

Minimal Contact Intervention for Tobacco Dependence

Megan Lynch

Department of Graduate and Undergraduate  
Studies in Education

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Faculty of Education, Brock University  
St. Catharines, Ontario

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## **Abstract**

This study was conducted to measure the degree of adherence by public health care providers to a policy that requires them to implement minimal contact intervention for tobacco cessation with their clients. This study also described what components of the intervention may have contributed to the adherence of the policy and how health care providers felt about adhering to the policy. The intervention consisted of a policy for implementation of minimal contact intervention, changes to documentation, a health care provider mentor trained, a training session for health care providers, and ongoing paper and people supports for implementation. Data for this study were collected through a health care provider questionnaire, focus group interviews, and a compliance protocol including a chart audit. The findings of this study showed a high degree of adherence to the policy, that health care providers thought minimal contact intervention was important to conduct with their clients, and that health care providers felt supported to implement the intervention. No statistically significant difference was found between new and experienced health care providers on 17 of the 18 questions on the health care provider questionnaire. However there was a statistically significant difference between new and experienced health care providers with respect to their perception that “clients often feel like they have to accept tobacco cessation information from me.” Changes could be made to the minimal contact intervention and to documentation of the intervention.

Implications for future research include implementation within other programs within Hamilton Public Health Services and implementation of this model within other public health units and other types of health care providers within Ontario.

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## **CHAPTER ONE: INTRODUCTION TO THE STUDY**

This study examined changes made within a public health setting intended to alter public health care providers' practice regarding tobacco cessation interventions. The study presented a model to determine whether health care providers are more likely to implement minimal contact intervention for all clients when they are provided with the training and continuous support in conjunction with a departmental policy. In Ontario, there are clinical practice guidelines for all health care providers to address tobacco cessation with their clients at every interaction (CANADAPTT, 2011). This study presented evidence that recognizes that health care providers are not following clinical practice guidelines for tobacco cessation and, therefore, aimed to create a culture to support these health care providers. The study asked the health care providers about the limitations to implementing minimal contact interventions and the changes that could be made to support these health care providers.

Though there are clinical guidelines for many types of health care providers, there are no mandatory guidelines that require health care providers to ask about patient smoking status. This study examined a comprehensive training model with associated policy that requires all health care providers to implement minimal contact intervention for tobacco cessation with all clients. A mixed-methods approach was used to measure the degree of adherence to the policy, describe what components of the intervention may have contributed to the adherence of the policy, and describe how health care providers felt about implementing the minimal contact intervention.

### **Background of the Problem**

It is well documented that tobacco use has negative health consequences and is the leading cause of preventable morbidity and mortality in Ontario (Ontario Ministry of

Health Promotion, 2009). According to the 2013 Canadian Community Health Survey, the provincial rate for daily and occasional smokers is 18.1% while Hamilton's rate is 20.5% (Statistics Canada, 2013). The Canadian Smoking Cessation Clinical Practice Guideline (CAN-ADAPTT, 2011) states that health care providers have an important role in tobacco use cessation and should ask every patient regarding their smoking status, because even minimal contact interventions have an impact on reducing tobacco use. There are many provincial professional organizations, such as the Ontario Medical Association (OMA) and the Registered Nurses Association of Ontario (RNAO), that urge their members to screen clients, though there is no accountability towards these recommendations (OMA, 2008; RNAO, 2007). National professional organizations such as the Canadian Nurses Association (CNA), Canadian Medical Association, Canadian Physiotherapy Association, Canadian Counselling and Psychotherapy Association, the Canadian Dental Hygienists Association, and the Canadian Association of Occupational Therapists have collectively published a joint position paper stating "there is a role for every Canadian health professional in tobacco-use cessation" (CNA, 2011, p. 1).

Some health care providers argue that they cannot screen patients for tobacco use because there is not enough time, they are too busy, and there are competing priorities (McCammon-Tripp & Nagge, 2011; Segaar, Bolman, Willemsen, & de Vries, 2006). McCammon-Tripp and Nagge (2011) suggest that public health providers fear that they will alienate their clients when asking about tobacco status in a nonrelated visit and, therefore, these patients will not return. Lynch, Appan, and Steibelt (2012) reported that almost 70% of those who smoke wish to quit and may welcome the advice from a health care provider.

Public health care providers are comprised of nurses, physicians, dietitians, nutritionists, dental hygienists, dentists, and health promotion specialists who work in a variety of clinic, community, and home settings. Public health care providers are in a different position than those health care providers who work in primary care and hospital-based settings, because public health care providers have a population health focus and less of a focus on the individual. For example, clinical guidelines for nurses are often irrelevant in the public health setting and are replaced with Public Health Core Competencies (Public Health Agency of Canada, 2013). It was important to understand the context in which these public health clinicians operate and, further, how a clinical guideline affected their work. The Region of Waterloo implemented minimal contact intervention for tobacco cessation for the six public health department teams with direct client contact and that were deemed the most appropriate (McCammon-Tripp & Nagge, 2011). It would not be logical to require public health care providers to perform minimal contact interventions when they do not have direct contact with clients.

The Hamilton Public Health Services Quit Smoking Clinic provides intensive counseling for many clients in Hamilton. The clinic receives referrals from community partners including local hospitals and primary care settings. Programs within Hamilton Public Health Services that have direct client contact include family health, sexual health, dental, tuberculosis and infectious disease, and vaccine preventable disease. It is unfortunate that there is no mechanism in place to screen public health clients for tobacco use within Hamilton Public Health Services. Moreover, there is no mechanism in place to refer public health clients who wish to quit smoking to the clinic or other available

services, while our community partners have a mechanism and refer to the Hamilton Public Health Services Quit Smoking Clinic.

### **Statement of the Problem Context**

As recommended by the Registered Nurses Association of Ontario, the U.S. Department of Health and Human Services, and the Canadian Action Network for the Advancement, Dissemination, and Adoption of Practice-informed Tobacco Treatment, all health care providers should screen their patients for tobacco use at every interaction (CAN-ADAPTT, 2011; Fiore et al., 2008; RNAO, 2007). As reported by Vogt, McEwen, and Michie (2008), health care providers do not follow these recommendations; only 50% of health care providers say that they ask patients whether they smoke, and only 30% of patients say that they were asked by their health care providers whether they smoke. This fact helped to identify the issue that there is no systemic, coordinated, and collaborative approach to tobacco cessation services. An internal evaluation of the public health quit smoking clinic demonstrated that the majority of referrals came from community partners and only a very small number of referrals came from other internal public health care providers (Mitton, Johnston, McDonald, & Tran, 2010). The report showed the lack of coordination of cessation services for residents of the City of Hamilton.

Statistics Canada and Niday (as cited in Mitton et al., 2010) data reported a maternal smoking rate in Hamilton that is higher than the provincial average, and in some areas of the city the rate is as high as 40%. Hamilton Public Health Services identified maternal smoking as a priority and trained all family health division staff in motivational interviewing and minimal contact intervention for tobacco cessation. The stated purpose

of this training was to decrease maternal and new family tobacco use, to limit children's exposure to second-hand smoke, and to increase awareness of cessation supports including the public health quit smoking clinic (Mitton et al., 2010). This training was not linked to a policy, and therefore it was optional for health care providers to complete minimal contact intervention for tobacco cessation. There were no changes made to documentation forms to trigger health care providers to complete minimal contact intervention or to track that they had completed it, and there were no evaluation mechanisms put into place to monitor changes to health care provider practice. The clinic evaluation report showed an initial increase in referrals to the quit smoking clinic from family health division staff, but, within the year, the referrals decreased to almost none (Mitton et al., 2010).

Schwartz, Ferrence, and Cohen (2009) reported that the climate in tobacco control has changed since the implementation of the Smoke-Free Ontario Act in 2006, with a stronger focus on enforcement and cessation. Dr. Arlene King, the Chief Medical Officer of Health in Ontario, was quoted in the Tobacco Scientific Advisory Group report as saying "we cannot win a war that we don't continue to invest in" (Ontario Ministry of Health Promotion, 2009, para. 8). Tobacco cessation was not a public health departmental or provincial priority in 2007 when the training for family health care providers was conducted, though there was support from management. Several years later, with more of a focus on tobacco cessation coming from the provincial government, a policy for minimal contact intervention for tobacco cessation was approved by senior management. It was planned to build upon the training in family health that had occurred previously to decrease maternal and postpartum smoking rates. A policy was passed that required all

health care providers to complete minimal contact intervention for tobacco cessation and the trainings would be expanded to all public health care providers with direct client interactions.

### **Purpose of the Study**

The purpose of this study was twofold. First, the purpose was to measure the degree of adherence to the minimal contact intervention policy by health care providers at Hamilton Public Health Services. Second, the study was conducted to describe what, if any, components of the intervention may have contributed to the adherence of the policy and how health care providers felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients.

An explanatory mixed-methods design was used for this study. A departmental policy was implemented requiring staff to complete minimal contact intervention for tobacco cessation. Changes to documentation were made and referrals to cessation services were identified to health care providers to assist with implementing tobacco cessation interventions. Health care providers were asked what their practice was regarding tobacco cessation interventions with their clients before and after implementation of the policy and whether they felt they were able to continue a change of practice if they had made one. A half-day training session was provided for all staff, a mentor within their division was trained and a champion on each team was appointed, electronic resources were made available, and ongoing support was provided. The study helped identify implications and recommendations for practice and will be used to implement the policy in the remaining Hamilton Public Health Services programs that were identified.

## **Rationale and Research Questions**

This study was meant to build upon the research by McCammon-Tripp and Nagge (2011) regarding the implementation of a minimal contact intervention for tobacco cessation within the Region of Waterloo Public Health Department. McCammon-Tripp and Nagge reported on key success factors and lessons learned for the implementation of their policy. Schwartz et al. (2009) highlighted areas related to tobacco cessation that are still behind the targets in Ontario. This study implemented and evaluated recommendations from these authors as well as built on the work by McCammon-Tripp and Nagge. There are many evaluations of minimal contact interventions within primary care and hospital settings as reported by Brandon et al. (2004), Hakesley-Brown (2009), and Segaar et al. (2006), to name a few. This study determined whether key findings within primary care and hospital settings could be modified for public health care providers and whether there are similar rates of health care providers implementing minimal contact intervention for tobacco cessation.

Similar to the model in the Region of Waterloo, as reported by McCammon-Tripp and Nagge (2011), Hamilton Public Health Services senior management team approved the minimal contact intervention policy to be implemented in a phased-in approach across all divisions. This study evaluated the implementation of the policy within the family health division during the phased-in approach. The main topics that health care providers in the family health division address with their clients include nutrition, child growth and development, and injury prevention. Tobacco use is often not addressed because the other topics take priority and the link to overall improved health with tobacco cessation is often not made. Health care providers have stated that they often feel that providing minimal

contact intervention for tobacco cessation will take away from the main issues they need to address with clients (Vogt et al., 2008). Recommendations are to be used to implement the policy in the remaining divisions.

This study specifically measured the degree of adherence by public health care providers to the policy that requires them to perform minimal contact intervention for tobacco cessation at all face-to-face interactions with clients. The following research questions were investigated:

1. What is the compliance rate for a minimal contact intervention for tobacco cessation among public health care providers following policy implementation, training, changes to documentation, and ongoing mentor support?
2. What are the components of the intervention that may have contributed to the adherence to the policy, and how do health care providers feel about adhering to the policy to provide minimal contact intervention for tobacco cessation with their clients?

### **Situating Myself as Researcher**

This study was completed by me, a public health nurse in the tobacco control program at Hamilton Public Health Services. My role within public health includes direct client contact and supporting health care providers within the organization and other Hamilton organizations in relation to tobacco cessation interventions. I provide direct client care in intensive interventions for tobacco cessation. I also train health care providers to provide minimal and intensive interventions for tobacco cessation with their clients and patients. While providing the intervention within this study is part of my professional work, the research to measure the degree of adherence to the policy, describe

what components of the intervention may have contributed to the adherence to the policy, and describe how health care providers felt about implementing the minimal contact intervention relates specifically to this thesis in partial fulfillment of the requirements for the degree of Master of Education.

### **Scope and Limitations of the Study**

The policy was implemented in a phased-in approach across the public health unit divisions, but this study examined the implementation only within the family health division. Health care providers within the family health division had been previously trained in minimal contact intervention for tobacco cessation. Some of these health care providers were part of a 2-day training in motivational interviewing and minimal contact intervention for tobacco cessation in 2007 and 2008. There has been staff turnover since 2008, and not all current staff have participated in this training. The division contains approximately 70 health care providers and, of those, 43 have direct client contact as part of their work assignment that relates to the implementation of the minimal contact intervention. These health care providers are within the Healthy Babies Healthy Children and the Canadian Prenatal Nutrition Programs and are expected to implement the minimal contact intervention policy during each client interaction.

Health care providers within the family health division with limited individual client contact were encouraged to perform minimal contact intervention with clients when speaking one-on-one and when it is clinically relevant, but this intervention is not required under the policy. These health care providers are often teaching group classes or are providing resource-specific information to staff that have more frequent client interactions.

All health care providers in the family health division were trained to provide minimal contact intervention for tobacco cessation because there is often movement between teams due to assignment changes. This was done to mitigate additional training needs for the health care providers and extra support requested from the mentor. There may have been staff turnover, and staff may have missed the training due to conflicts, sick time, or vacation. An online module of the training was available for these health care providers to conduct self-directed learning regarding minimal contact intervention. These health care providers were expected to implement the minimal contact intervention policy, having missed some components of the training model, once they returned to work.

A chart audit was included as a component of the protocol to measure the level of compliance with the policy. It is possible that health care providers were implementing the policy but may not have documented it within their charting. To ensure that health care providers complete documentation, paper copies were made available.

### **An Overview of the Remainder of the Document**

Chapter Two is a succinct overview of tobacco-related illness and tobacco cessation interventions, including clinical practice guidelines available in Ontario. This review concludes with evidence to suggest the importance of training health care providers in how to implement these evidence-based tobacco cessation interventions in order to see changes in their practice.

Chapter Three describes the research design, questions, and hypotheses related to this study. It describes the participants in the study, instruments for data collection, and the process for collection, recording, and analysis of data. The chapter concludes with a

list of the limitations of the study, methods for establishing credibility, methodological assumptions, ethical considerations, and a restatement of the purpose of the study.

Chapter Four presents results that measured the degree of adherence to the minimal contact intervention policy by health care providers. The results explored components of the intervention that may have contributed to the adherence to the policy and how health care providers felt about adhering to the policy. The quantitative and qualitative results include three sets of data that were collected — the health care provider questionnaires, a compliance protocol, and focus groups interviews.

Chapter Five provides a discussion of the results as compared to the related literature, the implications of the study findings, and recommendations for further research.

## **CHAPTER TWO: REVIEW OF RELATED LITERATURE**

Chapter Two is a review of the literature related to tobacco cessation efforts focusing on public health care providers in Ontario. The impact of tobacco-related illnesses is examined and possible evidence-based interventions to treat tobacco dependence are explored. These interventions include one-on-one counselling, minimal contact interventions, quit-smoking medications and nicotine replacement therapy products, self-help material, and telephone support. The literature review looks at evidence-based interventions to increase the number of successful quit attempts made by a person who smokes. This review concludes with evidence to suggest the importance of training health care providers to implement these evidence-based tobacco cessation interventions in order to change their practice.

### **Impact of Tobacco Use**

As reported by the Ontario Ministry of Health Promotion (2009), tobacco use is the leading cause of preventable morbidity and mortality in Ontario. It is estimated that tobacco use kills more than 13,000 people every year in Ontario. This report also indicated that tobacco-related diseases cost the Ontario economy \$1.6 billion in health care expenditures annually, resulting in \$4.4 billion in productivity losses and accounting for at least 500,000 hospital days each year. The Canadian Community Health Survey (Statistics Canada, 2013) data show that 20.5% of Hamiltonians are current smokers while the provincial rate for the same is 18.1%. This statistic includes both daily and occasional smokers.

There have been significant gains from tobacco control efforts in Ontario over the past decade as part of the Smoke-Free Ontario Strategy, yet the targets with respect to

tobacco cessation have not been met (Lynch et al., 2012). Since 2003, in Ontario there has been no change in smoking rates, no change in percentage of daily smokers, and a change of only three fewer in the number of total cigarettes smoked per day. There continues to be a difference by education level of people who smoke compared to nonsmokers and marked differences among public health units regarding their interventions to treat nicotine dependence (Schwartz et al., 2009).

Tobacco dependence is a chronic illness with a pediatric onset. Most people begin to smoke before the age of 18 and will often struggle with nicotine dependence most of their lives, often making numerous quit attempts (CAN-ADAPTT, 2011). Tobacco use and nicotine dependence are a health issue because of the burden of the illness. Schwartz et al. (2009) state that a person who smokes will live 10–15 years less compared to a person who never smoked. Major health issues related to tobacco use include many types of cancers, heart disease, stroke, respiratory illnesses including chronic obstructive pulmonary disease (COPD) and emphysema, complications in fertility and pregnancy, and many other diseases (Fiore et al., 2008). Additional impacts of tobacco use include the environmental impact from second-hand smoke and cigarette butt litter as well as the health effects that second-hand smoke causes nonsmokers. Lynch et al. (2012) attribute second-hand smoke exposure to increased risk of sudden infant death syndrome (SIDS), acute respiratory infections, middle-ear infections, more severe asthma and other respiratory symptoms, and decreased lung function in children.

A large component of the provincially mandated Smoke-Free Ontario Strategy includes decreasing smoking rates and, therefore, offering tobacco cessation programs is essential. The issue now is that there are effective interventions to decrease smoking

rates, but these are not being practiced (Fiore et al., 2008). The evidence from Fiore et al.'s (2008) clinical guidelines shows that the number of people being advised to quit by their clinicians has doubled in the last 20 years, but there is still a long way to go. Lynch et al. (2012) report that less than 10% of those who express an interest in quitting are able to stay smoke free for more than 30 days.

### **Interventions to Treat Tobacco Dependence**

Tobacco dependence is a chronic condition that often requires repeated interventions. Effective treatments exist that can produce long-term or even permanent abstinence from tobacco use (Fiore et al., 2008). Brandon et al.'s (2004) findings support minimal contact intervention as efficacious and cost efficient in helping smokers remain smoke free. Fiore et al. (2008) agreed and suggested it will also increase smoking cessation attempts.

Lynch et al. (2012) suggest that over half of those Ontarians surveyed regarding their tobacco use would like to quit smoking within the next 6 months. Whether a person chooses to quit smoking or is being told by his or her health care provider that he or she have to quit, there are many options for treatment. Some people opt to quit immediately with no assistance, which is often called quitting cold turkey, or others will gradually reduce the number of cigarettes they smoke. There are fewer people who will seek help from a health care practitioner for medications, nicotine replacement therapies, self-help materials and telephone quitlines, and counselling or other forms of treatment such as hypnosis and acupuncture. All treatments have different levels of effectiveness while some have even been shown to have no effect on quitting (CAN-ADAPTT, 2011; Fiore et al., 2008).

The U.S. Clinical Practice Guidelines for Treating Tobacco Use and Dependence (Fiore et al., 2008), the Registered Nurses of Ontario Association Integrating Smoking Cessation into Daily Nursing Practice Nursing Best Practice Guideline (2007), and the Canadian Smoking Cessation Clinical Practice Guideline (CAN-ADAPTT, 2011) all recommend that health care providers provide tobacco cessation interventions for all patients during every interaction. For health care providers who work in areas not viewed as being directly related to tobacco use and its consequences, it is recommended that they complete a brief intervention that includes arranging for treatment if their patient would like support in quitting smoking (CAN-ADAPTT, 2011; Fiore et al., 2008). Both the American and the Canadian guidelines call for more intensive interventions in areas such as cardiac and respiratory, where there is a direct link to tobacco use and its consequences.

Minimal contact intervention is effective in increasing long-term smoking quit rates (Fiore et al, 2008) as well as increasing a smoker's motivation to quit in the future (RNAO, 2007). A study by Hakesley-Brown (2009) demonstrated that patients who smoke are more motivated to accept clinician advice and make a quit attempt if it is not related to the reason they are seeing the clinician in the first place. Patients are unlikely to schedule a specific appointment to quit smoking. This study also demonstrated the importance of establishing and documenting tobacco use at the initial visit in order to increase the likelihood of the patient's desire to quit smoking in the future.

Intensive tobacco cessation interventions require more staff time and have financial restraints; therefore, Fiore et al. (2008) recommend that a lower intensity, universal screening of all patients, such as a minimal contact intervention, is more cost

effective and beneficial to the patients. RNAO's (2007) best practice guideline for tobacco cessation describes effective treatment that can produce successful results such as extended or complete abstinence from tobacco use. The RNAO guideline recommends that every patient who uses tobacco and is willing to quit should be provided with intensive interventions such as counselling, quit-smoking medication, or nicotine replacement therapies, which have been identified as effective. The guideline recommends that patients unwilling to quit tobacco use should be provided with a minimal contact intervention designed to increase their motivation to quit. Therefore, health care providers must screen every patient for tobacco use in order to determine the most appropriate treatment.

Despite the recommendations for minimal contact interventions with all patients and more intensive interventions with patients ready to quit smoking, this practice is not being universally applied. Lynch et al. (2012) report that over two thirds of Ontario smokers want to quit, but fewer than half are being asked by their doctors whether they smoke, and even fewer are being offered support. Vogt et al. (2008) conducted an exploratory study of general practitioners providing minimal contact tobacco cessation interventions. These authors concluded that doctors are not providing minimal contact interventions as often as they could for several reasons, including perceived time required to complete the intervention, lack of confidence, or the tobacco use of these doctors themselves. This is information that should be considered when planning staff training for minimal contact intervention for tobacco cessation. Brandon et al.'s (2004) research reports that minimal contact intervention is a cost-effective intervention that reduces smoking relapse.

While cigarettes are widely available in Ontario in corner stores, grocery retailers, and gas stations to anyone over the age of 19, medications and aids to quit-smoking are harder to purchase and usually have a greater cost. There are several quit smoking medications and nicotine replacement therapies available for use in Canada for those wishing to quit or reduce the number of cigarettes that they smoke. These medications are available with a prescription, and the nicotine replacement therapy (NRT) is available for purchase in the forms of patch, gum, lozenge, inhaler, and mist over the counter at most pharmacies. The clinical guidelines written by Fiore et al. (2008) recommend that “health care providers should encourage all patients attempting to quit to use effective medications for tobacco dependence treatment, except where contraindicated” (p. 106). There are also specific populations, such as pregnant women, light smokers, or adolescents, for which there is little evidence to support the effectiveness of use of these medications as represented by the American and Canadian clinical practice guidelines (CAN-ADAPTT, 2011; Fiore et al., 2008).

The two medications available for use in helping to quit smoking in Canada are bupropion SR and varenicline, and both of these medications have been seen as effective in helping people to quit smoking (CAN-ADAPTT, 2011). NRT patches are long-acting therapies that, when used with intensive counseling, can increase the success of quitting by two to three times the rate of quitting unassisted (Fiore et al., 2008). Other NRT in the forms of gum, lozenge, inhaler, and mist are faster acting compared to the patch and are recommended for use to satisfy cravings, but they have a lower success for overall quit rates when compared to the NRT patches (CAN-ADAPTT, 2011; Fiore et al., 2008). It is up to the individual, as well as the health care provider, to determine the correct type of

NRT, including using multiple types, to increase success. Medical considerations, according to the Canadian Clinical Practice Guidelines (CAN-ADAPTT, 2011) include consulting a physician for individuals under the age of 18 or those who are pregnant or breastfeeding. NRT patches are not recommended for those with sensitivities to adhesive, and the NRT gum is not recommended for anyone with dentures or jaw problems. Bupropion SR and varenicline require a prescription, though some individuals in Ontario are eligible for coverage through Ontario Drug Benefit or their employer health benefits (Ontario Ministry of Health Promotion, 2009). NRT may be covered through employer health benefit packages and is available in pharmacies without a prescription. Ontario Ministry of Health Promotion (2009) describes the upfront cost of the treatment as a barrier to accessing NRT, though after several weeks it does compare to the cost of purchasing cigarettes.

For those individuals who want to quit smoking and are not interested in medication or nicotine replacement therapy, there are telephone quitlines and self-help materials available which are produced by several different sources. In Ontario, the main resources come from Canadian Cancer Society, Centre for Addictions and Mental Health, Health Canada, and Pregnets, to name a few (Lynch et al., 2012). Throughout Canada, Smokers' Helpline, funded through the Canadian Cancer Society, offers telephone and online support for those who are trying to quit smoking and referrals to local services including clinics, pharmacies, and doctors. According to the Canadian clinical guidelines, self-help materials are helpful and should be utilized if available, but these materials should not be the main support for long-term quit results (CAN-ADAPTT, 2011).

Lynch et al. (2012) report that, on average, it will take four to seven quit attempts for a person to be successful. Often when a strategy for quitting smoking, such as medications, nicotine replacement therapy, or “cold turkey,” is unsuccessful, the individual will choose another option. There are businesses that offer hypnosis, acupuncture, and laser therapy as treatments for nicotine dependence. Neither the Canadian nor American clinical guidelines support the use of any of these three forms of treatment. Fiore et al. (2008) report that there is insufficient evidence to support the effectiveness of hypnosis, evidence shows no effectiveness for acupuncture, and there was no evidence to support laser therapy as a form of treatment. Patients who have used acupuncture, hypnosis, or laser therapy and have been successful in quitting smoking will claim that it was related to their treatments even though the research evidence does not support these claims.

From a public health perspective, the most cost-effective and clinically advantageous intervention in a population health setting is to provide minimal contact intervention for smoking cessation (Fiore et al., 2008). It is clear that many governments expect health care practitioners to provide evidence-based interventions in smoking cessation because they have funded and tasked them with protecting population health and decreasing smoking rates (Fiore et al., 2008; Hakesley-Brown, 2009; Ontario Ministry of Health Promotion, 2009). People who indicate that they are interested in making a quit attempt should be offered quit-smoking medications or nicotine replacement therapy along with intensive interventions, such as one-on-one counselling.

### **Tobacco Cessation Services Available in Hamilton**

There are services available in Hamilton to treat tobacco dependence for those who wish to quit smoking. Many of these intensive treatment services are for hospital patients, rostered clients of family health teams or the community health centre, or individuals who access fee-based services through private clinics. Other supports that are less intensive and seen as less effective for a long-term quit attempt, according the CAN-ADAPPT's (2011) clinical guidelines, include self-help materials and quitlines. The RNAO (2007) reports that services reach less than 4% of smokers who are making a quit attempt, and access among blue collar workers, young adults, and people without postsecondary education is even lower. The low rate for which people who smoke receive services may be due to a lack of an integrated and coordinated approach to smoking cessation among all health care organizations in Ontario including hospitals, primary care, and public health. There is an identified gap in services for those wishing to quit smoking. This issue has begun to be addressed by Hamilton Public Health Services through programs and trainings, including intensive one-to-one tobacco cessation clinical services for many of these populations. Hamilton Public Health Services partnered with two hospital organizations to help them develop clinical policy and procedures, screening mechanisms for all patients, medication formularies, minimal contact interventions, and access to quit-smoking medications and nicotine replacement therapy. Public health staff has trained hundreds of health care providers over the past 5 years in best practices in smoking cessation (Mitton et al., 2010).

Though Hamilton Public Health Services has many partners participating in best practices for tobacco cessation, they have not adopted the same practices. Currently, there

is no mechanism in place to screen and refer public health clients to smoking cessation services that are available through the Hamilton Public Health Services, Smokers' Helpline, and other services. Adoption of a policy that requires all clients to be screened for tobacco use and referred to services would require public health care providers to practice minimal contact intervention for tobacco cessation and allow those at-risk populations, such as blue collar workers, young adults, and people without postsecondary education, to be targeted for service (RNAO, 2007; Segaar et al., 2006). Because evidence-based tobacco cessation services are available to Hamilton residents, every client of Hamilton Public Health Services should be asked about his or her smoking status (RNAO, 2007). This query should be investigated by the health care providers using the 5A model—Ask, Advise, Assess, Assist, and Arrange (Fiore et al., 2008).

### **Training Health Care Providers in Tobacco Dependence Interventions**

The above evidence for interventions to treat tobacco dependence supported an adoption of a policy for all public health care providers to perform minimal contact interventions for tobacco cessation with all clients during every interaction. Health care providers were notified of the policy and training to implement minimal contact intervention and changes to their current documentation protocols.

Public health care providers are more likely to value training related to the policy for minimal contact intervention for tobacco cessation if the relevance to their practice is highlighted during their training (Dadich, 2010). Training that allows health care providers to develop clinical skills that are transferable to other areas where minimal contact intervention may be used would increase the perceived value of this training. Layde et al. (2012) describe a model to translate research-driven models into practice and

focus on training to bring the model into practice. Training is a key component for the successful implementation of the minimal contact intervention policy and for increasing clinician compliance with screening of all clients regarding smoking status. Layde et al. also recommend that training should include several components, such as group sessions, print materials, clinician tools, and e-learning modules, to increase effectiveness and clinician adoption of the new clinical practice. Region of Waterloo Public Health adopted a minimal contact intervention policy for health care providers in 2008–2009.

McCammon-Tripp and Nagge (2011) have the following recommendations from Waterloo’s experience: Train staff before the implementation of the policy, work with staff from target teams to ensure ability to implement the policy in each team, and have regular consults with all public health care providers affected by the policy. Overton, McCalister, Kelly, and MacVicar (2009) warn that changes to clinical practice mean a variety of things to different health care providers and, therefore, expectations of the minimal contact intervention for tobacco cessation policy should be clear to those implementing it.

Dadich (2010) recommends that training of health care providers for the adoption of evidence-based practice should address the needs of those health care providers in an intensive and well-planned format, be relevant to their clinical area, and provide opportunities for continued learning. Overton et al. (2009) recommend strategies, such as practice-based small group learning, that will move health care providers from “intention” to “change” in their practice. These meetings allow health care providers to explore discrepancies between previous practice and their intention to change. Building on this engagement of health care providers for the adoption of effective intervention,

Layde et al. (2012) recommend the inclusion of community input for the most impact. This recommendation may be more appropriate for public health staff compared to other models that are more medical, as reported in Segaar et al. (2006), because public health staff are viewed as the community.

McAllister and Osborne (2006) present a model of practice development that includes the training of facilitators or nurse educators for the purpose of effecting changes to clinical practice in staff. The purpose of a practice development model, as described by McAllister and Osborne, is to increase effectiveness of patient care through a fostering of new knowledge and an improvement of clinical practice. The model has several steps for teaching and learning, including engagement, stimulation, and community building, within the health care providers who are developing the new skills. Aspects of this model would be ideal for the implementation of a tobacco cessation intervention, because it is described as “a continuous process of improvement towards increased effectiveness in patient-centered care” (McAllister & Osborne, 2006, p. 154).

The “Best Practices & Outstanding Initiatives” study (2012) was set up to explore exemplary employee training programs in many business and health care sectors. These programs include extensive training, use of experienced staff to coach new staff, e-learning modules, longer classroom training, and role-play. Within the “Best Practices & Outstanding Initiatives” study, trainees were allowed to identify possible conflicts in their practice as well as the solutions to these conflicts. This exercise demonstrated a trainee’s comprehension of the new material was dependent on the instructor. Researchers with the “Best Practices & Outstanding Initiatives” evaluated their programs and presented

process and outcome objectives, though the research lacks rigour due to the absence of a description of data collection or analysis.

### **Impact of Policy on Changes to Health Care Provider Practice**

Dadich (2010) states that it takes 15–20 years for health care providers to adopt evidence-based interventions into their practice. The Registered Nurses Association of Ontario (2007) created best practice guidelines for smoking cessation in the 1990s and revised them in 2007. These guidelines are currently under review and are expected to be released again in 2015. Clinical practice guidelines for smoking cessation, such as those produced by the U.S. Department of Health and Human Services, Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-Informed Tobacco Treatment, and the RNAO, are being adopted by agencies in primary care, hospital, and public health settings, including the Region of Waterloo Public Health (McCammon-Tripp & Nagge, 2011). However, the practice guidelines have not been adopted universally. Dadich reports that even after the adoption of best practices within a setting, 30–40% of health care providers are not providing the evidence-based care, and 20% of health care providers are providing care that may be detrimental to the patient. It is therefore suggested that in order to bring about a change to clinical practice, such as minimal contact intervention for tobacco cessation within Hamilton Public Health Services, a policy should be created and intensive training of all health care providers related to implementation of the intervention should occur. This recommendation fits the U.S. Clinical Practice Guideline: Treating Tobacco Use and Dependence, the Canadian Smoking Cessation Clinical Practice Guideline, and the Registered Nurses Association of

Ontario's Integrating Smoking Cessation into Daily Practice Best Practice Guideline (CAN-ADAPPT, 2011; Fiore et al., 2008; RNAO, 2007).

Along with the creation of a policy, other mechanisms, including training, ongoing support, changes to documentation, and a protocol for health care provider compliance of the policy, should be put into place. Recommendations from McCammon-Tripp and Nagge (2011) also include seeking management support as well as staff buy-in related to the policy implementation. Sheffer, Barone, and Anders (2010) strongly encourage training of nurses in minimal contact intervention for tobacco cessation with proven effects, but they are cautious that more research is needed regarding the effectiveness of these training.

### **Summary of the Chapter**

This chapter entailed a review of the literature for best practices in tobacco cessation interventions for health care providers in Ontario. The impact of tobacco use was discussed, and possible interventions were presented. This chapter explored minimal contact and intensive interventions, quit-smoking medications and nicotine replacement therapy products, self-help material, and telephone support. The chapter also presented evidence to support the need for all health care providers to conduct minimal contact intervention for tobacco dependence with all clients in conjunction with a comprehensive training model and associated policy.

The literature presented in this chapter suggests that the outcomes of training health care providers is a complex interaction of how the training is provided, the content of the training, how the health care providers are supported, and the degree to which the health care providers are motivated to implement the policy and perceive the policy as

valuable. The understanding of this interaction between training and health care providers' motivation and perception is the purpose of this study. The methodology of this interaction is presented in Chapter Three.

## **CHAPTER THREE: METHODOLOGY**

Chapter Three presents the methodology used in this study, the purpose of which was to measure the degree of adherence by public health care providers to the policy that requires them to perform minimal contact intervention for tobacco cessation at all face-to-face interactions with clients. Quantitative data were collected for the purpose of evaluating the degree to which adherence was achieved. Quantitative and qualitative data were collected to describe what components of the intervention may have contributed to the adherence to the policy and how health care providers felt about adhering to the policy.

### **Research Methodology and Design**

An explanatory mixed-methods design was used for this study. This design used qualitative data to explain the results from quantitative data that were collected first (Creswell, 2008). The quantitative data were collected through the health care provider questionnaire, which was adapted from a questionnaire obtained from the Centers for Disease Control and Prevention (2012), and the chart audit, which provided a general description of what was occurring within the family health division in regards to tobacco cessation. The qualitative data gave more detailed and explanatory information on these topics. Explanatory mixed-methods research is viewed as a straightforward design because data collection occurs separately and in two phases (Kettles, Creswell, & Zhang, 2011).

The literature gives many definitions to mixed-methods research designs. This study used Creswell's (2008) and Creswell and Plano Clark's (2011) interpretation that mixed-methods research design should be used to examine real-life situations through

multilevel perspectives. Creswell and Creswell and Plano Clark state that rigorous quantitative research examines how often something occurs and then uses those data to shape rigorous qualitative research questions to explain why this is occurring. Kettles et al. (2011) state that collecting both quantitative and qualitative data should provide the researcher with a better understanding of the research problem.

Creswell (2008) states that a benefit of explanatory mixed-methods research is the ability to refine the quantitative results using qualitative data to better explain a research problem. This study design was chosen to explain why the level of compliance regarding implementation of minimal contact intervention for tobacco cessation was reported and to explain what was done differently in this setting compared to other health care settings to reach this level of compliance. This study design also allowed for a description of the components of the intervention that contributed to the adherence to the policy and a determination of how health care providers felt about adhering to the policy.

### **The Intervention**

The research was conducted in three phases, with data collection occurring throughout these phases. In phase one, preparations for implementation of the minimal contact intervention were made, which included a presentation given to senior public health management passing the departmental policy, changes to health care provider documentation systems, training a health care provider mentor from the family health division, recruiting tobacco cessation team leads within the family health division, and creating paper and electronic resources to support health care provider staff.

In phase two, family health division staff completed the health care provider preimplementation survey (Appendix A) at the beginning of the half-day training. The

training consisted of an introduction to the policy, an explanation of changes to documentation, an opportunity to voice concerns with implementation, an introduction to the mentor and explanation of her role, and a detailed explanation and opportunity to practice implementing the minimal contact intervention policy including case scenarios. A resource folder was given to staff with a hard copy of resources to provide minimal contact intervention with clients. See Table 1 for a description of contents of the folder.

At the end of the training, the health care providers were instructed to begin performing minimal contact intervention for tobacco cessation with their clients at every face-to-face interaction. Those who interacted with clients over the phone or in a group setting were encouraged to perform minimal contact intervention and document the interaction, though they are not required to do so by the policy.

The third and final stage of the research included data collection at 1 and 3 months in the form of a compliance protocol and repeat of the health care provider questionnaire postimplementation while the health care providers continued to perform minimal contact intervention. After the data were analyzed from the health care provider questionnaires, interview questions were created from these data and two focus group interviews were conducted. I provided the mentor with input during phases one and two in order for the mentor to support staff during phases two and three.

### **Selection of Site and Participants**

Participants for the study were selected using convenience sampling based on those required to implement the minimal contact intervention by the Hamilton Public Health Services policy. The first program to implement the policy was family health, the

Table 1

*Description of Minimal Contact Intervention items*

5As	A method to provide minimal contact intervention for tobacco cessation. ASK: about tobacco use ADVISE: all tobacco users to consider quitting ASSESS: tobacco users' readiness to quit ASSIST: according to the tobacco user's readiness ARRANGE: for referral and follow-up
Resource folder	Each health care provider was given a folder containing 10 It's Time to Quit tear-off pages, 2 fax referral forms, 2 business cards, a button, and a pen. All items are branded with the You Can Make It Happen website.
Time to Quit tear-off pages	A two-sided handout for client to use when quitting smoking. Information on smoking and tips for quitting are listed. The back side of the handout is a quit plan for the client to fill out.
Fax referral form	Health care provider completes the fax referral form if the client consents to intensive treatment for tobacco cessation with Smokers' Helpline or the Public Health Quit Smoking Clinic. The health care provider then faxes the completed form for the client to receive follow-up and treatment.
Business card: Smokers' Helpline	A business card with Smokers' Helpline's phone number and website.
Business card: Public Health Quit Smoking Clinic	A business card with a description of services and the Public Health Quit Smoking Clinic's phone number.
I can help button	A button to be worn by health care providers that states "Thinking of quitting? Ask me. I can help."
You Can Make It Happen	You Can Make It Happen is a comprehensive source of information, tools, and resources for health care providers about tobacco cessation, found online and in hard copies, provided by Public Health Units and Smokers' Helpline. <a href="http://www.youcanmakeithappen.ca">www.youcanmakeithappen.ca</a>

largest program, with approximately 70 staff including nurses, dietitians, nutritionists, and health promotion specialists. Participants were all employees of the City of Hamilton Public Health Services, and they all work out of the same office location. The participants serve clients that are prenatal and families with children up to 6 years of age. They work in a variety of settings including community settings, clinics, and client homes. The participants perform a variety of jobs including one-on-one interactions in person, in group settings, or on the phone.

Health care providers within the family health division received training in minimal contact intervention and motivational interviewing in 2007–2008 related to tobacco cessation and have received ongoing inservice since that time. There has been no policy developed to require the implementation of the training or a compliance protocol. Approximately half of the staff who received the 2007–2008 training are still working within the family health division.

### **Instrumentation**

Three instruments were designed to collect data within this study. These instruments included a health care provider questionnaire, a “Tobacco Use History Form,” and focus group interview questions. Analysis of the data collected from the health care provider questionnaire was used to create the focus group questions. The following section describes these three instruments.

#### **Health Care Provider Questionnaire**

The health care provider questionnaire was adapted from the Centers for Disease Control and Prevention evaluation toolkit (Centers for Disease Control and Prevention [CDC], 2012). The stated purpose of the toolkit is to provide an evidence-based method

for organizations to evaluate patient and clinician perspectives of screenings in health care settings, and it is available for use and adaptation. The document offers suggestions on how to adapt questions based on the setting. Several questions were added or adapted to the original questionnaire for the purpose of this study (see Appendix A for the adapted instrument and Appendix B for the original instrument).

Participants were asked to respond to questionnaire items from the following domains: (a) demographics, (b) personal perspective of implementing minimal contact intervention for tobacco cessation, and (c) perspective of implementing minimal contact intervention for tobacco cessation in their work settings. Finally, the questionnaire contains four open-ended questions about the benefits or positive outcomes; problems or negative outcomes resulting from the implementation of the policy; education, supports, or resources that are needed; and any additional information.

Using the health care provider questionnaire, participants answered the demographic questions using check boxes, rated their agreement towards statements using a 5-point Likert scale within the two sections on personal perspectives, and answered open-ended questions in the last section. The answers to the 5-point Likert scale questions are categorized according to the following descriptors: 1 (*strongly disagree*), 2 (*disagree*), 3 (*neither agree or disagree*), 4 (*agree*), and 5 (*strongly agree*). There are two additional options including *don't know* and *not applicable*. The ratings from these two sections were averaged to quantify the participants' experience and perceived ability to implement the intervention. A Likert scale was chosen because fixed choice responses are designed to measure attitudes or opinions (Creswell & Plano, 2011). These data helped to determine health care provider perceptions of implementing

minimal contact intervention for tobacco cessation with their clients in family health division based on the averages. As there were no baseline data for family health division health care providers completing minimal contact intervention with their clients before this study began, a question was added for participants' perception of whether they were performing minimal contact intervention prior to the policy.

The health care provider questionnaire was pilot tested with five public health providers, nurses and dental hygienists, from the interdepartmental advisory committee. These individuals recommended changes to language on three questions within section B. This tool was chosen because it was developed to evaluate the process used to implement screening practices in health care settings, to identify health care provider concerns regarding implementing screening of patients, and to inform quality assurance initiatives when implementing policies. The tool was modified to include four additional questions, four questions were removed that did not collect data related to the purpose of this study, and two questions were modified. "How many years have you been working in Public Health?" was added to explore difference between new and experienced health care providers. Question B2 was changed from *cost* to *time* based on the literature. Questions B7 and B8 were changed from pretest and posttest into one question about information from other health care provider because of the difference between HIV and tobacco cessation interventions. The questions about voluntary testing and privacy were removed because they did not apply. In Section C, two questions regarding health care providers' confidence and readiness to provide the tobacco cessation intervention were added based on a review of the literature and to support the research purpose of describing the components that may have contributed to the adherence to the policy and how health care

providers felt about adhering to the policy to provide tobacco cessation interventions with all clients. The question was removed about patients receiving results because it was not applicable to this study. In section D, a question was added about the supports that health care providers received because of the research purpose of describing the components that may have contributed to the adherence to the policy.

### **Tobacco Use History Form**

The “Tobacco Use History Form” (see Appendix C) was adapted from the U.S. Clinical Practice Guidelines for Tobacco Dependence (Fiore et al., 2008) and is a standardized tool used for tobacco cessation by health care providers. This form was used by health care providers to document the completion of minimal contact intervention performed with clients.

### **Focus Group Interview Questions**

Focus groups interview questions aimed to describe what, if any, components of the intervention may have contributed to the adherence to the policy and how participants felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients. The questions also aimed to describe solutions that participants felt could improve adherence to the minimal contact intervention policy. The focus group interview questions came from the health care provider questionnaire in order to get more depth to the answers from the questionnaire (see Appendix D for the focus group interview questions). Canadian Institutes of Health Research (CIHR, 2008), a recognized organization in health research, recommends limiting the number of questions in order to stay within the time allowed for the interview and so that the data collected are more manageable. CIHR provided a sample tool including a script for each question. It

recommends that those conducting focus groups begin with general and open-ended questions and then move towards more direct and detailed questions as focus group participants become more comfortable and engaged. Onwuegbuzie, Leech, and Collins (2010) recommend that focus groups be conducted for 1–2 hours and, therefore, the questions for these focus group interviews were developed to stay within that timeframe.

Smith (2011), who completed similar research around provider perception, recommends the following areas for question development: positive and negative features of the interventions, positive and negative features of the relationship with the clients since implementing the intervention, the extent to which the participant feels the intervention is important, and aspects to improve/change the intervention.

CIHR (2008) recommends using ratings as part of data collection for focus groups. A similar Likert scale was used as in the health care provider questionnaire: 1 (*strongly disagree*), 2 (*disagree*), 3 (*neither agree or disagree*), 4 (*agree*), and 5 (*strongly agree*). The Ontario Women's Health Network (2009) recommends beginning with open-ended questions and using ratings after the halfway point of the focus group interview because participants may be more open to sharing.

Onwuegbuzie et al.'s (2010) research demonstrated the need for data collection techniques, such as recording verbal and nonverbal responses from the participants, that increase the rigour of focus group research. Verbal responses were recorded, and a chart was used to capture nonverbal data on laughter, frowning, sighing, passion, and the direction in which the participants spoke.

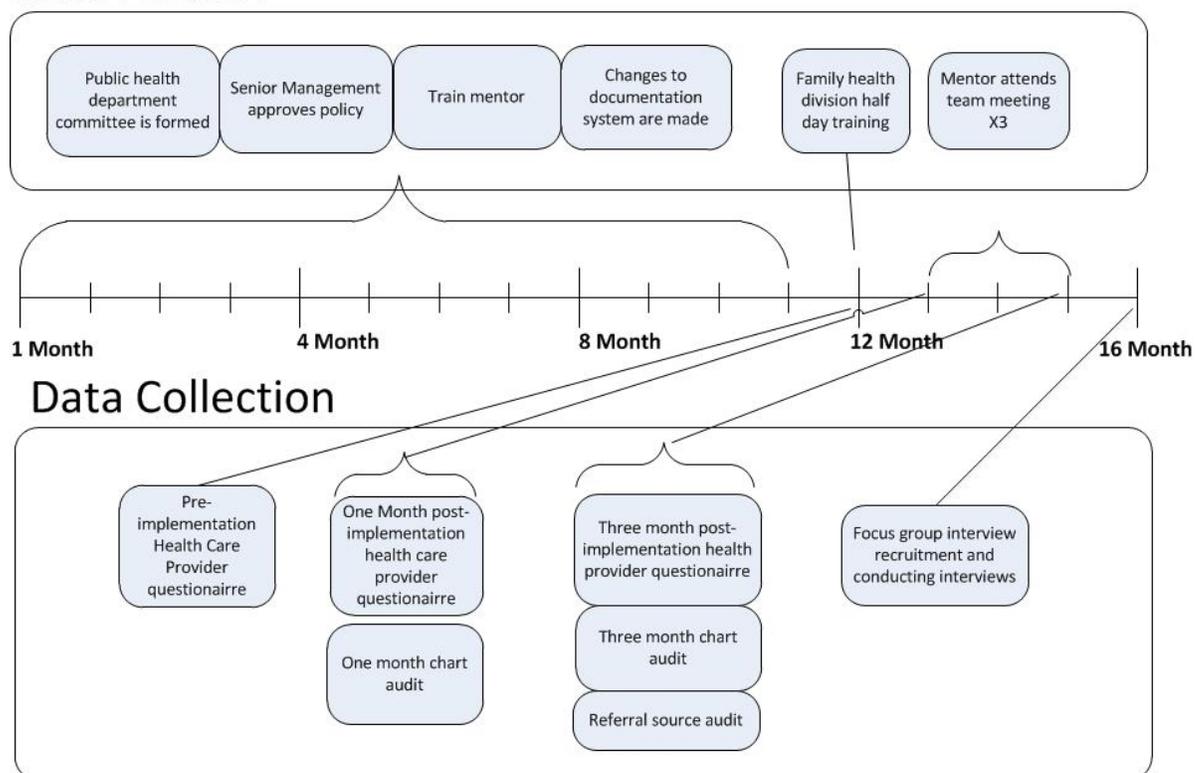
### **Treatment of the Data/Participant Rights Protection**

Each participant used a unique identifier when she completed the health care provider questionnaire. This identifier was not used during the focus group interviews because some participants were known to the researcher and could be linked with responses to the health care provider questionnaire. This identifier consisted of the first three letters of her mother's maiden name and the last two digits of the year that she began work at Hamilton Public Health Services. For example, if a participant's mother's maiden name is Smith and she began at Hamilton Public Health in 2001, she would be identified as SMI01. This allowed for the health care provider questionnaire to be compared pre- and postimplementation by each participant and to ensure duplicate responses were not collected, all the while maintaining confidentiality.

### **Data Collection**

Data collection took place in various phases throughout this study including while the intervention was occurring (see Figure 1 for the timeline of data collection in this study). No data were collected in phase one. Phase two included data being collected through the health care provider preimplementation questionnaire (Appendix A) in person before the training session. The questionnaires were not anonymous but were kept confidential. It was important to know which disciplines or programs were having difficulty with the policy implementation or feeling that they were not being supported in order to make adjustments. Paper copies of the questionnaire were manually entered into the FluidSurveys database. The data were collected using FluidSurveys, a Canadian company, and, therefore, all the data were stored on Canadian servers and Canadian privacy laws apply to the information collected. FluidSurveys allowed data to be

## Intervention



*Figure 1.* Timeline for minimal contact intervention (MCI) for tobacco cessation implementation and data collection.

exported to PASW/SPSS (version 20), which was useful for data analysis. The password for the account was not shared, and no one else was able to view the responses collected.

The third and final stage of the research included data collection at 1 and 3 months after the training session in the form of a compliance protocol and repeat of the health care provider questionnaire while the health care providers continued to perform minimal contact intervention. The health care provider questionnaire was emailed to all health care providers in the family health division using a global mailing list. Responses from those who participated in the preimplementation health care provider questionnaire were analyzed with those completed post 1 and 3 months implementation.

Participants began implementing minimal contact intervention for tobacco cessation with their clients and documented using the “Tobacco Use History Form” (Appendix C).

Changes to health care provider document protocols were made including adding an electronic version of the “Tobacco Use History Form” to the electronic charting system to prompt health care providers to complete minimal contact intervention with every client. These changes included adding the “Tobacco Use History Form” to existing documentation to minimize additional work for health care providers and to assist with the chart audits later. For those health care providers who completed their client charting in paper format, there were copies of the “Tobacco Use History Form” with their current forms as well as prompts, such as “complete the Tobacco Use History Form,” included on current forms.

Health care providers completing the paper copy form were asked to check boxes that they completed with the client and leave the remaining boxes empty. The form was added as a flowsheet to the participants’ current online charting system without being

adapted. Sections were not mandatory, and health care providers filled in only the intervention that they performed with the client. The section “assess” was modified to add local resources that the clinician would be providing to the client.

Chart audits of the family health division health care provider interactions were conducted using the similar model as Region of Waterloo Public Health used, as reported in McCammon-Tripp and Nagge (2011) for implementing minimal contact intervention for tobacco cessation. Charts were audited over a 2-week period, 1 and 3 months after the training occurred and the policy had been implemented for the online database. A chart audit was added at 1 month to the Region of Waterloo protocol to measure whether adherence to policy was sustained over time. All interactions after the training for a 3-month period were viewed for the chart audit within the Canadian Prenatal Nutrition Program. Charts for client interactions were examined for documentation of the 5A protocol being implemented by having participants complete the “Tobacco Use History Form” (Appendix C). It was assumed that if the health care provider did not complete the form, then the policy was not implemented for that client interaction.

The online database, Integrated Services for Children Information Systems, allows a specified user, such as a manager or support staff, to pull reports to ascertain how many clients were seen during a time period. A manual search for the “Tobacco Use History Form” was then performed for those interactions. This search included reviewing the “Tobacco Use History Form” itself and identified how many of the 5As were completed and whether referrals were made.

The report was manually created for the paper documentation binders. A manual search for the “Tobacco Use History Form” was then performed for all interactions after

the training for a 3-month period. This search included reviewing the “Tobacco Use History Form” itself and identified how many of the 5As were completed and whether referrals were made.

The chart audit revealed the number of referrals made for cessation services to Smokers’ Helpline or the Public Health Quit Smoking Clinic when the clinician completes the fifth A (i.e., *Arrange* on the “Tobacco Use History Form”). The number of referrals that the health care provider reported was tracked and cross-referenced with the number of referrals received for both of those services. There were two audits done, one electronic for the Healthy Babies Healthy Children Program and the other for the Canadian Prenatal Nutrition Program.

There was an attempt for purposeful selection of participants for focus group interviews based on those who felt positive about implementing minimal contact intervention and those who did not feel positive. Participants identified that they felt positive, though they had suggestions for improvement, and, therefore, were grouped based on when they were available. There were efforts made to include both nurses and dietitians in the focus groups. Participants for focus groups were chosen by an email invitation to voluntarily participate. Those who indicated an interest responded to the email with their desire and availability to participate. All participants who responded to the invitation participated in the focus group interviews. Focus groups were conducted over 2 days.

As recommended by the Ontario Women’s Health Network (2009), all data from the focus groups were transcribed from the audio recording, and participants were assigned an identification code instead of using their name to protect confidentiality.

Onwuegbuzie et al. (2010) recognize that the main instruments utilized in qualitative research are the researchers themselves. In my study, I led the focus group and, therefore, used my reflective notes as data.

### **Data Processing and Analysis**

This section describes the data processing and analysis for the three sets of data collected (i.e., the pre- and postimplementation health care provider questionnaires, compliance protocol including a chart audit, and data collected during focus groups). Because the purpose of the study was to measure the degree of adherence to the policy to provide minimal contact intervention for tobacco cessation and to describe how health care providers felt about adhering to the policy, the data were analyzed with these goals in mind.

#### **Scoring the Pre- and Postimplementation Questionnaire of Health Care Provider Perceptions**

A health care provider questionnaire was used to gather demographic information of participants including profession, role, and years of service within public health. This demographic information was categorized by years of experience only, because the small sample size did not allow for differentiation of position and everyone identified the same role. Data were analyzed using PASW/SPSS (version 20) software. An analysis was conducted to compare the health care provider questionnaires pre- and postimplementation and compared data. Due to the small sample size and because many participants did not complete all three questionnaires, inferential statistics were limited and I was unable to explore a change in health care providers' perceptions of implementing minimal contact intervention for tobacco cessation.

The 16 statements of the health care provider questionnaire were totaled using the scores from the 5-point Likert scale and the two questions using the 10-point readiness ruler. The ratings from these two sections were averaged to quantify participants' experience and perceived ability to implement the intervention. The Mann Whitney *U* test was used to compare new and experienced health care providers. These data helped describe how health care providers felt about adhering to the policy for minimal contact intervention for tobacco cessation with their clients in the family health division.

The last section of the questionnaire allowed participants to discuss the perceived positive and negative outcomes of implementing minimal contact intervention with their clients and what components of the intervention may have contributed to the adherence to the policy. These qualitative data were collected and manually coded and analyzed to generate themes. The preimplementation health care provider questionnaire was compared with the postimplementation questionnaires and differences were noted and categorized based on generated themes.

### **Scoring of Compliance Protocol**

Using the model employed by Region of Waterloo Public Health (McCammon-Tripp & Nagge, 2011), online charts were accessed twice over a 2-week period and at 1 and 3 months, and paper charts were accessed for 3 months after implementation. The number of client interactions were recorded and compared to the number of "Tobacco Use History Forms" that were completed. A percentage was calculated for the online and the paper charting using the number of forms completed divided by the total number of interactions. Data on the number of referrals made were collected from the "Tobacco Use History Form" and matched to the number of referrals received from Smokers' Helpline

and the Public Health Quit Smoking Clinic. Using statistics reported by McCammon-Tripp and Nagge, a compliance rate by family health division health care providers of 70–90% was predicted for completing the “Tobacco Use History Form”.

### **Analyzing Focus Group Interview Data**

The focus group interviews were recorded to capture all that was said, and then the audio recordings were transcribed. Demographic information was collected similar to the health care provider questionnaire. The transcript was coded using descriptive codes and then grouped into common themes. The same approach was utilized to analyze the data for the pre- and postimplementation health care provider questionnaire open-ended questions. These data were separated based on positive or negative responses. The following six themes emerged from an analysis of the qualitative data: policy and protocol, minimal contact intervention implementation, tobacco cessation training for health care providers, documentation of the intervention, supports available for health care providers and clients, and services for tobacco cessation. The focus group data were analyzed together because both sets of participants described a positive reaction to adhering to the minimal contact intervention policy but also felt that there were areas in which improvement could be made.

The individual results will not be shared with management, nor will the results be used for performance assessment of the participants.

### **Limitations of the Study**

This study was limited due to the fact that there is currently no consistent approach to documenting a client’s tobacco use and whether a health care provider performs a tobacco cessation intervention with clients. This policy implementation

requires all health care providers to ask and document the client's tobacco use status. A limitation was that there is no way of knowing whether health care providers were doing this intervention previously and the change to documentation captured this or whether it was a change in health care provider practice related to the policy implementation and the new documentation captures the change.

Health care providers may have self-reported that they are completing the intervention more often than the compliance protocol shows. Based on the research by Vogt et al. (2008), only 50% of health care providers say that they ask patients about tobacco use.

As stated above and found in Onwuegbuzie et al. (2010), the researcher is a main instrument used in data collection, analysis, and interpretation, and it is recognized that there may be added bias because many of the participants knew me. There was also potential for the participants to have a bias on the research due to this previous professional relationship.

### **Establishing Credibility**

Several methods were used to ensure the data are credible. The health care provider questionnaire that was used is a valid and reliable instrument created and evaluated by the Centers for Disease Control and Prevention (CDC, 2012). Instructions included within the report (CDC, 2012) described how to adapt the tool for use in this study. The tool was pilot tested with members of the minimal contact intervention policy workgroup. The questionnaire was adapted to include questions to measure the purpose of the study. Though McCammon-Tripp and Nagge (2011) report on compliance of minimal contact intervention policy for tobacco cessation, they did not investigate how

health care providers felt about adhering to the policy, and there were no tools to measure health care provider perception. Credibility was also established by using multiple instruments including the pre- and postimplementation questionnaire, a chart audit, and focus groups interviews.

To ensure that there were sufficient participants for the study, the largest division implementing the minimal contact intervention was chosen. The family health division has multiple teams and programs participating. The sample included health care providers working in a variety of settings and locations. Documentation was taken from both online and paper sources to ensure ease of implementation for participants.

To further establish credibility, focus group interviews were offered to all health care providers in the family health division who implemented minimal contact intervention for tobacco cessation.

Data were collected 1 and 3 months after training and implementation of minimal contact intervention of tobacco cessation to ensure adequate time for health care providers to have begun implementation, as reported by McCammon-Tripp and Nagge (2011). Also following McCammon-Tripp and Nagge's recommendation, protocol data were collected over a longer period, 2 weeks in this case, to allow for days when health care providers might have been away due to training, time off, or sick leave.

### **Methodological Assumptions**

Methodological assumptions pertain specifically to the research related to the implementation of the minimal contact intervention, as required by a policy passed by the senior management team. Health care providers were expected to implement the policy as written and are accountable to their managers and licensing colleges. Health care

providers could choose to participate in the health care provider questionnaire pre- and postimplementation as well as the focus groups.

It was assumed that the participants would attend the training provided related to minimal contact intervention for tobacco cessation or access the e-learning modules if they were unable to attend. It was assumed that the participants were able to document using the “Tobacco Use History Form” either online or paper documentation as usual in their program.

### **Ethical Considerations**

Ethical considerations were given to the participants and the clients of the participants. The Research Ethics Board at Brock University reviewed and cleared the proposed research (File # 13-178 – ENGEMANN), and a copy was given to a delegate within the Office of the Medical Officer of Health at Hamilton Public Health Services. The research was given consideration to informed consent, participant withdrawal, confidentiality of participants, and client privacy of personal health information.

Under the Personal Health Information Protection Act (PHIPA) of Ontario, Hamilton Public Health Services is authorized to access client files for the purpose of evaluation of programs and services. Client information was not collected or examined during the chart audit process under the compliance protocol, but charts were examined for completion of the “Tobacco Use History Form.” Managers within the family health division of Hamilton Public Health Services accessed client files, while I recorded the date of interaction and completion of the “Tobacco Use History Form.”

**Informed Consent**

Participants were notified of the research through letters of invitation emailed to them prior to the training to obtain informed consent. There was a verbal reminder of the research during the health care provider training session. The letter of invitation was posted on the local network drive with all related documents for the minimal contact intervention and, therefore, health care providers were able to access it there.

The letter outlined the research that would be conducted, that there were no risks in participating, that participants could withdraw at any time without consequences, and that confidentiality would be maintained during the research. Participants gave informed consent by agreeing to complete the pre- and postintervention questionnaire and by volunteering to participate in the focus groups.

**Confidentiality**

Specific measures were taken during this research to maintain a level of confidentiality for participants. All data were stored on a password-protected personal laptop, not on the corporate network drive or on work computers. To maintain confidentiality of answers to the survey questionnaires, names were not collected. Names were not recorded during the focus group interviews, and participants were instead given identifiers. During the chart audit, the researcher did not view or record client or health care provider names. The “Tobacco Use History Form” was accessed to examine completion of the form only. Because it is routine for public health units to conduct chart audits and because PHIPA allows clients’ records to be reviewed for evaluation purposes, public health clients were not informed of the chart audit. There was no anticipated risk to clients because the focus of the research was on health care providers.

Participants did not receive compensation for completing the questionnaire or focus group interviews, though they were allowed to complete them during paid work time.

### **Restatement of Purpose**

The purpose of this study was twofold. First, the purpose was to measure the degree of adherence to the minimal contact intervention policy by health care providers at Hamilton Public Health Services. Second, the study was to describe what, if any, components of the intervention may have contributed to the adherence to the policy and how health care providers felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients.

## **CHAPTER FOUR: PRESENTATION OF THE RESULTS**

Chapter Four presents results that measured the degree of adherence to the minimal contact intervention policy by health care providers at Hamilton Public Health Services. The results explore components of the intervention that may have contributed to adherence to the policy and how health care providers felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients. The results include three sets of data that were collected: health care provider questionnaires, a compliance protocol, and focus groups interviews. This study expands on the results presented by McCammon-Tripp and Nagge (2011) regarding the implementation of a minimal contact intervention for tobacco cessation within a public health unit. This study aimed to answer the following research questions:

1. What is the compliance rate for a minimal contact intervention for tobacco cessation among public health care providers following policy implementation, training, changes to documentation, and ongoing mentor support?
2. What are the components of the intervention that may have contributed to the adherence to the policy, and how do health care providers feel about adhering to the policy to provide minimal contact intervention for tobacco cessation with their clients?

An explanatory mixed-methods design provided insights into the level of compliance in minimal contact intervention for tobacco cessation and to describe what components of the intervention may have contributed to the adherence and how health care providers felt about adhering to the policy. This chapter presents the study's quantitative results using inferential and descriptive statistics and then the qualitative

results within the themes found in the health care provider questionnaire and during the focus group interviews.

### **Quantitative Data**

Participants were health care providers in the Healthy Baby Healthy Children and Canadian Prenatal Nutrition programs, family health division of Hamilton Public Health Services ( $n = 43$ ). Participants attended a training session and voluntarily completed a paper questionnaire ( $n = 25$ ). An email containing the link to the questionnaire was sent to participants to complete the same questionnaire online 1 month ( $n = 12$ ) and 3 months ( $n = 10$ ) after the training session. An email invitation was sent to health care providers to participate in focus group interviews. Seven of those health care providers agreed to participate in two separate focus group interviews held on different days and times.

Demographic information of participants, including position, role, and years of service in public health, was collected from the health care provider questionnaire. Due to the small sample size, participants were not separated by position, public health nurse or dietitian, to ensure confidentiality. All participants stated that their role in implementing minimal contact intervention was to conduct 5A/MCI with clients, and therefore there was no differentiation by role. Participants were placed into two categories based on their years of experience within public health. The first category was health care providers having worked 5 years or less in public health, and the second category was health care providers having worked more than 5 years in public health. These categories were based on Benner's (1982, 1984) model of novice to expert nurse, McHugh and Lake's (2010) research to understand clinical expertise, and Burger et al.'s (2010) research on how nurses provide care based on beginner, competent, and expert roles. Benner's model

notes that, although years of experience is only one factor, the years spent in the same or similar situations may create a competent nurse. McHugh and Lake report that fewer clinical errors occur in nurses with more than 5 years of experience, and Burger et al. describe nurses as experts when they have been in one clinical area for 5 years. A small sample of the participants were dietitians, with the majority being nurses. This is a representative sample of the health care providers within the family health division. It could be expected that dietitians could be categorized as new and experienced similar to the categorization of nurses.

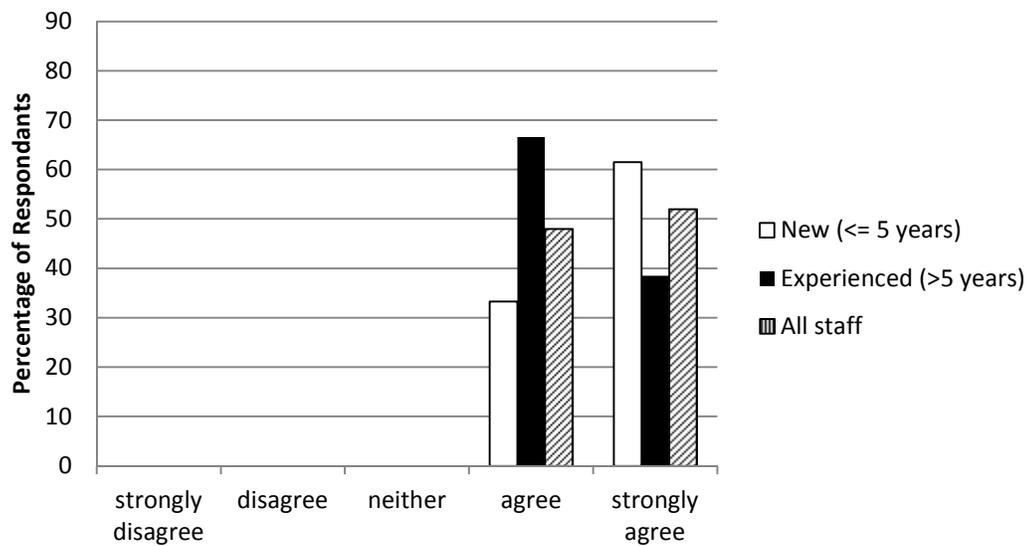
Quantitative data were analyzed using PASW/SPSS (version 20) software for the health care provider questionnaire. The sample size was too small to run inferential statistics between the preimplementation, 1 month postimplementation, and 3 month postimplementation questionnaires. A Mann Whitney *U* test was run for differences between new and experienced health care providers. Modes were reported for the 16 statements of the health care provider questionnaire and the two questions using the 10-point readiness ruler within the preimplementation health care provider questionnaire. Modes were determined but were not reported for the 1 month postimplementation and 3 month postimplementation questionnaires due to the small sample size.

There were 12 health care providers that were categorized as new, having worked in public health for 5 or fewer years and 13 health care providers categorized as experienced having worked in public health for more than 5 years. Descriptive statistics of the 18 questions in the health care provider questionnaire (see Figures 2-19) used the ratings to quantify participants' experience and perceived ability to implement the intervention. The first nine questions asked health care providers about their personal

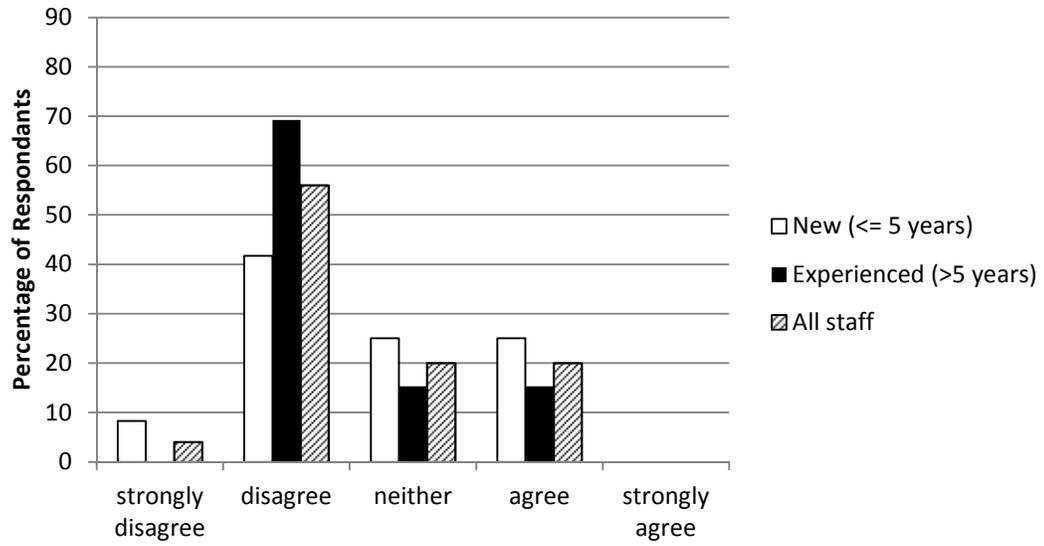
perspectives of minimal contact intervention for tobacco cessation. The second set of nine questions in the health care provider questionnaire asked health care providers about minimal contact intervention for tobacco cessation in their work setting.

These results did not show a statistically significant difference between new and experienced health care providers for 17 of the questions. However there was a statistically significant difference between new and experienced health care providers with respect to their perception that “clients often feel like they have to accept tobacco cessation information from me,”  $U = 29.5, p < .05$ ). New health care providers had a mean rank of 15.55, and experienced health care providers had a mean rank of 9.27. This result means that new health care providers are more likely than experienced health care providers to feel that their clients have to accept tobacco cessation information.

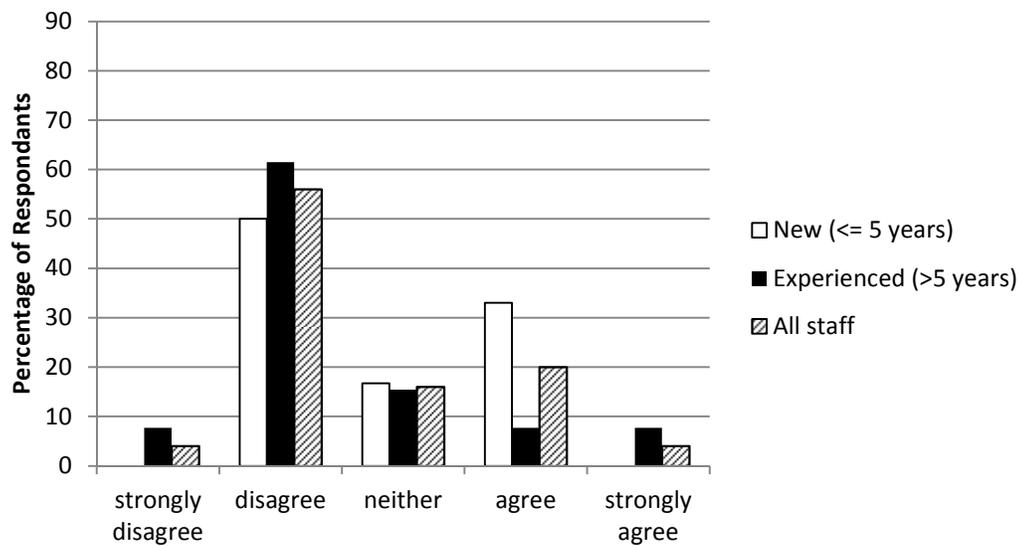
A compliance protocol, following the procedure used by McCammon-Tripp and Nagge (2011), included a chart audit and review of referrals following the health care provider training. The compliance protocol was used to measure the degree of adherence to the minimal contact intervention policy by health care providers. Participants in the Healthy Babies Healthy Children Program ( $n = 32$ ) used an online database (Integrated Services for Children Information Systems) to document client interactions. Online copies of the “Tobacco Use History Form” (Appendix C) were viewed over a 2-week period at 1 month and 3 months postimplementation training within the home visiting program. Participants in the Canadian Prenatal Nutrition Program ( $n = 11$ ) used paper documents for charting client interactions. All interactions after the training for a 3-month period were viewed for paper copies of the “Tobacco Use History Form” within the Canadian Prenatal Nutrition Program documentation binders. Online and paper copies



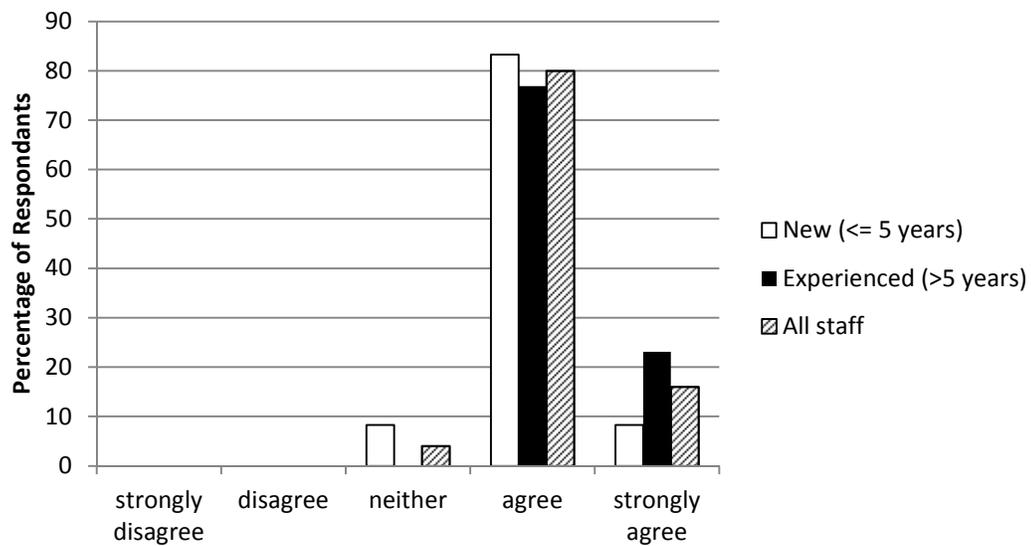
*Figure 2.* Section B, question 1: I think minimal contact intervention for tobacco use is an important part of routine care.



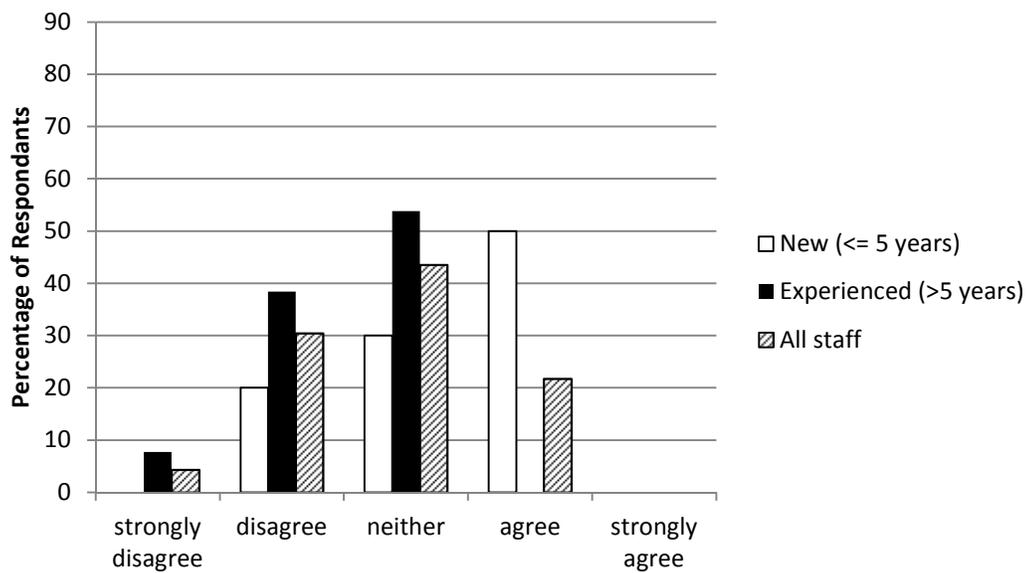
*Figure 3.* Section B, question 2: I am concerned about the time to implement minimal contact intervention.



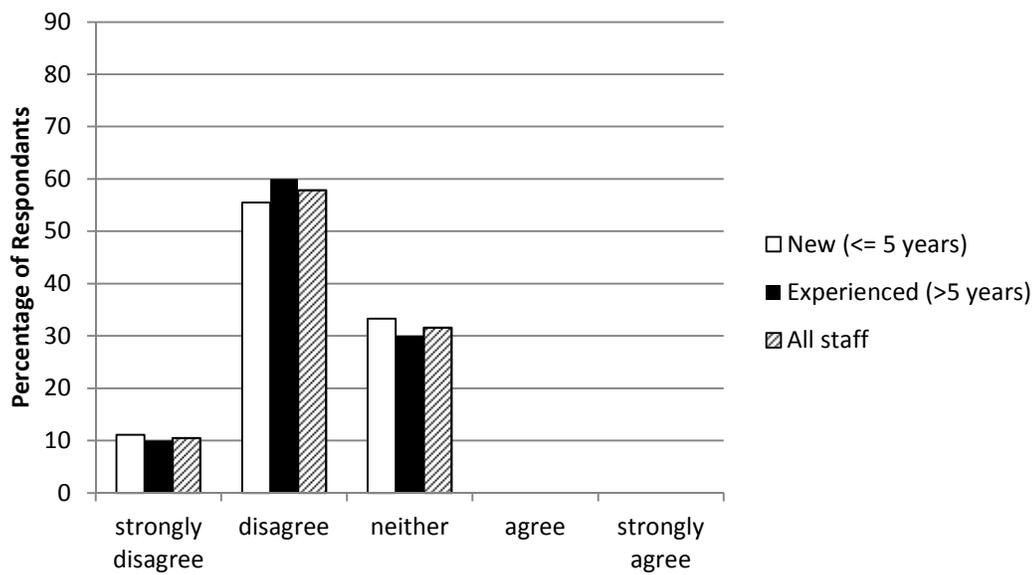
*Figure 4.* Section B, question 3: I am concerned that clients will be offended by minimal contact intervention,



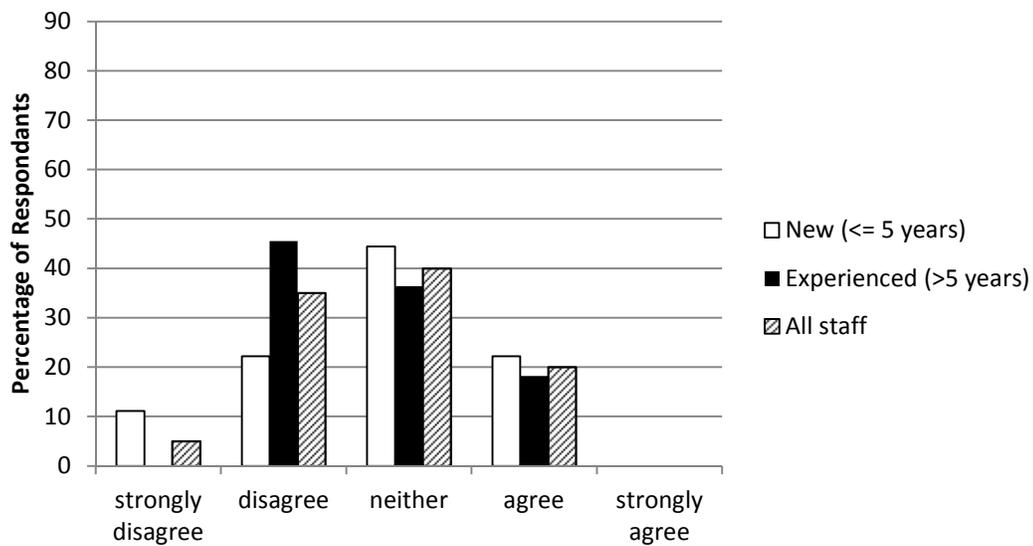
*Figure 5.* Section B, question 4: I am comfortable discussing tobacco use with clients.



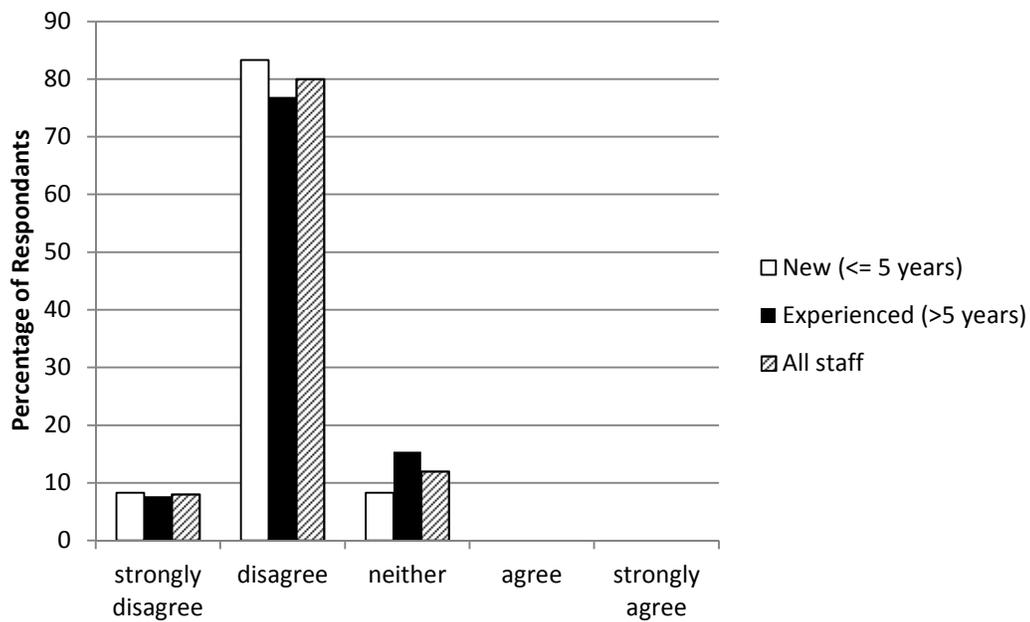
*Figure 6.* Section B, question 5: Clients often feel like they have to accept tobacco cessation information from me.



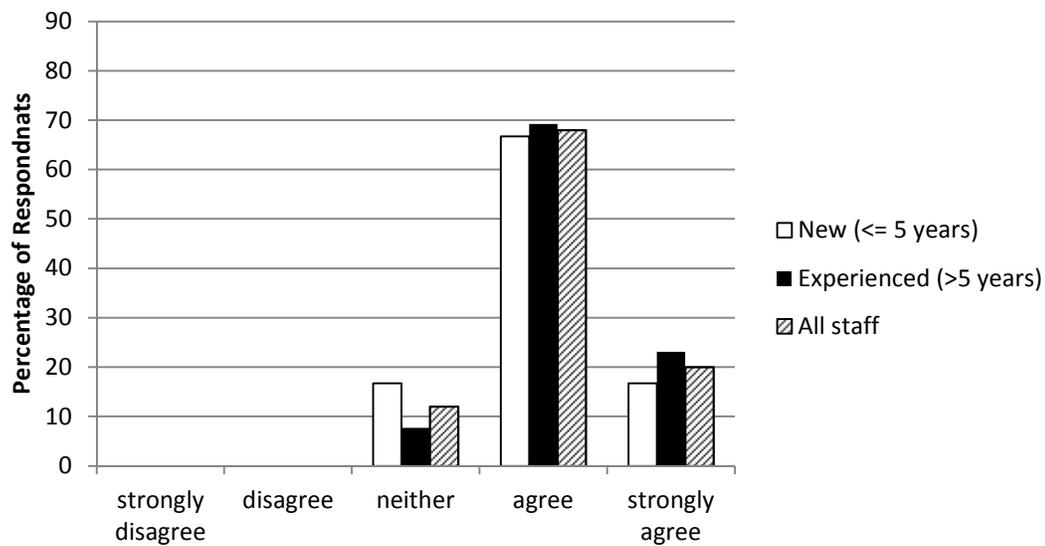
*Figure 7.* Section B, question 6: Clients receive adequate tobacco cessation information from other health care providers.



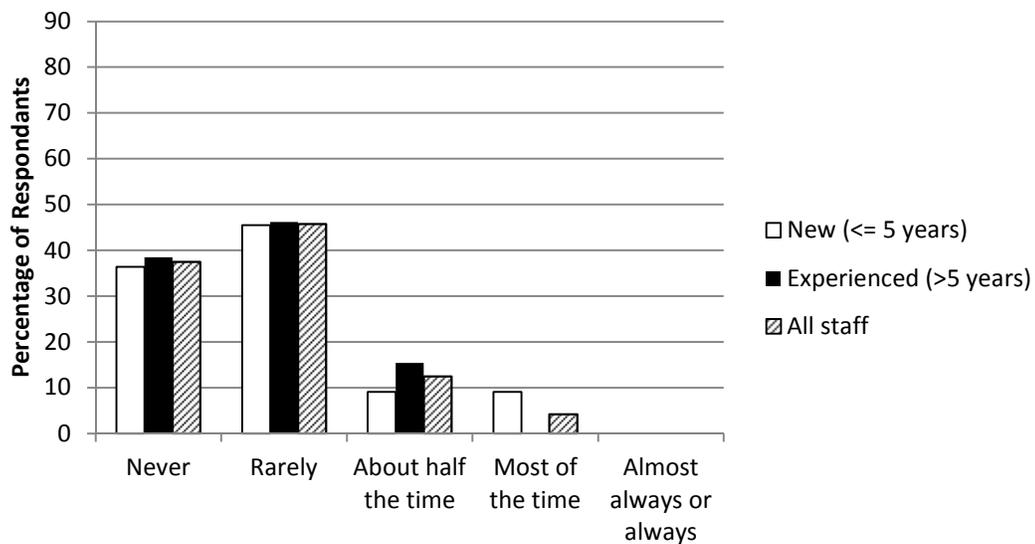
*Figure 8.* Section B, question 7: Clients do not expect me to discuss tobacco use with them.



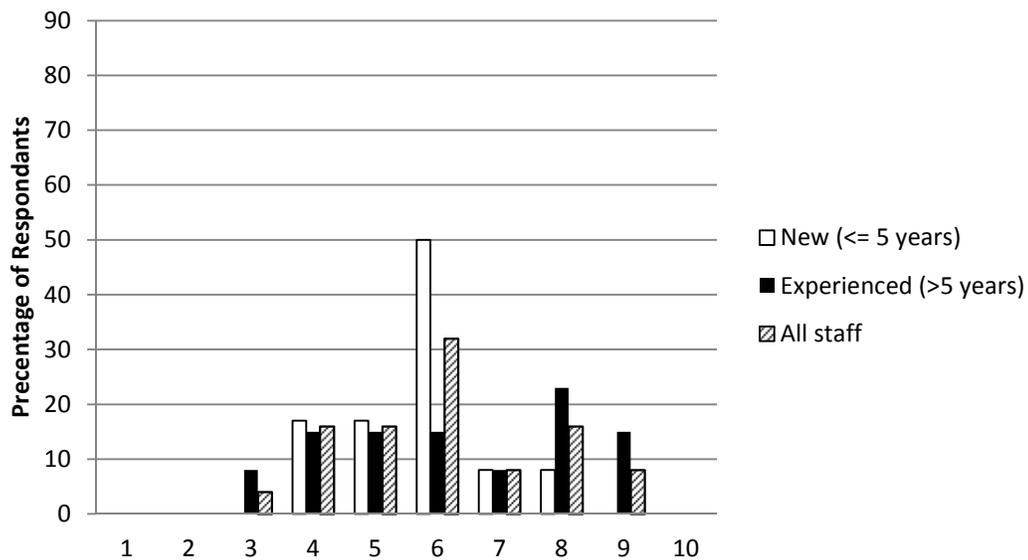
*Figure 9.* Section B, question 8: I am concerned that minimal contact intervention will have a negative effect on clients' opinions of public health programs.



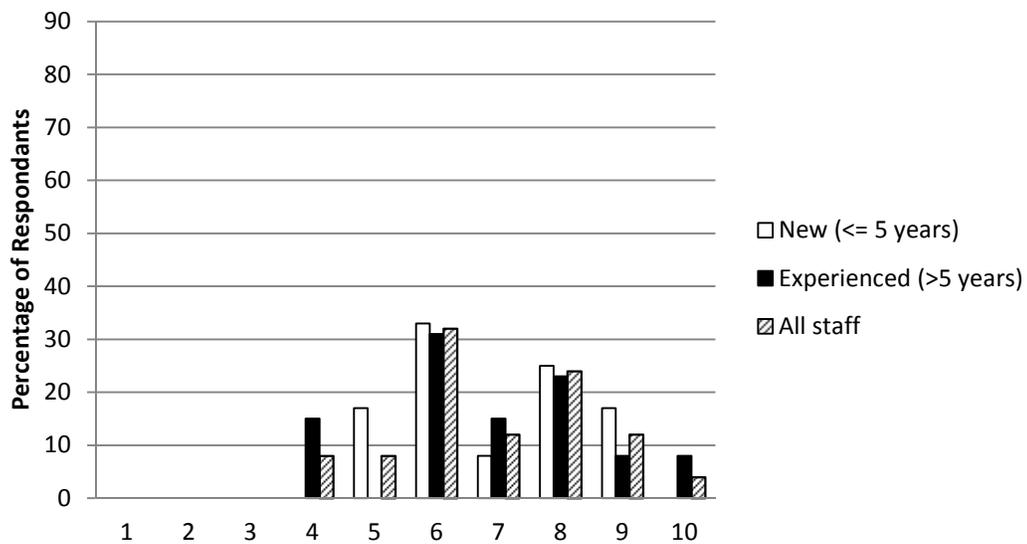
*Figure 10.* Section B, question 9: I have the resources I need to implement minimal contact intervention.



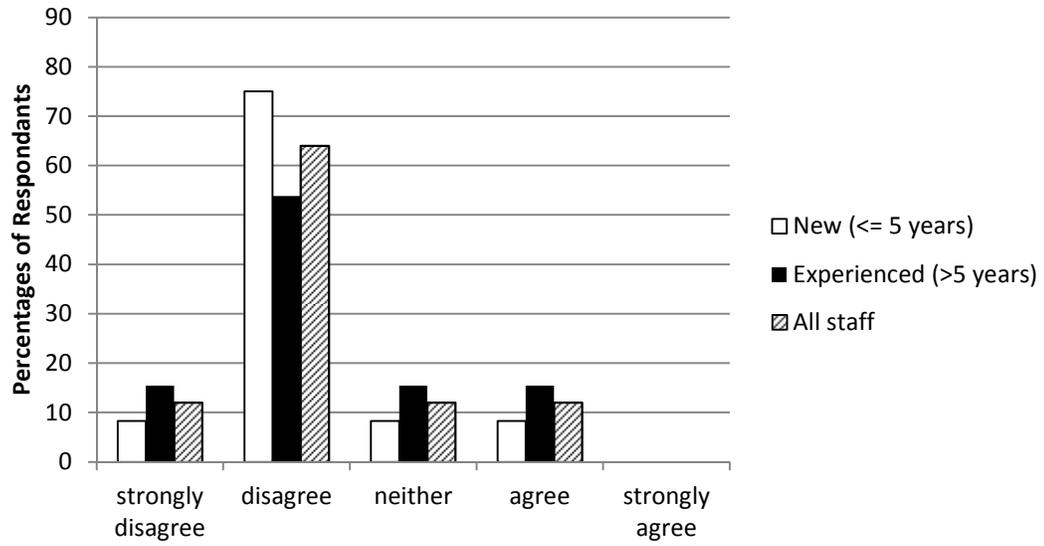
*Figure 11.* Section C, question 1: Minimal contact intervention interferes with providing other services.



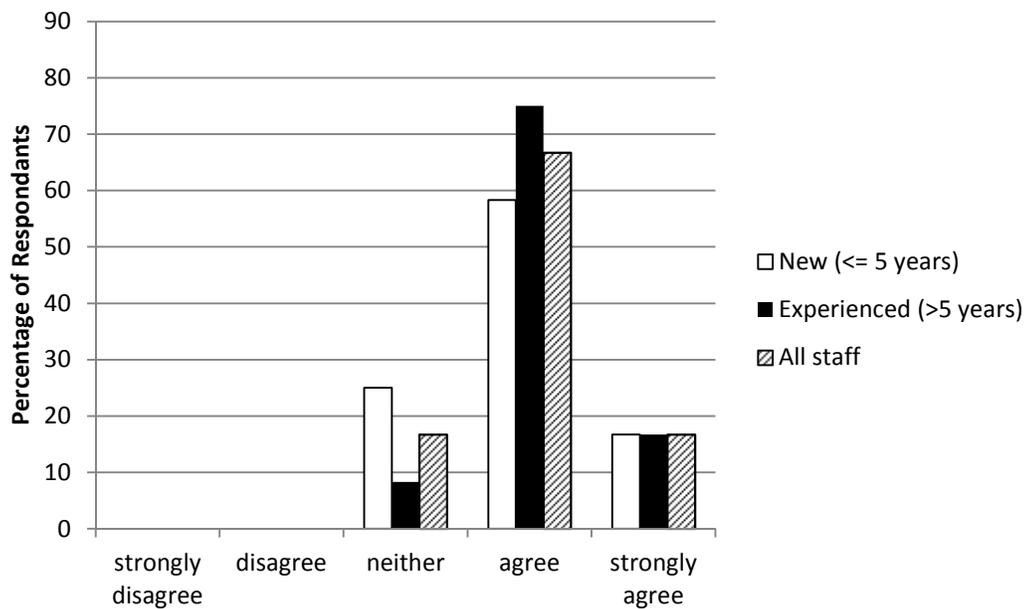
*Figure 12.* Section C, question 2: How confident are you that you could implement minimal contact intervention (MCI) for tobacco cessation in your work?



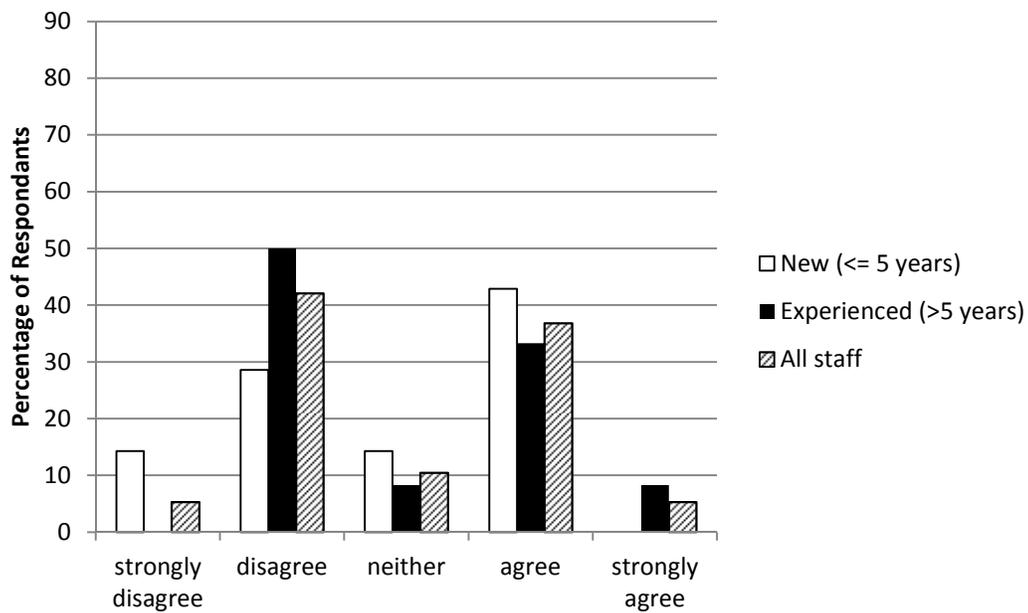
*Figure 13.* Section C, question 3: How ready are you to implement minimal contact intervention (MCI) for tobacco cessation in your work setting?



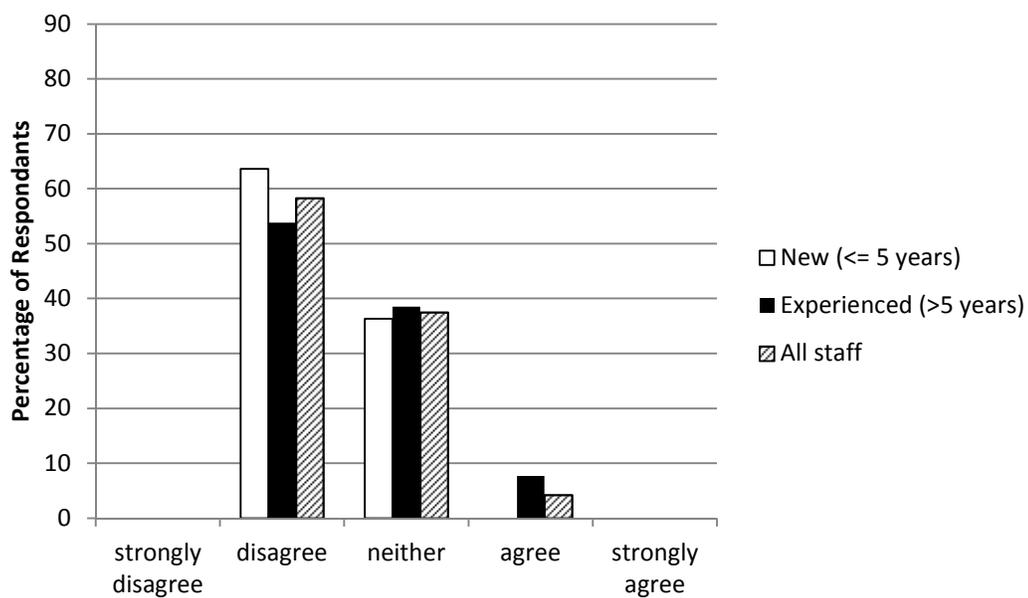
*Figure 14.* Section C, question 4: Minimal contact intervention interferes with providing other services.



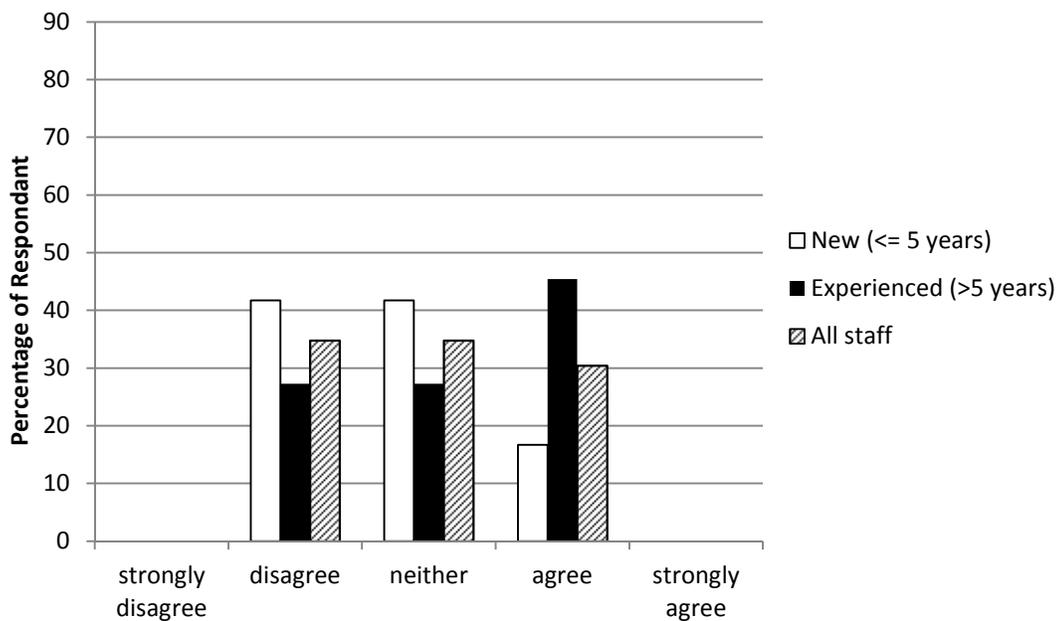
*Figure 15.* Section C, question 5: Clients are provided minimal contact intervention for tobacco cessation in an appropriate manner.



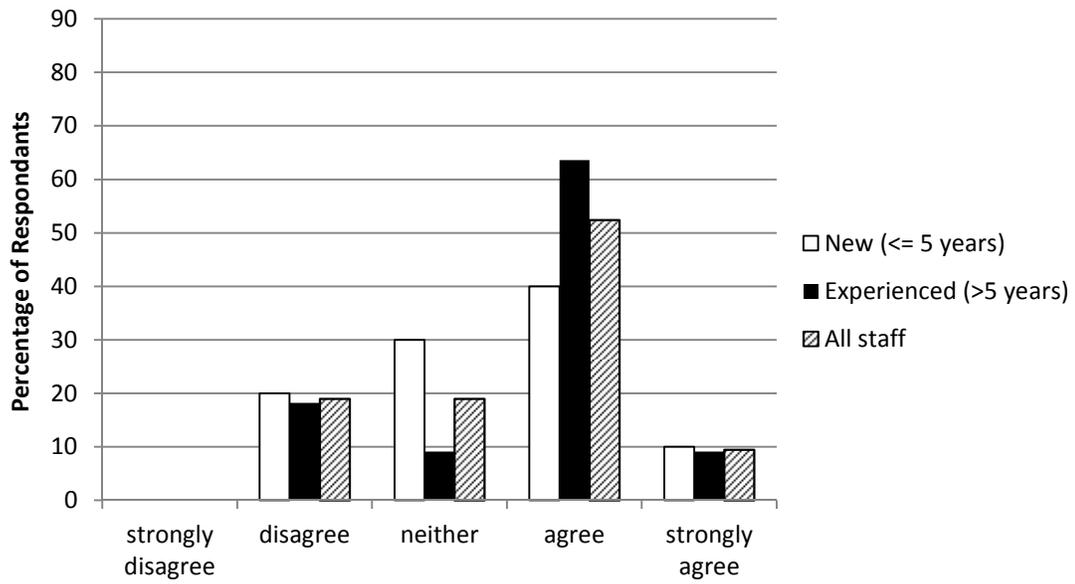
*Figure 16.* Section C, question 6: Currently tobacco use status of each client is documented and made available for health care providers.



*Figure 17.* Section C, question 7: Clients are concerned or upset by tobacco use being discussed with them.



*Figure 18.* Section C, question 8: The presence of family members or others makes it difficult to discuss tobacco use.



*Figure 19.* Section C, question 9: Clients who have used tobacco in the last 6 months receive appropriate referrals and follow-up.

of the “Tobacco Use History Forms” completed by the participants during client interactions were accessed and recorded as completed or absent. Paper copies of referrals by health care provider for services to the quit smoking clinic and Smokers’ Helpline were totaled.

The online database (Integrated Services for Children Information Systems) was accessed for interactions within the Healthy Babies Healthy Children Program over a 2-week period in July and again in September, 1 and 3 months postimplementation of the minimal contact intervention training. Of the 28 visits completed by health care providers ( $n = 32$ ) during the 1-month postimplementation period, 23 interactions were in compliance with the policy for a rate of 83%. Of the 29 visits completed during the 3-month postimplementation period, 27 interactions were in compliance for a rate of 93% and an average of 88% compliance since implementation of the policy.

The documentation binders were accessed for all interaction within the Canadian Prenatal Nutrition Program for a 3-month period after the minimal contact intervention training. Of the 73 interactions completed by health care providers ( $n = 11$ ), 70 were in compliance with the policy for a rate of 96%.

Referrals from the Healthy Babies Healthy Children and Canadian Prenatal Nutrition programs to the quit smoking clinic and Smokers’ Helpline were reviewed after the training for a 3-month period. A review of paper referrals that were faxed showed that health care providers completed 26 referrals to the clinic. Referrals to Smokers’ Helpline were reported by the regional coordinator and showed three for the family health division during the time period.

## **Qualitative Data**

The questionnaires and the interviews were used to gauge how health care providers felt about adhering to the policy for minimal contact interventions for tobacco cessation and to describe the components of the intervention that may have contributed to the adherence. The qualitative data included four open-ended questions within the health care provider questionnaire and data from the focus group interviews. Participants were able to expand on answers they gave in the health care provider questionnaire during the interviews. The following six themes emerged from an analysis of the qualitative data: policy and protocol, minimal contact intervention implementation, tobacco cessation training for health care providers, documentation of the intervention, supports available for health care providers and clients, and services for tobacco cessation.

### **Policy and Protocol for the Family Health Division**

The reason for implementation of minimal contact intervention for tobacco cessation within the family health division was because of a department policy. The theme of the policy was mentioned during the focus group interviews. Participants agreed in principle to the policy and protocol for minimal contact intervention for tobacco cessation. As described below, the participants had questions regarding the implementation of the policy and protocol including documentation and frequency of the intervention and had suggestions to ease the implementation within their work.

Participants in the Healthy Babies Healthy Children Program made comments during the preimplementation health care provider questionnaire stating that they felt that clients do not want to routinely be asked about tobacco use. A participant suggested that it may not have benefit at the seventh visit with the client to ask about tobacco use for the

seventh time. One participant commented on the health care provider questionnaire preimplementation that she does not find the process clear. There were no other similar comments, and no additional comments were seen in the 1- or 3-month postimplementation questionnaires.

Participants in the focus group interviews stated that they supported the policy for minimal contact intervention. For example, a participant within focus group 1 stated that “Clients expect you as the health care provider to talk to them about quitting.” Another participant from the same focus group described that after the policy came into effect, she “did a blitz of all clients and two had started smoking again. I wouldn’t have known otherwise.” Though participants in the focus group felt positive about adhering to the policy, they had suggestions on how to improve it. Within the Canadian Prenatal Nutrition Program, the health care providers plan to add two additional screening times: when the baby is born and when the client and baby graduate from the program. Participants also suggested adding a protocol for care for women who quit smoking when pregnant as relapse prevention. Participants felt that every visit with long-term clients may be too often and suggested that the policy be changed to when the service plan is reviewed with the client.

### **Minimal Contact Intervention Implementation**

The minimal contact intervention for tobacco cessation was measured by the degree of adherence to the policy by health care providers and how health care providers felt about adhering to the policy. These data are presented with evidence from the health care provider questionnaire preimplementation, 1- month postimplementation, and 3-month postimplementation, two focus group interviews, and a compliance protocol.

Participants reported during the health care provider questionnaire conducted at preimplementation of the policy that they were not asking clients about tobacco use in routine care. In the 1- and 3-month postimplementation and in the focus group interviews, participants reported feeling “totally confident doing it and supported” (focus group #1 participant), that the reaction from clients had been positive, and that no client was offended or became upset; it “creates the awareness to begin thinking about quitting” (focus group #1 participant) for the client. Focus group participants reported that minimal contact intervention is easy to document within the Canadian Prenatal Nutrition Program and has become a routine part of the intake process. One focus group participant felt that she “had positive outcomes with clients after initiating the conversation even if the client did say they are not ready. It was still ok. No negative impacts on the relationship” (focus group #1 participant). Another participant explained that “it's hard in a group setting but still brings it up.” From both the focus group interviews and the health care provider questionnaire, participants stated “working with the pregnant population doing [minimal contact intervention] makes total sense” (health care provider questionnaire preimplementation participant), it “connects clients to great services” (focus group #1 participant), and “I have been able to include partners in conversation and quit smoking services” (focus group #2 participant).

Though many participants reported being able to implement minimal contact intervention with ease, a Healthy Babies Healthy Children nurse stated that she forgot to ask during visits. Another three participants stated that it became repetitive with long-term clients, and that it was hard to document in Integrated Services for Children Information Systems. A focus group participant suggested that instead of the current

Tobacco History Use Form, “something shorter, conducive to not having paper in home visits would work better.” A focus group participant explained that minimal contact intervention does add to the length of intake at the Canadian Prenatal Nutrition Program, but not significantly. A participant in the 1- month postimplementation questionnaire stated she had “difficulty choosing battles regarding which issues to focus on” with clients. There were mixed responses from health care provider questionnaire respondents and focus group participants about whether clients were upset when being asked their tobacco use status. One participant stated the client was upset while others said they were not upset when asked about tobacco use.

### **Tobacco Cessation Training for Health Care Providers**

While the training provided to health care providers for minimal contact intervention for tobacco cessation was not evaluated in isolation, participants did provide feedback within the health care provider questionnaires and the focus group interviews. Participants completing the questionnaire described the training as worthwhile and great for maintaining confidence in the implementation of the minimal contact intervention, and they requested ongoing training every year. Participants in the focus group interviews also stated that the training helped them gain confidence with respect to implementing minimal contact intervention. They stated that the training was a good reminder to talk to clients about tobacco use, it increased their skill set, and it helped them to discuss tobacco use in a nonthreatening way with clients.

### **Documentation of the Intervention**

Changes to documentation were made by the family health division mentor and me with input from tobacco cessation team leads. Participants in both the health care

provider questionnaire and the focus group interview stated that the documentation for the Canadian Prenatal Nutrition Program was adequate, but improvements were needed to the online “Tobacco Use History Form” for the Healthy Babies Healthy Children program. Participants suggested that the Integrated Services for Children Information Systems database should contain prompts to help complete the “Tobacco Use History Form,” clarity for when the form should be completed including whether the client has not used tobacco, and improvements to allow the health care provider to switch between multiple computer programs as needed. Participants described changes that should be made to the Canadian Prenatal Nutrition Program documentation, since implementing this policy, to include the completion of the “Tobacco Use History Form” on two more occasions with their clients.

### **Supports Available for Health Care Providers and Clients**

This study examined the physical and personnel supports available to health care providers to assist them in implementing minimal contact intervention for tobacco cessation with their clients. Participants described the supports that helped them and offered suggestions for the types of supports that could help them to implement minimal contact intervention.

A common theme from the health care provider questionnaire and focus group interview participants was that they received good supports from health care providers, the family health division mentor, and their manager. A team lead for each team was discussed in the focus group interviews. While participants thought the idea was good, they were unsure of that individual’s exact role and suggested yearly meetings and formally training new health care providers on their team. Health care provider

questionnaire participants felt that the minimal contact intervention policy “opens conversation for the nurse to offer a referral to quit smoking clinic.” This was repeated again by participants in the focus group interviews, as exemplified by one focus group #1 participant who stated that “we can fully support them and makes it feel nonjudgmental.”

Participants in the health care provider questionnaire and focus group interviews felt that the hard copy resources, such as the becoming smoke-free booklet and It’s Time to Quit tear-off sheets (see Table 1 in Chapter Three), were helpful but they had issues with keeping them stocked both in the office and in their cars. Focus group #1 participants had not accessed the resources saved on the corporate network drive. These resources were created based on comments from the preimplementation health care provider questionnaire. A participant from that focus group stated that having resources during the intervention helped and she liked the idea of having access to them via smartphone during home visits.

### **Services for Tobacco Cessation**

Participants in both the health care provider questionnaire and focus group interviews liked having services available to which they could refer their clients for intensive interventions and no-cost nicotine replacement therapy. Participants thought that services available are a good fit with minimal contact intervention.

Participants did not like the limited time and locations available for intensive services for clients who wish to quit smoking. Participants indicated that they would like other locations and times and suggested providing services where clients already are, such as a Canadian Prenatal Nutrition Program location. Participants stated that they referred clients to Smokers’ Helpline because they felt it was more convenient, but then

the client misses out on free nicotine replacement therapy available from the public health quit smoking clinic. Comments in the 1-month postimplementation questionnaire were made regarding clients not following through or clients declining further services. “Client didn’t want to quit” and “I’m not sure if my client ever went to the quit smoking clinic”. Participants in the health care provider questionnaire and focus group interview requested a system to notify the health care provider when a client has attended the quit smoking clinic.

A participant from the health care provider questionnaire stated that “a client report[ed] [a] family physician [who advised] against quitting [smoking] when pregnant.” A participant in focus group #1 requested anticipatory guidelines to inform the client of what to expect at the services. Five participants in the health care provider questionnaire requested attending a clinic to know more about the service to which clients are being referred.

### **Summary of the Chapter**

A summary of the results from this explanatory mixed-methods study shows a high level of adherence to the policy by health care providers to implement minimal contact intervention for tobacco cessation. The results demonstrate health care providers’ positive views toward adhering to the policy to implement minimal contact intervention and suggest areas where participants would like improvement.

## **CHAPTER FIVE: SUMMARY, DISCUSSION, AND IMPLICATIONS**

According to the 2013 Canadian Community Health Survey, the provincial smoking rate is 18.1% (Statistics Canada, 2013). In Ontario, there are clinical practice guidelines for all health care providers to address tobacco cessation with their clients at every interaction (CANADAPTT, 2011). A large component of the provincially mandated Smoke-Free Ontario Strategy includes decreasing smoking rates and, therefore, offering tobacco cessation programs. The issue is that there are effective interventions to decrease smoking rates but these are not being practiced (Fiore et al., 2008). Research from McCammon-Tripp and Nagge (2011) and Segaar et al. (2006) found that health care providers argue that they cannot screen patients for tobacco use because there is not enough time, they are too busy, and there are competing priorities. Lynch et al. (2012) reported that almost 70% of those who smoke wish to quit and may welcome the advice from a health care provider.

Research suggests that providing effective training and supports to health care providers can increase their provision of minimal contact intervention for tobacco cessation (Brandon et al., 2004; Dadich, 2010; Hakesley-Brown, 2009). Most of this research conducted is within hospital and primary care settings. In the current study, training and supports were provided to health care providers in a public health setting to determine rates for implementing minimal contact intervention for tobacco cessation. The study of adherence to the minimal contact intervention policy by health care providers at Hamilton Public Health Services was completed to describe what components of the intervention may have contributed to the adherence of the policy and how health care providers felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients. The study asked the health care providers about the

limitations to screening for tobacco use and implementing minimal contact interventions and the changes that could be made to support health care providers to do so.

### **Discussion**

The findings from this study will be discussed in terms of the themes presented in Chapter Four to answer the study's questions about the degree of adherence to the minimal contact intervention policy by health care providers, to describe what, if any, components of the intervention may have contributed to the adherence to the policy, and how health care providers felt about adhering to the policy to provide tobacco cessation minimal contact intervention with all clients.

This study revealed that after the intervention, health care providers were implementing minimal contact intervention for tobacco cessation with clients at almost all interactions, the intervention was acceptable to clients, and health care providers felt supported to provide minimal contact intervention for tobacco cessation with their clients. The health care providers' positive response to the minimal contact intervention policy was tempered by concerns about documentation and the length of the intervention.

### **Policy and Protocol for the Family Health Division**

A policy for minimal contact intervention for tobacco cessation was presented to and passed by the Hamilton Public Health Services senior management team. This policy followed the U.S. Department of Health and Human Services and the Canadian Action Network for the Advancement, Dissemination, and Adoption of Practice-informed Tobacco Treatment clinical practice guidelines for tobacco cessation for health care providers (CAN-ADAPTT, 2011; Fiore et al., 2008). As reported by Vogt et al. (2008), many health care providers do not follow these clinical guidelines in their practice

settings. This occurs for several reasons, including perceived time required to complete the intervention, lack of confidence, or tobacco use of the medical practitioner. In the current study tobacco use status of the health care providers was not asked, however, this research did look at perceived time required and the health care providers' level of confidence to complete the intervention. According to health care provider questionnaire responses, almost all new and experienced health care providers felt that minimal contact intervention never or rarely interferes with providing other services. Health care providers also strongly disagreed or disagreed that minimal contact intervention interferes with providing other services.. These data show that perceived lack of time to implement minimal contact intervention with their clients was not a concern for health care providers within the family health division. With respect to their confidence in implementing minimal contact intervention with their clients, data from the health care provider questionnaire show that the majority of health care providers rated their confidence a 6 to implement minimal contact intervention. This may demonstrate that, at least in the family health division, health care providers feel that they have the time and confidence to implement minimal contact intervention, which is congruent with a high degree of adherence to the policy.

The study's results presented in Chapter Four also showed that health care providers agreed or strongly agreed that minimal contact intervention for tobacco use is an important part of routine care. This may mean that the health care providers may have implemented minimal contact intervention with training, supports, and changes to documentation, without the need for the policy. Dadich (2010) reports that even after the adoption of best practices within a setting, 30–40% of health care providers are not

providing the evidence-based care expected and, therefore, she suggested that a policy may be required to change clinical practice. It is possible that health care providers within the family health division did not need a policy to implement minimal contact intervention for tobacco cessation with their clients, but they likely require assistance with how to implement and document the intervention. These results may also demonstrate that health care providers value tobacco cessation interventions with their clients. The adoption of a policy is what led to the changes to documentation and supports given to health care providers to implement minimal contact intervention, so in this case, it did serve a purpose.

I feel that the policy to implement minimal contact intervention for tobacco cessation allowed for this research to measure the adherence to the intervention and how health care providers felt about adhering to the policy. A benefit of the policy is that it provides a formed structure that will allow for continued chart audits to be conducted, ensuring continuation of implementation of minimal contact intervention. Continued compliance protocol supports McCammon-Tripp and Nagge's (2011) claim for the importance of measuring compliance to ensure that intervention is completed and continues to be completed. As reported in the literature, on average, it will take four to seven quit attempts for a person to be successful, and less than 10% of those who try will be able to stay smoke free for more than 30 days. High levels of relapse reveal the need for continued minimal contact intervention for tobacco cessation with clients to have an impact on their health. Given that a person who smokes will live 10–15 fewer years compared to a person who never smoked (Schwartz et al., 2009), it is important to continually measure compliance to the policy for minimal contact intervention for

tobacco cessation to ensure clients are receiving evidence-based interventions that have an impact on their health.

### **Minimal Contact Intervention Implementation**

As established above, health care providers feel that minimal contact intervention for tobacco cessation is important, and they implemented the intervention with a high degree of adherence to the policy. The study examined responses between new and experienced health care providers separately. This decision was based on Benner's (1982, 1984) model of novice to expert nurse as well as on the differences in training that the health care providers would have received. Surprisingly there did not seem to be a statistically significant difference between the responses of new, having worked 5 or fewer years in public health, and experienced, having worked more than 5 years, health care providers.

The family health division has placed a large emphasis on training health care providers on tobacco cessation over the past 10 or so years, and a difference in attitude, confidence, and compliance could be expected between the two groups of new and experienced health care providers. The organizational culture may have had an impact on the new health care providers to value this intervention, though they had not received all the training. As Figure 2 demonstrates, new and experienced health care providers answered agree or strongly agree regarding the importance of minimal contact intervention for tobacco use being part of routine care. Health care providers demonstrated that they value tobacco cessation intervention, and this may have been because of previous trainings or the focus of the policy and related elements. Health care providers may see that they have an important role to deliver tobacco cessation

intervention to their clients. The majority of new and experienced health care providers strongly disagreed or disagreed that clients receive adequate tobacco cessation information from other health care providers. This result may help explain why they delivered the intervention to their clients. If health care providers have low confidence or did not feel they had the time to deliver the intervention, they may still have performed minimal contact intervention with their clients because they did not feel that the client received adequate tobacco cessation information from other health care providers. The family health division setting is different from primary care or hospital settings because often the public health care provider is the only health care provider that the client is seeing, unlike a clinic or hospital where the client might be seen by a nurse and a doctor and possibly other health care providers. This study may have shown a high rate of compliance because public health care providers felt that there was no one else to provide the minimal contact intervention. This is found in the evidence, as reported in Vogt et al. (2008), that there is lower rate at which doctors report providing minimal contact intervention for tobacco cessation and an even lower rate that their patients report the doctors performed the intervention.

There was a statistically significant difference between new and experienced health care providers on one of the 18 questions of the health care provider questionnaire. With respect to health care providers' perception that "clients often feel like they have to accept tobacco cessation information from me," new health care providers were more likely to feel that their clients have to accept tobacco cessation information from them compared to experienced health care providers. This difference may be due to the fact that new health care providers still consider themselves as beginners, unsure of the

boundaries, whereas experienced health care providers view themselves as more competent or as experts and are better able to factor the client's situation into the intervention (Benner, 1982, 1984). This explanation is supported by McHugh and Lake's (2010) criteria of skills that a nurse will develop with experience.

When the policy to implement minimal contact intervention within Hamilton Public Health Services was passed by senior management, concerns were raised by some management that clients may be upset that tobacco use was being discussed with them when they were accessing public health services for a separate reason. Health care providers were asked in the health care provider questionnaire whether they felt clients were concerned or upset by tobacco use being discussed with them and also whether health care providers were concerned that minimal contact intervention would have a negative effect on clients' opinions of public health programs. New and experienced health care providers disagreed with both of these concerns and did not share the same view as management. This disparity of opinion may exist because health care providers have direct contact with clients and are aware of how clients feel about services that they receive from public health. Health care providers hopefully provided minimal contact intervention for tobacco cessation with their clients in such a way that would avoid offending them or have a negative effect.

Though all health care providers agreed or strongly agreed that minimal contact intervention for tobacco use is an important part of routine care, results from the focus group interviews demonstrated the health care providers wanted a shorter intervention. Participants from both the Healthy Babies Healthy Children and Canadian Prenatal

Nutrition programs suggested that an intervention still allow for a discussion of tobacco use and the provision of referrals, but not at every step of the 5A model.

### **Tobacco Cessation Training for Health Care Providers**

There was no separate evaluation of the tobacco cessation training for health care providers, though it was examined as a component of this research study. Participants of the health care provider questionnaire and focus group interviews all responded positively to the training and suggested ongoing or yearly training.

The literature states that it takes 15–20 years for health care providers to adopt evidence-based interventions into their practice (Dadich, 2010). There are no baseline data for implementation of tobacco cessation interventions among health care providers in family health division. Also, there are no baseline data for when tobacco cessation training began within the family health division. It is possible that it began 15–20 years ago, because the literature suggests that this length of time is required to change clinical behaviour. But it is possible that this model of policy, training, mentoring, aligning documentation requirements, and ongoing support may have allowed the practice change for tobacco cessation to have occurred among health care providers in the family health division. The data in this study demonstrate a high degree of adherence to the policy for implementation of minimal contact intervention for tobacco cessation that may be a change in practice among most of the health care providers within the family health division. The high degree of adherence to the policy may be because of the ongoing support from management to conduct tobacco cessation trainings as well as the appointment of a designated staff, the mentor, with whom health care providers could consult.

## **Documentation of the Intervention**

As part of this research study, changes were made to documentation in the online database, Integrated Services for Children Information Systems, for the Healthy Babies Healthy Children program and paper documentation for the Canadian Prenatal Nutrition Program to reflect completion of minimal contact intervention for tobacco cessation using the “Tobacco Use History Form” (Appendix C). There was no question in the health care provider questionnaire specific to documentation, though participants provided feedback in the open-ended questions during the focus group interviews regarding areas for improvement and, specifically, related to documentation of the intervention.

Health care providers were asked during the preimplementation phase of the study whether they felt that the current tobacco use status is documented and reported for their clients. Figure 16 shows no majority answer between either new or experienced health care providers. New health care providers answered between strongly disagree and agree and experienced health care providers answered between disagree and strongly agree that current tobacco use of each client is documented. This difference may be partially due to participants being in two different programs, Healthy Children Healthy Babies and the Canadian Prenatal Nutrition programs, and use two different ways to document client interactions. The responses given in the focus group interviews were that, although changes were made to the documentation within the online database, Integrated Services for Children Information Systems, more changes were still needed. Participants felt that it was not well set up within the online database and prompts were needed to remind the health care provider to complete this section. In discussion during the focus group

interviews, the possibility was suggested that the health care providers completed minimal contact intervention with their clients but forgot to document it within the online database. If the interaction was not documented, then chart audits would show it as not complete, and this would affect the estimated rate of adherence to the policy. All health units in Ontario are required to provide the Healthy Babies Healthy Children program and document client interactions within Integrated Services for Children Information Systems. According to the Canadian Partnership Against Cancer (2013), 23 of 36 health units in Ontario implement minimal contact intervention for tobacco cessation. There would be value to having a universal screen for tobacco cessation added to the Integrated Services for Children Information Systems database. There were no requests by health care providers for improvements to the paper documentation for the Canadian Prenatal Nutrition Program.

### **Supports Available for Health Care Providers**

A large component of this research study was the support and training that health care providers received to implement minimal contact intervention with their clients. As was presented in the literature, there are clinical practice guidelines for all health care providers to address tobacco cessation with their clients at every interaction, but there are no mandatory guidelines and health care providers are not following these recommendations (CANADAPTT, 2011; Vogt et al., 2008). Almost all new and experienced health care providers agreed or strongly agreed that they have the resources they need to implement minimal contact intervention. These resources included online, paper, and mentoring resources that were available to health care providers.

Health care providers in the family health division have received numerous trainings from internal staff and external experts regarding tobacco cessation intervention. It is possible that the support health care providers have been receiving for the past 10 years or so has had an impact on the high degree of adherence to the policy. Because there are no baseline data for implementation of tobacco cessation intervention with clients prior to this research study, it is not possible to know whether the rates are directly related to the supports provided through this study or a combination of the ongoing supports health care providers have received over the years along with the supports provided through this study.

### **Services for Tobacco Cessation**

Though these data are not directly related to answering the study's questions of adherence to the policy and how health care providers felt adhering to the policy, it can be used by Hamilton Public Health Services to examine the tobacco cessation services that it offers. It is possible that if health care providers did not value the cessation services they may have been less likely to implement minimal contact intervention for tobacco cessation completely. Health care providers completing minimal contact intervention with clients who used tobacco and wished to quit were expected to refer them to tobacco cessation services. There was no consensus among health care providers based on responses from the health care provider questionnaire whether they felt that clients who used tobacco in the last 6 months received appropriate referrals. These data come only from the preimplementation health care provider questionnaire, because there was not a large enough sample size from the other two sets of data postimplementation for them to be used for this purpose. It is possible that had there been a consistent process

for referring clients, more health care providers may have agreed that clients receive appropriate referrals. There were comments during the focus group interviews from health care providers suggesting that they were unclear whether they should refer clients who had previously used tobacco products but were not currently smoking. There will have to be clarification added to the policy regarding these clients and whether health care providers are expected to refer them for services. As reported by Fiore et al. (2008), clients who have previously used tobacco have a high degree of relapse, and there may be benefit to offering service to people who had previously used tobacco even though they are not currently smoking. There were also indirect comments made during the focus group interviews and on the health care provider questionnaire regarding time, location, and ease of access for tobacco cessation services.

Also, with respect to referrals made to tobacco cessation services for clients who currently used tobacco, the policy will need to look at which clients should be referred. The current U.S. Department of Health and Human Services and the Canadian Action Network for the Advancement, Dissemination, and Adoption of Practice-informed Tobacco Treatment clinical guidelines state that clients ready to make a quit attempt should be provided the appropriate care (CAN-ADAPTT, 2011; Fiore et al., 2008). There is new evidence as presented by Aveyard, Begh, Parsons, and West (2011) that it may be effective to offer assistance to all clients that smoke. If the policy is changed to reflect this, then services for tobacco cessation may need to be modified to serve all clients that smoke and not just the ones who are ready to quit.

A summary of the findings from this study discussed in this previous section include what components of the minimal contact intervention may have contributed to the

adherence to the policy and how health care providers felt regarding the policy. This includes health care providers' perceived support for minimal contact intervention, their agreement on the importance of the intervention, their agreement on no concern regarding time to complete the intervention with their clients, and their level of confidence to implement the intervention with their clients. Another finding discussed was the previous support and training along with additional support and training as part of this study given to health care providers to implement minimal contact intervention with a high degree of adherence to the policy. Specifically, health care providers within Hamilton Public Health Services valued the physical resources they were given (see Table 1), the training that was provided, and the supports they received from their team lead, mentor, and manager. Health care providers felt that documentation must be able to be completed with ease to ensure a high degree of compliance when implementing minimal contact intervention for tobacco cessation.

### **Implications for Practice**

There are implications of these research findings related to the implementation of minimal contact intervention for tobacco cessation. Implications within the family health division and within Hamilton Public Health Services are discussed. Much of the literature regarding implementation of minimal contact intervention for tobacco cessation is within primary care and hospital settings, whereas this study was within a public health setting. Dadich (2010) reports that after the adoption of best practices within a primary care setting, 30–40% of health care providers are not providing the evidence-based care. The high level of adherence to the minimal contact intervention policy within this study demonstrated a different finding for a public health setting. There are other differences

between the two settings, and this study presents findings that health care providers within a public health setting value minimal contact intervention for tobacco cessation and implement the intervention at high levels.

Training and the policy related to implementing minimal contact intervention for tobacco cessation were well received by the Hamilton Public Health Services health care providers. This may be a component of the intervention that led to the high levels of the interventions being implemented by public health care providers. The policy should continue to be implemented and training should be offered to all new staff with plans for ongoing training.

The study findings support that public health care providers view minimal contact intervention as an important part of care that they deliver to their clients. This is different than what the literature reports with respect to health care provider perceptions within primary care and hospital settings. Some public health management reported concerns regarding the time to implement minimal contact intervention and clients' perceptions of the intervention. The findings show that public health care providers in this study do not expect or perceive negative reaction from clients regarding implementation of minimal contact intervention for tobacco cessation. The results from this study can be presented to public health management to lessen concern about negative impact on clients when minimal contact intervention is implemented. Unlike primary care and hospital settings, time to implement minimal contact intervention for tobacco cessation did not appear to be the biggest barrier.

Documentation of the intervention was a barrier for those within the Healthy Babies Healthy Children program. A long-term goal should be to improve documentation

of the intervention for health care providers within this program. In the meantime the mentor, tobacco team leads, and managers should work with staff to find solutions to documentation of the minimal contact intervention that may ease implementation.

Training, mentoring, and resources may create a culture that supports minimal contact intervention for tobacco cessation. This culture may contribute to new health care providers valuing minimal contact intervention, best practice guidelines, and the policy for implementation of minimal contact intervention for tobacco cessation faster.

### **Recommendations for Change in Practice**

The following section presents recommendations for change in practice based on the findings of this study and the literature including continued support by tobacco team leads and the mentor, and ongoing hardcopy resources and training.

Results presented in Chapter Four show almost all new and experienced health care providers agreed or strongly agreed that they have the resources they need to implement minimal contact intervention for tobacco cessation. Therefore the decade or more of training and resources that health care providers within family health division have received for tobacco cessation may have been worthwhile and be part of the reason that health care providers stated that they feel they have the resources they need. As in all areas of health care, there may be staff turnover or staff may have been absent for the training, and there should be plans for ongoing training. Participants of the focus group interviews suggested that training should occur yearly with updates and reminders regarding minimal contact intervention for tobacco cessation. These data support Dadich's (2010) statement that health care providers will value the training if the relevance to their practice is highlighted during their training. Given the high degree of

adherence to the policy for minimal contact intervention, consideration should be given to ongoing training and supports for health care providers. Layde et al.'s (2012) research provides focus on training to bring research models into practice and that may mean yearly training sessions for tobacco cessation. Health care providers could be given an opportunity to discuss case scenarios with their clients and possible interventions for tobacco cessation. As reported in the literature review, Overton et al. (2009) state that changes to clinical practice mean a variety of things to different health care providers and yearly training for implementation of the tobacco cessation policy could allow assistance with clear expectations for implementation. If health care providers had questions regarding consistent implementation of the intervention, yearly trainings would allow a platform for these questions to be asked.

An expectation of the policy for minimal contact intervention for tobacco cessation is to maintain a high degree of adherence for implementation of the intervention as shown by health care providers. Ongoing training and supports would allow staff to be retrained and new staff to be trained. Another possible benefit to continued training and education is to build upon the confidence level as reported in Figure 12 of health care providers to implement tobacco cessation with their clients. The majority of health care providers rate their confidence to implement minimal contact intervention at a 6. As Benner's (1982, 1984) model suggests, the longer the health care provider is at one job, the greater competency she may acquire in performing her job; therefore, continuous training may allow for health care providers' confidence to increase.

All health care providers should be provided with the training, support, and resources in order to implement minimal contact for tobacco cessation. A formal

mechanism needs to be put in place to have the tobacco team leads to train and support new health care providers. There may be value in yearly updates to ensure all health care providers are clear on expectations for implementing the policy for minimal contact intervention. The training could document the intervention, sources of referral for intensive interventions, and use and management of hard copy resources.

Recommendations for practice also include reviewing the referral process from health care providers to the quit smoking clinic for intensive intervention, including nicotine replacement therapy based on the research findings. The possibility of a reporting system or a system to communicate back to the referral source will be examined and implemented based on feasibility and staff resources. If there are no staff available to report back on this referral process or it cannot be done in a manner that ensures client confidentiality, it will not be implemented.

Based on the research findings, recommendations for change in practice include yearly training, continued support from mentor and tobacco team leads, continued access to supports, and a referral reporting system. The possibility of yearly trainings will be presented to the family health division senior management, as requested by participants. Plans for a compliance protocol will be repeated 1 year after the previous chart audit to ensure a continued high degree of implementation of minimal contact intervention for tobacco cessation.

### **Recommendations for Change in Policy**

The following section presents recommendations for change in policy based on the findings of this study and the literature, including changes to frequency of visits for long-term clients of the Healthy Babies Healthy Children program, changes to

documentation, giving clarity to the intervention for nonsmokers, and implementation of the policy in remaining programs within Hamilton Public Health Services.

Small changes could be made to the policy based on responses from health care providers during focus group interviews and the health care provider questionnaires. The intervention will be implemented more often for the Canadian Prenatal Nutrition Program. Currently minimal contact intervention for tobacco cessation is implemented during the client's initial visit at intake. Participants felt that because of the evidence on relapse for clients who smoke, health care providers should implement minimal contact intervention when completing the paperwork after the baby is born and again when the client and baby graduate from the Canadian Prenatal Nutrition Program. Changes will be made to the documentation for this program to incorporate minimal contact intervention being asked two additional times.

The policy did not include the breastfeeding team for various reasons including the urgency of the nature of the appointments with the health care providers on the breastfeeding team and it was felt there was not enough time for them to do so in their appointment with clients. This decision could be revisited given that participants' feedback on the health care provider questionnaire and responses in the focus group interviews indicated that time to complete the intervention was not an issue and the health care providers' perceived importance of the minimal contact intervention. Changes to documentation for the breastfeeding team would need to be made to incorporate minimal contact intervention for tobacco cessation for all breastfeeding appointments with clients.

Wording of the policy could be made clearer regarding clients who have not used tobacco in the past 6 months. Health care providers during the focus group interviews and

the health care provider questionnaires stated that they were unsure about completing the intervention and documenting when the client has not used tobacco in the past 6 months and especially if the client has stated that he/she had never used tobacco and therefore was not at risk for relapse. Changes can be made to the wording of the policy and a greater emphasis can be placed on how to complete the intervention with clients that do not smoke. Given that the Canadian Community Health Survey (Statistics Canada, 2013) data show that 20.5% of Hamiltonians are current smokers, a similar rate can be assumed for Hamilton Public Health Service clients, and health care providers would also need to know how to document the almost 80% of clients that are nonsmokers.

Comments made by several health care providers during the focus group interviews were that they would like the policy changed so that the intervention could be implemented less often for long-term clients within the Healthy Babies Healthy Children program. These potential changes to the policy will require further research because the current clinical guidelines state that minimal contact intervention should be provided at every interaction (CAN-ADAPTT, 2011; Fiore et al., 2008). A change to policy for the frequency of the intervention cannot be made at this time, though health care providers can use their clinical judgment regarding appropriateness of minimal contact intervention with their clients if they are visiting weekly.

The research findings of this study may be shared with other public health units to implement minimal contact intervention for tobacco cessation. Of the 23 of 36 public health units in Ontario that report implementing minimal contact intervention for tobacco cessation, not all have a formal policy or conduct compliance protocols (Canadian Partnership Against Cancer, 2013). All health units in Ontario are required to provide the

Healthy Babies Healthy Children program and document within Integrated Services for Children Information Systems. There would be value to having a universal screen for tobacco cessation added to the Integrated Services for Children Information Systems database. If more public health units were implementing minimal contact intervention consistently, it would increase the strength of a petition to the province to include tobacco cessation within the Integrated Services for Children Information Systems database for Healthy Babies Healthy Children. This would address health care providers' concerns regarding documenting the minimal contact intervention within Integrated Services for Children Information Systems.

The research findings of this study will be used to implement minimal contact intervention for tobacco cessation with the remaining programs within Hamilton Public Health Services: sexual health, dental, tuberculosis and infectious disease, and vaccine preventable disease. Given the findings from this study, a similar model will be used including making changes to health care provider documentation systems, training a health care provider mentor, creating paper and electronic resources, providing a training, and conducting a chart audit at 3 months postimplementation. As these are all individual teams and not several teams within a division, tobacco team leads will not be needed. The implementation and compliance protocol will be less onerous to implement because of the smaller scale of these teams as compared to the family health division.

### **Recommendations for Further Research**

The findings of this study related to the implementation of minimal contact intervention for tobacco cessation lead to recommendations for further research. Research is needed to find out whether the results of this study will be supported when intervention

is repeated within other programs within Hamilton Public Health Services, within another public health unit, or with health care providers other than nurses and dietitians. Further research is also needed regarding the efficacy of using a shorter intervention, Ask, Advise, Act, as compared to the 5As.

The Canadian and U.S. clinical guidelines both support the 5A model for minimal contact intervention for tobacco cessation and that is the reason that they were chosen by Hamilton Public Health Services' policy (CAN-ADAPTT, 2011; Fiore et al., 2008). Research has shown the benefit of tobacco cessation intervention and the impact on clients making quit attempts. New evidence as reported by Aveyard et al. (2011) suggest that it may be more effective to offer cessation assistance to all clients who smoke. This is different from the current 5A model, which advises all smokers to quit and offers assistance only to those who express an interest in doing so. Research reported by Aveyard et al. suggests that assessing a client's willingness to quit may be harmful to the quit attempt because of the missed opportunity to make a quit attempt. They further reported strong statistical evidence that offering support for cessation motivates an additional portion of people to attempt cessation compared to being advised to stop smoking on medical grounds. Research is needed regarding how a health care provider should perform minimal contact intervention for tobacco cessation.

Aveyard et al. (2011) report that evidence showed that smokers were more likely to make a quit attempt when offered a prescription or support as opposed to not being seen or being advised to quit. Reid (2014) summarizes Aveyard et al.'s research into very brief advice —Ask, Advise, Act: Ask, and record the smoking status; Advise the client how to quit smoking with a combination of medication and support; Act to arrange the

treatment. This differs from the current 5A model because the Advise is currently to quit smoking and the proposed model is to Advise how to quit. The client's readiness to quit smoking is no longer assessed in this very brief intervention. Assist and Arrange are combined into to Act, wherein the health care provider arranges referrals. This very brief minimal contact intervention would support a participant's comments with respect to assessing client's readiness, importance and confidence on a scale of 1–10, and being unable to remember the number for documenting and unsure of what the number means with respect to offering the client a referral.

There is strong evidence that offering either advice to stop smoking or assistance with stopping is effective in promoting quit attempts (Aveyard et al., 2011). The U.S. guidelines recommend motivational interviewing or counselling to address those who say they are not willing to make an immediate quit attempt (Fiore et al., 2008). However, no meta-analysis is offered to support this recommendation, and Aveyard et al. suggest a simpler and quicker intervention is to offer cessation support, such as medication or referral for behavioural support. Further research is needed before Hamilton Public Health Services can make a change to the type of minimal contact intervention being offered (i.e., 5As versus very brief advice of 3As).

More research is needed on the frequency of minimal contact intervention for tobacco cessation being implemented within a public health setting. More specifically, when a public health nurse is visiting the same client on a regular basis over many months or even years, it raises the as to whether the public health nurse ask the client about tobacco use at every visit. The Canadian and U.S. clinical guidelines state minimal contact intervention for tobacco cessation should be for every client at every interaction

(CAN-ADAPTT, 2011; Fiore et al., 2008). The findings in this study demonstrate differences between primary care and hospital settings and a public health setting with respect to health care providers' ability to implement minimal contact intervention, value of the intervention, and rate at which the intervention is implemented. Because within public health it is often the same health care provider seeing the same client on an ongoing basis, there would be value in exploring the frequency with which minimal contact intervention for tobacco cessation should be implemented in a public health setting to be effective for the client while examining the perceived negative reaction from the client.

The Canadian Partnership Against Cancer (2013) presented a report stating the number of public health units conducting minimal contact intervention, but it did not give detail to which model of 5As, 4As, or 3As, and therefore more research will need to be done within public health settings. If this study is repeated with Hamilton Public Health Service health care providers, incentives to complete the health care provider questionnaire may be considered to increase the response rate. Another factor that may be considered is in-person completion of the questionnaire, because the preimplementation health care provider questionnaire was completed in-person and had a higher rate of completion compared to the two questionnaires completed postimplementation that were emailed and completed online.

As this research is specific to the family health division and to nurses and dietitians as the health care providers, more research can be done in other areas of public health and with minimal contact intervention for tobacco cessation completed by other health care providers such as health promotion specialists, dental hygienists, dentists,

doctors, and nurse practitioners. The literature recognizes the value all health care providers can play in implementing minimal contact intervention for tobacco cessation as demonstrated by the joint position paper (CNA, 2011). Much of the literature has focused on nurses and physicians implementing tobacco cessation interventions, and there would be value in researching other health care disciplines.

The results from this study may help management of public health teams understand that health care providers and clients value minimal contact intervention for tobacco cessation. The overall culture, being supportive of minimal contact intervention for tobacco cessation, is important to success (Layde et al., 2012). Training and resources are important to ensure a high level of adherence to the minimal contact intervention policy and to have health care providers valuing the intervention.

### **Final Words**

Clinical practice guidelines are a tool to provide the best, evidence-based service for tobacco cessation. There are many steps involved in putting guidelines into practice and have health care providers implement the intervention with their clients. The research findings of this study suggest that minimal contact intervention for tobacco cessation can be implemented within a family health division of a public health setting at almost every interaction. The findings also show that the health care providers are in support of conducting this intervention with their clients.

This research was personal to me because I work professionally in the area of tobacco cessation, providing direct client care in intensive interventions. I am also tasked with training health care providers to provide minimal and intensive interventions for tobacco cessation with their clients and patients. I am passionate about the area in which I

work and the work that I do. I wanted to ensure I was completing tobacco cessation training and support to health care providers in an appropriate, evidence-based way. It is my hope that these findings can be shared and implemented with other public health units and that research can continue in this area to provide our clients with tobacco cessation interventions and decrease the overall smoking rate.

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## Appendix A

### Tobacco Dependence Assessment- Questionnaire for Health Care Providers

Adapted from Centers for Disease Control and Prevention (CDC). (2012). Evaluation toolkit: Patient and provider perspectives about routine HIV screening in health care settings. Retrieved from <http://www.cdc.gov/hiv/topics/testing/healthcare/index.htm>

#### Questionnaire ID Number

First three letters of your mom's maiden name and last two numbers of year you started with Public Health. (e.g., Smith 2001 is SMI01):

#### Section A- Please complete the following questions.

##### 1. What is your primary profession or role? (check one response)

- Public Health Nurse
- Public Health Dietitian/Nutritionist
- Health Promotion Specialist/Project Manager
- Family Home Visitor
- Student
- Manager/Director

##### 2. How many years have you been working in Public Health?

##### 3. What is your role in implementing the minimal contact intervention (MCI)? (check all that apply)

- Conduct 5A/MCI
- Provide health services for clients who received 5A/MCI
- Manage/supervise staff conducting 5A/MCI
- Teach other health care providers or students about 5A/MCI
- No role in 5A/MCI
- Other (specify) \_\_\_\_\_







**Section D**

**1. List any benefits or positive outcomes that have resulted from the implementation of minimal contact intervention for tobacco cessation with your clients.**

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**2. List any problems or negative outcomes that have resulted from the implementation of minimal contact intervention for tobacco cessation with your clients.**

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**3. List any education, resources, or supports you feel you still need to implement minimal contact intervention for tobacco cessation.**

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**4. Share any other comments about this questionnaire or about the implementation of minimal contact intervention for tobacco cessation with your clients.**

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**End of Questionnaire**

Thank you for your time. This questionnaire will be completed again online in one month and three months. If you have any questions please contact: Megan Lynch, Public Health Nurse, Tobacco Control Program, [megan.lynch@hamilton.ca](mailto:megan.lynch@hamilton.ca) 905-546-2424 ext. 4125.

## Appendix B

Original Questionnaire from Centers for Disease Control and Prevention (CDC). (2012). *Evaluation toolkit: Patient and provider perspectives about routine HIV screening in health care settings*. Retrieved from <http://www.cdc.gov/hiv/topics/testing/healthcare/index.htm>

### **Provider Assessment**                      **Questionnaire ID Number** \_\_\_\_\_

#### Questionnaire for Health Care Providers and Staff

Instructions: This survey is being done to obtain the perspectives of health care providers and staff about routine HIV testing and patients' satisfaction with the testing process.

This is being done in conjunction with a Patient Questionnaire. We would like to know what you think about the implementation of routine HIV testing in your health care setting to help us know whether we are meeting patients' needs and to help us improve these services. This survey is completely anonymous (your name will not be used) and your participation is voluntary. You can skip any questions that you don't want to answer. The questionnaire will take about 10 minutes to complete. Thank you for your time.

#### Section A.

Please complete the following questions.

1. What is your primary profession or role? (Check one response) Case Manager

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>. Manager/Administrator</li> <li>. Front Desk Clerk/Receptionist</li> <li>. HIV Counselor</li> <li>. Lab Technician</li> <li>. Nurse</li> <li>. Nurse Practitioner</li> <li>. Nursing Assistant</li> </ul> | <ul style="list-style-type: none"> <li>. Phlebotomist</li> <li>. Physician</li> <li>. Resident Physician</li> <li>. Physician Assistant</li> <li>. Psychologist</li> <li>. Social Worker</li> <li>. Other _____</li> </ul> |
|---|--|

2. What is your role in routine HIV testing? (Check all that apply) Management or administrative role in routine HIV testing

- . Supervise staff conducting HIV testing
  - . Conduct HIV testing
  - . Provide health care services for patients who have received routine HIV testing/screening
  - . Teach other health care providers or students about routine HIV testing
  - . No role in routine HIV testing
  - . Other (Specify)
-





**Section D.**

**1. List any benefits or positive outcomes that have resulted from the implementation of routine HIV testing in your work setting.**

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**2. List any problems or negative outcomes that have resulted from the implementation of routine HIV testing in your work setting.**

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**3. Share any other comments about this questionnaire or about the implementation of routine HIV testing in your work setting.**

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## Appendix C

### Tobacco Use History Form

Adapted from CAN-ADAPTT. (2011). *Canadian smoking cessation clinical practice guideline*. Toronto, Canada: Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment, Centre for Addiction and Mental Health.

Date and Time of Contact: \_\_\_\_\_

ASK	Have you used any form of tobacco in the past six months? <input type="checkbox"/> Yes <input type="checkbox"/> No (Do not complete the rest of this form) <input type="checkbox"/> 5A protocol not implemented																																																	
ADVISE	Client given personalized advice to quit smoking. <input type="checkbox"/> Yes <input type="checkbox"/> No																																																	
ASSESS	<p>How important is it for you to change your tobacco use?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">Not at all</td> <td style="width: 80%;"></td> <td style="width: 10%;">Very Important</td> </tr> <tr> <td>Important</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> </tr> </table> <p>How confident are you that you could change your tobacco use?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">Not at all</td> <td style="width: 80%;"></td> <td style="width: 10%;">Very confident</td> </tr> <tr> <td>confident</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> </tr> </table> <p>How ready are you to change your tobacco use?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">Not at all</td> <td style="width: 80%;"></td> <td style="width: 10%;">Very ready</td> </tr> <tr> <td>ready</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> </tr> </table> <p>Are you pregnant or breastfeeding?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		Not at all		Very Important	Important			1	2	3	4	5	6	7	8	9	10	Not at all		Very confident	confident			1	2	3	4	5	6	7	8	9	10	Not at all		Very ready	ready			1	2	3	4	5	6	7	8	9	10
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ASSIST	<b>Counselling:</b> <input type="checkbox"/> Discussed pros and cons of smoking <input type="checkbox"/> Discussed pros and cons of quitting smoking <input type="checkbox"/> Assisted patient/client to identify triggers & strategies <input type="checkbox"/> Discussed alcohol & drug use in relation to smoking <input type="checkbox"/> Reviewed past quit experiences <input type="checkbox"/> Discussed stop smoking medications <input type="checkbox"/> Assisted patient/client to identify social	<b>Self-Help Materials Given:</b> <input type="checkbox"/> Smokers' Helpline business card <input type="checkbox"/> HPHS Quit Smoking Clinic card <input type="checkbox"/> Medications to Help You Quit <input type="checkbox"/> It's Time to Quit (blue tear-off) <input type="checkbox"/> Becoming Smoke Free <input type="checkbox"/> Other: _____																																																

	supports	
ARRANGE	<input type="checkbox"/> Smokers' Helpline Fax Referral: 1-877-513-5334 <input type="checkbox"/> Hamilton Public Health Services Quit Smoking Clinic Fax Referral: 905-546-4194	

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Clinician Signature and Designation

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Date and Time of Recording

## **Appendix D**

### **Focus Group Interview Questions**

Focus groups interview questions will explore the perceived support participants felt they needed in order to make a change to their practice and possible solutions to improve the support. Focus group interview questions were created after data were collected from the health care provider questionnaires.

1. What are your personal perspectives about minimal contact intervention (MCI) for tobacco cessation within the Family Health Division?
2. Tell me about implementing minimal contact intervention (MCI) for tobacco cessation in your work setting.
3. Tell me about your confidence and readiness as a health care provider implementing MCI for tobacco cessation within the Family Health Division.
4. What are the benefits or positive outcomes, if any, that have resulted from implementing of minimal contact intervention for tobacco cessation with your clients?
5. What are the problems or negative outcomes, if any, that have resulted from the implementation of minimal contact intervention for tobacco cessation with your clients?
6. Did you use any education, resources, or supports to implement minimal contact intervention for tobacco cessation? Are there any additional resources or supports you still need?
7. Do you have any other comments about implementing minimal contact intervention for tobacco cessation with your clients?