

LAKEHEAD UNIVERSITY

An Assessment of Adherence to Treating Tobacco Use and Dependence Clinical Practice  
Guidelines in First Nations Primary Health Care Settings in Northwestern Ontario

By

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### Abstract

The purpose of this study was to determine the extent to which tobacco clinical practice guidelines are followed by nurses within 22 primary health care settings in First Nations communities in Northwestern Ontario and to examine; the beliefs, confidence, barriers, and facilitators to the provision of tobacco use interventions. Extensive research has shown that health care organizations and individual health care providers can positively impact rates of tobacco use when following specified recommended practices ((Fiore, Bailey, Cohen, Dorfman, Gritz, Heyman, et al., 2000). In this study, the Treating Tobacco Use and Dependence Clinical Practice Guidelines (Fiore et al.) were used as an indicator of tobacco use intervention best practices. The guidelines served as an evidence-based framework to measure the extent to which nurses follow recommended tobacco interventions.

Although data that show that First Nations tobacco prevalence rates are three times the Canadian national average (First Nations Regional Longitudinal Health Survey, 2002/03), information is lacking on the extent to which health care providers, working within First Nations primary health care settings are utilizing recommended tobacco clinical best practices, despite the key role that they could play in reducing tobacco use prevalence and tobacco-related illness.

Eighty-two nurses in 22 sites were asked to complete a survey consisting of questions pertaining to their current practices relative to the 5A protocol (Ask, Advise, Assess, Assist, Arrange follow-up) for tobacco intervention, and to their beliefs, confidence, barriers and facilitators to the provision of tobacco use interventions. The overall response rate was 41% (34/82), with responses received from 18 of the 22 sites surveyed.

All respondents (100%, n = 34) reported positive beliefs about providing tobacco use

interventions, with the majority (85%) believing that it is very much a part of the health care provider role. One hundred percent of respondents reported spending time providing tobacco interventions with 61% (n=21) spending three minutes or longer. With respect to following the 5A protocol — 94% ask patients about their tobacco use, 97% advise patients to quit using tobacco, 94% assess patients' readiness to quit, 90% assist patients with quitting, and 77% arrange for follow-up.

Over three quarters of respondents reported being confident or very confident in their ability to provide tobacco interventions. Sufficient knowledge about tobacco and health along with knowledge that quitting tobacco use can improve the health of patients were identified as important facilitators to providing tobacco interventions. Barriers identified were less prevalent, with the leading barrier identified as a lack of patient interest in quitting tobacco use.

Over half of respondents indicated that they had methods for documenting tobacco use, and over 90% indicated that they had posters, brochures, and patient materials available.

The positive beliefs of respondents, and the extent of the clinical tobacco use intervention practices currently in use by nurses despite very limited tobacco specific training, well positions nurses to play a key role in reducing the high rates of tobacco use and tobacco related illness in the First Nations communities in which they practice.

### Acknowledgements

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An Assessment of Adherence to Treating Tobacco Use and Dependence Clinical Practice Guidelines in First Nations Primary Health Care Settings in Northwestern Ontario

Overview

The purpose of this study was to determine which tobacco clinical practice guidelines were being followed by nurses within First Nations communities in Northwestern Ontario. Despite data that show that First Nations tobacco prevalence rates are known to be as high as 59% of the adult population, or three times the Canadian national average (First Nations Regional Longitudinal Health Survey, 2002/03), information is lacking on the extent to which health care providers working within First Nations primary health care settings are utilizing recommended tobacco cessation best practices.

The Treating Tobacco Use and Dependence Clinical Practice Guidelines have been published as a best practice guide for clinicians and health care systems. In the current study, the Treating Tobacco Use and Dependence Clinical Practice Guidelines (Fiore, Bailey, Cohen, Dorfman, Gritz, Heyman, et al., 2000) were used as an indicator of tobacco use best practices usage. The guidelines served as an evidence-based framework to measure the extent to which nurses follow recommended tobacco interventions within 22 primary health care settings in First Nations communities in Northwestern Ontario. The beliefs, barriers, and facilitators of tobacco use intervention practices of the nurses were also examined.

The extent to which recommended tobacco clinical practice guidelines are followed in First Nations primary health care settings is not known. Therefore, the current study is needed to provide baseline information among a population where data are lacking. Gaining insight and knowledge of current practices could lead to the identification of gaps and potential areas for improvements to practice that could subsequently lead to an increase in cessation rates within the

First Nations population. Determining what presently exists must precede any assessment of whether or not evidence-based approaches to tobacco cessation in the broader population have the same utility and are culturally appropriate within First Nation populations.

A high prevalence of tobacco use will be reflected in high tobacco-related mortality rates unless there is a concentrated effort on cessation. Higher smoking rates indicate that cessation interventions could potentially have a greater collective impact within First Nations primary health care settings, compared to many other Canadian health care settings, given the higher relative numbers of current smokers. By using the guidelines as a measure of best practices usage, a baseline of evidence would provide the foundation upon which quality improvements, with respect to smoking cessation approaches within First Nations population's health care settings, could be based upon.

This study is timely as it maps onto another study, similar in nature, that was recently conducted that gathered extensive data on the tobacco identification, documentation, systems and clinical cessation initiatives in all 13 acute care hospitals, and all 21 long-term care facilities within the catchment area of the Northwestern Ontario Local Health Integration Network (Smith & Sellick, 2009). The Smith and Sellick study did not include First Nations nursing stations or health centres. By studying the type of tobacco interventions that are currently in place using the clinical practice guidelines in First Nations settings within the same geographic area, a more complete picture of cessation interventions across the complete continuum of care will exist and comparisons to off-reserve services will be possible, in addition to contributing to the limited body of First Nation specific literature on the tobacco cessation.

## Aims and Objectives

Given the high rates of tobacco usage in First Nations populations in Canada, gaining a clear understanding of the cessation efforts of health professionals working with this population is important. The practices of nurses working in remote First Nations communities in Northwestern Ontario is particularly important given that they are key providers of health care in these communities.

As the Treating Tobacco Use and Dependence Clinical Practice Guidelines (Fiore et al., 2000) are well established, it raises the question as to what extent these guidelines are followed by nurses working within First Nations health care settings? Are recommended practices being followed? It is impossible to determine whether or not mainstream approaches to tobacco use and dependence have the same relevance and utility within the First Nation population without first determining to what extent recommended practices are utilized. This study is a first step in exploring what currently exists.

There has been no indication whether or not clinical practice guidelines for tobacco use and dependence have been used at all by nurses in the nursing stations and health centres in Northwestern Ontario. There is also no evidence or reason to believe that the practices of nurses working within these communities differs from those of any other nurses. However, given the cultural relevance of tobacco within First Nations, and the high rates of tobacco use, there is the possibility that nurses may actually be following recommended practices to a lesser extent than other nurses. So, while evidence-based guidelines exist, they are not mandated, and nurses are not necessarily following them. This could be a reflection of their beliefs, their confidence, their lack of knowledge on tobacco, or their beliefs that the recommended practices are not culturally appropriate.

Research on the appropriateness of the guidelines within First Nations populations is premature without first establishing to what extent the guidelines are followed. An exploration of exactly what the nurses are doing based upon the belief that the guidelines are not being followed, forms the basis of this study. The premise is that nurses are not intervening or following the guidelines with the null hypotheses being;

- 1) There is no adoption of clinician level practices guidelines for tobacco use and dependence by nurses in remote First Nations primary health care settings, and
- 2) There is no adoption of systems level guidelines for tobacco use and dependence by nurses in remote First Nations primary health care settings.

Due to the limited number of nurses working in the nursing stations and health centres involved in the study, the ability to conduct sophisticated analysis of the data was limited. This study does however, provide an initial step to describing what currently exists.



## Literature Review Methods

### *Search Strategy*

The literature review was conducted to determine to what extent clinical practice guidelines for tobacco dependence are used within Aboriginal primary health care settings. An initial review of print materials was conducted followed by an electronic search. Keywords were determined based upon the topic. Key words included; clinical practice guidelines, cessation interventions, systems approaches, tobacco cessation, First Nations, Aboriginal, Indigenous, Maori, and American Indian. A search engine was used to search several electronic databases including the Cochrane Library, the National Library of Medicine, Pub-Med, Medline, ERIC, Psych-Info, and Embase. Abstracts were scanned and a snowball search was conducted to explore linked citations. The Ontario Tobacco Research database and the Health Canada government library database were also searched.

### *Published Literature*

The search included reviewing original articles, discussion papers, systematic reviews and meta-analyses on best practices in tobacco cessation interventions with a focus on primary health care settings, and the extent of the implementation and usage of clinical practice guidelines for tobacco dependence within First Nation and Aboriginal primary health care delivery settings. All broader systems approaches to tobacco control such as tobacco price increases, taxation, or regulatory policy such as smoke-free legislation that were beyond the scope of specific cessation interventions within the confines of a clinical health setting were excluded from the search.

### *The Grey Literature*

Given the lack of research published in the scientific literature on the use of tobacco

clinical practice guidelines in First Nations, Aboriginal, and Indigenous populations, the search of the grey literature was important in establishing the extent to which tobacco clinical practice guidelines existed within similar Aboriginal health care settings in Canada, in the United States, Australia, and New Zealand. Web-searches were conducted using scholar.google.com as the search engine. A number of government and health organization web-sites in Canada were reviewed for the purpose of compiling background information on tobacco use prevalence including: Statistics Canada, Health Canada, the Province of Ontario, Aboriginal Cancer Care, Cancer Care Ontario, the Ontario Tobacco Research Unit, the National Aboriginal Health Organization, and the Tobacco Clearinghouse. The search of the grey literature was extended beyond Canada to include Aboriginal, and Indigenous health care settings within New Zealand, Australia and the United States. The search included such sites as the Australian Council on Smoking and Health, the Australian Bureau of Statistics, The Cancer Council of Australia, and the U. S. Department of Health and Human Services Indian Health Services, and the World Health Organization.

A search of professional associations and colleges for profession-specific tobacco cessation clinical practice guidelines and or protocols was also conducted. The reason for this was the recognition that similar approaches and practices of all allied health professionals within a health care team are recommended as a best practice at the clinician level. The search included the Ontario Medical Association, Ontario Dental Association, Registered Nurses Association of Ontario, Ontario Association of Social Workers, and the Ontario Pharmacy Association, as well as Canadian health professional associations and organizations such as Physicians for a Smoke-free Canada.

## Literature Review

While smoking rates in Canada have declined steadily over the past twenty years, tobacco use rates have remained high within the First Nation population (First Nations Longitudinal Health Survey, 2002/2003). Without increasing quit rates, these tobacco users can expect to develop chronic diseases as a result of their tobacco use and as many as half of them can expect to die prematurely (Doll, Peto, Wheatley, Gray, Sutherland, 1994). Such high rates of tobacco usage increase the importance of cessation efforts in order to reduce tobacco related morbidity and mortality within First Nations communities.

The World Health Organization has expressed concern specifically about the high tobacco consumption among Indigenous people and the need to develop and implement tobacco control measures that are culturally appropriate (World Health Organization, 2005). While tobacco cessation has also been identified as a priority in many developed nations, a study conducted in Australia stated that Indigenous people have generally not identified tobacco as a health issue that has been given priority (Ivers, 2001). One possible explanation provided for this was that because the effects of tobacco use are invisible and chronic, they are not as obvious and immediate as with other drugs and alcohol. Tobacco does not have acute disruptive effects and is not deemed to be a priority when compared to other issues that Indigenous populations are faced with. While there is compelling evidence on the prevalence of tobacco use among Indigenous people, and of the prevalence of health conditions that are potentially related to tobacco, research is lacking on Indigenous specific approaches to cessation (Ivers, 2001).

Extensive research has shown that both health care organizations and primary health care providers can positively impact rates of tobacco use when following specified recommended practices (Fiore et al., 2000). Healthcare providers are relied on as a source of credible health

information and are often in a position to assist individuals with cessation efforts at times when they individuals may be most motivated to make quit attempts.

Meta-analysis show that tobacco cessation interventions by primary health care providers positively impact tobacco cessation outcomes (Rice & Stead, 2004). Counselling has been found to improve quit rates (Lancaster & Stead, 2005), and smokers, even those not intending to quit, indicate that they want to be encouraged by health professionals to do so (Barzalai, Goodwin, Zyzanski, & Stange, 2001).

While 8% of people quit using tobacco without any assistance, quit rates increase with physician assistance to 12%, yet only 10% of people who quit, do so with physician advice alone (Fiore et al., 2000). Cessation rates are as high at 11.5% when assistance is provided by other medical professions including nurses (Fiore et al., 2000). Nurses play an important role in patient tobacco cessation as they comprise the largest healthcare workforce and are involved in all levels of care. In a review of 29 studies on the impact of nurses, results indicated that there were benefits to nurses providing smoking cessation advice to patients although the extent of that impact depends upon the health setting (Rice & Stead, 2004). Participants receiving advice from a nurse professional were found to be 1.41 times more likely to quit smoking than those who did not receive this intervention, with the range being from 1.22 to 1.62. When combined with physician advice the rates further improve to over 2 times more likely (Rice & Stead).

The literature further indicates that the quit rates increase to 25% when the message of quitting is provided by a number of health professionals and from varied health professions including social workers, dentists, physiotherapists, etc. (Fiore et al., 2000). Nicotine replacement therapies, in combination with the counselling support, can double the effectiveness (Mojjica, Suttorp, Sherman, Morton, Roth, Maglione, Rhodes, & Shekelle, 2004).

*Tobacco and Health*

Tobacco use is a major public health concern. It is the leading cause of preventable death in Canada, with tobacco attributed deaths totalling 37,000 annually (Health Canada, 2006). Smokers are two to four times more likely than non-smokers to die of cancer or of cardiovascular causes including atherosclerosis and peripheral vascular disease, stroke, and ischemic heart disease (Canadian Centre on Substance Abuse, 2006). Tobacco use results in 80-90% of all chronic obstructive pulmonary disease (Canadian Centre on Substance Abuse, 2006). Within Ontario, the estimated total tobacco related deaths are 15,993 or 22.3% of all deaths (Makomaski, Illing & Kaiserman, 2004). Associated tobacco-related health costs, including acute care hospitalizations, physicians visits, ambulatory care and prescription drug costs, totalled \$1.5 million in Ontario in 2002 (Canadian Centre on Substance Abuse, 2006). Much of the damage caused by tobacco use, however, is reversible over time, and quitting is the single most effective thing that smokers can do to enhance the quality and length of their lives (US Surgeon Generals Report, 1990). The impact is further amplified within the First Nations population where smoking is a major source of morbidity and mortality with adjusted smoking-attributable mortality rates almost 1.5 times that of the general population (Wardman & Khan, 2004). In Ontario, hospital admissions for ischemic heart disease, (which is a tobacco-related disease) doubled in the Aboriginal population between 1981 and 1997, whereas over the same time period the rate in the general population in Ontario declined (Shah, 2000).

Similar disparities between Indigenous and non-Indigenous populations also exist in other developed nations including the United States, Australia, and New Zealand, where the prevalence of tobacco-use in Indigenous people is also much greater than in the non-Indigenous populations. In Australia, 54% of Indigenous people smoke compared to 22% of the general

Australian population, tobacco-related diseases are responsible for between 1.4 and 8 times more deaths in the Indigenous population than could be expected in the non-Indigenous general population (Alcohol and other Drug Council of Australia, 2000), and Aboriginal women are eight times more likely to die of smoking-related diseases than non-Aboriginal women (Commonwealth Department of Health and Aged Care, 2001).

#### *Tobacco Use Prevalence Among First Nations*

First Nations people in Canada have among the highest rates of tobacco use in the world (Health Canada, 2005). Recent statistics indicate that the rate of smoking among First Nations people in Canada remains high (59%), or approximately three times the rate of the general Canadian population (First Nations Regional Longitudinal Health Survey, 2002/03). Whereas, the prevalence of smoking has gradually decreased from a high of approximately 35% among the general population aged 15 years or older in the mid-1980's to the current rate of 19%, and the number of “former” smokers now outnumber the number of current smokers (Health Canada, 2005), this pattern of decline has not been the case in the First Nations population (First Nations Longitudinal Health Survey, 2002/2003).

Within Canada, changes in reasons for the use of tobacco by First Nations people have occurred over time, from the historical ceremonial use of traditional tobacco in cultural ceremonies to the highly addictive and harmful recreational use of commercially grown tobacco of today (Assembly of First Nations, 2004). Distinctly different in practice, the reduction of prevalence of tobacco-use in First Nations in this study was limited to the use of the addictive use of commercial tobacco and was not in reference to the use of tobacco in cultural practices.

*In Northwestern Ontario.* In Northwestern Ontario, there are limited tobacco use prevalence data. First Nation tobacco use data were found in three studies — two from the Ojibwe community of Sandy Lake First Nation as part of diabetes-related research, and a student drug use survey from the Kenora Rainy River district. In one of the Sandy Lake First Nation studies, the prevalence of cigarette smoking among the adolescent participants (aged 15-19) was 82% (Retankaran, Hanley, Connelly, Harris, & Zinman, 2005). These rates were considerably higher than age-specific national averages obtained during a similar period of time as part of the 1994 Youth Smoking Survey (15% and 24%, respectively) and also exceeded those of all 75 sites from 43 countries participating in the Global Youth Tobacco Survey where overall results by country ranged from 3% to 62% (Global Youth Tobacco Survey Collaborative Group, 2002, Retankaran). A second study conducted in Sandy Lake, showed the prevalence of smoking to exceed 80% and 70% among adult men and women, respectively (Harris, Zinman, Hanley, Gittlesohn, Hegel, & Connelly, 2002), rates that also exceed the First Nation national rates of 59% (First Nation Longitudinal Health Survey, 2002/2003).

In the First Nations student drug use survey conducted in three area schools in the Kenora/ Rainy River District in Northwestern Ontario, First Nations students from 5 communities, enrolled in grades 7 to 12, were questioned about their drug usage with the same survey instrument that was used more broadly in the Northwestern Ontario Student Drug Use Survey (Sieswerda, Starkes, & Adlaf, 2006). Results indicated that 51% of the First Nations students had smoked cigarettes in the past year compared to 20% of the students in Northwestern Ontario (First Nations Student Drug Use Survey, 2005; Sieswerda, Starkes, & Adlaf, 2006). While these studies were limited to a small sample of First Nation communities, there is no indication that the rates are not similar to rates of neighbouring First Nations within the

district, although there is no way to confirm this.

*Treating Tobacco Use and Dependence Clinical Practice Guidelines*

Treating Tobacco Use and Dependence Clinical Practice Guidelines, outlines effective evidence-based tobacco treatment and practices. It is published by the United States Department of Health and Human Services on behalf of a consortium of seven health care organizations (Fiore et al., 2000). The Guidelines include recommendations designed to assist and guide individual health care providers in the provision of clinically effective tobacco control approaches, as well as six systems level recommendations for health care organizations to provide for the supportive and appropriate infrastructure needed for the implementation of clinical interventions.

While these are not the only guidelines in existence, they are widely regarded as the most comprehensive as they are based upon the meta-analyses of over 6,000 published articles on the subject (Fiore et al., 2000). The Guidelines are referred to extensively throughout North America and in October 2007 were reviewed and endorsed by the Ontario Guidelines Advisory Committee, a joint body of the Ontario Medical Association and the Ontario Ministry of Health and Long Term Care ([www.gacguidelines.ca](http://www.gacguidelines.ca)). The recommendations often serve as the supporting literature to inform profession-specific guidelines, such as *Integrating Smoking Cessation into Daily Nursing Practice* as published by the Registered Nurses Association of Ontario (RNAO, 2003). The guidelines can be used by individual health care providers, health care organizations, clinics or hospitals to make appropriate changes to policy, practices, or procedure.

*Systems level recommendations.* The Guidelines provide recommendations designed to assist health care organizations with effective approaches for tobacco treatment at both the health



systems level and at the individual clinician level (Fiore et al., 2000). This multi-pronged approach incorporates the relevance of the organizational and policy structure and the environment that allows the clinician to engage in supportive practices. Systems strategies as recommended in the guidelines (Fiore et al., 2000) include:

- a) implementing a tobacco-user identification system in every clinic
- b) providing education, resources, and feedback to promote provider intervention
- c) dedicating staff to provide tobacco dependence treatment and assess the delivery in staff performance evaluations
- d) promoting policies that support and provide inpatient tobacco dependence services
- e) providing for the costs of tobacco dependence treatments within health insurance services
- f) reimbursing clinicians for the delivery of effective tobacco dependence treatments and including these interventions among the defined duties of clinicians.

*Clinician level recommendations.* Individual tobacco use cessation is a dynamic process in which clinicians play a key role and there is strong scientific evidence in the literature to indicate that where a more comprehensive and active role for health care provider exists, there is an increase in cessation rates (Fiore et al., 2000). At the clinician level, it is recommended that there be a systematic approach to intervening with patients known as the “5A’s” for brief intervention (Ask, Advise, Assess, Assist, Arrange; Fiore et al., 2000). Recommendations are as follows:

- a) “Ask” about tobacco use status and document for every patient at every visit
- b) “Advise” every tobacco user to quit
- c) “Assess” all patients’ willingness to quit
- d) “Assist” those willing to make a quit attempt by providing brief intervention counselling as a

minimum (<3 minutes), and preferably intensive interventions (>10 minutes per session) where possible, and,

e) “Arrange” for follow-up preferably within the first week after the quit date.

Providing brief interventions (defined as interventions of 3 minutes or less) can lead to a small but significant increase in smoking quit rates from a rate of 10% for those who have had no contact, to 13% for those receiving brief interventions (odds ratio 1.69, 95% confidence interval 1.45 to 1.98, Fiore et al., 2000). While brief interventions lead to higher quit rates than no interventions, an increase in the contact time spent with the patient (up to ten minutes), further improves the quit rates slightly to 16%. As contact time increases further, quit rates also increase, as indicated by a small yet significant dose response rate with a higher abstinence rate of 22% for those receiving intensive counselling (Lancaster, & Stead, 2005).

The clinical practice guidelines for treatment of nicotine dependence also state that tobacco cessation drug therapy increases long-term smoking abstinence, and that access to off-the-shelf and prescribed pharmacotherapies such as nicotine replacement, bupropion hydrochloride, and varenicline have also demonstrated effectiveness as a support, particularly when used in concert with other interventions (Fiore et al., 2008). Health care providers again play a key role in advising patients in the appropriate use of these therapies.

The Guidelines (Fiore et al., 2000) outline specific recommendations for best practices in addressing tobacco dependence, the basic components of which can be used by health care providers individually or in combinations, to improve practices within health care organizations. They provide a framework and blueprint of what has been found to be effective, and are intended to be used as the basis upon which improvements to practice delivery may be made. It is not clear to what extent they are followed, given that they are not mandated practices. However,

they do provide the evidence upon which changes to policy or practice can be made. The role of health care providers is a vital component to helping people quit and the guidelines provide specific recommendations for effective provider interventions.

The Ontario Medical Association (OMA, 2008) and the Registered Nurses Association of Ontario (RNAO, 2007) both have guidelines consistent with the Treating Tobacco Use and Dependence Guidelines (Fiore et al., 2000) but the implementation of the guidelines is voluntary rather than mandatory and the extent of usage is not systematically measured.

#### *Nurses' Adherence to the Clinical Practice Guidelines*

*Beliefs toward providing tobacco cessation interventions.* Nurses have been found to have overall positive attitudes toward providing tobacco cessation interventions although they are less positive about providing quitting advice (Sarna, Brown, Lillington, Rose, Wewers, & Brecht, 2000). Although there is a belief that nurses should set a positive example, there is little agreement on items addressing a smoker's need for help from nurses (Chalmers, Seguire, & Brown, 2002). There is a perception among nurses' that giving advice is ineffective, and that they lack the skills to make a difference. They also have high expectations with respect to patients remaining smoke-free after having received interventions (Sarna et al., 2000).

*Confidence.* Despite the high expectations for quit rates, studies have shown that nurses lack confidence about providing tobacco cessation interventions (Woodcock, Batten, Remington, Smithies, & High, 1994; Johnston, Chan, Chan, Lan, Chi, & Leung, 2005). While 94% of respondents express being confident or very confident to ask patients whether they smoke, only half of those are confident in assisting a person to quit (Gomm, Lincoln, Egeland, & Rosenberg, 2002).

*Adherence to the 5As.* Although nurses consistently agree that tobacco cessation is part of their role, few actually report giving advice with respect to quitting tobacco use on a regular basis (Gomm et al., 2002). Nurses were found to have “Asked” about smoking status 64% of the time, however, 52% did not advise patients to quit (Gomm et al., 2002). These follow-up items were found consistently in the literature where nurses will “Ask” about smoking status but “Assess”, “Assist”, and “Arrange”, to a lesser extent (Johnston et al., 2005). One study of oncology nurses found that 64% asked and documented smoking status, 38% assessed readiness to quit, 36% provided counselling, 32% provided cessation advice, and 16% taught relapse skills (Sarna et al. 2000).

*Facilitators to providing tobacco cessation interventions.* Commonly identified facilitators to assisting patients with quitting tobacco are: the perceived health benefits of quitting, a patients interest in requesting assistance in quitting, being an expected part of the nursing role, and knowledge about tobacco and health (Sarna et al., 2000; Nagle, 1999).

*Barriers to providing tobacco cessation interventions.* In terms of perceived barriers to providing tobacco cessation interventions, a lack of skills is identified consistently in the literature (Fiore et al., 2000). Nurses express a high level of interest in wanting to help patients in quitting but also identify that they need additional training in order to do so (Sarna et al., 2000). This lack of skill, together with a lack of patient motivation, and time, are consistently identified in a number of studies (Sarna et al., 2000; Nagle, 1999; Tremblay, Gervais, Lacrois, O’Loughlin, Makni, & Paradis, 2001).

#### *The Use of Clinical Practice Guidelines in First Nations Health Settings*

*In Canada.* A search for the use of tobacco use and dependence clinical practice guidelines within First Nation populations posed a challenge as no documentation was found

specific to First Nations. The search was expanded to include the use of tobacco use guidelines within a broader scope of Aboriginal (comprised of several groups including First Nations, status Indians, Metis, non-status Indians and Inuit) populations within Canada because much of the Canadian data on tobacco use is reflective of the broader category of Aboriginal peoples. While there was some literature inclusive of Aboriginal people within Canada, there was no evidence of literature specific to the use or implementation of the guidelines.

While the Guidelines did not appear to be implemented at an organizational level, there was considerable evidence of tobacco awareness and education projects having taken place over the past ten years including cessation support training, First Nation and Aboriginal-specific tobacco education and resource materials. However, there was limited evidence of ongoing systematic approaches to cessation as opposed to one-time projects, or of the evaluation and effectiveness of such projects (Health Canada, 2007). Studies on the effectiveness of preventive programs among Aboriginal people are lacking (Canadian Paediatrics Society, 1999) and the reach and ongoing continuity status of several projects found during the search of the grey literature was often not evident.

Despite the lack of literature found on the use of tobacco use and dependence clinical practice guidelines within the First Nations or Aboriginal populations there was some evidence of the use of specific recommendations from within the guidelines. One study, using behaviour modification in combination with the transdermal patch with Aboriginal people, showed quit rates of 21% at 12 months which were comparable to quit rates in similar studies in non-Aboriginal populations (Hensel, Cavanaugh, Lanier, Gleason, Bouwens, Tanttilla, Reiner, Dinwiddie, & Hayes, 1995).

In another study on pharmacotherapy use by First Nations persons residing in British

Columbia, only 3% of First Nations smokers were found to have used any tobacco cessation drug therapy despite the nicotine patch having shown potential effectiveness among an Aboriginal population (Wardman & Khan, 2004b). This is despite accessibility by First Nations people to insured drug cessation products within Canada, via the Non-Insured Health Benefits Program of First Nations and Inuit Health Branch, Health Canada (Health Canada, 2008). Products including bupropion, the nicotine patch and varenicline are available and are accessible on a limited use benefit basis to First Nations individuals opting to use these pharmaceutical products. Quantity and frequency limits are placed on these products on a per annum basis but they are readily available as insured products. Despite the availability of these products, they are not necessarily accessed, although the reasons for this are not clear and are likely a result of a combination of factors (Wardman & Khan, 2004b). The fact that these products are available as insured products, however, is evidence of the systems-level recommendation of covering the costs associated with the provision of such products.

In terms of the use of tobacco dependence guidelines, a number of factors could influence their implementation from a lack of cessation counselling training and resources among providers, to health care provider shortages, to cultural perceptions toward cessation interventions and medications, and other related cultural and economic factors (Assembly of First Nations, 2004).

The search of the literature was then expanded to examine the use of tobacco guidelines in other developed nations where there are similar structures of health service delivery and high rates of tobacco prevalence within Aboriginal populations. While literature revealed work into the consideration of such approaches in other countries, a group that looked at both Australia and Canada concluded that they were not able to identify any generally applicable models (Gray,

Saggers, Drandich, Wallam, & Plowright, 1995).

*In the United States.* In contrast to the lack of evidence on the use of guidelines within Canada, the United States Centre for Disease Control (1998) affirmed the need to establish some measurable objectives for reducing tobacco use rates into a strategy that included setting targets for Native Americans relative to the general population targets. National targets included reducing the prevalence of cigarette smoking to no more than 15% among people 18 years and older, and to reduce the prevalence of smokeless tobacco use among males aged 12-24 years to not more than 4%. Targets for Native Americans were 20% among people 18 years and older, and not more than 10% for American Indians and Alaskan native young adults. In one study in urban American Indian populations in Minnesota, screening for tobacco use, advice, reinforcement and support of the health care worker, and follow-up materials were shown to be effective in increasing quit rates and quit attempts (Johnson, Lando, Schmid, & Solberg, 1997).

Subsequently, the Indian Health Service in the United States developed a Tobacco Control Strategic Plan 2006-2008 which is a systems approach to tobacco control with the main focus being to eliminate tobacco morbidity and mortality in American Indian communities (Indian Health Service, 2006). The plan was developed within the Indian Health Service, by a group known as the Tobacco Control Task force, using the Clinical Practice Guidelines (Fiore et al., 2000). The plan incorporates many of the key recommendations. At the systems level, models have been developed for screening, surveillance, documentation, and medication charting along with education supports. There has been integration with other health programs (e.g., dental, diabetes programming, etc.), expanded use of web-based technologies, and improved administrative and policy supports, and protocol development. At the clinician level there are cessation visits, three tiers of tobacco intervention (minimal, basic, and intensive

counselling), and the availability of pharmacotherapy products (American Indian Health Service, 2005).

Only recently implemented, no evaluation of the impact of the plan within the population is yet available. The fact that the American Indian Health Service has embraced, endorsed, and implemented many of the recommended evidence-based practices within Indian Health Services, is promising. As the American and Canadian realities parallel each other in many respects, it would appear that a similar approach within First Nations health services in Canada could yield similar results.

*Australia.* In Australia, there are smoking cessation guidelines for Australian General Practice as well as clinical practice guidelines for alcohol, tobacco and other drugs in existence for nurses and midwives (Zwar, Richmond, Stillman, & Cunningham, 2004; De Crespigny, Talmet, Modystack, Cusack, & Watkinson, 2003). There are no specific guidelines for Indigenous populations although there has been an extensive review of the potential applicability of approaches to tobacco control used in non-Indigenous populations, within Indigenous populations (Ivers, 2001). Indigenous health organizations recommend advising smokers to quit, and while there is limited evidence about the effect of tobacco advice given by health workers to Indigenous people, a review of the cultural appropriateness of providing advice determined that it was likely to be effective (Ivers, 2001). It has also been recommended that culturally appropriate, non-coercive methods of counselling may be the most appropriate in an Australian Indigenous setting (Ivers, 2001) and there is evidence that because of the multiple life stressors and barriers, which exist within the Indigenous population that make smoking cessation more complex, enhancements and additional supports may be needed (Degiacomo, Davidson, Davison, Moore, & Abbott, 2007).



*New Zealand.* In New Zealand, there are smoking cessation guidelines that include some specific interventions in priority population groups including the Maori population (Ministry of Health, 2007). Similar to Australia, it is recommended that the mainstream approaches to cessation be further enhanced by holistic approaches and additional supports. In New Zealand, The Public Health Group (1999) noted that there are a limited number of studies that provide specific evidence with regards to effective strategies for tobacco control specifically for Maori but suggest that the goals for Maori tobacco control be as follows: “to promote a social and physical environment which improves and protects public health by reducing the harm from tobacco use and exposure to environmental tobacco smoke”.

#### *The Use of the Guidelines in First Nations populations*

While there is no evidence that the use of the guidelines would be any different in First Nations populations than in other populations, there are several variables that could impact the utility of the guidelines within the First Nations populations. While the high rates and normalized use of tobacco, and the low socio-economic status, are also seen in other minority populations, the cultural relationship with tobacco and other cultural attitudes (Ivers, 2001) are unique to First Nations populations and could influence the appropriateness of the use of the guidelines. Cultural attitudes toward pharmacotherapy (Wardman, Quantz, Tootoosis, & Khan, 2007) may be one such consideration when exploring the usefulness of the guidelines. This study acknowledges the important impact that culture may have, but does not explore the impact of culture on the use of the guidelines. The study simply examines the use of the guidelines by nurses working within a First Nation population.

*Conclusion*

Despite evidence of some specific or tailored tobacco use clinical practice guidelines for Aboriginal populations in the United States, Australia, and New Zealand, there has been no such development in Canada beyond the recognition that there may be a need for tailored and culturally appropriate approaches. While there is good evidence from the general population that brief advice from health professionals can help smokers quit (Fiore et al., 2000), there is little information about whether health staff working with First Nations people advise tobacco users to quit. While no single smoking control measure can be expected to solve the smoking problem (Chollat-Traquet, 1996), the literature strongly suggests that when a more comprehensive and active role for health care providers is used, there is strong evidence of increased quit rates (Hopkins, Briss, & Ricard, 2001). At present it remains unknown whether a sufficient number of primary care providers are pro-actively raising the issue of, and responding to, tobacco use among their patients.

Given the indications of what works in the broader population, it is of value to use the Clinical Practice Guidelines (Fiore et al., 2000) to examine how evidence-based practices are used by primary health care providers within First Nations settings which is what this study was designed to do. Given the high use of tobacco, the need for culturally appropriate tobacco strategies has been recommended in Canada (Health Canada, 2005). However, a determination of current practices must precede any exploration into the cultural appropriateness of the recommended interventions within this population and within the First Nation primary health care setting.

## Methods

### *Design*

The current study involved a mailed survey to nurses working in 18 nursing stations in remote First Nations communities in Sioux Lookout Zone, as well as four health centres located in road accessible First Nations communities in Thunder Bay Zone. These 22 sites are primarily served by registered nurses working under an extended scope of practice. In these sites, nurses are a vital link in the continuum of care, and as the primary point of contact for health care, they are well-positioned to play a key role in tobacco cessation interventions. The nurse patient relationship that exists in isolated health care settings creates a foundation upon which nurses can potentially influence tobacco cessation rates. While there are other health professionals including physicians and dentists that provide services to the communities included in this study, and can in accordance with the literature all have a positive influence on cessation rates (Fiore et al., 2000), nurses remain the primary source of day to day health care, health education, and health information. Because of this unique setting, the nursing role is of particular importance.

### *Research Questions*

This study was designed to answer eight research questions on the adoption of tobacco use clinical practice guidelines of nurses working in the targeted First Nations communities, and to examine the beliefs, confidence, barriers, and facilitators to the use of the guidelines. The specific questions were developed directly from the Treating Tobacco use and Dependence, Clinical Practice Guidelines (Fiore et al., 2000) and are consistent with the RNAO guidelines (RNAO, 2007). They include:

- 1) Which of the following recommended systems level strategies to tobacco cessation are currently in place within First Nations primary health care settings?

- a) Has a tobacco-user identification system been implemented in every clinic?
  - b) Is provider education promoted by means of education, resources, and feedback?
  - c) Are there policies in place that support and provide patient tobacco dependence services?
  - d) Are tobacco dependence treatments (both counselling and pharmacotherapy), paid for as covered services?
- 2) Which of the clinician level recommendations are currently being used?
- a) Ask: Is tobacco use status identified and documented for every patient at every visit?
  - b) Advise: Is every tobacco user provided with advice to quit?
  - c) Assess: Is an assessment of a tobacco users' willingness to make a quit attempt made?
  - d) Assist: Is assistance being provided to those making quit attempts?
  - e) Arrange: Is followup being arranged?
- 3) How much time is spent on tobacco cessation interventions?
- 4) How much do health care providers believe whether or not they should be intervening in tobacco cessation?
- 5) How confident are nurses in providing tobacco cessation interventions?
- 6) What facilitating factors enable and support tobacco cessation intervention practices? What encourages healthcare providers to intervene?
- 7) What are the challenges or barriers that may impede a health care provider from intervening in tobacco cessation?
- 8) What is the level of knowledge and training of health care providers in tobacco cessation interventions? What type of training is needed?

*Setting*

The setting includes First Nations communities in Northwestern Ontario that are provided nursing treatment services by First Nations and Inuit Health, Health Canada. First Nations and Inuit Health provides primary health care services to 29 communities divided into two zones — Sioux Lookout and Thunder Bay. Sioux Lookout Zone includes 19 remote nursing stations, 15 of which were part of the study, and four remote satellite clinics, three of which were part of the study. Thunder Bay Zone includes six health centres, four of which were part of the study. Nursing stations and satellite clinics where health services have been transferred to First Nation control were excluded from the study (Sioux Lookout,  $n = 5$ ), as were health centres that do not provide treatment services (Thunder Bay,  $n = 2$ ). Participating sites [by zone, facility type, and number of nurses] are listed in Table 1.

All health care sites were remote sites where access to hospitals and physicians was limited, and where provincial services were not readily available, where registered nurses worked under an extended scope of practice and possessed advanced knowledge and clinical skills in order to manage routine, acute, and emergency care, and where the services included both urgent and non-urgent care on a 24 hour/7day per week basis (Health Canada, 2008).

*Participants*

Nurses in 22 First Nations nursing stations, satellite clinics, and health centres within the Sioux Lookout and Thunder Bay Zones of Northwestern Ontario were invited to participate in the survey. All nurses were either employed directly by First Nations and Inuit Health Branch or hired by contract.

*Eligibility.* The participant mailing list was determined by the applicable Zone Nursing Office current staffing list at the time of survey distribution. Confirmation of these lists at the time of survey distribution was necessary in order to minimize the risk of errors in distribution as a result of fluctuations in staffing levels, unanticipated absences of nurses, or unexpected deployment of nursing coverage to alternate nursing stations. Permission was granted by Health Canada Research Ethics committee to access the staffing lists which were provided by the Zone Nursing Officers. Names were used strictly for mailing purposes only and were not used to associate specific health care providers with a particular questionnaire.

*Exclusions.* Visiting health professionals to the communities, and para-professionals located in the communities, were not included in the study due to the wide variety of service delivery employers that this would have involved.

#### *Estimated Sample Size*

The sample size was estimated to be in the range of 75-90 participants. This was based upon the total number of funded nursing positions that existed within the site locations. The exact number of participants could not be determined in advance as staffing levels can sometimes fluctuate considerably within the zone sites, and there are times when a full complement of nursing staff does not exist.

Table 1. Participating Sites by Zone, Facility Type and Number of Nurses

Sioux Lookout Zone Nursing Stations

Bearskin Lake (4)  
Big Trout Lake (Kitchenmaykoosib Innuwig) (7)  
Cat Lake (3)  
Deer Lake (5)  
Fort Hope (Eabamatoong) (5)  
Fort Severn (3)  
Kasabonika (3)  
Lansdowne House (Neskantaga) (2)  
New Osnaburgh (Mishgeegogaming) (6)  
Pikangikum (10)  
Weagamow Lake (North Caribou/Round Lake) (4)  
Sachigo Lake (5)  
Sandy Lake (10)  
Summer Beaver (Nibinimik) (3)  
Webequie (4)

Sioux Lookout Zone Satellite Clinics

North Spirit Lake (1)  
Poplar Hill (2)  
Muskrat Dam (2)

Thunder Bay Zone Health Centres

Gull Bay (2)  
Grassy Narrows (2)  
Ogoki (2)  
Wabaseemoong (Whitedog) (2)

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*Estimated Response Rates*

Studies using similar methodologies with nurses in hospital settings have yielded response rates ranging from 30-58% (Johnston et al., 2005), and a more generalized tobacco-related survey conducted with Aboriginal nurses in 2003, yielded a response rate of 15% (Aboriginal Nurses Association of Canada, 2003). With these previously published rates and the multiple number of remote sites (22) included in this study, it was estimated that an optimistic response rate would be 50%, with a more likely response rate being between 15-30%.

In order to encourage a good response rate from the participating sites, the survey was administered during the early fall, when there are typically higher levels of staffing. Staffing shortages are not uncommon so this was a potential challenge. It was also recognized that circumstances such as community evacuations due to forest fires for example, or emergencies, etc., could potentially reduce the response rates and that a repeat distribution could be necessary.

*Measures*

The questionnaire used in this study was an adaptation of two existing survey instruments with the original reference to each specific item provided in Appendix B (Johnston et al., 2005; Smith & Sellick, 2009). Several validated survey instruments used previously to evaluate health professional practices related to tobacco dependence interventions, along with questions based upon the literature on barriers and facilitating factors in the use of the guidelines, formed the basis of the Smith and Sellick survey instrument which was used in acute care settings in Northwestern Ontario. As these established instruments were both intended for use in hospital settings, it was deemed necessary to adapt and customize the questionnaire to improve suitability



to the First Nation primary health care setting, while at the same time attempt to use as many previously validated questions as possible. Modifications included minimal changes such as changing the setting from “hospital” to “nursing station or health centre”, and no changes were made in the scales or measures that would impact the validity or psychometric properties of the questions. The Smith and Sellick survey was selected as the primary source of the survey, as using an instrument similar to one currently in use within neighbouring health facilities in the same geographic region was deemed advantageous for comparative purposes.

The questionnaire for this study (Appendix A) contained 98 items intended to examine the use of clinical practice guidelines by nurses in 22 First Nations health care settings and to examine the beliefs, barriers, and facilitators to clinical practice guidelines. Items were categorized into one of four topic areas: a) clinician level recommendations (18 items); b) systems level recommendations (6 items), c) values, beliefs, and influences in the use of the guidelines including facilitating factors, barriers, confidence and role perception (16 items) ; and, d) demographics (7 items). Of these, three items actually contained a series of 1 “yes”, 2 “no”, questions (51 in total) that were formatted as a “check all that apply” question rather than as separate items, with the intent of keeping the questionnaire easy to complete. The specific reference source of each question is cited and can also be found in the accompanying reference document (Appendix B).

*Clinician level recommendations.* There were 18 items that related to whether health care providers follow the clinician level recommendations according to the systematic approach to intervening with patients known as the “5A’s” for brief intervention (Ask, Advise, Assess,

Assist, Arrange) as recommended in the Guidelines (Fiore et al., 2000). All items were related to the current practices of respondents and were scored on a 4-point choice scale (0 “never” to 3 “frequently”).

*Ask.* One item assessed a patient’s tobacco use status and history.

*Advise.* The four advise items included: advising patients to quit using tobacco, explaining the harmful effects of tobacco use to patients, explaining the harmful effects of second-hand smoke, and explaining to patients how tobacco might have contributed to their illness (Johnston et al., 2005).

*Assess.* The three assess items included: encouraging patients who had relapsed to try quitting again, motivating patients to quit using tobacco, and helping patients to set a quit date (Zvolensky, Baker, Yartaz, Gregor, Leen-Feldner, & Feldner, 2005).

*Assist.* The seven assist items included: suggesting specific actions that patients could do to make quitting or cutting down easier, teaching coping skills to patients to prevent relapse, recommending alternatives to using tobacco to patients, offering self-help materials to patients, and instructing patients in the use of over-the-counter prescription medication for tobacco cessation (Johnston et al., 2005). The final two assist items pertained to recommending, suggesting or providing nicotine replacement therapies, and recommending, suggesting or providing bupropion (Zyban, Wellbutrin).

*Arrange.* The arrange item was referring patients to cessation resources such as help lines (Smith & Sellick, 2009).

*Time spent counselling.* The final question in the clinician level category was designed to

assess the average length of time that was spent with each patient at each visit on tobacco cessation counselling, and was scored as a four choice item ranging from less than three minutes, to three to ten minutes, or more than ten minutes (Smith & Sellick, 2009).

*Systems level recommendations.* There were six items that related to systems level recommendations. Questionnaire items pertaining to three of the six systems strategies as recommended in the Guidelines (Fiore et al., 2000) included: implementing a tobacco-user identification system in every clinic, providing education and resources, and promoting policies that support and provide inpatient tobacco dependence services (Smith & Sellick, 2009). They were scored on a three choice format ( 1 “yes”, 2 “no”, and 3 “don’t know”).

One item asked respondents whether they had received any tobacco cessation training (1 “yes”, 2 “no”). The following item then queried interest in specific topics of training where 11 choices were provided in a “check all that apply” format along with a text box for “other”. These included how to ask, advise, and assess a patients’ readiness to quit, how to provide supports, how to recruit social supports, how to counsel patients to quit, what to do when a patient continues the use of tobacco, how to avoid relapse, how to recommend tobacco cessation services, what self-help materials to provide, and how to organize your office in terms of record keeping and followup. The final item was in reference to preference to training modality and included five categorical responses including meetings, 1 hour, half-day, full-day workshops, and self-study materials, and a text box for “other” (Smith & Sellick, 2009, with some modification).

*Beliefs, and influences in the use of the guidelines*

There were 16 items that related to the beliefs and influences in the use of the guidelines including facilitating factors, barriers, confidence, and role perception.

*Beliefs.* Five items were related to the health care providers' beliefs about their respective roles relative to the provision of brief advice, intervention and education (Johnston et al., 2005). Respondents were asked "How strongly they agreed or disagreed with the following statements": brief advice to help patients stop using tobacco is effective, providers should advise patients to quit using even if help is not requested, health education on the risk of tobacco is an important area of health care provision, healthcare providers should educate other tobacco users in the patients' household, if at all possible, and health care providers should use every opportunity to educate patients about the health effects of tobacco. These were scored on a 4-point choice scale (0 "strongly disagree" to 3 "strongly agree").

*Confidence.* There were eight items that measured confidence in performing tasks related to clinician level interventions: teaching about the harmful effects of tobacco, finding out tobacco users' beliefs about tobacco use and health, counteracting tobacco user negative attitudes, advising tobacco users on how to quit, negotiating a quit date, discussing methods of quitting, providing educational resources and giving advice about nicotine replacement therapy (Johnston et al., 2005). These were scored on a 4-point choice scale (0 "not confident" to 3 "very confident").

*Facilitating factors.* Thirteen items in a "check all that apply" format related to factors that encouraged the respondent to counsel patients to quit tobacco use (Johnston et al., 2005). Included options were: knowledge that quitting tobacco use can improve the health of patients,

knowledge that quitting is cost-effective, patients' motivation to quit, belief that helping patients quit tobacco is part of your role, sufficient knowledge about tobacco and health, adequate skills in cessation counselling, confidence in helping, belief that helping patients stop using tobacco is a high priority, support from management and colleagues, past successes helping patients to quit, workload, and resource availability.

*Barriers.* Eighteen items in a check all that apply format questioned factors that would discourage a respondent from advising or counselling patients to quit using tobacco (Johnston et al., 2005). Items included were: lack of time, lack of tobacco counselling skills, knowledge, confidence, lack of resources, support from colleagues, lack of reward, heavy workload, and discomfort with suggesting patients alter their lifestyles.

*Perceived role.* One item asked whether delivering a tobacco cessation intervention was part of the role of a health care provider and was scored using a 3 choice format (“not at all, “somewhat”, and “very much”; Johnston et al., 2005).

*Demographic information.* A total of seven items collected demographic information. Profession was listed as a five choice item (addictions/mental health counselor, nurse, nurse practitioner, physician, and other), and employment status scored as a three choice item (full-time, part-time, and locum). Years worked in the field, and year of graduation were asked as open-ended items (Smith & Sellick, 2009). Two items related to the smoking status of the health care provider, and their intentions to quit, and were scored as five and four choice items respectively (Prochaska & DiClemente, 1983). The final item asked those who had indicated that they were current smokers whether they would like information or assistance with quitting (1

“yes”, 2 “no).

### *Procedures*

This study used the five-step mail survey methodology as developed by Dillman (2000) in order to maximize response rates. The process was modified by extending the timing of the steps to compensate for the additional time needed for transport in remote and isolated locations. The steps were as follows: 1) participants were sent a pre-contact introductory email via a group email listing announcing and describing the study; 2) on the same day, participants were mailed a survey package which included a cover letter, a survey and a pre-addressed postage paid return envelope; 3) ten days later, all participants were mailed a friendly reminder/thank-you card; 4) 18 days later, non-respondents were mailed another survey package; 5) one week later, a final reminder/ thank-you card was mailed. Names of the participants were used for mailing purposes but were not collected in the responses, although location site names were used to track responses in order to determine the location of subsequent mailings. All distribution and response receipt dates were documented and tracked for the purpose of assessing if the Dillman method had an impact on the response rates of the study. The data collection phase took a total of eight weeks to complete.

### *Distribution and Justification*

Depending upon the remoteness of the health care site, the survey was distributed by one of two methods: via Health Canada inter-office mailbags, or via regular Canada Post mail. Inter-office mailbags were used in 18 of the 22 sites including all of the Sioux Lookout zone nursing stations and the satellite clinics. In remote First Nation nursing stations where communities are accessible by air only and without all-weather roads, regular mail service can

be intermittent and delays can be expected. For these communities, arrangements were made with the Sioux Lookout Zone Nursing office to ship the surveys directly to the Zone office. From the Zone office, survey packages were then placed into Health Canada inter-office mail bags for each of the 18 First Nations communities that were then sent directly to the Nursing Stations on regularly scheduled flights into the communities. As flights are weather-dependent, some uncontrollable delays in distribution were likely, and additional time was factored into the distribution time-lines in order to compensate for this particular situation. (While distribution of the survey by electronic means was also given consideration, it was also not without challenges, and was deemed not to be the most effective means of survey distribution in this geographic location.) The option of using the mail-bags was the preferred means of distribution for three reasons: the mailbags are the primary source of incoming mail for the nursing station, it was the fastest option available, and it was cost-effective.

The process of distribution for the remaining four Thunder Bay zone health centres consisted of sending mailings via regular direct mail service. Completed surveys from all sites were returned via direct Canada Post regular mail service.

#### *Data Analysis*

All data for this study were entered by the researcher into a Filemaker Pro 9 software database. Upon completion of data entry, all data were verified by cross-referencing the information in the database with hard copies of the questionnaire. Data cleaning was then conducted to identify any inconsistencies in the database, including missing values, outliers, out of range values, or text in numeric fields. In the case where respondents had responded with written comments instead of, or in addition to the options provided for responses, these

comments were documented and quantified when appropriate to the options offered.

Data were then exported into SPSS version 16 statistical software for analysis.

Data analyses were all descriptive. Measures of central tendency were used to describe continuous data (mean, median, mode, range, standard deviation) and frequency counts used to describe categorical data. Data tables were created. All 98 items were analysed as individual items. A series of aggregate scores were also created to summarize the data on the clinician level recommendations including the 5A's of Ask, Assess, Advise, Assist, and Arrange. These were summed and as these were scored from 0 to 3 any number > 0 indicated a "yes."



## Results

### *Response Rates and Sample*

The five step mail survey methodology resulted in an overall response rate of 41% (34/82), with responses received from 18 of the 22 sites surveyed. Absolute rates at each step of the mail-out method were: 24% (19/82) for steps 2 and 3 (the pre-contact introductory email, the initial mailing of the survey package, and a reminder card), 15% (10/63) for step 4 (the distribution of a duplicate survey package), and 9% (5/53) for step 5 (the distribution of a final reminder/thank-you card; Figure 1). Steps 2 and 3 accounted for 60% (20/34) of the surveys returned, step 4 accounted for 25% (9/34), and step 5 accounted for an additional 15% (5/34) of the overall response rate (Figure 1).

### *Demographics*

The demographics of the respondents are presented in Table 2. All 34 respondents self-identified as registered nurses or nurse practitioners, with an average number of years in the current area of practice being 9 years (SD = 6.3). The small number of nurse practitioners did not warrant a comparative analysis of the differences between the two groups. Half of the respondents described their employment status as full-time, followed closely by those working on a part-time basis (Table 2). Over half of the respondents had never used tobacco (53%; 18/34), and only 6% (2/34) reported being daily tobacco users (Table 2).

Figure 1. Response Rates Using the Five Step Survey Methodology

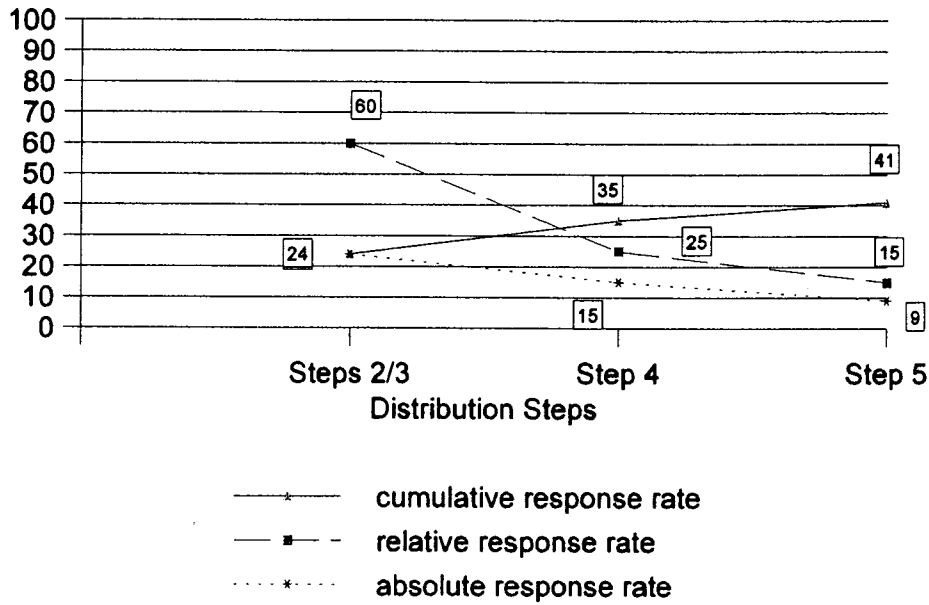


Table 2. Demographic Information of Health Care Providers Responding to the Survey

Demographics	%	n/N	M	SD <sup>a</sup>	Range
Area of specialization					
Nurse	71%	24/34			
Nurse Practitioner	29%	10/34			
Years in current area of practice			9	6.3	2-22
Full-time practice	50%	17/34			
Part-time practice	44%	15/34			
Locum	6%	2/34			
Tobacco Use					
Never	53%	18/34			
Formerly	32%	11/34			
Daily	6%	2/34			
Occasionally	9%	3/34			

Note

<sup>a</sup>SD = standard deviation

### *Systems Level Clinical Practices*

*Training.* Only 18% (6/34) reported ever having received any tobacco cessation counselling training. On a “check all that apply” format for preferences for future tobacco cessation training formats, the provision of self-study materials was the most frequent response, with just over half indicating it as a preference (56%; 19/34), and a full-day workshop was the least frequent response indicated (29%; 8/34). A 1-hour workshop via a telecom or video-conference, brief in-services, and a half-day workshop at a nursing forum or conference were indicated by just over one third of respondents (Table 3). Also measured on a “check all that

apply” format were areas that respondents would like to know more about, with the most frequent responses reported being how to help patients recruit social supports outside of the nursing station or clinic (85%; 28/34), how to provide social support as a part of cessation treatment for patients who use tobacco (79%; 27/34), and how to assess the patient’s readiness to quit using tobacco (77%; 26/24). Further information on how to ask patients about their tobacco use and how to find/recommend tobacco cessation services were reported by only 17% (6/34) and 38% (13/34) of respondents respectively.

*Tobacco cessation intervention protocols.* Fifty-three percent (18/34) of respondents indicated that they had methods for documenting tobacco use in patient medical records although only 24% (8/33) of respondents noted that the nursing station or health centre where they worked had a policy or written protocol for identifying tobacco use. Likewise, despite only 13% (4/30) indicating that they had a policy or written protocol for tobacco counselling, 46% (15/32) reported that methods existed for documenting tobacco cessation counselling.

*Patient materials available.* Measured on a “check all that apply” format, over 90% of respondents indicated that they had posters, pamphlets, and self-help materials accessible and displayed in the nursing station or health centre (Table 3). Quit-line contact information and community-based tobacco cessation program information were reported by 30% or less (Table 3).

#### *Beliefs Toward Providing Tobacco Cessation Interventions*

Respondents reported highly positive beliefs with respect to tobacco cessation interventions, with 100% agreeing or strongly agreeing that health education on the risk of tobacco use is an important area of health care provision, and 94% agreeing or strongly agreeing

that healthcare providers should: 1) use every opportunity to educate patients about the health effects of tobacco use; 2) educate other tobacco users in the patients household if at all possible and, 3) advise patients to quit using tobacco even if help is not requested. Also positive, although to a lesser extent, 70% agreed or strongly agreed with the belief that brief advice to help patients stop using tobacco is effective (Table 4).

Means for the top four of five belief items (measured on a scale scored from "0" for strongly disagree to "3" for strongly agree) ranged from 2.2 to 2.7 (SD = 0.4 - 0.8), indicating positively held beliefs toward providing tobacco cessation interventions (Table 4). The strength of the belief toward the effectiveness of brief interventions was less than the other four belief items (M = 1.8, SD = 1.0).

*Role of the health care provider.* As measured on a 3 point scale ("not at all", "somewhat", and "very much"), the majority of respondents (85%; 29/34) perceived the provision of tobacco cessation intervention as being very much a part of the healthcare provider's role (Table 3), and 65% (20/31) reported organizing health talks about tobacco, although the mean on this item, measured on a 4 point scale ("never", "seldom", "occasionally", or "frequently") was "seldom" (Table 3).

Table 3. Systems Level Practices and Perceived Role

Systems Level Practices	%	n/N	M <sup>a</sup>	SD <sup>b</sup>
Tobacco cessation intervention is part of the health care provider role				
Not at all	0%	0/34		
Somewhat	15%	5/34		
Very much	85%	29/34		
Organize health talks about tobacco <sup>c</sup> (% yes)	65%	20/31	1.0	0.9
Received training for tobacco cessation counselling (% yes)	18%	6/34		
Training choices for future <sup>d</sup>				
Self-study	56%	19/34		
One hour workshop	38%	13/34		
Brief in-services	35%	12/34		
Half-day workshop	35%	12/34		
Full-day workshop	29%	10/34		
Resource materials available in nursing station or health centre				
Posters (% yes)	94%	32/34		
Pamphlets or self-help materials (% yes)	91%	31/34		
Quit-line contact information (% yes)	30%	10/34		
Community-based cessation program (% yes)	24%	8/34		

*Note*<sup>a</sup>M = Mean<sup>b</sup>SD = Standard Deviation<sup>c</sup>Organize health talks was measured on a 4 point scale: 0 “never”, 1 “seldom”, 2 “occasionally”, and 3 “frequently”. % indicates responses of seldom to frequently.<sup>d</sup>Measured on a “check all that apply” format so responses do not sum to 100%.

Table 4. Beliefs Toward Providing Tobacco Cessation Interventions

Beliefs	% <sup>a</sup>	N	M <sup>b</sup>	SD <sup>c</sup>
Health education on the risk of tobacco use is an important area of healthcare provision	100%	34/34	2.7	0.4
Healthcare providers should use every opportunity to educate patients about the health effects of tobacco use	94%	32/34	2.6	0.5
Healthcare providers should educate other tobacco users in the patient's household about tobacco use, if at all possible	94%	32/34	2.4	0.6
Healthcare providers should advise patients to quit using tobacco even if help is not requested	94%	32/34	2.2	0.8
Brief advice to help patients stop using tobacco is effective	70%	29/34	1.8	1.0

*Note.*

Beliefs were measured on a 4 point scale from 0 for “strongly disagree” to 3 for “strongly agree”

<sup>a</sup>Percentages and N represent respondents who respond agree or strongly agree for belief items.

<sup>b</sup>Mean

<sup>c</sup>Standard deviation

*Confidence About Providing Tobacco Cessation Interventions*

On five of the eight confidence items, over 75% of respondents reported that they were “confident” or “very confident” with respect to providing tobacco cessation interventions. The five items were: teaching tobacco users about the general health risks of using tobacco, using leaflets and other written materials to help patients quit using tobacco, finding out tobacco users’

beliefs about tobacco use and health, advising tobacco users on how to quit using tobacco, and discussing different methods of quitting using tobacco (Table 5). The mean scores for these confidence items (measured on a scale scored from “0” for not at all confident to “3” for very confident) ranged from 2.0 to 2.4 (SD = 0.6 to 0.7) indicating that the strength of the confidence was high (Table 5).

On the other three confidence items, only slightly more than half of respondents reported that they were “confident” or “very confident”. These included: giving advice about nicotine replacement therapy, negotiating a quit date with patients, and counteracting tobacco users’ negative attitudes about giving up using tobacco (Table 5). The mean scores for these items were 1.7 (SD = 0.8 to 0.9) indicating that respondents were less confident with respect to these items.

#### *Time Spent Counselling and on Tobacco Interventions*

One hundred percent of respondents reported spending at least some time counselling their patients about tobacco use, cessation, or follow-up, with almost 2/3 of respondents reporting spending on average, three minutes or more on tobacco interventions per patient—56% (19/34) reported spending 3 to 10 minutes and 6% (2/34) reported spending more than 10 minutes. The rest of the respondents, 38% (13/34) reported spending, on average, 1 to 3 minutes on tobacco interventions per patient.



Table 5. Confidence About Providing Tobacco Cessation Interventions

Confidence <sup>a</sup>	% <sup>b</sup>	n=34	M <sup>c</sup>	SD <sup>d</sup>
Teaching tobacco users about the general health risks of using tobacco	94%	32/34	2.4	0.6
Using leaflets and other written materials to help patients using tobacco	85%	29/34	2.2	0.7
Finding out tobacco users' beliefs about tobacco use and health	85%	29/34	2.1	0.7
Advising tobacco users on how to quit using tobacco	85%	29/34	2.0	0.6
Discussing different methods of quitting using tobacco use	76%	26/34	2.0	0.7
Counteracting tobacco users negative attitudes about giving up using tobacco	58%	20/34	1.7	0.8
Negotiating a target date for patients to quit using tobacco	58%	20/34	1.7	0.9
Giving advice about nicotine replacement therapy	58%	20/34	1.7	0.8

*Note.*

<sup>a</sup>Confidence was measured on a 4 point scale; 0 for "not confident", to 1 for "somewhat confident", 2 "confident", and to 3 for "very confident".

<sup>b</sup>Percentages and N represent respondents who responded "confident" or "very confident" to these items.

<sup>c</sup>Mean

<sup>d</sup>Standard deviation

*Clinical Practices Relative to the 5A Protocol for Tobacco Cessation Interventions*

The majority of respondents reported following recommended practices of the 5A protocol at least some of the time. The frequency with which respondents intervened varied by intervention. With respect to the 5A protocol — 94% ask patients about their tobacco use, 97% advise patients to quit using tobacco, 94% assess patients' readiness to quit, 90% assist patients with quitting, and 77% arrange for follow-up. Results for the clinical practices relative to the 5A protocol are shown in Table 6.

*Ask.* For the one item measuring whether providers “ask” their patients about tobacco use, 94% (29/31) of respondents reported that they did assess a patient’s tobacco use status and history, with a mean frequency of 2.3 (SD = 0.9) on a scale scored from “0” for never to “3” for frequently (Table 6).

*Advise.* The frequency with which the “advise” items were reportedly done was the highest of the 5A’s (Table 6). There were four items measuring whether providers “advise” patients to quit using tobacco; 97% (30/31) did advise patients to quit using tobacco, 97% (30/31) did explain the harmful effects of tobacco use to patients, 94% (29/31) did explain the harmful effects of second-hand smoke to patients, and 94% (29/31) did explain to patients how tobacco use might have contributed to their illness (Table 6). The mean frequency for the “advise” items ranged from a mean score of 2.1 to 2.4 (SD = 0.6-0.8) on a scale scored from “0” for never to “3” for frequently (Table 6).

*Assess.* Results for the three “assess” items were not as uniform as the results for the “advise” items; 94% (29/31) of respondents did encourage patients who have relapsed to try quitting again, 90% (28/31) did motivate patients to quit using tobacco, and 71% (22/31) did

help patients to set a quit date (Table 6). The frequency (on a scale scored from “0” for never to “3” for frequently) with which respondents reported helping patients to set a quit date was done with less frequency ( $M = 1.2$ ,  $SD = 1.0$ ), than the other two “assess” items ( $M = 2.1$ ,  $SD = 0.9$ , Table 6).

*Assist.* Of the seven “assist” items, 90% or more of respondents indicated that they did suggest specific actions that patients could do to make quitting easier, did teach coping skills to patients to prevent relapse, and did recommend alternatives to using tobacco to patients (Table 6). Between 75% and 85% of respondents reported offering self-help cessation materials to patients, instructing patients in the use of over-the-counter or prescription medication for tobacco cessation, and recommending, suggesting or providing nicotine replacement therapies. Reported by just over half of respondents was recommending, suggesting, or providing bupropion (Zyban, Wellbutrin). The frequency with which the top 6 of the 7 “assist” items was reportedly done ranged from a mean score of 1.5 to 1.9 ( $SD = .9 - 1.0$ ), while the recommending bupropion item was done with slightly less frequency ( $M = 0.9$ ,  $SD = 1.0$ , Table 6). All items were scored on a scale from “0” for never to “3” for frequently.

*Arrange.* There was one *arrange* item, referring patients to cessation resources. Seventy-seven percent (24/31) of respondents reported that they did refer patients to cessation resources. The mean frequency of 1.5 ( $SD = 1.0$ ) on a scale scored from “0” for never to “3” for frequently suggesting that they do so, but only seldom to occasionally.

Table 6. Clinical Practice Relative to the 5 A Protocol for Tobacco Cessation Interventions

5A Protocol Items	% <sup>a</sup>	n/N <sup>b</sup>	M <sup>c</sup>	SD <sup>d</sup>
<b>Ask</b>				
Assess patients' tobacco use status and history.	94%	29/31	2.3	0.9
<b>Advise</b>				
Advise patients to quit using tobacco	97%	30/31	2.4	0.6
Explain the harmful effects of tobacco use to patients	97%	30/31	2.3	0.7
Explain the harmful effects of second-hand smoke	94%	29/31	2.3	0.8
Explain to patients how tobacco use might have contributed to their illness	94%	29/31	2.1	0.8
<b>Assess</b>				
Encourage patients who have relapsed to try quitting again	94%	29/31	2.1	0.9
Motivate patients to quit using tobacco	90%	28/31	2.1	0.9
Help patients to set a quit date	71%	22/31	1.2	1.0
<b>Assist</b>				
Suggest specific actions that patients could do to make quitting or cutting down easier	94%	29/31	1.9	0.9
Teach coping skills to patients to prevent relapse	94%	29/31	1.7	1.0
Recommend alternatives to using tobacco to patients	90%	28/31	1.7	0.9
Offer self-help cessation materials to patients	84%	26/31	1.6	1.0
Instruct patients in the use of over-the-counter or prescription medication for tobacco cessation	77%	24/31	1.2	0.9
Recommend, suggest or provide nicotine replacement therapies	77%	24/31	1.5	1.0
Recommend, suggest or provide bupropion (Zyban, Wellbutrin)	52%	16/31	0.9	1.0
<b>Arrange</b>				
Refer patients to cessation resources	77%	24/31	1.5	1.0

*Note.*

All items scored on a scale from "0" for never, "1" for seldom, "2" for occasionally and "3" for frequently

<sup>a</sup>Percent of respondents reporting that they practice the specific intervention listed, even seldom.

<sup>b</sup>Denominator = 31 because 3 respondents did not complete these survey items

<sup>c</sup>Mean

<sup>d</sup>Standard deviation

*Facilitators to Providing Tobacco Cessation Interventions*

Of the 13 facilitators listed in a “check all that apply” format, two items — sufficient knowledge about tobacco and health, and knowledge that quitting tobacco use can improve the health of patients, were identified by 85% (29/34) of respondents (Table 7). Four other items were identified by 70-80% of respondents: a patients’ motivation to quit using tobacco (79%, 27/34), having resources available to assist with interventions (79%, 27/34), belief that helping patients to stop using tobacco is part of your role and responsibility (76%, 26/34), and knowledge that quitting is the most cost effective intervention to prevent chronic disease and cancer (73%; 25/34). Only two items, support from management and support from colleagues, were reported by fewer than 50% of respondents, while one half to 2/3 of respondents identified the remaining items.

Table 7. Facilitators to Providing Tobacco Cessation Interventions

Facilitators to Tobacco Cessation Interventions <sup>a</sup>	%	N = 34
Sufficient knowledge about tobacco and health	88%	30
Knowledge that quitting tobacco use can improve the health of patients	85%	29
Patients' motivation to quit using tobacco	79%	27
Resources available to help with tobacco cessation interventions	79%	27
Belief that helping patients to stop using tobacco is part of your role and responsibility	76%	26
Knowledge that quitting is the most cost effective intervention to prevent chronic disease and cancer	73%	25
Reasonable workload that allows time to intervene with tobacco cessation	67%	23
Belief that helping patients to stop using tobacco is of high priority	61%	21
Adequate skills in tobacco cessation counselling	58%	20
Past successes helping patients to quit	52%	18
Confidence in helping patients to stop using tobacco	52%	18
Support from management	41%	14
Support from colleagues	38%	13

*Note.*

<sup>a</sup>measured on a "check all that apply" format.

% responding "yes".

### *Barriers to Providing Tobacco Cessation Interventions*

Barriers were far less prevalent than the facilitating factors (Table 8). Of the eighteen barriers to the provision of tobacco cessation interventions listed in a "check all that apply" format, the barrier noted by the largest number of respondents was a lack of patient interest or motivation to quit (70%, 24/34), followed closely by lack of time (67%, 23/34), and heavy workload (64%, 22/34). Fewer than 10% of respondents reported that lack of support from colleagues (8%, 3/34), lack of knowledge about tobacco and health (5%, 2/34), and limited direct patient care (2%, 1/34) would be barriers to providing tobacco cessation interventions. No

respondent reported the belief that helping patients to stop smoking is of low priority as being a barrier.

Table 8. Barriers to Providing Tobacco Cessation Interventions

Barriers to Tobacco Cessation <sup>a</sup>	%	N = 34
Lack of patient interest or motivation to quit	70%	24
Lack of time	67%	23
Heavy workload	64%	22
Lack of resources (eg. person-power)	41%	14
Lack of tobacco cessation counselling skills	38%	13
Past intervention experiences tended to be unsuccessful	23%	8
Lack of confidence in providing tobacco interventions	20%	7
Discomfort with suggesting patients alter their lifestyles	20%	7
Lack of availability of educational materials	20%	7
Limited effectiveness of tobacco cessation interventions	20%	7
Lack of recognition/reward/reimbursement for intervening	17%	6
Belief that tobacco use is a coping mechanism for patients under stress	14%	5
No existing mandate or policy to intervene	14%	5
Belief that unwanted advice upsets the provider-patient relationship	14%	5
Lack of support from colleagues	8%	3
Lack of knowledge about tobacco and health	5%	2
Limited direct patient care	2%	1
Belief that helping patients to stop smoking is of low priority	0%	0

*Note.*

<sup>a</sup>measured on a “check all that apply” format.

% responding “yes”.

## Discussion

### *Major Findings*

The adoption of tobacco use clinical practice guidelines by nurses working within First Nations primary health care settings indicates that clinicians are well positioned to make an impact on cessation rates. Overall, the findings at the clinician level demonstrate several positive indications of recommended clinical practices. All respondents reported spending time providing tobacco interventions with the majority spending three minutes or longer per patient. There were high rates of following the 5A protocol as well as positive beliefs and high levels of confidence with respect to providing tobacco interventions. Time spent counselling and adherence to the 5A protocol exceed the levels found in the literature. Patient materials were readily available, and there was some evidence of tobacco use status and counselling documentation practices although tobacco specific training is one area that was found to be lacking.

These results demonstrate the uptake of the clinical practice guidelines into actual clinical practice and could be indicative of the uptake of knowledge translation activities with respect to the implementation and integration of clinical practice guidelines. Positive trends with respect to beliefs, confidence, and practices might be occurring over time as awareness efforts by various levels of government (Health Canada, Health Units), and professional associations (RNAO, 2007) have expanded.

### *Response Rates*

By using the modified Dillman method of survey distribution (Dillman, 2000), a response rate approaching 50% resulted, which met response rates evidenced in general hospital settings and exceeded the 15% response rate achieved in a similar 2003 tobacco study conducted



on the needs of Aboriginal Nurses working in First Nations communities with respect to tobacco (Aboriginal Nurses Association of Canada, 2003). Had only a single mailing been conducted, the response rate might have been closer to the previous Aboriginal nursing study as the response rate was only 24% after the first mailing.

#### *Systems Level Clinical Practices Findings and Importance*

*Tobacco cessation intervention protocols.* Documentation practices of tobacco use status were higher than anticipated. Although there was no evidence of system-wide established policies and protocols on tobacco interventions, over half of the respondents had established methods of documenting both tobacco use status and tobacco counselling within their respective health care sites. This promising practice should be more broadly and systematically applied as there is strong evidence in the clinical practices guidelines (system level strategy one), that policies support the consistent application of these practices. When documentation systems are established, there is an increase in interventions provided (Fiore et al., 2000). This practice, although not mandatory in Canada, has become a required practice for some populations in the United States where the Joint Commission has initiated smoking cessation standards as hospital core performance measures and made it a mandatory requirement for reimbursement when treating patients for pneumonia, heart failure, and acute myocardial infarction (Joint Commission of American Hospital Organizations, 2006). Documentation templates, or tools already in use by the respondents currently engaging in these positive practices, could easily be shared and systematically used by staff in all of the sites that participated in the study and this should be encouraged.

*Patient materials.* The findings of the study indicated that patient resources were

accessible in most communities including posters, pamphlets, and self-help materials. This might be the result of the wide distribution of an Aboriginal specific tobacco cessation toolkit that was developed by First Nations and Inuit Health Branch, Health Canada, to all Ontario First Nations communities in the fall of 2005 although it was not clear specifically what materials were available in each site. Self-help materials alone, or self-help materials in combination with counselling have been found to increase abstinence rates, although the effect is weak (Fiore et al., 2000).

*Training.* Despite results that indicate that knowledge of tobacco was the number one facilitator in the provision of tobacco cessation interventions, fewer than one in five respondents had ever received tobacco cessation training. While this lack of training of nurses is not uncommon (Gomm et al., 2002; Sarna et al., 2000), indications are that training would be well-received considering that many respondents are already adhering to many of the recommended practices.

When nurses receive training in tobacco cessation, they have a similar impact to physicians when providing smoking cessation in primary care settings (Rice & Stead, 2004). It is important to further enhance the sound basic knowledge and current positive practices that the respondents already possess by incorporating in-service tobacco training (Fiore et al., 2000). Trained nurses have been found to be more knowledgeable, have more positive attitudes, and engage in more activity related to tobacco cessation (McEwen & West, 2001). Greater efforts toward training could provide reinforcement of positively held beliefs while enhancing the skills of the clinicians. Adequate training has been found to be a key factor in the engagement of health professionals in the promotion of smoking cessation and is likely to have a greater impact

on cessation rates (Twandella & Brenner, 2005; RNAO, 2003) as it also leads to increased frequency and consistency with which providers engage with patients on tobacco (Fiore et al., 2000).

While there have been several opportunities for tobacco cessation training in recent years, participation by nurses has been limited. The author of the study is aware of cessation training having been offered by various organizations including First Nations and Inuit Health Branch (2004 & 2005), the Chiefs of Ontario (2005), and Aboriginal Cancer Care (2004). According to the Zone Nursing Officers, The Registered Nurses Association of Ontario Clinical Practice Guidelines (RNAO, 2003) have also been distributed to all of the survey sites (2004), as well as a notification of the free on-line training opportunities such as are available on the RNAO website ([www.rnao.org](http://www.rnao.org)). It is important to note that nurses who responded to the survey have not participated, in large numbers, in the training offered and that the reasons for this should be given consideration when planning any future training opportunities.

The results of the study indicate that there be could several factors that may have contributed to the low levels of participation in previous training including the major barriers identified as being a lack of time and heavy workloads, or the formats of the training available to date. Not only is the training time a consideration but training being conducted in locations other the nurses' communities usually requires two additional days of travel time in order to attend. Respondents indicated that they are interested in training and that the preferred format is self-study. Training offered in this format could garner higher participation rates as it could be completed in shorter time frames at a time that is compatible with a nurse's schedule. Hard copy self-study materials or internet based training are also feasible and sustainable approaches to

training given the remote locations where the nursing stations and health centres are situated. As confirmed by the information technology department of First Nations and Inuit Health Branch, all of the nursing stations and health centres in the area of the study are equipped with internet access and can access on-line training (T. Smith, personal communication, Health Canada, 2008). Such an approach would also alleviate the challenge of co-ordinating training for an employee group that includes higher than typical rates of part-time and locum nurses while having to address the ongoing need for nursing coverage.

Future training options must not only be sustainable in remote settings but consideration must also be given to the demographics of the workforce. There is a need to have training available on a regular or continuous basis in order to accommodate the various employment schedules of the nurses.

#### *Clinician Level Findings and Importance*

*Beliefs toward providing tobacco cessation interventions.* Respondents believed that intervening in tobacco cessation was an important part of their role as a health care provider, with rates comparable to those found at the high end of the range within the literature which indicate that 90-100% of physicians and nurses believe in its importance (McEwan & West, 2001). While some studies indicate lower rates in the range of 60% (McCarty, Hennrickus, Lando & Vessey, 2001), the high rates found in this study might be indicative of a shift in beliefs that has occurred over time. Seventy percent of respondents believed that brief advice could help patients stop using tobacco. This is important for nursing practice, because if these providers are already in agreement with the importance of their role in tobacco cessation, consistent with those recommended by the Registered Nurses Association of Ontario (RNAO,

2007) , they might be more amenable to following recommended clinical practices for tobacco interventions. Based on the positive beliefs that respondents indicated toward the provision of tobacco cessation interventions, nurses are well positioned to play a key role in increasing quit rates and reducing tobacco related illness within this setting as beliefs have been found to be significantly associated with nurses' counselling behaviours (Borrelli, 2001).

*Confidence about providing tobacco cessation interventions.* Respondents were very confident when it came to providing basic tobacco information and using resource materials such as pamphlets or self-help materials to educate tobacco users. The confidence demonstrated in communicating general information on tobacco is a positive sign of their general knowledge of tobacco. According to the literature this may be reflective of nurses having received better general training and knowledge on the effects of tobacco rather than having received specific training in cessation care and techniques (Nagle, Schofield, & Redman, 1999). Increasing confidence is important because as one study showed, physicians' willingness to intervene would increase if they were confident in their ability to make an impact (Goldberg, Hoffman, Farinha, Marder, Tinson-Mitchem, & Burton, 1994). The need for health-care providers to feel both autonomous and competent has been found to be important in maintaining behaviour change leading to positive health outcomes (Williams, Deci, & Ryan, 1998a).

There were two major areas where respondents lacked confidence: specific tobacco interventions and nicotine replacement therapies. With respect to specific tobacco interventions, there were lower levels of confidence in regards to more specific actions such as those that may be learned in tobacco cessation intervention training including setting a quit date, counteracting tobacco users negative attitudes toward quitting, and advising on nicotine replacement therapy.

Relative to nicotine replacement therapy, results indicated that the majority of respondents were actually recommending, suggesting, or providing nicotine replacement therapies despite lower confidence reported in this area. Although tobacco cessation aids are available as insured products (with limits) under the Non-Insured Health Benefits program as administered by First Nations and Inuit Health Branch of Health Canada ([www.hc-sc.gc.ca/fniah-spnia/nihb-ssna/benefit-presentation/index-eng.php](http://www.hc-sc.gc.ca/fniah-spnia/nihb-ssna/benefit-presentation/index-eng.php)), it is not known to what extent the health care providers are aware of the policy and product availability, and how much product they keep readily available within their over-the-counter drug inventory. This was evident as one respondent provided a comment that the lack of coverage was a barrier to not recommending nicotine replacement therapy. This might suggest the need to increase awareness on the use of nicotine replacement therapies and the coverage levels as per the Non-Insured Health Benefit formulary to ensure that nurses are not only adequately informed, but to maximize the benefits from one of the systems level strengths of insured cessation products that already exists in this setting. These are important areas to address as the literature shows that increasing knowledge levels in these specific areas is likely to result in positive attitudes, increased confidence and more frequently applied activity towards giving such interventions (McEwan & West, 2001).

*Clinical practices relative to the 5A protocol for tobacco cessation interventions.* One hundred percent of respondents reported that in relation to their work with patients over the past twelve months, that they did spend at least some time counselling. Relative to the 5A protocol — 94% ask patients about their tobacco use status, 97% advise patients to quit using tobacco, 94% assess patients' readiness to quit, 94% assist patients with quitting, and 77% arrange follow-up for patients. Overall, adherence to the clinical practices 5A protocol and documentation rates of

tobacco use status were much higher than rates found in the literature which indicates that rates for nurses (depending upon the setting) ranged from 30 to 70% (Sarna et al., 1999; McEwan & West, 2004). While it is not clear why these rates are so high, they could be the result of multiple factors including a reflection of awareness campaigns (RNAO, 2003), high rates of tobacco use in this setting, and low tobacco use rates among the respondents.

There were particularly high levels of adherence (all over 90%) for all of the 5A's with the exception of "Arrange". Although the findings were consistent with the literature in terms of the pattern of a declining level of adherence at each level of the 5A protocol the decline was minimal compared to the literature (Sarna et al., 2000; Gomm et al., 2002). The rates were still substantially higher than other rates found in the literature, that show that fewer than 50% of health-care providers are assessing readiness to quit, assisting with quitting, and arranging for follow-up (Braun & McEwan, 2004; Sarna et al., 2000).

Nurses are occasionally to frequently performing specific actions in the "ask", "advise", and "assess" categories. They are assessing a patients' tobacco status and history, advising patients to quit using tobacco, explaining the harmful effects of tobacco use to patients, explaining the harmful effects of second-hand smoke, explaining to patients how tobacco use might have contributed to their illness, encouraging patients who have relapsed to try quitting again, and motivating patients to quit using tobacco.

Nurses occasionally perform activities consistent within the "assist" and "arrange" categories including suggesting specific actions that patients could do to make quitting or cutting down easier, teaching coping skills to patients to prevent relapse, recommending alternatives to using tobacco to patients, offering self-help cessation materials to patients,

recommending, suggesting, or providing nicotine replacement therapies, and referring patients to cessation resources.

Activities they seldom engage in are helping patients to set a quit date, instructing patients in the use of over-the-counter or prescription medication for tobacco cessation, and recommending, suggesting or providing bupropion.

The two most frequently provided interventions, both following under the 2<sup>nd</sup> A (advise), were advising patients to quit using tobacco, and explaining the harmful effects of tobacco use to patients. Also reported by over 90% of respondents were encouraging patients who have relapsed to try quitting again, suggesting specific actions that patients could do to make quitting or cutting down easier, and teaching coping skills to patients to prevent relapse. The majority of respondents also reported referring individuals to self-help lines, a pro-active approach that is likely to have the greatest benefit (Lancaster & Stead, 2005).

Of note, results indicated that respondents reported recommending, suggesting, or providing nicotine replacement therapies as an intervention to a greater extent than recommending, suggesting, or providing bupropion (the practice least reported by just over half of respondents) at rates that are consistent with the literature (Kotz, 2007). Possible explanations for this are that nicotine replacement therapy is available without a prescription as opposed to bupropion which requires a prescription. It has also been in existence for a longer period of time, may be more familiar to the nurses, and could also be perceived to be a better patient fit. The prescribing patterns of visiting community physicians could also be a factor, if for instance a physician had a preference to prescribe a specific type of medication more often than another to patients. As over-the-counter nicotine replacement therapies are more efficacious than placebo



and should be encouraged (Fiore et al., 2000), it is promising to see that over half of respondents are currently incorporating this in practice.

*Time spent.* Most notably, all respondents reported that they did spend time counselling patients about tobacco use, with over half of respondents reporting that they spent three or more minutes when providing cessation counselling. The time spent is important as there is a strong dose-response relationship between the intensity of tobacco counselling and its effectiveness indicating that while brief interventions can be effective, cessation rates increase with both intensity and frequency of intervention provided (Fiore et al., 2000; Braun, Fowles, Solberg, Kind, Lando, & Pine, 2004). The longer amounts of time reported by the respondents should equate to better quit rates.

*Facilitating factors to providing tobacco cessation interventions.* Facilitating factors to providing tobacco cessation interventions outnumbered the barriers that were identified by respondents. The most commonly reported facilitating factors that encouraged respondents to intervene and enable and support tobacco cessation intervention practices included: knowledge about tobacco and health, knowledge that quitting tobacco can improve the health of patients, and a patient's motivation to quit. The least commonly reported facilitating factors were: confidence in helping people to quit, and support from management. These factors are comparable to an Australian study which found that the top three factors perceived to facilitate the provision of tobacco cessation care were: a patient requesting care, more time, and the availability of in-service training while the least were confidence in helping people to quit, and support from management (Nagle, Schofield, & Redman, 1999). These results highlight the importance of encouraging patients to seek assistance from nurses and of the ongoing need for

nurses to possess sufficient knowledge of tobacco and its effects.

*Barriers to providing tobacco cessation interventions.* Although there were few barriers identified, those that were listed were consistent with those found in other studies. The most frequently reported barriers to providing tobacco cessation interventions were: a lack of patient interest, a lack of time, and heavy workloads. The lack of time for the provision of preventive care is not unique to this study, an Australian study showed similar findings with 63% of respondents reporting that they were too busy (Nagle, Schofield, & Redman, 1999), while a Canadian study identified a lack of time and a patients' lack of interest in quitting as the top two barriers (Tremblay et al., 2001). Time constraints, while perceived to be a major barrier, can however, be overcome if counselling techniques geared to busy health-care providers are taught (Williams, Quill, Deci, & Ryan, 1991; Jaen, Strange, & Nutting, 1994). Teaching nurses to provide interventions of one to three minutes in length is recommended to overcome these barriers as even brief interventions have been found to be effective and can fit within the busy schedules of health care providers (Fiore et al., 2000).

#### *Limitations of the Study*

The data for this study were self-reported and were not validated by clinic or nursing station records, patient medical charts, or patients themselves. This creates the possibility that respondents may have actually over-reported their positive practices rather than accurately reflecting their actual practices. Such over-reporting of tobacco cessation practices has been suggested in other studies (Braun, Fowles, Solbers, Kind, Lando, & Pine, 2004). The measurement format included measuring scales scored on a four point scale from "0" for "never" to "3" for frequently", or from "strongly disagree" to "strongly agree", or "confident" to "very

confident”. Such scales are subject to the interpretation of the individual completing the survey and could have created a margin of error in over-reporting (Neuten & Rubinson, 2002).

Although the psychometric properties of the survey instrument were not tested to assess reliability or validity, the majority of questions were from previously used questionnaires (Johnston et al., 2005; Smith & Sellick, 2009) that were pre-tested to increase the probability of including questions that were likely to yield valid responses. Only Slight modifications were made such as changing the location from “hospital” to “health centre” that did not alter the content validity or the scales of the questions. The source of each question is referenced in Appendix B.

Despite the relatively high response rate to the survey, the overall small sample size limited the statistical analysis that could be conducted to descriptive categories as opposed to sophisticated analysis of the data. The number of nursing stations and nurses that work within the setting limited the sample size, and expanding the geographic boundaries in order to expand the sample size was not logical for the purposes of this study.

Despite the high prevalence of tobacco use in Northwestern Ontario there were very few smokers within the sample, with over half of respondents having never used tobacco. Only 6% (2/34) of respondents identified themselves as daily smokers, which is much lower than expected given that smoking prevalence rates in Northwestern Ontario are 26% (Thunder Bay District Health Unit, 2007), well above both the Canadian (18%) and the Ontario (20%) prevalence rates (Health Canada, 2007). This creates the possibility of a self-selection bias if, for instance, a higher number of smokers than non-smokers elected not to return the surveys. As there may be more negative attitudes towards giving cessation advice among nurses who smoke (Sarna et al.,

2000), caution should be taken when comparing the results of this study to other studies given the high number of non-smokers among respondents.

### *Implications for Practice*

To summarize, there are several implications of the findings to nursing practice that are outlined as follows.

*Clinician level.* Overall, there were highly positive practices at the individual clinician level that should be both encouraged, acknowledged, and supported as they could translate into quit rates. Recognition of these practices in staff evaluations or other nursing forums would serve to reinforce these practices (Fiore et al., 2000).

While at the clinician level there are positive beliefs and several positive indications of recommended practices, there also remain some areas for improvements in order to further translate practices into improved quit rates. As respondents identified “knowledge” as a major facilitator to providing interventions, providing nurses with adequate training is key to not only equipping them with the knowledge to address tobacco use in general but more specifically to increase the rates with which they “assess”, “assist”, and “arrange” with their patients. Efforts should also be made to reduce the barriers that were identified by respondents: lack of time and heavy workloads can be minimized if clinicians are taught the efficacy of brief intervention techniques, and pro-active approaches to addressing tobacco use are promoted (Cohen, Stookey, Katz, Drook, & Smith, 1989).

*Systems level.* Formalizing what nurses are presently doing at either a zone or broader regional level supported by management could lead to a more integrated and consistent approach to tobacco cessation care. The evidence within the clinical practice guidelines positively supports

this approach (Fiore et al., 2000; RNAO, 2003) and there already is a precedent for doing so with Aboriginal health services in the United States (Indian Health Services, 2005). A Toolkit for the Implementation of Clinical Practice guidelines is available free of charge on the Registered Nurses Association of Ontario website ([www.RNAO.org](http://www.RNAO.org)) and provides a roadmap for doing so.

*Training.* In order to maximize the effect that nurses could have on cessation rates, it would be beneficial to further enhance the current positive practices indicated at the individual clinician level by providing tobacco cessation training for nurses. While the nurses in this study lacked training, providing training in remote locations is feasible, and is likely to be a worthwhile investment. Viable and cost-effective options for training include taking advantage of internet based training such as available via the RNAO website ([www.rnao.org/smokingCessation/index.asp](http://www.rnao.org/smokingCessation/index.asp)), the provision of hard copy self-study materials, or incorporating training into nursing conferences or in-service sessions. Respondents have identified self-study as the preferred way of learning but also expressed interest in sessions within a nursing conference. Organized education sessions via videoconferencing are also a commonly used learning medium in this region as evidenced by the use by Keewaytinook Okimakanak ([www.knet.ca](http://www.knet.ca)).

Having also identified the lack of time and heavy workloads as leading barriers to providing interventions, any education and training would need to be scheduled into the nursing workday and promoted as a direct benefit to both the nurse and the patient, with the overall goal of improving patient care. Incorporating training into ongoing employer nurse education and applying continuing education credits into nursing professional portfolios is key (RNAO, 2007).

Specific training on the use of nicotine replacement therapies and the allowances of

insured cessation products under the Non-Insured Health Benefits Program should also be included in any planned training sessions.

*Intervention protocols.* A system-wide approach to the documentation of tobacco-use status, and tobacco counselling, along with policies and protocols based upon the clinical practice guidelines could be used to develop consistent approaches to cessation. Despite the absence of a system-wide approach to screening, documentation, policies, and protocols for identifying tobacco use and tobacco counselling reported in this study, many respondents reported established methods for documentation. Determining how and where it is documented and developing a common tool for doing so is a logical next step. Evidence of this precedent could serve as a template for a broader expansion in practice throughout the nursing stations and health centres. Ideally this could also be reinforced across the spectrum of care by integrating across all health professionals that provide care within the First Nations primary health care setting.

*Patient materials.* Patient materials should continue to be as widely available as they currently are, and improved upon by the wider promotion and distribution of quit-line contact information.

#### *Implications for Future Research*

This study provides preliminary research on the current practices of nurses within First Nations primary care settings. As this was the first known study of its kind within this population, the variables found in the nursing literature (beliefs, confidence, facilitating factors), were used as a starting point and for comparative purposes so that the results could be compared to existing literature.

As there is evidence that health care providers may have a tendency to over-report their positive practices (Braun et al., 2004), further in-depth study into actual versus reported practices of health care providers including chart reviews could also provide a more complete picture. As this study did not include surveying physicians, dentists, and other healthcare professionals that provide services within First Nation primary health care settings, exploring the approaches these health care providers are using also warrants future research. The establishment of tobacco cessation protocols, policies, and training, followed by the measurement of actual practices of health care providers and the effects on cessation rates are potential areas for future research.

The implementation of the Registered Nurses Association of Ontario Clinical Practice Guidelines in such a setting where indications are that attitudes and beliefs are so positive is another area that could be explored and evaluated and could be a good fit with the Best Practice Champion program that the association currently supports where nurse champions are promoting the use of the guidelines (RNAO, 2007). Applying the knowledge gained from this research into clinical applications at the nursing station and health centre level could lead to improved clinical practices via a translational research project. If the nurses are intervening and following recommended clinical practices, a further examination into whether these actions are making a difference in cessation outcomes is also an area that warrants future study.

The suitability of evidence-based clinical practices within First Nations settings, although promising, also needs to be studied further. A larger sample in similar settings across Canada would allow for more sophisticated data analyses such as logistic regressions and provide further detail on actual practices. This study was focussed on the use of mainstream approaches of the clinical practice guidelines by nurses working within First Nations

populations. The results indicated that the nurses who responded are following the guidelines within this population. Although there are some distinct cultural considerations in First Nations that may warrant adaptation of approaches to cessation, this study did not explore these cultural considerations. However, once nursing practices within this population have been firmly established, future studies into the cultural appropriateness and utility of these interventions can be explored further.

There are some specific recommendations that may be more culturally appropriate and have greater utility than other recommendations within the First Nations population. One example is the exploration of cultural beliefs toward pharmacotherapy treatment for nicotine addiction. While one study showed that pharmacotherapy has been used in a limited way in First Nations (Wardman & Khan, 2004), it remains unclear whether the limited use of pharmacotherapy is a reflection of professional practices, or whether it is more closely related to cultural beliefs, values or patient choice.



## Conclusions

This is believed to have been the first Canadian study on the use of tobacco cessation clinical practices by nurses in First Nations primary care settings. While it was a small study and a topic that requires further in-depth study, the results indicate that nurses not only have positive beliefs towards their respective roles in tobacco cessation but are reflecting this in their current clinical practices relative to tobacco cessation interventions. The study confirmed that nurses are following the guidelines at least sometime which is more than what was known at the beginning of this study. This bodes well for First Nations patients as nurses are ideally positioned to influence cessation rates within a population with high rates of tobacco use. The reported practices at the clinician level should result in quit rates.

The current practices of the clinicians in this primary health care setting could be further enhanced by formalizing systems level recommendations including the documentation of tobacco use status, policies, training, and time allocation for intervention services, in order to complement the systems level recommendations already in existence such as the provision and coverage of nicotine replacement therapies.

While there is extensive literature on the importance of the role of the health care provider in tobacco cessation intervention (Fiore et al., 2000; Rice & Stead, 2004), gaining an understanding of the clinical practices currently being used in First Nation patient care and nursing practice is important to understanding the context in which culturally appropriate approaches to tobacco cessation can be further developed. The results of this study could serve

as baseline information from which to further develop and implement a systematic approach to tobacco cessation interventions within this setting, and subsequently evaluate its effectiveness.

The findings of this study are important in that translating the findings into improved practices within the First Nation primary care settings in Northwestern Ontario are likely to have broader applications in similar primary health care settings across Canada, ultimately leading to the goal of reducing tobacco use and tobacco related illness within First Nations populations.

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Appendixes:

Appendix A-Information letter and Survey instrument

Appendix B-Survey instrument items references

## Health Care Provider Survey

**By completing this questionnaire, I am providing my consent to participate in the study titled "An assessment of adherence to Smoking Cessation Clinical Practice Guidelines in North-western Ontario First Nations"**

Please note that all references to tobacco use in this survey are in reference to the use of commercial tobacco and do not refer to the cultural use of traditional tobacco.

Location of Nursing Station/Health Centre or Health Access Centre:

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**1. Does the nursing station or health centre have a written protocol/policy for identifying tobacco use and tobacco cessation counseling?**

- |                                 | Yes                      | No                       | Don't Know               |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| a. Tobacco use                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Tobacco cessation counseling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**2. Does the nursing station or health centre have methods for documenting tobacco use and tobacco cessation counseling in patients' medical records?**

- |                                 | Yes                      | No                       | Don't Know               |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| a. Tobacco use                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Tobacco cessation counseling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**3. Are any of the following materials available in the clinics waiting rooms, lounges, or patient rooms?**

- |  | Yes                      | No                       | Don't Know               |
|--|--------------------------|--------------------------|--------------------------|
| a. Posters encouraging tobacco cessation                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Pamphlets or self-help materials on tobacco cessation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Quit line contact information                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Community-based tobacco cessation program information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**In relation to your work with patients, please indicate how strongly you agree or disagree with the following statements. Circle your choices.**

- |   | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|----------------|-------|----------|-------------------|
| 4. Brief advice (e.g., 3 minutes) to help patients stop tobacco use is effective. | 4              | 3     | 2        | 1                 |

5. Healthcare providers should advise patients to quit using tobacco even if help is not requested.	4	3	2	1
6. Health education on the risk of tobacco use is an important area of healthcare provision.	4	3	2	1
7. Healthcare providers should educate other tobacco users in the patient's household about tobacco use, if at all possible.	4	3	2	1
8. Healthcare providers should use every opportunity to educate patients about the health effects of tobacco use.	4	3	2	1

**In relation to your work with patients, please indicate how confident you feel or would feel performing the following tasks. Circle your choices.**

	Very Confident	Confident	Somewhat Confident	Not Confident
9. Teaching tobacco users about the general health risks of using tobacco.	4	3	2	1
10. Finding out tobacco users' beliefs about tobacco use and health.	4	3	2	1
11. Counteracting tobacco users' negative attitudes about giving up using tobacco.	4	3	2	1
12. Advising tobacco users on how to quit using tobacco.	4	3	2	1
13. Negotiating a target date for patients to quit using tobacco.	4	3	2	1
14. Discussing different methods of quitting tobacco use.	4	3	2	1
15. Giving advice about nicotine replacement therapy.	4	3	2	1
16. Using leaflets and other written materials to help patients quit using tobacco.	4	3	2	1

**In relation to your work with your patients, please indicate how often you performed the following activities in the past 12 months. Circle your choices.**

	Frequently	Occasionally	Seldom	Never
17. Assess patients' tobacco use status and history.	4	3	2	1
18. Explain the harmful effects of tobacco use to patients.	4	3	2	1
19. Explain the harmful effects of second-hand smoke.	4	3	2	1

20. Advise patients to quit using tobacco.	4	3	2	1
21. Help patients to set a quit-date.	4	3	2	1
22. Refer patients to cessation resources (e.g., helplines).	4	3	2	1
23. Offer self-help cessation materials to patients.	4	3	2	1
24. Motivate patients to quit using tobacco.	4	3	2	1
25. Explain to patients how tobacco use might have contributed to their illness.	4	3	2	1
26. Suggest specific actions that patients could do to make quitting or cutting down easier.	4	3	2	1
27. Recommend alternatives to using tobacco to patients.	4	3	2	1

	Frequently	Occasionally	Seldom	Never
28. Teach coping skills to patients to prevent relapse.	4	3	2	1
29. Encourage patients who have relapsed to try quitting again.	4	3	2	1
30. Organize health talks about tobacco for patients.	4	3	2	1
31. Instruct patients in the use of over-the-counter or prescription medication for tobacco cessation.	4	3	2	1
32. Recommend, suggest or provide nicotine replacement therapies.	4	3	2	1
33. Recommend, suggest or provide bupropion (Zyban/Wellbutrin).	4	3	2	1

**34. If you counsel patients about tobacco use and/or cessation, how much time, on average, do you spend doing this with each patient during each visit?**

- less than 3 minutes
- 3 to 10 minutes
- more than 10 minutes
- I do not counsel patients about tobacco use and/or cessation

**35. Which of the following items encourage, or would encourage, you to advise or counsel patients to quit using tobacco? (Please check all that apply.)**

- knowledge that quitting tobacco use can improve the health of patients
- knowledge that quitting is the most cost effective intervention to prevent chronic disease and cancer
- patients' motivation to quit using tobacco
- belief that helping patients to stop using tobacco is part of your role and responsibilities
- sufficient knowledge about tobacco and health



- adequate skills in tobacco cessation counseling
- confidence in helping patients to stop using tobacco
- belief that helping patients to stop using tobacco is of high priority
- support from management
- support from colleagues
- past successes helping patients to quit
- reasonable workload that allows time to intervene with tobacco cessation
- resources available to help with tobacco cessation interventions
- other \_\_\_\_\_

**36. Which of the following items discourage you from advising or counseling patients to quit using tobacco? (Please check all that apply.)**

- lack of time
- lack of tobacco cessation counseling skills
- lack of knowledge about tobacco and health
- lack of confidence in delivering tobacco cessation interventions
- lack of recognition/rewards/reimbursement for intervening
- lack of resources (e.g., person-power)
- lack of support from colleagues
- heavy workload
- belief that helping patients to stop using tobacco is of low priority
- discomfort with suggesting patients alter their lifestyles
- belief that tobacco use is a type of coping mechanism for patients under stress
- past intervention experiences tended to be unsuccessful
- limited direct patient care
- no existing mandate or policy to intervene
- lack of patient interest or motivation to quit
- lack of availability of educational materials
- belief that unwanted advice upsets the provider-patient relationship
- limited effectiveness of tobacco cessation interventions
- other \_\_\_\_\_

**37. To what extent do you feel that delivering a tobacco cessation intervention is a part of your role as a healthcare provider?**

- Not at all       Somewhat       Very Much

**38. Have you received any tobacco cessation training?**

- Yes       No

**39. If you were to receive tobacco cessation training, or further training, what areas would you like to know more about? (Please check all that apply.)**

- how to ask patients about tobacco use
- how to advise a patient to stop using tobacco
- how to assess the patient's readiness to quit using tobacco
- how to provide social support as a part of cessation treatment for patients who use tobacco
- how to help patients recruit social support outside of the nursing station or clinic
- how to counsel patients to quit
- what to do if a patient continues to use tobacco
- how to counsel patients to avoid relapse
- how to find/recommend post-discharge tobacco cessation services
- what self-help materials to give patients who use tobacco
- how to organize your office in terms of record keeping and patient flow so that tobacco use status of patients is assessed at follow-up visits
- other (please specify): \_\_\_\_\_

**40. Which of the following resources would you use to learn more about tobacco cessation for patients? (Please check all that apply.)**

- brief (e.g., 10-minute) in-service during departmental meeting
- 1-hour workshop via telecom or videoconference
- 1/2 -day workshop at nursing forum or conference
- full-day workshop at nursing forum or conference
- self-study materials (e.g., video/CD/DVD, books, pamphlets, web, etc.)
- other (please specify): \_\_\_\_\_

**The questions in this last section ask you about your professional background and personal demographics.**

**41. What is your profession?**

- Addictions/Mental Health Counselor
- Nurse
- Nurse Practitioner
- Physician
- Other (please specify): \_\_\_\_\_

**42. In what year did you complete your clinical training?**

\_\_\_\_\_

**43. How many years have you worked in your current area of practice?**

\_\_\_\_\_

**44. Are you:**

- Full-time
- Part-time
- Locum

**45. Do you smoke or use other tobacco products?**

- Daily
- Occasionally
- Formerly (now quit)
  - Quit within the last 6 months
  - Quit more than 6 months ago
- Have never used tobacco

**46. If you currently smoke or use other tobacco products, which one of the following statements best describes your feelings right now:**

- I am not planning to quit.
- I am planning to quit in the next 6 months.
- I am planning to quit in the next 30 days.
- I am currently in the process of quitting.
- I do not currently use tobacco.

**47. If you currently smoke or use other tobacco products, would you like information about, or assistance with, quitting?**

- Yes
- No

**Thank you for taking the time to complete and return this survey.**

**1. Does the nursing station or health centre have a written protocol/policy for identifying tobacco use and tobacco cessation counselling?**

	Yes	No	Don't Know
a. Tobacco use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Tobacco cessation counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reference:

Created by Dr. Patricia Smith based on the USDHHS (2000) system-level guidelines as these items did not exist in the literature.

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.  
 Fiore, M. C., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Quick reference guide for clinicians*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.

**2. Does the nursing station or health centre have methods for documenting tobacco use and tobacco cessation counselling in patients' medical records?**

	Yes	No	Don't Know
a. Tobacco use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Tobacco cessation counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reference:

Created by Dr. Patricia Smith based on the USDHHS (2000) system-level guidelines as these items did not exist in the literature.

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.  
 Fiore, M. C., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Quick reference guide for clinicians*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.

**3. Are any of the following materials available in the clinics waiting rooms, lounges, or patient rooms?**

	Yes	No	Don't Know
a. Posters encouraging tobacco cessation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Pamphlets or self-help materials on tobacco cessation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Quit line contact information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Community-based tobacco cessation program information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reference:

Created by Dr. Patricia Smith based on the USDHHS (2000) system-level guidelines as these items did not exist in the literature.

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.  
 Fiore, M. C., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Quick reference guide for clinicians*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.

**4. Brief advice (e.g., 3 minutes) to help patients stop tobacco use is effective.**

Reference:

Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. *Preventive Medicine*, 40: 389-406.

<p>5. Healthcare providers should advise patients to quit using tobacco even if help is not requested.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>6. Health education on the risk of tobacco use is an important area of healthcare provision.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>7. Healthcare providers should educate other tobacco users in the patient's household about tobacco use, if at all possible.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>8. Healthcare providers should use every opportunity to educate patients about the health effects of tobacco use.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>9. Teaching tobacco users about the general health risks of using tobacco.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>10. Finding out tobacco users' beliefs about tobacco use and health.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>11. Counteracting tobacco users' negative attitudes about quitting tobacco use.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>12. Advising tobacco users on how to quit using tobacco.</p>
<p>13. Negotiating a target date for patients to quit using tobacco.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>14. Discussing different methods of quitting tobacco use.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>15. Giving advice about nicotine replacement therapy.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>16. Using leaflets and other written materials to help patients quit using tobacco.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social</p>

workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
17. Assess patients' tobacco use status and history Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
18. Explain the harmful effects of tobacco use to patients. Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
19. Explain the harmful effects of second-hand smoke. Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
20. Advise patients to quit using tobacco. Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
21. Help patients to set a quit-date. Reference: Zvolensky, J. J., Baker, K., Yartaz, A. R. Gregor, K., Leen-Feldner, E. W. & Feldner, M. (2005). Mental health professionals with a specialty in anxiety disorders: Knowledge, training, and perceived competence in smoking cessation practices. <i>Cognitive and Behavioral Practice</i> , 12, 312-318.
22. Refer patients to cessation resources (e.g., helplines). Reference: Created by Lynda Roberts (thesis student) based on Smith and Sellick and  Hayward, L. M., Campbell, H. S., Sutherland-Brown, C., (2007) Aboriginal users of Canadian quitlines: An exploratory analysis <i>Tobacco Control</i> 2007; 16 (Suppl_1):i60-i64
23. Offer self-help cessation materials to patients. Reference: Smith, P. M., & Sellick, S. M. (in progress). <i>Translating Research into Practice: A Systematic and Comprehensive Assessment and Implementation of Tobacco Cessation Clinical Practice Guidelines in Northwestern Ontario Hospitals</i> .
24. Motivate patients to quit using tobacco. Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.
25. Explain to patients how tobacco use might have contributed to their illness. Smith, P. M., & Sellick, S. M. (in progress). <i>Translating Research into Practice: A Systematic and Comprehensive Assessment and Implementation of Tobacco Cessation Clinical Practice Guidelines in Northwestern Ontario Hospitals</i> .
26. Suggest specific actions that patients could do to make quitting or cutting down easier. Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i> , 40: 389-406.

<p>27. Recommend alternatives to using tobacco to patients.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 06.</p>
<p>28. Teach coping skills to patients to prevent relapse.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>29. Encourage patients who have relapsed to try quitting again.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>30. Organize health talks about tobacco for patients.</p> <p>Reference: Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., &amp; Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. <i>Preventive Medicine</i>, 40: 389-406.</p>
<p>31. Instruct patients in the use of over-the-counter or prescription medication for tobacco cessation.</p> <p>Reference: Smith, P. M., &amp; Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. <i>Canadian Journal of Rural Medicine</i>.</p>
<p>32. Recommend, suggest or provide nicotine replacement therapies</p> <p>Reference: Smith, P. M., &amp; Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. <i>Canadian Journal of Rural Medicine</i>.</p> <p>Revised by Lynda Roberts (thesis student) to include the provision of the product.</p>
<p>33. Recommend, suggest or provide bupropion (Zyban/Wellbutrin)</p> <p>Reference: Smith, P. M., &amp; Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. <i>Canadian Journal of Rural Medicine</i>.</p> <p>Revised by Lynda Roberts (thesis student) to include the provision of the product.</p>
<p><b>34. If you counsel patients about tobacco use and/or cessation, how much time, on average, do you spend doing this with each patient during each visit?</b></p> <p><input type="checkbox"/> less than 3 minutes</p> <p><input type="checkbox"/> 3 to 10 minutes</p> <p><input type="checkbox"/> more than 10 minutes</p> <p><input type="checkbox"/> I do not counsel patients about tobacco use and/or cessation</p> <p>Reference: Created by Dr. Patricia Smith based on the USDHHS (2000) guidelines as these items did not exist in the literature.</p> <p>Smith, P. M., &amp; Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. <i>Canadian Journal of Rural Medicine</i>.</p> <p>Fiore, M. V., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Gritz, E. R., Heyman, R. B., et al. (2000). <i>Treating Tobacco Use and Dependence, Clinical Practice Guidelines</i>. Rockville, MD: U.S Department of Health and Human Services. Public Health Service.</p>
<p><b>35. Which of the following items <u>encourage</u>, or would encourage, you to advise or counsel using tobacco? (Please check all that apply.)</b></p>

Reference for all items in this question:

Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. *Preventive Medicine*, 40: 389-406.

**36. Which of the following items discourage you from advising or counseling inpatients to quit using tobacco? (Please check all that apply.)**

- Lack of time
- Lack of tobacco cessation counselling skills
- Lack of knowledge about tobacco and health
- Lack of confidence in delivering tobacco cessation interventions
- Lack of recognition/rewards/reimbursement for intervening
- Lack of resources (e.g., person-power)
- Lack of support from colleagues
- Heavy workload
- Belief that helping patients to stop using tobacco is of low priority
- Discomfort with suggesting patients alter their lifestyles
- Belief that tobacco use is a type of coping mechanism for patients under stress
- Past intervention experiences tended to be unsuccessful
- Limited direct patient care
- No existing mandate or policy to intervene
- Lack of patient interest or motivation to quit
- Lack of availability of educational materials
- Belief that unwanted advice upsets the nurse-patient relationship
- Limited effectiveness of tobacco cessation interventions
- Other (please specify) \_\_\_\_\_

Reference:

Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. *Preventive Medicine*, 40: 389-406.

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.

**37. To what extent do you feel that delivering a tobacco cessation intervention is a part of your role as a healthcare provider?**

- Not at all
- Somewhat
- Very Much

Reference:

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.

**38. Have you received any tobacco cessation training?**

- Yes
- No

Reference:

Created by Dr. Patricia Smith based on the USDHHS (2000) system-level guidelines as these items did not exist in the literature.

Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural M*  
 Fiore, M. V., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Gritz, E. R., Heyman, R. B., et al. (2000). *Treating Tobacco Use and Dependence, Clinical Practice Guidelines*. Rockville, MD: U.S Department of Health and Human Services. Public Health Service.

**39. If you were to receive tobacco cessation training, or further training, what areas would you like to know more about? (Please check all that apply.)**



- How to ask patients about tobacco use
- How to advise a patient to stop using tobacco
- How to assess the patient's readiness to quit using tobacco
- How to provide social support as a part of cessation treatment for patients who use tobacco
- How to help patients recruit social support outside the hospital environment
- How to counsel patients to quit
- What to do if a patient continues to use tobacco
- How to counsel patients to avoid relapse
- How to find/recommend post-discharge tobacco cessation services
- What self-help materials to give patients who use tobacco
- Other (please specify): \_\_\_\_\_

Reference:

Created by Dr. Smith as a needs assessment and planning tool for training development.

Smith, P. M., & Sellick, S. M. (in progress). *Translating Research into Practice: A Systematic and Comprehensive Assessment and Implementation of Tobacco Cessation Clinical Practice Guidelines in Northwestern Ontario Hospitals.*

**40. Which of the following resources would you use to learn more about tobacco cessation for your patients?  
(Please check all that apply.)**

- Brief (e.g., 10-minute) in-service during departmental meeting
- 1-hour workshop via telecom or videoconference
- 1/2 -day workshop at nursing forum or conference
- Full-day workshop at nursing forum or conference
- Self-study materials (e.g., video/CD/DVD, books, pamphlets, web, etc.)
- Other (please specify): \_\_\_\_\_

Reference:

Created by Dr. Smith as a needs assessment and planning tool for training development. (with some modification by Lynda Roberts (thesis student))

Smith, P. M., & Sellick, S. M. (in progress). *Translating Research into Practice: A Systematic and Comprehensive Assessment and Implementation of Tobacco Cessation Clinical Practice Guidelines in Northwestern Ontario Hospitals.*

**41. What is your profession?**

- Addictions/Mental Health
- Nurse
- Nurse Practitioner
- Physician
- Other (please specify): \_\_\_\_\_

Demographic question created by Lynda Roberts (thesis student)

**42. In what year did you complete your clinical training?**

Demographic question created by Lynda Roberts (thesis student)

**43. How many years have you worked in your current area of practice?**

Demographic question created by Lynda Roberts (thesis student)

**44. Are you:**

- Full-time
- Part-time
- Locum

Demographic question created by Lynda Roberts (thesis student)

**45. Do you smoke cigarettes or use other tobacco products?**

- Daily

- Occasionally  
 Formerly (now quit)  
 Quit within the last 6 months  
 Quit more than 6 months ago  
 Have never used tobacco

Reference:

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*, 390-395.

**46. If you currently smoke cigarettes or use other tobacco products, which one of the following statements best describes your feelings right now:**

- I am not planning to quit.  
 I am planning to quit in the next 6 months.  
 I am planning to quit in the next 30 days.  
 I am currently in the process of quitting.  
 I do not currently use tobacco.

Reference:

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*, 390-395.

**47. If you currently smoke or use other tobacco products, would you like information about, or assistance with, quitting?**

- Yes     No

#### Information about questionnaires utilized:

1-Johnston, J. M., Chan, S. S., Chan, S. K., Lam, T. H., Chi, I., & Leung, G. M. (2005). Training nurses and social workers in smoking cessation counseling: A population needs assessment in Hong Kong. *Preventive Medicine, 40*: 389-406.

This questionnaire was adapted from another previously validated questionnaire which focused on smoking cessation knowledge, attitude, and practice of nurses in Hong Kong. The authors assembled an expert panel to review the questionnaire and also conducted a pilot study of the items in order to assess its face and content validity. Survey participants included 1843 nurses and 1499 social workers.

2-Prochaska, J. J., Fromont, S. C., & Hall, S. M. (2005). How prepared are psychiatry residents for treating nicotine dependence. *Academic Psychiatry, 29* (3), 256-261.

This survey contained many items that were previously utilized in another survey with over 3,000 participants whom were students of medicine, pharmacy, and nursing. This survey's participants included 105 psychiatry residents and focused on their knowledge, attitudes, and behaviours in providing tobacco cessation interventions with their patients. Internal consistency of the scales were also measured and judged to be good (Cronbach alpha's ranged from 0.79 to 0.84).

3-Zvolensky, J. J., Baker, K., Yartaz, A. R., Gregor, K., Leen-Feldner, E. W., & Feldner, M. (2005). Mental health professionals with a specialty in anxiety disorders: Knowledge, training, and perceived competence in smoking cessation practices. *Cognitvae and Behavioral Practice, 12*, 312-318.

The questions in this survey were pulled from an existing survey called the Health Professional Smoking Survey measuring tobacco cessation knowledge, training, and counselling activities of primary-care physicians. It was utilized by these authors for use with 75 mental health professionals who work with patients with anxiety disorders.

- 4- Smith, P. M., & Sellick, S. M., Brink P., Edwardson A. (2009, accepted for publication) Brief Tobacco Cessation Interventions by Family Physicians in NW Ontario Rural Hospitals. *Canadian Journal of Rural Medicine*.

The survey was based on a number of previously validated surveys and the authors also added additional questions that were not found in the literature. This survey was utilized with all hospital-based health care professionals in Northwestern Ontario.

- 5- Fiore, M. C., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Quick reference guide for clinicians*. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.

Registered Nurses Association of Ontario. (2007). *Integrating smoking cessation into daily nursing practice* (Rev. ed.). Toronto, Canada: Registered Nurses Association of Ontario.

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 51, 390-395.

These three references provided the theoretical framework to create a few items for this survey.