	0.45	33.6 (41)	35.2 (45)	0.72
Lack of patient education material	30.2 (58)	21.1 (37)	0.12	33.3 (40)	25.0 (32)	0.35
Lack of impact on patients	25.0 (48)	20.2 (36)	0.54	32.2 (39)	26.7 (34)	0.58
Lack of training	24.0 (46)	27.8 (49)	0.58	30.6 (37)	27.3 (35)	0.81
Complexity of smoking cessation guidelines	17.4 (33)	13.6 (24)	0.54	18.5 (22)	12.7 (16)	0.24

Note: In 2000, there were no significant differences between male and female physicians for any of the survey items.
*For calculation of percentages, missing data were excluded from the denominator.
†For difference in results between 1998 and 2000, calculated using a χ^2 test.
‡Statistically significant difference in 1998 between male and female physicians ($p < 0.05$).

The greater changes among female GPs and their greater involvement in smoking cessation counselling relative to male GPS is consistent with the results of previous research, which indicates that women are more likely to be involved in patient education.[38] Although the proportion of male GPs devoting at least 2 minutes to cessation counselling and discussing setting a quit date with patients in the preparation stage increased from 1998 to 2000, fewer initiated a dialogue at the precontemplation stage in 2000 than in 1998. This may relate to the increase in perceived barriers, particularly lack of time. It is possible that male GPs focus attention on patients who are at a more advanced stage of readiness to quit. Because nicotine replacement therapy and bupropion SR are now covered by the Quebec drug insurance plan (since October 2000) and because reimbursement for medication requires a prescription, we can expect that more patients will ask physicians for cessation counselling and physicians may therefore become more responsive to educational efforts aimed at improving their skills.

Our program was implemented in a favourable social environment. Media coverage of the US lawsuits against tobacco manufacturers and of the resulting settlement, as well as reports of Canadian tobacco manufacturers' involvement in cigarette smuggling, might have helped to create a positive attitude toward stronger control of the tobacco industry. In 1998 the provincial government adopted the Quebec Tobacco Act, which sharply curtails the use of tobacco in public places. Also, province-wide mass media campaigns, including annual stop-smoking campaigns and a "quit and win" contest, have contributed to increasing public awareness of the importance of smoking cessation.

Several challenges remain in regard to improving the Physicians Taking Action Against Smoking program, most notably in addressing physicians' lack of time, perceived by many respondents as a barrier to cessation counselling. However, the positive results we have achieved to date suggest that, when combined with supportive public policy, environmental changes and mass media interventions for the public, an integrated, theory-based program to im-

Table 3: Smoking cessation counselling practices of Montreal GPs, as determined by surveys in 1998 and 2000*

	Year; % (and no.) of male physicians			Year, % (and no.) of female physicians		
Counselling practice	1998 *n = 204*	2000 *n = 184*	*p* value†	1998 *n = 133*	2000 *n = 132*	*p* value†
Usually uses a system to identify smokers‡§	42.8 (86)	37.6 (67)	0.31	56.1 (73)	51.9 (68)	0.49
Cessation counselling coverage						
Offers cessation counselling to more than half of patients who smoke§	55.9 (95)	61.5 (112)	0.28	65.5 (74)	74.6 (97)	0.12
Offers cessation counselling during at least 1 in 2 visits by patients who smoke	60.6 (83)	53.9 (91)	0.24	62.1 (64)	65.3 (79)	0.62
Devotes 2 min or more to cessation counselling when counselling is offered	77.4 (106)	87.6 (148)	0.018	87.2 (83)	90.2 (110)	0.49
Offers support to more than half of patients at various stages of smoking cessation						
Precontemplation stage						
Discusses patients' perception of pros and cons of smoking‡	68.7 (92)	52.7 (87)	0.005	55.9 (57)	54.6 (66)	0.84
Offers written educational material§	35.6 (47)	28.1 (46)	0.16	30.7 (31)	47.2 (58)	0.012
Contemplation stage						
Discusses patients' perception of pros and cons of quitting	83.8 (134)	81.0 (136)	0.51	79.7 (90)	83.7 (103)	0.42
Offers written educational material§	44.0 (70)	46.7 (78)	0.63	55.0 (61)	73.2 (90)	0.004
Preparation stage						
Discusses strategies for quitting§	85.0 (136)	78.9 (127)	0.15	86.7 (98)	90.9 (110)	0.31
Recommends nicotine replacement therapy	73.9 (116)	58.1 (93)	0.003	77.0 (87)	61.7 (73)	0.013
Prescribes bupropion	NA	44.1 (71)	NA	NA	52.5 (63)	NA
Discusses setting a quit date§	58.2 (92)	69.4 (111)	0.039	67.0 (75)	85.8 (103)	0.001
Offers a follow-up visit§	45.0 (72)	41.9 (67)	0.57	56.8 (63)	55.8 (67)	0.89
Offers written educational material‡§	36.3 (58)	36.3 (58)	1.00	51.3 (58)	64.2 (77)	0.047
Refers patient to community resources§	18.1 (29)	9.5 (15)	0.02	22.7 (25)	22.3 (27)	0.94

Note: NA = not applicable (bupropion was not available until August 1998).
*For calculation of percentages, missing data were excluding from the denominator.
†For difference in results between 1998 and 2000, calculated using a χ^2 test.
‡Statistically significant difference in 1998 between male and female physicians ($p < 0.05$).
§Statistically significant difference in 2000 between male and female physicians ($p < 0.05$).

prove physicians' counselling practices could be a key component in a comprehensive strategy to reduce tobacco consumption.

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Contributors: Dr. Tremblay coordinated the development and implementation of the program, participated in the development of the questionnaire, followed up by telephone with nonrespondents, participated in the interpretation of the data and wrote most of the manuscript. Drs. Gervais and Lacroix participated in the development and implementation of the program and the development of the questionnaire, followed up by telephone with nonrespondents, participated in the interpretation of the data and assisted in writing the manuscript. Dr. O'Loughlin coordinated the development of the questionnaire, the 2000 data collection, the data analysis and the interpretation of the data; she also wrote part of the manuscript. Dr. Makni participated in the 2000 data collection and the analysis and interpretation of the data; she also assisted in writing the manuscript. Dr. Paradis participated in the development of the questionnaire, coordinated the 1998 data collection, followed up by telephone with nonrespondents, participated in the interpretation of the data and wrote part of the manuscript.

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