

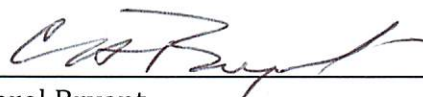
TOBACCO USE AND CESSATION:

WHAT MATTERS TO SOUTHEAST ALASKA NATIVE YOUNG ADULTS?

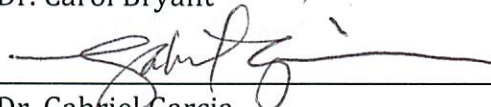
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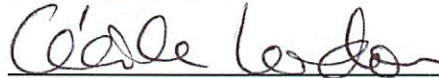
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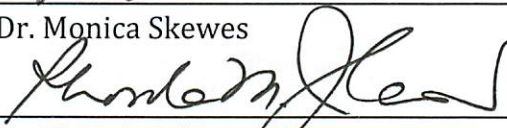
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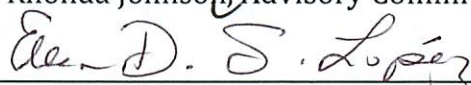
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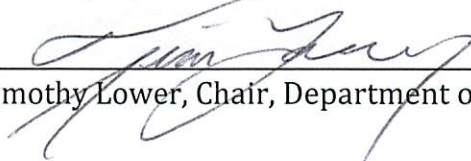
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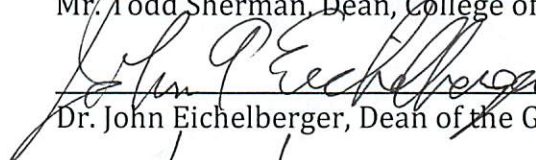


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TOBACCO USE AND CESSATION:
WHAT MATTERS TO SOUTHEAST ALASKA NATIVE YOUNG ADULTS?

A
DISSERTATION

Presented to the Faculty
of the University of Alaska Fairbanks

in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

By
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Fairbanks, Alaska

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Abstract

Background: The smoking rate among young Alaska Native adults (ages 19-29) in Southeast Alaska is 70% as compared to the statewide adult smoking rate of 21%, the Alaska Native adult rate of 41%, and the overall young adult rate of 32%. Southeast Alaska Regional Health Consortium (SEARHC), the non-profit tribal health consortium serving Southeast Alaska, commissioned this research to inform development of a young adult-specific, social marketing-based smoking cessation intervention.

Methods: Using purposive sampling, 23 individuals were recruited for five focus groups and four individual interviews in Juneau, Alaska. Following a social marketing framework, the research assessed participant beliefs about the benefits and negative impacts of smoking, barriers to quitting, and preferred quit support methods, as well as participant reactions to particular anti-smoking advertisements and quit support methods.

Results: Almost all participants reported an interest in quitting smoking. Stress relief, boredom relief, relaxation, and oral satisfaction were the main benefits of smoking. Downsides to smoking included negative short-term health impacts, negative impacts on children in the extended family, and negative cosmetic impacts. Barriers to quitting included loss of listed benefits, addiction and habit, fatalism, and the high prevalence of smoking among family and friends. The preferred method of quitting was cold turkey (unassisted quitting), with very few participants reporting use of counseling or pharmacotherapy. Participants preferred high emotional level anti-smoking advertisements with either strongly negative emotional valence (e.g., fear and disgust) or strongly positive emotional valence (e.g., joy, happiness). Reaction to quit support methods was most favorable to texting support and a smart phone app, and most negative toward a smart phone video game. Reaction to counseling was strongly supportive among those who had tried it and largely but not totally negative among those who had not.

Conclusion: Young Alaska Native adults in Juneau who smoke are interested in quitting but prefer cold turkey to counseling and pharmacotherapy. They are more concerned about short-term than long-term health impacts, and they are sensitive to the impact of smoking on their appearance and on children in their extended family. Findings formed a foundation for a proposed social-marketing based intervention.

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The findings and conclusions are my own, and, while approved by the SouthEast Alaska Regional Health Consortium (SEARHC), do not necessarily represent the official position of SEARHC.

1 Introduction

Smoking is a primary cause of preventable morbidity and mortality, and represents a significant minority health disparity for Alaska Native people and young adults. Smoking rates in Alaska are 21% overall, 32% among all 18-29 year olds, and 41% among Alaska Natives of all ages (Alaska Tobacco Prevention and Control Program, 2013b).

Smoking is of particular concern in Southeast Alaska, which is the coastal “panhandle” of Alaska and slightly larger than the state of Maine. It is home to approximately 72,000 individuals, 20% of whom are Alaska Native people (Alaska Department of Labor and Workforce Development, 2013b).

Southeast Alaska Regional Health Consortium (SEARHC) is the regional tribal health care provider, responsible for the health care of all Alaska Native people living in Southeast Alaska (SouthEast Alaska Regional Health Corporation, n.d.). SEARHC is vitally interested in lowering smoking rates among its young adult beneficiaries. Customized data from the 2008 Alaska Behavioral Risk Factor Surveillance System (BRFSS), available to SEARHC, revealed that approximately 70% of young Alaska Native adults residing in Southeast Alaska (ages 19 - 29) reported current tobacco use¹.

SEARHC directly recruited the researcher (KA) and requested and funded a study to examine the attitudes and behaviors of current and former young Alaska Native adult smokers (ages 19 - 29), to inform an intervention directly targeting this priority population. As a means of understanding and ultimately acting on the particular attitudes and behaviors of their young adult smokers, SEARHC specified that a social marketing approach be taken to the study². The study took place in the

¹ This 70% figure was interpolated from the SEARHC-specific BRFSS reported smoking rates (every day or some days) of 81.9% for 18-24 year olds and 57.7% for 25-34 year olds.

² Social marketing, described in detail in Chapter 4, is an established framework for developing behavior change interventions. It is based in part on commercial marketing techniques such as an emphasis on audience research, market segmentation, and attention to the individual’s evaluation of tangible and intangible benefits versus costs of the behavior change, in this case, quitting smoking (Lee & Kotler, 2011).

relatively urban environment of Juneau, where about half the population of Southeast Alaska lives. At the time of the study (2011-2012), Juneau, the state capital, had a population of 32,832, 19.2% of whom were Alaska Native people (Alaska Department of Labor and Workforce Development, 2013b).

1.1 Background

The long-term health impacts of smoking are well understood and documented (US Department of Health and Human Services, 2010), and include lung disease, lung and other cancers, cardiovascular disease, and complications of pregnancy. In Alaska, tobacco use is responsible for more deaths than any other cause and costs an estimated annual \$348M in direct medical expenditures and \$231M in lost productivity (Alaska Tobacco Prevention and Control Program, 2013b). Over the last decade, smoking rates for Alaska Native people have consistently been about double the rates of non-Native Alaskans, at 41% Alaska Native vs. 21% total in 2010 (Alaska Tobacco Prevention and Control Program, 2013b).

According to the Alaska BRFSS, young Alaskan adults (ages 18 - 29) have the highest smoking rates of any adult age group in the state, at 32% vs. 21% overall (Alaska Tobacco Prevention and Control Program, 2013b). Contrary to what many believe, some medical repercussions of adolescent and early adulthood-smoking, such as respiratory ailments, cognitive issues, and general malaise, are already apparent by age 30 (Brook, Brook, Zhang, & Cohen, 2004).

There is a dearth of literature about tobacco use and cessation in young adults, particularly those based in a community rather in a university setting. A recent meta-analysis (Bader, Travis, & Skinner, 2007) found 51 studies of young adults' tobacco use published between 1990 and 2006. Of these, only four were conducted specifically with young adults outside of a university setting.

Negative attitudes towards traditional cessation programs such as counseling, Nicotine Replacement Therapy (NRT), and prescription drugs, along with a preference to rely on willpower are widely reported in the young adult

tobacco cessation literature (Burgess et al., 2007; Curry, Sporer, Pugach, Campbell, & Emery, 2007; Kishchuk, Tremblay, Lapierre, Heneman, & O'Loughlin, 2004).

1.2 Context of Study

SEARHC currently provides tobacco control services to its beneficiaries³, including adolescent and adult prevention and cessation. The SEARHC Tobacco Cessation Program, offered at several tribal clinics across the region, includes individual behavioral counseling, education, and optional NRT and prescription drugs. Initial appointments are up to one hour, face-to-face with the tobacco counselor, and follow-up appointments, scheduled as required, are either in-person or by phone. In 2011, the overall quit rate achieved in the program was estimated to be 20% (A. Thomas, personal communication, January 13, 2013), compared to 16% to 24% in similar programs (Hollis et al., 2007).

Those eligible for SEARHC health benefits may be referred to the Tobacco Cessation Program by tribal healthcare providers, or they may enroll directly without referral. Virtually all adult patients (98%), regardless of age, are screened for smoking when seen by a SEARHC healthcare provider. Of those who report smoking, 43% are referred to the Tobacco Cessation Program. In the Juneau SEARHC clinic, young adults are significantly underrepresented in the Tobacco Cessation Program, at 8% of clients vs. 18% of population (A. Thomas, personal communication, January 13, 2013).

Given that young Alaska Native adults have relatively high rates of tobacco use and may have less interest in typical cessation supports, or less interaction with them, or both, the SEARHC Tobacco Department commissioned the present study. Its purpose was to investigate the views and attitudes of the young SEARHC adult beneficiaries, in order to inform the development of a tailored cessation

³ A beneficiary in the Alaska Tribal Health system is defined by the Federal Government. The definition is complicated, but it is essentially anyone of Alaska Native or American Indian origin residing in Alaska, or a non-Native woman carrying the child of a qualified beneficiary, from pre-natal to post-partum (National Congress of American Indians Policy Research Center, 2009).

intervention. One of the research goals, as described in Chapter 2, was to determine which of three courses would be best taken: increasing use of current services, increasing desire to quit, or designing and developing a new service for this priority population.

Qualitative methods, which are particularly appropriate to answer how and why questions and to understand facilitators and barriers to behavior change (Ulin, Robinson, & Tolley, 2004), were selected. Such methods facilitated giving voice to this priority population and capturing any underlying socio-cultural dynamics (Hesse-Biber, 2010).

1.3 Project Description

The research protocol comprised two phases, the first being designed to inform the second. The research team included the PhD student researcher (KA) and three people from the SEARHC Tobacco Department: Manager, Andrea Thomas (AT); Health Promotion Specialist, Edy Rodewald (ER); and Tobacco Counselor, Rowena Reeves (RR).

Phase 1 (October 2011) consisted of six young adult interviews using a semi-structured, open-ended interview guide approach. The interviews investigated the nature of the young adults' tobacco use and their experience with quitting or attempting to quit. Phase 1 results informed the Phase 2 recruiting methods, interview techniques, and semi-structured interview guide.

Methods for the Phase 2 qualitative research were based on:

- the Phase 1 data analysis,
- the experience of similar studies reported in the literature, and
- the principles of social marketing.

Phase 2 (April 2012) consisted of focus groups and individual interviews with current and former tobacco users in the priority population. The interview topics asked about participants' attitudes toward smoking and smoking cessation; experiences with cessation; reactions to various types of cessation advertisement, such as fear-based or family-oriented advertisements; and reactions to various quit

support approaches such as counseling, NRT and prescription drugs, and texting and smart phone applications.

Standard content analysis (Ulin, Robinson, & Tolley, 2004) was performed on transcriptions of the focus groups and individual interviews from both phases, similar to techniques reported in Boeije (2002). This content analysis involved entering the transcripts of the focus groups and interviews into the software tool ATLAS.ti (ATLAS.ti, 2011). The software was then used by the researcher to systematically identify notable characteristics of text fragments and to iteratively synthesize these characteristics through a process of constant comparison (Boeije, 2002).

1.4 Protection of Human Subjects and Confidentiality

Materials and protocols were approved by the University of Alaska Fairbanks Institutional Review Board (IRB) (Appendix A) and by the Indian Health Service Alaska Area IRB (Appendix B). Phase 1 was considered exempt by the University IRB, while Phase 2 was considered expedited; at the Alaska Area IRB, both phases were considered expedited.

The Alaska Area IRB acted on behalf of both SEARHC and the Alaska tribal system. Prior to submission to the IRBs, permission to conduct the research was secured from the SEARHC executive committee and the two governing tribal associations in Southeast Alaska: the Central Council Tlingit and Haida Indian Tribes of Alaska (Appendix C) and the Douglas Indian Association (Appendix D).

1.5 Organization of Dissertation

Chapter 1 reports the project background and broadly describes the selected research approach. Chapters 2 and 3 describe the goals and the objectives of the study, respectively.

Chapter 4 is the literature review, which includes peer-reviewed articles, textbooks, and governmental and non-profit agency reports related to tobacco use and cessation, with an emphasis on young adult and Indigenous literature. Both qualitative and quantitative literatures were reviewed.

Chapter 5 describes the methods and findings of Phase 1 and relates how these findings informed Phase 2 design. Chapter 6 describes the resulting methods of Phase 2. Chapter 7 reports, in detail, the findings of the Phase 2 research and discusses how these findings of the present study relate to the established literature.

Chapter 8 synthesizes the comparison between the present findings and the literature described in Chapter 7 and further discusses this study's strengths and limitations. It describes how the findings might inform both future practice in the SEARHC Tobacco Cessation Program and future young adult and Indigenous tobacco research.

Chapter 9 reports the conclusions of the research.

2 Goals

SEARHC's overarching goal is to increase the number of young adult beneficiaries who successfully quit smoking.

The three goals of this project were as follows:

1. to determine which, if any, of three specified alternatives would be most appropriate for SEARHC to implement:
 - *Option A:* Developing an intervention to increase awareness and utilization of the current service, targeting young adult tobacco users who already have a desire to quit.
 - *Option B:* Developing an intervention to increase desire to quit among the priority population to attract more people to the current service.
 - *Option C:* Developing and marketing a different service specifically tailored to the young adult population, in order to attract and support more young adults wishing to quit;
2. to determine what quit support methods and what types of marketing messages appeal to the priority population; and
3. to develop a baseline qualitative research protocol for assessing the priority population's perception of the benefits of tobacco use, benefits of quitting, and barriers to quitting. This protocol, once tested, was expected to be customized for use in different regions of the SEARHC geography, including smaller towns such as Sitka and remote villages such as Hoonah.

3 Objectives

The objective of the Phase 1 key informant interviews was to inform the design of the Phase 2 study by testing the effectiveness of four elements:

1. recruiting methods,
2. the informed consent form and process,
3. the demographic questionnaire, and
4. the wording and completeness of the semi-structured interview guide questions.

The objective of the Phase 2 research was to answer the following seven social-marketing based research questions in order to best design an impactful intervention:

1. What are the perceived benefits of continuing to use tobacco?
2. What are the perceived benefits of quitting tobacco?
3. What are the perceived barriers to quitting?
4. What methods have been helpful and not been helpful in any quit attempts?
5. What are the informants' attitudes toward tobacco countermarketing⁴ advertisements?
6. What are their ideas for program elements that might work?
7. Where and how are they best reached (e.g., home, school, work, cell, internet, other)?

⁴ Tobacco countermarketing is the use of mass media advertising to discourage tobacco initiation and encourage tobacco cessation (National Cancer Institute, 2008).

4 Literature Review

To inform the design of this dissertation research and the interpretation of its findings, five categories of literature were reviewed:

- smoking cessation, including young adult specific and Indigenous specific literature;
- tobacco countermarketing;
- mobile phone based intervention literature;
- theoretical basis of smoking cessation interventions; and
- social marketing.

4.1 Smoking Cessation

Three categories of smoking cessation literature were reviewed: general cessation, young adult cessation, and Indigenous cessation. Included were peer-reviewed articles, textbooks, US government documents and epidemiology reports, and non-profit institutional research reports.

4.1.1 General cessation literature

4.1.1.1 *Methods of cessation*

Current national recommendations on counseling and pharmacotherapy interventions are set forth in the Clinical Practice Guidelines for treating tobacco use and dependence, issued by the US Department of Health and Human Service, Public Health Service (Fiore, Jaén, & Baker, 2008). The guidelines were developed by a panel of medical experts and built on the over 5,000 articles incorporated into the 1996 and 2000 guidelines. The 2008 update (Fiore et al., 2008) included the assessment of an additional 2,700 articles. Of these, more than 300 randomized control trial reports were included in a meta-analysis, and more than 600 other articles were examined and used to develop the updated Clinical Guidelines. A peer review by 81 external expert reviewers was conducted prior to publication.

Fiore et al. (2008) outlines four effective interventions: brief behavioral counseling, intensive behavioral counseling, Nicotine Replacement Therapy (NRT), and prescription drugs (Table 4.1). These four interventions are considered best

practices, supported by evidence obtained from Clinical Practice Guidelines meta-analyses and systematic reviews (Fiore et al., 2008).

**Table 4.1: Best practice smoking cessation intervention types.
(Fiore et al., 2008)**

Category	Description
Brief counseling	Description: 10-minute intervention . Types: Three protocols established, tailored for willing-to-quit, not-willing-to-quit, and recent quitters. Delivered by: Healthcare provider in the course of a medical appointment.
Intensive counseling	Description: Intervention longer than 10 minutes, minimum 4 sessions. Types: In-person or telephone counseling. Should include both problem-solving skills and intra-session social support. Strong dose-response relationship. Delivered by: Healthcare provider, psychologist, or other trained Counselor.
Nicotine Replacement Therapy (NRT)	Description: Medication that administers replacement doses of nicotine . Types: Nicotine patch provides passive, background nicotine dose. <i>Ad libitum</i> forms, used as needed, include gum, patches, lozenges, nasal spray, and inhalers. May be used for up to six months. Delivered by: Over-the-counter medication (in US).
Prescription drugs	Description: Medication to reduce cravings and reduce pleasure of smoking. Types: Front line drugs: Varenicline (Chantix ®) and bupropion SR (e.g., Wellbutrin ®, Zyban ®). Counter-indications include pregnancy. Patients with history of depression and suicidal thoughts must be monitored. Delivered by: Prescription through healthcare provider.

Brief counseling is a ten-minute prescribed protocol for healthcare providers, including physicians, dentists, nurses, psychologists, and others. Originally developed by the US National Cancer Institute (Glynn & Manley, 1995) and reaffirmed by Fiore et al. (2008), the protocol is known as the “5As:” *ask, advise, assess, assist, and arrange*. The clinician first *asks* if the patient uses tobacco, and, if so, *advises* quitting. The clinician then *assesses* willingness to make a quit attempt, and, if the patient is willing, *assists* by referring to behavioral therapy, or recommending or prescribing pharmaceuticals, or both. Finally, the provider *arranges* to follow up with the patient attempting to quit.

Intensive counseling may be delivered outside the healthcare setting. It can be delivered by social workers, cessation counselors, or psychologists, as well as by medical personnel. Fiore et al. (2008) recommended that there be at least four telephone⁵ or face-to-face sessions of more than 10 minutes each. In-person sessions may be either individual or group based. Intensive counseling focuses on elements such as antecedents of smoking, self-monitoring, and problem solving skills and thus differs from some forms of intensive psychotherapy for other disorders (Rigotti, 2002).

NRT, which comes in the form of gum, patches, lozenges, nasal spray, and inhalers, may be used for up to six months (Fiore et al., 2008). Nicotine patches are considered passive devices that supply a background level of nicotine, while the other forms of NRT are called *ad libitum*⁶ because they are used as needed. In a 2009 meta-analysis of 100 studies (total $n=177,390$), NRT was shown to have relatively mild side effects such heart racing, dry mouth, and nausea, with no statistically significant increase in more serious side effects such as depression or anxiety (Mills, Wu, Lockhart, Wilson, & Ebbert, 2010).

The currently recommended prescription drugs for smoking cessation are varenicline (Chantix ®) and bupropion SR (e.g., Wellbutrin ®, Zyban ®) (Fiore et al., 2008). The US Food and Drug Administration (FDA) has issued warnings for both drugs, advising patients and healthcare providers of “reports of changes in behavior such as hostility, agitation, depressed mood, and suicidal thoughts or actions” (US Food and Drug Administration, 2009). The FDA has since conducted two other studies of Chantix® in which results are contrary to the earlier findings, but the agency continues to advise healthcare providers to “monitor for neuropsychiatric symptoms when prescribing or using Chantix” (US Food and Drug Administration, 2011).

⁵ Telephone counseling is known in the US as a “quitline.”

⁶ Ad libitum is Latin for “at one’s pleasure.”

NRT and prescription drugs are often referred to collectively in the literature as pharmacotherapy. The current Clinical Practice Guidelines (Fiore et al., 2008) state that combining certain medications produces better results than either alone, as does combining behavioral counseling with pharmacotherapy. In a review of treatment protocols worldwide, Galanti (2008) reported that a combination of pharmacotherapy and behavioral therapy has been shown to be the most effective current treatment. A more detailed description of the efficacy of treatment protocols is described in Section 4.1.1.4.

4.1.1.2 Cessation prevalence by method

Evidence-based interventions that include behavioral counseling and pharmacotherapy are underutilized in spite of their effectiveness. Unaided quitting, or “cold-turkey,”⁷ is by far the most prevalent method of cessation attempt, followed by pharmacologic treatment and behavioral counseling. Shiffman, Brockwell, Pillitteri, and Gitchell (2008) analyzed data from a large federally sponsored household survey, the 2003 US Tobacco Use Special Cessation Supplement to the Current Population Survey ($n=29,537$). Results showed that 64.2% of quit attempts were cold turkey, 25.4% were pharmacologic treatments only, 5.9% were combined behavioral and pharmacologic, and 2.4% were behavioral treatment only. These results were similar to those reported in a recent Morbidity and Mortality Weekly Report from the Centers for Disease Control and Prevention (CDC) (Centers for Disease Control and Prevention, 2011). Using data from the 2010 National Health Interview Survey (NHIS), Centers for Disease Control and Prevention (2011) reported 68.3% of quit attempts were cold turkey and 31.7% used counseling or pharmacotherapy, or both. This CDC report further stated that these proportions have remained steady since 2003.

⁷ “Cold turkey” is a commonly accepted term meaning quitting without any assistance (National Cancer Institute, 2008). In the literature, it is sometimes referred to as unassisted quitting or self-quit, but the term “cold turkey” was most familiar to the participants in the study.

4.1.1.3 Challenges of reporting

The success of quit attempts is reported using inconsistent criteria, making comparison across studies problematic. Studies differed in how long after quit date follow-up occurred and in the definitions of smoking and cessation. Studies also varied in how abstinence was determined, either by self-report or chemical verification.

Velicer and Prochaska (2004) analyzed four studies to describe and contrast three different measures of cessation. These three different measures were point prevalence abstinence, or not having smoked in the past n days; continuous abstinence, meaning the subject has not smoked since a particular point in the intervention, usually their self-reported quit date; and prolonged abstinence, meaning the subject had not smoked for an extended period prior to the researcher's inquiry. Interestingly, these authors reported an extremely high correlation ($r > .98$) between 24-hour point prevalence abstinence, 7-day point prevalence abstinence, and 30-day prolonged abstinence, and a high correlation ($r = .82 - .85$) between those three measures and 6-month prolonged abstinence (Velicer & Prochaska, 2004, p. 57). The 2008 Clinical Practice Guidelines (Fiore et al., 2008) similarly reported that, except for studies with pregnant women, "shorter, more inclusive, follow-up timepoints captured effect sizes that were similar to those yielded by the use of longer follow-up timepoints" (p. 23).

The definition of smoking differs between various major US and international surveys. Two US instruments, National Health Interview Surveys (NHIS) and the CDC's Behavioral Risk Factor Surveillance System (BRFSS), count as smokers only those who have smoked 100 cigarettes in their lifetime and who currently smoke some days or every day. The National Survey on Drug Use and Health screens for lifetime smoking of at least 100 cigarettes, but then counts anyone who has smoked part or all of a cigarette in the 30 days prior to survey (Rodu & Cole, 2009). Some smaller studies such as Angstman et al. (2007) and Bader et al. (2007) did not

screen for a lifetime total of cigarettes being more than 100 but instead relied on participants self-identifying as smokers.

The International Tobacco Control Four Country Survey, or ITC-4, is a prospective cohort survey that recruited eight waves of participants between 2002 and 2009 across Canada, the US, Australia, and the United Kingdom. ITC-4 collected data to answer several areas of research, including motivational factors (Borland et al., 2010), socioeconomic status as a predictor of cessation (Siahpush, McNeill, Hammond, & Fong, 2006), and support for smoke-free public places (Fong et al., 2006). ITC-4 used the same criteria as the National Survey on Drug Use and Health for defining smoking, that is, a lifetime consumption of at least 100 cigarettes and having smoked at least once in the past 30 days.

Some cessation studies used chemical verification of quitting tobacco, using one of two methods, exhaled carbon monoxide or testing for metabolites of smoking in bodily fluids (Velicer, Prochaska, Rossi, & Snow, 1992). Many studies, however, relied on self-report, either because they did not have funds to accomplish chemical verification or because it would be logistically impossible to obtain samples from every participant. According to a systematic review of 67 studies by (Gorber, Schofield-Hurwitz, Hardt, Levasseur, & Tremblay, 2009), self-reported cessation tended to overestimate quit rates when compared to chemical verification. The overestimation effect in this review was more pronounced in certain populations such as pregnant women and cardiovascular patients.

With much diversity in criteria used to report persons as current smokers and former smokers, it is difficult to analyze outcomes across multiple studies, as they may be non-comparable.

4.1.1.4 Challenges of cessation

Tobacco cessation is extremely difficult. Still, most smokers wish to try and are optimistic about their chances of quitting, and almost half do attempt to quit in any given year.

In a CDC analysis of the 2001-2010 National Health Interview Surveys (Centers for Disease Control and Prevention, 2011), 68.8% of adult smokers indicated that they wanted to quit. Shiffman et al. (2008) reported that, of daily smokers surveyed in 2003, 43.5% had made at least one quit attempt in the previous year. Another CDC publication (Pleis, Lucas, & Ward, 2009) reported that, in the 2008 National Health Interview Surveys, 51.1% of people who had smoked more than 100 cigarettes in their lifetime had eventually quit successfully, likely after multiple attempts.

Reported overall long-term success of a single quit attempt was consistently low. Fiore et al. (2008) report between 2% and 5% are successful, and the American Cancer Society (American Cancer Society, 2012) reports between 4% and 7%.

Success of quit attempt varies by operational definition of success. Zhou et al. (2009) studied cessation relapse using a specific cohort called ATTEMPT, a pre-existing, web-based, longitudinal, prospective cohort of adult smokers. These authors researched a subset of the cohort who expressed a willingness to quit smoking in the next 3 months ($n=2,431$). The relapse rate was almost 80% at three months and over 90% at nine months after quit date. Thus, abstinence rates among the same cohort would differ depending on whether success was defined as staying quit at three months or at nine months.

Success of quit attempt also varies by quit support method. Studies assessing counseling, NRT, and the prescription drugs bupropion and varenicline find them to be more effective for cessation than placebo or unaided quitting, and combinations of treatments were reported to be more effective than single treatments. A 2008 Cochrane review of 132 studies (L. F. Stead, Perera, Bullen, Mant, & Lancaster, 2008) reported a Relative Risk (RR) for successfully quitting of 1.58 for use of any kind of NRT versus placebo. Mills, Wu, Spurdin, Ebbert, and Wilson (2009), a systematic review of pharmacotherapy versus placebo trials (101 NRT trials, 42 bupropion, and

11 varenicline, all 4-week efficacy), reported pooled Odds Ratios (OR) of successfully quitting of 2.08 for NRT, 2.05 for bupropion, and 3.16 for varenicline.

Using ITC-4 data from 2006 forward ($n=2,550$), Kasza et al. (2013) measured abstinence at six months past quit date for pharmacotherapy compared to unaided quit attempts. They found adjusted ORs of 4.09 for nicotine patch, 3.94 for bupropion, and 5.84 for varenicline, and no effect for users of oral NRT.

Counseling has also been shown to be effective. A 2008 Cochrane review of 30 counseling trials (Lancaster & Stead, 2008) included studies involving an individual patient having at least one encounter with a specially trained counselor outside of a clinical setting. This review found individual face-to-face counseling to be more effective than minimal contact control (RR 1.39) and a combination of counseling and NRT to be marginally more effective than NRT alone. Lancaster and Stead (2008) and the literature review in Fiore et al. (2008) both reported that intensive counseling was more effective than brief counseling.

A recent Cochrane review (Cahill, Lancaster, & Green, 2013) performed a meta-analysis of 12 treatment-specific Cochrane reviews that studied NRT, bupropion, and varenicline. The 12 studies in turn represented 267 studies (total $n=101,804$). Their results were consistent directionally with the above studies, showing that NRT and varenicline were superior to placebo (OR 1.84 and 2.88, respectively). They also concluded that varenicline is superior to both nicotine patches (OR 1.51) and nicotine gum (OR 1.72), but not more effective than a combination of NRT therapies.

Despite the evidence that less than 10% of quit attempts are successful, many smokers overestimate the chance of a quit attempt succeeding. Weinstein, Slovic, and Gibson (2004) analyzed data from two national US surveys and determined that 50% of adolescents and 48% of adults said they agreed with the statement: "I could smoke for a few years and then quit if I wanted to" (p. 376). The over-optimism was reported to decrease with the number of past quit attempts, but

even those with 10 or more quit attempts believed they had a 50% chance of being successful on their next attempt.

4.1.1.5 Relapse

Relapse after a temporarily successful quit attempt is quite common. Using seven waves of ITC-4 data ($n=21,316$), Borland, Partos, Yong, Cummings, and Hyland (2012) found that over 80% of all participants had made at least one quit attempt in their lifetime. They estimated that the average number of quit attempts per year per smoker was 0.82 (p. 676) and that, thus, “the average 40-year-old smoker who started in their teens will have made more than 20 failed quit attempts” (p. 678).

Many who quit and then relapse wish to reattempt quitting in the near future. A study by Fu et al. (2006) followed Veteran’s Administration beneficiaries who had received a prescription or order for tobacco cessation pharmacotherapy ($n = 951$). This study found that, while 61% had relapsed by six months after prescription fill date, almost two-thirds of those who relapsed wanted to reattempt a quit within 30 days of contact.

4.1.1.6 The role of healthcare providers

Healthcare providers have an important role to play in smoking cessation. Healthy People 2020 (US Department of Health and Human Services, 2012) includes goals to increase screening for tobacco use across inpatient and outpatient settings, and to increase the number of smokers who seek and use behavioral therapy.

As reported in (Fiore et al., 2008), a meta-analysis of three articles for the 1996 Clinical Practice Guidelines yielded strong evidence that a brief office intervention of less than three minutes or between three and 10 minutes by a health care provider significantly increased the chance of a smoker making a quit attempt (OR 1.3, 1.6 respectively). Fiore et al. (2008) also found that 70% of smokers visit a physician in any given year. This effectiveness, combined with the frequency of provider visits by smokers, increased the importance of brief counseling.

There is some evidence that clinicians are not consistently and comprehensively using the brief counseling 5-A method. Quinn et al. (2009) reported the experience of 2,325 US Health Maintenance Organization participants who smoked. While over 67% reported being *asked*, *assessed*, and *advised*, less than half were *assisted* through education or counseling referrals. Only 33% were *assisted* through referral to counseling and only 13% had a follow up contact *arranged* (p. 150). Centers for Disease Control and Prevention (2012b) reported that 62.7% of adult patients in the 2005 - 2009 National Ambulatory Medical Care Surveys ($n = 96,232$) were screened for tobacco use. In this report, 20% of smokers received some form of tobacco counseling and 7.6% received an order for pharmacotherapy.

4.1.1.7 General cessation summary

The US National Clinical Practice Guidelines (Fiore et al., 2008) outlines four primary categories of evidence-based tobacco cessation interventions: brief counseling, intensive counseling, NRT, and prescription drugs. The effectiveness of these interventions has been proven versus placebo and versus minimal contact. However, they are underutilized despite their established effectiveness.

Cold turkey, or self-quit, is far more prevalent as a quitting method than any interventions. Of the interventions, pharmacotherapy is most prevalent, followed by a combination of pharmacotherapy and counseling, followed by counseling alone. Cessation studies apply varying definitions of smoking and cessation, so the researcher must use caution in comparing study outcomes.

Successful tobacco cessation is extremely difficult, with long-term success rates in the single digits. Almost half of all smokers attempt to quit in any given year. Relapse after a temporarily successful quit attempt is quite common.

Healthcare providers play an important role in smoking cessation. They provide a touch point for many smokers, and evidence shows that even brief counseling in a clinical setting has a favorable impact on a patient's decision to quit.

However, there is evidence that best practices for healthcare provider contact with smokers are neither consistently nor comprehensively followed.

4.1.2 Young adult specific literature

According to two recent literature reviews (Bader et al., 2007; Villanti, McKay, Abrams, Holtgrave, & Bowie, 2010), young adults who are general community members rather than university students have been understudied compared to university students. Bader et al. (2007) conducted what they called a “knowledge synthesis” regarding smoking cessation among employed and unemployed young adults. The synthesis included a systematic review of the literature, an expert panel, and six focus groups with a total of 53 young adults. Their literature review found 51 articles, including randomized control trials, prospective and descriptive studies, qualitative studies, and reviews published between 1990 and 2006. Of these, 47 were conducted exclusively on college student populations and only four were more generally community-based.

Villanti et al. (2010) conducted a systematic review of 14 smoking cessation intervention trials targeting young adults ages 18 - 24. Of these 14 randomized or quasi-randomized trials, 11 were conducted on college campuses and only three were more generally community-based. Only one study focused on low-income young adults. This small volume of research required those wishing to understand tobacco cessation in a non-university based young adult population to rely heavily on original research or attempt to extrapolate results from either the general adult literature or the literature based on college student populations. The former is problematic because interventions for older adults are not proven to work with young adults (Villanti et al., 2010). The latter is problematic because smoking rates are higher in non-student than in student young adult populations (White, Labouvie, & Papadaratsakis, 2005) and because results from studies of college students may not be applicable to the general population of young adults (Henrich, Heine, & Norenzayan, 2010).

4.1.2.1 Young adult tobacco use

Young adult smoking rates have decreased in the past several years and young adults are more likely to make a quit attempt than any other group of adults. National Health Interview Survey smoking prevalence data from 2011 were analyzed and reported in a 2012 CDC Morbidity And Mortality Weekly Report (Centers for Disease Control and Prevention, 2012a). This report stated that young adults, ages 18 - 24, had the highest smoking prevalence (24.4%) of all adult age groups in 2005, but by 2011, the young adult smoking rate had dropped to 18.9% and become the lowest of any adult age group under 65. Alaskan rates are higher but trends are consistent with national trends, with the smoking rate for adults 18-24 reported as 37% in 2004 and 30% for adults 18-29 in 2008 (Alaska Tobacco Prevention and Control Program, 2012; Leadership for Eliminating Alaskan Disparities, 2011).

Young adults are more likely than older adults to be light or intermittent smokers, meaning they might smoke less than 10 cigarettes per day or do not smoke every day. Two studies corroborate this likelihood, a survey of 2,901 college and graduate students (Halperin, Smith, Heiligenstein, Brown, & Fleming, 2010) and a study based on data from the 2003 and 2005 Health Information National Trends Surveys (Rutten, Augustson, Doran, Moser, & Hesse, 2009). Light and intermittent smokers may not benefit in the same way as heavier smokers from pharmacotherapy because they are less nicotine-dependent (Reitzel et al., 2009; Rubinstein, Benowitz, Auerback, & Moscicki, 2009). Thus, those designing interventions for young adults need to be aware that the best practices may not yield as favorable results as with older populations.

4.1.2.2 Young adult cessation methods

Young adults are more likely to make a serious quit attempt and to quit successfully than are older adults. Messer, Trinidad, Al-Delaimy, and Pierce (2008) reported that in the 2003 US Tobacco Use Special Cessation Supplement to the Current Population Survey, 84% of adults 18-24 reported a quit attempt in the prior

12 months versus 66% of adults ages 35 - 64. The younger adults in this study also reported a higher success rate at six months or longer, 8.5% versus 5.0% in the older group. In a major 15-year longitudinal study that followed over 900 Finnish adolescents through young adulthood, up to half of smokers surveyed as adolescents had quit within 4 to 8 years of initial survey (Paavola, Vartiainen, & Puska, 2001). Ling and Glantz (2004) reported similar results from a review of tobacco industry documents made public by the 1998 Tobacco Master Settlement⁸.

Young adults are less likely than older adults to receive advice from a health care provider about quitting tobacco. Curry et al. (2007), based on the 2005 National Health Interview Survey, reported that this lower rate of advice was a result of both fewer visits to providers and, for those who did have a visit, a lower likelihood of being asked about smoking.

Young adults are reported to hold negative attitudes towards traditional cessation programs and prefer, when attempting to quit, to rely on self-support. Bader et al. (2007), in the qualitative research phase of their knowledge synthesis, found that young adult smokers held negative attitudes towards traditional cessation approaches such as counseling and pharmacotherapy and that they largely misunderstood counseling as being told what to do by a “so-called expert” (p.39). Curry et al. (2007) reported that young adult smokers, ages 18 to 24, were less likely to use pharmacotherapy than older adults were. A preference to rely on willpower was also reported in a qualitative study of 69 Canadian university students (Kishchuk et al., 2004).

The focus group participant data reported in Bader et al. (2007) recommended that new appealing and effective interventions be developed for

⁸ The tobacco Master Settlement Agreement was the result of a civil lawsuit settled between the major tobacco companies and the signing governmental entities (46 states, the District of Columbia, and 5 US territories). It resulted in billions of dollars being transferred to the plaintiffs, tightening of restrictions on marketing, particularly to youth, and the release of millions of internal corporate documents (Legacy Foundation, n.d.).

young adults. They also recommended that these tailored interventions should be easily accessed and free, and not require them to make and keep any appointments.

As part of their knowledge synthesis, Bader et al. (2007) also convened a young adult smoking cessation expert panel, consisting of 27 researchers, public health and tobacco treatment practitioners, and policymakers. This expert panel recommended that technology-based interventions (e.g., texting and Internet) should be explored for use with young adults. Interestingly, the Bader et al. (2007) young adult focus group did not express particular interest in these interventions.

4.1.2.3 Young adult summary

Young adult smoking rates have dropped in the US and in Alaska over the past several years. Young adults are more likely to make a quit attempt than any other group of adults, and they are more successful than other adults are. Young adults are more likely than older adults to be light or intermittent smokers, which may mean that traditional cessation interventions, aimed at more habituated smokers, may not be as successful with young adults as with older populations. Members of this priority population generally hold a negative attitude toward traditional cessation programs and prefer to quit cold turkey. Young adults are less likely than older adults to have received advice from a health care provider about quitting tobacco. As of 2006, young adults did not express interest in expert-recommended technology-based cessation interventions such as those available via texting or the Internet.

4.1.3 Indigenous specific literature

4.1.3.1 Indigenous disparities

Based on the 2011 National Health Interview Survey ($n=33,014$), the prevalence of smoking in the US American Indian and Alaska Native (AI/AN) population was 1.7 times the prevalence in the general population (Centers for Disease Control and Prevention, 2012a). This report stated that 34.1% of AI/AN people in the United States smoke, as compared to 19.0% of the general population and 20.6% of the white population. The AI/AN smoking rate is also higher than any

other racial or ethnic group, including Black (19.4%), Hispanic (12.9%), and Asian (9.9%), as well as those of mixed race (27.4%) (Centers for Disease Control and Prevention, 2012a).

Indigenous populations worldwide also typically smoke at higher rates than non-indigenous populations. In a 2012 Cochrane report on tobacco cessation in Indigenous populations, Carson et al. (2012) reported that, based on data from national surveys in the 2003 - 2006 timeframe, smoking rates among Indigenous persons were between 51% and 60% in Canada, New Zealand and Australia, and that these rates were approximately double the non-Indigenous rates in each country.

Alaska BRFSS data from 2008 show smoking rates of 43% for AI/AN persons versus 19% for non-Native persons (Leadership for Eliminating Alaskan Disparities, 2011). Redwood et al. (2010) gathered data from the 2004-2006 Navajo Nation and Alaska Education and Research Towards Health (EARTH) Study ($n=11,326$) which included both Southwest US American Indians and Alaska Native people. They reported that cigarette smoking and smokeless tobacco use rates were much higher in the Alaskan arm than in the Navajo arm of the study (32% vs. 8% for smoking, and 18% vs. 8% for smokeless tobacco). However, by reporting Alaska results aggregated across three regions (Southeast, South Central, and the Yukon-Kuskokwim Delta region), regional trends were not illuminated. According to the statewide tobacco program (Alaska Tobacco Prevention and Control Program, 2007b) based on BRFSS data from 2004-2007, statewide smokeless tobacco use was 11% among all Alaska Native adults. While smoking rates are comparable at 31% to 33% across these three regions, regional disparities of smokeless tobacco use rates exist in Alaska, for example 27% in the Yukon-Kuskokwim (Y-K) Delta region versus a rate of 4% in Southeast Alaska (Alaska Tobacco Prevention and Control Program, 2013a).

There may also be a disparity in quantitative research on the effectiveness of cessation programs among Indigenous populations, especially given the disparate burden of smoking. A 2012 Cochrane review of Indigenous cessation literature (Carson et al., 2012), which included 129 full-text articles, found only 43 studies that appeared to be clinical trials, and of these, only four were found to be bona fide randomized control trials. According to the authors, “There is an urgent need for research to assess interventions being funded for use in Indigenous populations, as limited evidence exists for proven intervention effectiveness” (p. 20).

4.1.3.2 Indigenous methods of cessation

As with young adults, there is some evidence that North American Indigenous people do not favor pharmacotherapy cessation aids. Burgess et al. (2007) reported results from six Native American focus groups ($n=26$) that were part of a larger qualitative cessation survey for various ethnic groups in urban Minnesota. Native Americans in this study expressed a preference to rely on willpower but a desire for more information and for more accessible pharmacotherapy. Wardman and Khan (2004), using data from a First Nations and Inuit pharmacy database, reported that pharmacotherapy agents are used less often by First Nation persons residing in British Columbia than by other Canadians.

4.1.3.3 Alaska Native specific studies

Several papers have been published based on a series of qualitative studies of Alaska Native tobacco use in the Y-K Delta region, including cigarettes and smokeless tobacco. These studies were conducted jointly by the Yukon-Kuskokwim Health Corporation, the Alaska Native Tribal Health Consortium, and the Mayo Clinic. The two that are most directly relevant to the research reported in this dissertation are Renner et al. (2004), which reported on attitudes towards tobacco use and cessation across the region for both adolescents and adults, and Patten et al. (2009), which reported the same for adolescents.

The participants in this research anecdotally described smokeless tobacco use in the Y-K Delta region as “almost ubiquitous” (Renner et al., 2004, p.425),

although official reports from the state Tobacco Control Program place the rate in the Bethel Census Area (the Y-K Delta region) as 27% (Alaska Tobacco Prevention and Control Program, 2007a). In a general report on smokeless tobacco use in the Y-K Delta region (Renner et al., 2005), a case was made for the state data collection process having underestimated prevalence. Their concern was that the state data were based on BRFSS, which at that time relied largely on a home landline telephone survey, while the Y-K Delta region population base was less likely than more urban populations to have landline service. However, even at 27%, the disparity is clear, with statewide rates of smokeless tobacco use among adults being only 4% (Alaska Tobacco Prevention and Control Program, 2012).

A homemade form of smokeless tobacco, known as Iqmik, is popular in the region with the general population, including pregnant women. Iqmik is prepared from burnt tobacco and burnt wood fungus (Renner et al., 2005). Commercial smokeless tobacco products are also used in the Y-K Delta region. Commercial smokeless tobacco has been shown to cause esophageal, pancreatic, and various oral cancers; nicotine addiction; and diseases of the gums and teeth (Boffetta, Hecht, Gray, Gupta, & Straif, 2008; Cullen et al., 1986). No clinical studies of the health effects of Iqmik have been conducted; however, a recently reported chemical analysis showed that Iqmik has a higher alkalinity than commercial smokeless tobacco, which increases the speed of nicotine absorption and therefore may lead to stronger addiction (Renner et al., 2005).

Renner et al. (2004) reported attitudes towards tobacco use and cessation, particularly Iqmik, from 12 focus groups conducted with 35 adults and 22 adolescents in Bethel (population approximately 6,000) and three small, remote Y-K Delta villages. These findings included lack of knowledge of the health effects of Iqmik and a lack of knowledge of tobacco cessation techniques. Barriers to quitting reported in this study included social norms, ease of access, and the difficulty of overcoming addiction. Participants reported preferring unaided quitting to any

other treatments. Pregnant women comprised three homogenous focus groups out of the total 12, and over 50% of these pregnant participants reported using smokeless tobacco during their pregnancy.

Patten et al. (2009) reported findings from 12 focus groups conducted exclusively with Alaska Native adolescents ($n = 49$) in three Y-K Delta villages. In this sample, average age 14.6, 69% reported smoking cigarettes, 49% reported using Iqmik, and 20% reporting using commercial smokeless tobacco in the previous 30 days. In addition, 88% reported making at least one quit attempt in their lifetime.

Patten et al. (2009) reported motives for quitting, barriers to quitting, role of others in quitting, preferences for tobacco cessation methods, and the best ways to attract the adolescents to enroll in a cessation intervention. The reported motives for quitting included short and long-term health effects, cosmetic downsides, and the desire to be a good role model for younger family members. Barriers to quitting included the difficulty of withdrawal, the stress relief benefits of tobacco use, and social norms among family and friends. Most thought, however, that their parents, regardless of smoking status, would approve of a quit attempt.

When asked to express their preferences for tobacco cessation interventions, from a list that included counseling, pharmacotherapy, education, and social support, the adolescent participants in Patten et al. (2009) indicated that medication was “the most acceptable strategy” (p. 8). They also stated that social support from friends and family and personal stories would be acceptable. Participants recommended a novel tobacco cessation effort, consisting of fun-oriented events that would feature games and prizes as well as tobacco education and survivor testimonials.

Hensel et al. (1995) was the sole Alaska Native clinical trial mentioned in a recent Cochrane review of Indigenous cessation literature (Carson et al., 2012), and it was excluded from the review for lack of a control group. This observational study, conducted at the Alaska Native Medical Center in 1992 and 1993, reported

quit rates of 30% at three months following a combination counseling and NRT (patch) intervention. Loss-to-follow-up hampered collection efforts with 192 of the original 252 participants available at the three-month mark and only 24 available at the 12-month mark.

4.1.3.4 Indigenous cessation summary

In the US, AI/AN people smoke at significantly higher rates than the general population, and their smoking rate is also higher than any other ethnic group. In Canada, Australia and New Zealand, as well as in Alaska, the smoking rate for the Indigenous population is approximately double the rate of the non-Indigenous population. There is a dearth of quantitative research regarding the effectiveness of cessation interventions for Indigenous populations.

Qualitative research conducted in the Y-K Delta region of Alaska showed that motives for quitting smoking and barriers to quitting were similar to other studied populations. Motives for quitting included social norms, addiction, need for stress relief, and lack of knowledge of cessation techniques. Motives for quitting were reported to be short and long-term health effects, cosmetic downsides, and the desire to be good role models for younger family members.

4.2 Tobacco countermarketing

Mass media campaigns aimed at smoking prevention or smoking cessation are referred to as tobacco countermarketing. There is a large tobacco countermarketing literature base, as evidenced by the more than 400 articles included in a 2008 National Cancer Institute (NCI) monograph about the role of media in tobacco control (National Cancer Institute, 2008). This literature review focused mainly on studies and descriptions of adults' responses to cessation countermarketing, because the priority population in this research is over the age of 18 and currently smokes. This dissertation's countermarketing section relies in part on three major studies (Bala, Strzeszynski, & Cahill, 2008; Durkin, Brennan, & Wakefield, 2012; National Cancer Institute, 2008).

Bala et al. (2008) authored a Cochrane review of 11 randomized and quasi-randomized control trials of mass media tobacco cessation interventions aimed at everyday or some-day smokers ages 25 years or older. The review included several types of media, including television, radio, leaflets, billboards, and posters. Comprehensive programs that included other elements of tobacco control were included only if the specific effect of mass media could be determined from the reported findings. Reviewed studies using both self-reported and chemically verified cessation outcomes were included. Of the 66 studies retrieved, published between 1977 and May 2007, 11 met the inclusion criteria.

National Cancer Institute (2008) is “the most current and comprehensive distillation of the scientific literature on media communications in tobacco promotion and tobacco control” (p. xvii). It was produced by 23 authors and reviewed by 62 external peers. The literature search included papers published between 1970 and May 2007. The five scientific editors represented the fields of marketing, biostatistics, health communication, health promotion, and human behavior. This section of the present literature review pulls primarily from Section 4 of the NCI monograph (pp. 429-546), which deals with tobacco control media intervention strategies and effectiveness.

Durkin et al. (2012) provided an update for both National Cancer Institute (2008) and Bala et al. (2008) by searching the literature through July 2011 using essentially the same search terms as the other two studies. Durkin et al. (2012) included 29 separate papers reflecting 26 distinct studies.

4.2.1 Categories of countermarketing advertising

To compare the effectiveness of various media campaigns, the attributes of each advertisement included in the study must be clearly categorized. There does not appear to be a standard taxonomy of types of advertising used in the countermarketing literature, although many categorizations contain common elements.

Three early taxonomies are from Goldman and Glantz (1998), who outlined eight types; Pechmann, Zhao, Goldberg, and Reibling (2003), who outlined seven types; and Farrelly, Niederdeppe, and Yarsevich (2003), who, based on the two previously mentioned studies, synthesized three major types (*consequences, social norms and imagery, and role models*) each with one or more subtypes. The categories from these three studies are listed in Table 4.2 with similar concepts aligned left to right. Note that these taxonomies are one-dimensional, in that they categorize only the content of the advertisement and do not address format (e.g., testimonial vs. graphic image) or emotional style.

Table 4.2: Early comparative taxonomies of countermarketing
Adapted from (Farrelly et al., 2003), (Goldman & Glantz, 1998)
(Pechmann, 2001).

	Farrelly et al., 2003	Goldman & Glantz, 1998	Pechmann, 2001
Consequences			
Short term	Shortness of breath	Short term effects	Cosmetics
	Yellow teeth		
	Bad breath		
	Financial consequences		
Long term	Disease	Long term effects	Disease and death
	Death		
Family	Consequences to household		Endangers family
	Negative role model to children		
Addiction	Loss of control over life		
Social norms and imagery			
Demoralization	E.g., gross, stupid, unattractive, not cool	Romantic rejection	Smokers' negative life circumstances e.g., being uncool or misguided
Smoking norms	Many don't smoke, individual choice		
Role models			
Smokers as negative models	Personal stories of harm from smoking		
	Celebrity appeals		
Industry and product focus	Negative behavior by industry	Manipulation of consumer by tobacco industry	Manipulation of consumer by tobacco industry
			Marketing tactics
	Chemicals in cigarettes	Addiction	
Secondhand smoke	Short term (social) and long term (health) effects	Environmental tobacco smoke	
Youth access	Highlights illegality of selling to [youth]	Youth access	
[Other]		Cessation	Refusal skills

Contemporary studies began to categorize countermarketing in multiple dimensions. For example, National Cancer Institute (2008), Chapter 11, in discussing the relative effectiveness of television anti-tobacco advertising, categorized advertisements into three dimensions: *informational content*, *emotional content*, and *format* or style. In this study, the informational content of a particular advertisement was categorized as *consequences*, *tips for quitting*, or *anti-industry* information. Emotional content was graded on both emotional level (low to high) and emotional valence (positive, such as pride or joy; or negative, such as fear or disgust). National Cancer Institute (2008) further categorized each advertisement's format as *testimonial*, *scientific evidence*, *graphic image*, *fantasy*, or *slice-of-life*. Using their three dimensional categorization scheme, the NCI researchers graded various advertisements in each studied campaign, which allowed them to compare effectiveness results across several campaigns.

Other studies utilized a variety of categories and did not necessarily rely on any established taxonomy. More contemporary studies again used multi-dimensional categorization. For example, a recent study of young adult responses to countermarketing advertisements (Murphy-Hoefer, Hyland, & Higbee, 2008) categorized their study's advertisements as belonging to one of three categories: *social norms*, *health consequences*, or *industry manipulation*⁹; and one of four emotional styles: *drama*, *negative testimonials*, *humor*, or *positive sarcasm*. A CDC review of 45 studies of youth tobacco prevention from nine countries categorized advertisements included in their study by emotional appeal and message content, format, tone, frequency, and reach (Schar, Gutierrez, Murphy-Hoefer, & Nelson, 2006).

⁹ Industry manipulation is a term used in the countermarketing literature to describe campaigns that expose tobacco industry's deceitful practices in order to make a profit (Goldman & Glantz, 1998).

Davis, Nonnemaker, Duke, and Farrelly (2013) studied whether subjects' reactions to advertising in a research study environment predicted cessation related outcomes such as changes in key attitudes, intentions, and behaviors. In this study, the researchers used a simpler scheme than those noted above, categorizing advertisements as either *want-to-quit* or *how-to-quit*. They further subdivided *want-to-quit* into either type *G*, signifying graphic portrayal of health consequences, or type *T*, signifying emotional personal testimonials depicting family consequences if the smoker should die or become disabled. *How-to-quit* advertisements, in their scheme, depicted tips for quitting that were presumably aimed at self-efficacy concerns.

4.2.2 Evaluation of cessation countermarketing campaigns

Evaluation of cessation countermarketing campaigns is problematic because the decision to quit smoking is complex, establishing a control group is difficult, and many decisions to quit smoking might be rooted in factors other than countermarketing. In addition to, or in place of, measuring actual cessation, a number of evidence-based proxy measures are often used.

4.2.2.1 General difficulties of evaluation

Evaluating the effectiveness of mass media tobacco cessation interventions is challenging, particularly with respect to assigning causality to any favorable outcomes. According to National Cancer Institute (2008), there are five main reasons that countermarketing evaluation is challenging:

- the complexity of media outcomes including short versus long term effects,
- the difficulty of establishing control groups because of the ubiquity of media,
- the potentially long time required for effects to be established versus the practical limitations of campaign evaluation,
- the possibility of effects being selective for certain population segments, and
- the possibility of effects being diffused through the tobacco user's family and friends rather than directly from the advertisement.

Meta-analyses and literature reviews of mass media tobacco cessation studies must contend with the measurement difficulties discussed in section 4.1.1.3, including varying definitions of smokers and varying definitions of cessation.

4.2.2.2 Proxy measures for cessation

Because of the aforementioned difficulties, many evaluations of countermarketing effectiveness do not use cessation as an outcome measure. Other measures used in the literature include advertisement recall, discussion of advertisements, and perceived effectiveness. All of these measures are reported to be predictive of behavior change in both commercial marketing (Hoyer & MacInnis, 2010) and social marketing (Doner, 2003).

For example, in Farrelly et al. (2012), recall of countermarketing advertising and advertising exposure were measured, and both measures predicted cessation. These results indicate that recall and exposure may be reasonable proxies for cessation. Durkin and Wakefield (2006) determined that, for a graphic, highly emotional advertisement, those who discussed the advertisement with others were more likely to express interest in smoking cessation than those who did not discuss it. Thus, priority members' discussion of countermarketing advertisements may also be a reasonable proxy for cessation.

Davis et al. (2013) used a longitudinal Internet survey of US smokers to explore perceived effectiveness, or attitude towards an advertisement. A high-perceived effectiveness indicates that the advertisement seized viewers' attention and was "credible and believable" (p. 2). This study concluded that high-perceived effectiveness for a particular television tobacco countermarketing advertisement was associated with increased consideration of quitting. Thus, the perceived effectiveness of a countermarketing campaign within a specific priority audience might also be a reasonable proxy for actual cessation.

4.2.3 Countermarketing effectiveness

The effectiveness of a countermarketing campaign is related to both its constructs, that is its content and style; and to its context, that is how and how often it is viewed by the priority audience.

4.2.3.1 Countermarketing constructs

Most research indicates that advertisements depicting serious harm in an intense manner are most persuasive. National Cancer Institute (2008) reviewed 11 studies that assessed participant reaction to various advertisement types, using their own categorization as described above in Section 4.2.1. Of these, nine studies found that advertisements that emphasized physical harm in an emotionally evocative way scored best.

Wakefield et al. (2003) authored one of the nine studies in National Cancer Institute (2008) that found strong visceral negative or personal testimonials were most effective. Participants in this study were youth about ages 13 -18¹⁰ from the United States, Australia, and Britain ($n = 615$), who were either currently smoking or susceptible to smoking. Ten different television advertisements were selected by the researchers and categorized by a scheme similar to that used in National Cancer Institute (2008). Wakefield et al. (2003) compiled an effectiveness score for each advertisement based on participants' perceived effectiveness, recall, and whether or not they discussed the advertisement with others. Across all three countries, strong visceral negative and personal testimonials scored highest.

Similar results were also obtained by Murphy-Hoefer et al. (2008), which was not part of the National Cancer Institute (2008) review. Murphy-Hoefer et al. (2008) studied college students from two US commuter colleges ($n=1011$) in geographically diverse locations. Twelve advertisements were graded by the researchers on a two dimensional scale, also similar to National Cancer Institute

¹⁰ The age range is approximate because the samples were based on grade in school, which varies between the three countries.

(2008). Results showed that the most persuasive advertisements described health consequences using a negative emotive style.

In Goldman and Glantz (1998), long and short term health consequences were determined to be the least effective type of countermarketing, and industry manipulation and secondhand smoke were the most effective. These authors developed their conclusions by reviewing the transcripts of 186 focus groups from countermarketing studies commissioned by three different state governments and by reviewing published literature and CDC documents. Pechmann et al. (2003) reported that second hand smoke, being uncool, and refusal skills reduced intentions to smoke in an adolescent population.

Interestingly, these two studies (Goldman & Glantz, 1998; Pechmann et al., 2003) are among those whose taxonomy was described in Section 4.2.1 as being one dimensional. It is possible that the negative health consequences advertisements included in these earlier studies were of low emotional intensity and therefore not as effective as more contemporary negative health consequences advertisements that might provide a higher emotional intensity such as the CDC's Tips from a Former Smoker campaign (Centers for Disease Control and Prevention, 2013).

4.2.3.2 Countermarketing context

Context reflects both the intensity of a priority audience member's exposure to a countermarketing campaign and the circumstances of their viewing. Three studies (Bala et al., 2008; Durkin et al., 2012; Gutierrez, 2007) emphasized that countermarketing advertisement must be of sufficient reach and frequency to be effective. This is compatible with general commercial advertising theory (Kotler & Keller, 2012).

According to Kotler and Keller (2012), reach is the measure of how many people have seen the advertisement. Frequency is the average number of times each person has seen it. Intensity is simply the product of reach and frequency, known as Gross Rating Points, or GRPs. Additionally, there is a measure called Targeted

Audience Rating Points, or TRPs, which is the product of frequency and the number of people in the target, or priority, audience who see the advertisement (Kotler & Keller, 2012). For example, if 1000 people see a tobacco cessation advertisement an average of 15 times, and twenty percent of them are smokers, then the resulting GRP would be 15,000 (1000×15), but the TRP would be 3,000 ($1000 \times 20\% \times 15$).

Regarding the circumstances of viewing, Durkin and Wakefield (2006) reported that placement of a countermarketing advertisement within a reality or game show resulted in higher motivation to quit. While this study was relatively small ($n = 205$), its results were fairly consistent with an Australian analysis of countermarketing TRPs versus 1,769 quitline calls (Carroll & Rock, 2003). This Australian study concluded that advertising placed in game and variety shows, cultural programs, and reality television shows led to a greater increase in quitline calls than did advertising placed in other types of programming such as dramas, comedies, or news. Carroll and Rock (2003) did not calculate the statistical significance of this difference due to small numbers of advertisements placed in some types of programming.

It is notable that the published research focused heavily on television advertising (National Cancer Institute, 2008). Therefore, it is not certain that the findings reported above would apply to other forms of countermarketing such as social media, radio, leaflets, and posters. In the study population of this dissertation, young adults ages 19 - 29, the lack of literature about social media based countermarketing may be significant.

4.2.4 Countermarketing summary

Categorization of countermarketing is not standard, but contemporary taxonomies tend to grade advertisements on both emotional level (low to high) and emotional valence (positive, such as pride or joy; to negative, such as fear or disgust). Taxonomies might also categorize advertisements on approach (e.g., social norms, health consequences, etc.) and emotional style (e.g., drama, humor, sarcasm, testimonials) (Murphy-Hoefer et al., 2008; Schar et al., 2006).

Countermarketing campaigns are difficult to evaluate for reasons that include the long time required for effects to be established, the possibility of multiple paths of diffusion, and the difficulty of establishing control groups because of media ubiquity (National Cancer Institute, 2008). Various evidence-based proxy measures for the effect of countermarketing on cessation are often used in research, including recall, exposure, discussion of advertisements with others, and perceived effectiveness (Davis et al., 2013; Durkin & Wakefield, 2006; Farrelly et al., 2012).

Effectiveness of countermarketing is related to both its constructs, meaning its content and style; and its context, meaning audience exposure and setting the advertisement in which the advertisement is viewed. Regarding constructs, countermarketing advertisements depicting serious harm in an emotionally evocative way were most effective (National Cancer Institute, 2008; Wakefield et al., 2003). Regarding context, increased exposure and appropriate viewing settings such as game or reality shows are positively correlated to countermarketing effectiveness (Bala et al., 2008; Durkin et al., 2012). The countermarketing literature focuses heavily on television advertising, so the researcher must be cautious in applying the concepts to other forms of countermarketing such as radio, social media, and posters (National Cancer Institute, 2008).

4.3 Mobile technology-based intervention literature

Mobile health, or mHealth, is “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, tablets, personal digital assistants (PDAs), and other wireless devices,” according to the mHealth Alliance, founded by the United Nations Foundation, the Rockefeller Foundation, and the Vodafone Foundation in 2009. mHealth is a large and growing worldwide movement, as evidenced by over 4000 individuals from 56 countries attending the 2012 mHealth Summit held near Washington, D.C. (mHealth Summit, 2012).

mHealth has been applied to a diverse set of health areas, including tobacco cessation. Many such interventions are text message based. In the United States, cell phones and texting are heavily used by young adults, with 90% owning a cell phone and 95% of owners sending or receiving text messages (A. Smith, 2010). Thus, the effectiveness of tobacco cessation texting-based interventions is relevant to this dissertation research.

4.3.1 mHealth and general health interventions

The mHealth Alliance commissioned a white paper (Mechael et al., 2010) that included a literature review of mHealth initiatives. From this review of 172 articles and reports, the Alliance synthesized five main applications for mHealth: disease prevention and health promotion, treatment compliance, data collection and disease surveillance, health information systems and point-of-care support tools for health workers, and emergency medical response. Similarly, a 2011 report from World Bank (Qiang, Yamamichi, Hausman, Altman, & Unit, 2011) listed four social goals of mHealth: preventing disease and promoting public health, capturing and using real-time health information, improving healthcare quality and access, and making health sector human resources more efficient.

Two studies (Mechael et al., 2010; Qiang et al., 2011) described several health topics to which mHealth was currently being applied, including exercise and healthy eating promotion, HIV management, prenatal support, diabetes management, and cardiovascular monitoring. According to the US Department of Health and Human Services (DHHS) website, there are at least eight areas in which DHHS is participating in mHealth initiatives: maternal and child care, tobacco control, CDC health alerts, emergency preparedness, asthma and diabetes management, domestic violence, and mHealth privacy (US Department of Health and Human Services, 2013).

Implementation of mHealth for health promotion faces several challenges. Mechael et al. (2010) described language, privacy concerns, and the limitation of 160 characters in a text message as key barriers to widespread implementation of

mobile technology based applications. Qiang et al. (2011) mentioned lack of infrastructure in rural areas and cross-cultural differences such as language and traditional healing as additional challenges to full mHealth deployment. Kumar et al. (2013), described how the rapid evolution of mHealth devices, combined with the relatively long length of time required to evaluate interventions, means that mHealth interventions may be obsolete by the time they are evaluated.

Michael et al. (2010) emphasized that the current state of research “does not provide much evidence for actual and wide-scale health impacts” of mHealth (p. 6). This lack of evidence is corroborated by a 2009 meta-analysis of cell-phone based healthcare applications (Krishna, Boren, & Balas, 2009), in which a total of 25 controlled studies across a spectrum of healthcare areas yielded a median sample size of only 59. Qiang et al. (2011) also mentioned a general lack of outcome data for mHealth interventions, particularly interventions of scale rather than pilots.

In summary, mHealth initiatives have gained extensive attention in recent years and they have been applied worldwide to a diversity of health applications. However, there is not yet a compelling body of evaluation research demonstrating the large-scale effectiveness of mHealth initiatives.

4.3.2 Mobile phone texting-based cessation interventions

The peer-reviewed literature for mobile phone based tobacco cessation appears to be largely limited to design and evaluation of texting interventions. A 2012 Cochrane review (Whittaker et al., 2012) found that only five of their 68 preliminarily considered mobile phone-based cessation studies met their ultimate inclusion criteria of being randomized or quasi-randomized trials, serving smokers who wanted to quit, and reporting six months or greater cessation outcomes. They included:

- a New Zealand study named STOMP (Rodgers et al., 2005) (n=1,705),
- both the pilot (n=200) and final study (n=5,800) of an adaptation of STOMP delivered in the UK (Free et al., 2011; Free et al., 2009),

- the texting-only arm in a multi-arm study comparing the effectiveness of a web-based quit coach and a text messaging intervention (Borland, Balmford, & Benda, 2012) (n=3530; n=756 in texting-only arm), and
- a trial of a video message-based cessation (Whittaker et al., 2011) (n=226).

The primary outcome measure for each of these studies was self-reported point prevalence abstinence for 5 - 7 days, or continuous abstinence, or both, six months post cessation. This Cochrane review (Whittaker et al., 2012) reported a favorable short-term impact of these five programs on a pooled basis. They calculated a Relative Risk (RR) of 1.71 on a pooled basis.

The New Zealand study of the STOMP intervention (Rodgers et al., 2005) was a randomized control study (n=1,705). Information about the national quitline and free NRT was given to all participants, who were randomized to receive either daily text messages with quit support advice, or biweekly text messages thanking them for their participation. Cessation was measured at six weeks and six months. The outcome measure was seven-day point prevalence, with a random 10% of self-reported quitters being biochemically tested. This study found that the texting group was more successful in quitting than the control groups (RR 2.2), and that the results were consistent across age, gender, income, and location.

A UK adaptation of STOMP (Free et al., 2011) was essentially the same as the New Zealand study, with a total of 5,800 participants randomized to intervention or control. They used a slightly different primary cessation measure than Rodgers et al. (2005), defining continuous abstinence at six months as having no more than five cigarettes since quit date. Similar to Rodgers et al. (2005), they found that biochemically verified abstinence at six months was significantly higher for the intervention group (RR 2.2).

In the five studies included in the Cochrane review (Whittaker et al., 2012), only two were specifically aimed at young adults. Whittaker et al. (2011) intended to target young people ages 16 - 25, but their resulting median age was 27. The New Zealand STOMP study (Rodgers et al., 2005) targeted all persons over the age of 15,

but 76% of the resulting sample was between the ages of 16 and 29. The literature on texting-based cessation interventions specific to Indigenous populations is limited. Bramley et al. (2005) reported no significant difference in relative risk of self-reported quitting between Maori ($n=355$) and non-Maori ($n=1350$) in the New Zealand STOMP study (Rodgers et al., 2005).

Research on the effectiveness of smart phone applications does not yet appear in the literature, although a few preliminary papers are laying the groundwork for future research. Whittaker et al. (2011), evaluated a mobile video messaging intervention, but it did not yield strong conclusions due to small sample size and high loss-to-follow-up. Abrams, Padmanabhan, Thaweethai, and Phillips (2011) analyzed 47 iPhone based smoking cessation applications and reported that almost none of them adhered to best practice guidelines such as quitlines, pharmacotherapy, or counseling (Fiore et al., 2008). No formal evaluations of any smart phone applications appear to have been reported in the literature.

In summary, texting for tobacco cessation has been reported as successful in three major randomized control studies with more than 750 participants each. No results from trials of smart phone application trials are yet reported.

4.4 Theoretical basis of smoking cessation interventions

Behavior theorists distinguish between stage and continuum based behavior change theories (Schwarzer, 2008; Weinstein, 1988). This section describes the difference between these two types of theories, and, for each type, describes its basic tenets, its application to smoking cessation, and the trends in current literature concerning the theory's effectiveness in behavior change interventions.

4.4.1 Stage versus continuum theories

Stage theories are those that propose a discrete and predictable progression by individuals addressing health risks through steps, or stages. Common barriers to change occur within each stage and different barriers to change occur across stages (Weinstein, 1988). Continuum theories propose that an individual's likelihood to act

resides along a continuous range reflective of a combination of predictive values such self-efficacy and perceived risk (Schwarzer, 2008).

Weinstein (1988) and Weinstein and Sandman (1992) described the difference between stage based and continuum based theories. According to these authors, continuum theories assume that the probability of individual action is a single algebraic equation, relevant at all times during the behavior change process, while stage theories suggest that the variables of importance differ across stages.

Continuum advocates contend that stage theory artificially creates segments and stage sequences that do not reflect the complexities of human behavioral intentions and actions (Adams & White, 2005; Bandura, 1998). Stage theorists contend that continuum theories concentrate only on pre-behavior change elements and neglect factors that contribute to actual performance and maintenance of the behavior change (Rothman, 2001; Velicer & Prochaska, 2008). Both stage theories and continuum theories have been used as a basis for smoking cessation interventions.

4.4.2 Stage theories

4.4.2.1 Description of stage theories

According to Weinstein, Rothman, and Sutton (1998), there are four defining properties of stage theories: a succinctly specified classification system, prescribed ordering of movement between stages, common barriers within each stage, and different barriers between stages.

The Transtheoretical Model (TTM) is the most widely used stage model (Bridle et al., 2005; Cahill, Lancaster, & Green, 2010). Prochaska, who, together with DiClemente is considered a founder of the TTM, first published this theory in a 1979 book aimed at unifying what he saw as a fragmented proliferation of behavioral change theories (as cited in J. O. Prochaska, Redding, & Evers, 2002). Prochaska, DiClemente and colleagues subsequently published several papers describing the applicability of TTM to smoking behavior, including J. O. Prochaska and DiClemente (1983) and DiClemente et al. (1991).

The TTM includes six stages of change: Precontemplation, Contemplation, Preparation, Action, Maintenance, and Termination¹¹ (J. O. Prochaska et al., 2002). The first three of these stages involve planning for action and the last three involve actual action. In the Precontemplation stage, the subject has no intention of changing behavior in the next six months. Those in Contemplation intend to take action in the next six months, and those in Preparation intend to take action within the next 30 days and have taken some steps toward that end. In the Action stage, the behavior change has been made and maintained for less than six months, while in Maintenance, the behavior change has lasted more than six months. Termination describes a state in which the behavior change has become so habitual that there is no longer a possibility of succumbing to temptation (J. O. Prochaska et al., 2002) .

The TTM also identifies ten processes of change that impact an individual's movement through the six stages. These include elements such as raising consciousness about the potential behavior change, making a firm commitment to change, and recognition of changing social norms in the direction of the behavior change (J. O. Prochaska et al., 2002). TTM postulates that the effectiveness of the various processes depends in part on the individual's current stage of change (Bridle et al., 2005). Also, self-efficacy and decisional balance are major constructs of the TTM (Berry, Naylor, & Wharf-Higgins, 2005).

Some of the TTM's earliest applications were smoking cessation, but it has also been used to develop interventions and predict behavior change across many other behaviors, including alcohol abuse, physical activity, dietary change, HIV prevention, mammography screening, and medical treatment adherence, among others (Bridle et al., 2005; Cahill et al., 2010; J. O. Prochaska et al., 2002).

¹¹ Other references to the TTM stages of change list four stages, excluding Preparation and Termination (DiClemente et al., 1991), or five stages, excluding Termination (Velicer & Prochaska, 2008).

The Precaution Adoption Process model, or PAPM (Weinstein, 1988), is another well-known stage based theory. Three additional stage constructs distinguish PAPM from TTM:

- separation of those who have never considered the behavior change from those who considered taking action but decided not to change,
- separation of those who are undecided about action from those who have already decided to act, and
- inclusion in PAPM of an initial stage that accounts for those who are unaware of the risk and therefore not yet in Precontemplation.

4.4.2.2 Stage theories as applied to smoking cessation

One of the earliest reports of a TTM-based study (DiClemente et al., 1991) involved smoking cessation. The authors, who had already published several papers on the theoretical concepts of the TTM, recruited 1,475 participants in Texas and Rhode Island. Subjects were screened to determine their stage of change (Precontemplation, Contemplation, or Preparation). Within each stage, participants were randomized to one of four minimal interventions, three of which were based on TTM concepts.

Other researchers began to use the TTM as a basis for smoking cessation interventions beginning in the early 1990s, and the model is still in use today. A recent Cochrane review of stage-based interventions for smoking cessation (Cahill et al., 2010) included randomized control trials based on a stage theory that explicitly modified the intervention to fit at least one particular stage of change. The review included 41 studies, 29 of which were published post-1999. The earliest of these studies was reported in 1993 and the latest in 2010. Included studies represented a wide geography, with 22 based in North America, 14 in Europe, 3 in Australia, and 2 in Asia. The number of participants ranged from about 60 to 8,000 (median 875). Each of the 41 studies in Cahill et al. (2010) used the TTM or a slight modification of the TTM.

The present literature review found only one PAPM based smoking cessation intervention (Borrelli et al., 2002) via Google Scholar, MEDLINE, PsycINFO, and PsycARTICLES searches. This comparison of a PAPM-based tobacco cessation intervention versus a current best-practice intervention aimed at Latino parents of asthmatic children (Borrelli et al., 2002) was unable to demonstrate a clinically significant difference in successful quitting.

PAPM is not usually applied to smoking cessation, perhaps because its first stage, complete lack of awareness of the health hazard, is difficult to populate, as most smokers are aware of the dangers of tobacco use (Weinstein & Sandman, 1992). These authors also note that TTM is usually used for difficult-to-change behaviors such as smoking and weight loss, whereas PAPM may be more appropriate for one-time or periodic events such as radon testing or mammography screening.

4.4.2.3 Current research regarding stage theories

In the study discussed in Section 4.4.2.2 (DiClemente et al., 1991), the authors reported what they described as compelling results. In one-month posttests, 56% of the Preparation group made a 24-hour quit attempt, while only 8% of the Precontemplation group did so. In six-month posttests, 80% of the Preparation group made a 24 hour quit attempt versus 48% of Contemplators. The authors claimed that these results were impressive because “there was not one instance in which the ordering of the effects was contrary to prediction” (p. 301).

Interventions based on stage of change may not result in better outcomes than a standard intervention. Recent systematic reviews of TTM-based studies have concluded that there is only weak evidence to support various TTM constructs. Bridle et al. (2005) conducted a systematic review of 37 stage-based randomized control trials across seven different health behaviors, including 13 smoking cessation trials, and found limited evidence supporting the effectiveness of stage based intervention. Both the Cochrane meta-analysis of 41 TTM based smoking

cessation randomized control trials (Cahill et al., 2010) and a 2003 systematic review of stage based interventions (Riemsma et al., 2003) found weak evidence supporting stage based intervention effectiveness.

Herzog (2008) analyzed 15 TTM-based studies according to the four defining properties of stage based theories developed by Weinstein et al. (1998), noted above. Herzog (2008) reported that, according to the Weinstein et al. criteria, the TTM does not even qualify as a stage based theory because its categories are not qualitatively distinct and the progression between stages is not specified. This author further stated that much of TTM research is weak because many interventions are not based on TTM's ten processes of change, many do not use the standard definitions of the stages, and there is a lack of comparison studies between TTM and other theory-based interventions. Also, the methodological rigor of TTM research has been criticized as relying too heavily on cross-sectional studies rather than randomized trials (Bridle et al., 2005) and by relying on non-validated instruments (Bridle et al., 2005; Sutton, 2005).

Adams and White (2005) discussed how the TTM failed to predict behavior change in a particular physical activity intervention. Brug et al. (2005) invited six scholars' comments on the anti-TTM sentiment in Adams and White (2005). Many of these scholars agreed that, while some standard instruments exist for measuring the TTM stages, the initial construction of TTM was not rigorous. All agreed that systematic reviews have been inconclusive at best regarding the TTM's predictive validity.

Other authors have taken even stronger stands against TTM, suggesting the time to retire the theory has come. Whitelaw, in Brug et al. (2005), was critical of the state of TTM evidence literature, describing it as a "situation of utter confusion and entrenched dispute" in which the participants "argue about meaningless conceptual or methodological minutiae" (p. 254). West (2005) declared, "The problems with the model are so serious that it has held back advances in the field of health

promotion and, despite its intuitive appeal to many practitioners, it should be discarded” (p. 1036).

Articles criticizing TTM, however, also argue that stage based theories in general should not be abandoned and that research should continue to evaluate the effectiveness of stage based theories using more rigorous controlled studies (Adams & White, 2005; Brug et al., 2005). Riemsma et al. (2003), concluded his report on the weak evidence supporting the validity of stage-based theories by saying the weakness “could be due in part to problems with the way in which stage based interventions have been used or implemented in practice rather than to problems with the model” (p. 1177).

4.4.2.4 Summary of stage theories

The TTM has been used extensively in many health behavior interventions since the 1980s. Its earliest uses included smoking cessation, and it is still a popular model for many interventions. While once heralded as a major step forward in behavior change theory, it has recently come under criticism for having been developed without rigorous analysis of its stages. TTM-based research has also been criticized for lacking validated instruments and outcomes based on randomized controlled trials.

4.4.3 Continuum theories

Two major intrapersonal continuum theories with potential applicability to smoking cessation interventions are the Theory of Reasoned Action (TRA) and the associated Theory of Planned Behavior (TPB) (Madden, Ellen, & Ajzen, 1992; Montano & Kasprzyk, 2002). These two theories were selected for discussion in this literature review because of their potential applicability to the SEARHC goal of increasing the proportion of young adult smokers who use the tribal resources to assist their quit attempts.

4.4.3.1 Description of Theories of Reasoned Action and Planned Behavior

TRA and TPB are both concerned with the relationship between an individual's attitudes, intentions, and behaviors (Figure 4.1). According to (Montano & Kasprzyk, 2002), TRA's unique contribution to behavior change theory was separating an individual's attitude towards an object (e.g., lung cancer) from that individual's attitude towards a behavior related to that object (e.g., quitting smoking). In TRA, the attitude towards the behavior is more predictive of eventual action than the attitude towards the object (Montano & Kasprzyk, 2002).

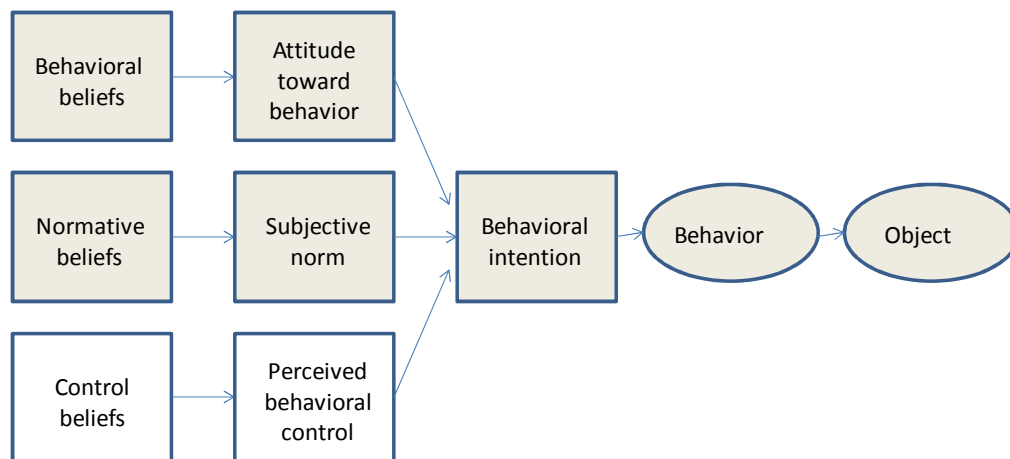


Figure 4.1: TRA/TPB theories
Upper shaded section: TRA; entire figure: TPB.
Adapted from (Montano & Kasprzyk, 2002).

TPB was proposed as an addition to the TRA by Ajzen (Ajzen, 1991). TPB includes the constructs of the TRA and further proposes a construct, perceived behavioral control, to account for factors outside personal control that might impact intention and thus behavior. Perceived behavioral control comprises both self-efficacy, which is a construct in other behavior change theories such as the TTM, and one's belief that the event is in fact controllable (Ajzen, 2002).

Both TPB and TRA assume that one's intention to perform a behavior is the primary proximal determinant of whether or not that behavior is performed. Behavioral intention is driven by two forces in the TRA and by three forces in the TPB. In both theories, intention is driven by attitude towards the behavior and

subjective norms. Additionally, in the TPB, intention is driven by one's perception of behavioral control.

4.4.3.2 TRA and TPB as applied to smoking cessation

The literature regarding the application of TRA and TPB to smoking cessation is not as robust as for TTM. A 2001 meta-analysis of the efficacy of TPB (Armitage & Conner, 2001) included 161 articles covering many behavioral changes, of which only eight articles related to smoking. Similarly, a 2002 systematic review of TPB studies (Hardeman et al., 2002) included 30 papers, only one of which was related to smoking. In both of these review articles, non-addictive behaviors such as condom use and food choice and health behaviors such as breast and testicular self-examination dominated. The dearth of tobacco-related TRA/TPB literature has not improved, as demonstrated by a more recent 2010 meta-analysis of 206 TPB-based studies (McEachan, Conner, Taylor, & Lawton, 2011) of which only 11 related to smoking.

Norman, Conner, and Bell (1999) conducted a study to validate the TPB's ability to predict adult smoking cessation ($n=84$). In addition to the standard TPB constructs, they also assessed perceived susceptibility and past cessation attempts as drivers of behavioral intention and behavior change. Results showed that the additional constructs they tested correlated with behavioral intention of the TPB constructs, but of the standard TPB constructs, only perceived behavioral control was correlated with behavior change.

In a UK study of the applicability of the TPB to adolescent smoking behavior (McMillan, Higgins, & Conner, 2005), researchers found all of the components of TPB correlated with intention to quit smoking, as predicted. They also included additional constructs in their study, including moral norms, that is, what one perceives as right; descriptive norms, that is, what one perceives influential others are doing; and anticipated affective reactions, in this case anticipated regret. Each of

these additional constructs proved to predict behavioral intentions among the adolescents in the study, but not necessarily the behavior itself.

According to Hardeman et al. (2002), most TPB smoking cessation studies aim to validate the predictive power of the TPB/TRA model while neglecting to address ways to impact the theory components via behavior change intervention. One exception in the TPB smoking cessation literature is McMillan et al. (2005), which included a single paragraph listing potential methods for targeting TPB elements such as attitudes, subjective norms, and perceived behavioral control.

4.4.3.3 Current research attitudes towards continuum theories

Currently, TRA and TPB appear to be less controversial than TTM, as reported in both meta-analyses and individual studies. Ajzen (1991) reviewed 16 TRA/TPB studies published between 1985 and 1990 that reported on activities as diverse as playing video games, voting, and losing weight. The review did not systematically examine the rigor or methods of the studies, thus there was no attempt at pooling the data. In the conclusion section, this author stated that attitude toward the behavior, subjective norms, and perceived control - the three precepts of TPB - are “usually found to predict behavioral intentions with a high degree of accuracy” (p. 206).

Armitage and Conner (2001) performed a meta-analysis of 161 studies of TPB effectiveness, also across diverse behaviors. They examined the differential effect of each component relationship, e.g., subjective norm to intention, perceived behavioral control to intention, and intention to behavior. They reported that each component relationship involved (per Figure 4.1) in the TPB was validated by the meta-analysis.

The predictive value of TPB has been investigated in the literature. The most contemporary meta-analysis of TPB (McEachan et al., 2011) included 206 articles. These authors found that, while the predictive value of each TPB component was significant, the components were not necessarily independent as postulated in the theory. They found that the intention-behavior link was the strongest, but they

reported finding weaker effects for each component relationship (see Figure 4.1) than did earlier meta-analyses. Two individual studies (Godin, Valois, Lepage, & Desharnais, 1992; Norman et al., 1999) found that perceived behavioral control was the most important predictor of behavioral intention. McMillan et al. (2005) reported that, in most TPB smoking cessation studies, subjective norms were weak or non-significant predictors of behavioral intention.

Two weaknesses of TPB are occasionally mentioned in the literature. McEachan et al. (2011) and McMillan et al. (2005) stated that the TPB model was more strongly correlated to self-reported than to validated behavior change, so correlation to actual behavior change may be suspect. In addition, according to both McMillan et al. (2005) and Moan and Rise (2005), studies of TPB validity often show stronger evidence for the effect of attitude, subjective norms, and perceived behavioral control on behavioral intentions than they show for the effect of behavioral intentions on actual behavior. Moan and Rise (2005) further stated that difficult behavior change situations such as smoking may further weaken the intention-behavior connection.

4.4.3.4 Summary of continuum theories

The continuum theories TRA and TPB have been used extensively in health behavior interventions since the 1980s. Smoking cessation is not the major behavior targeted by TRA/TPB interventions; such interventions are used for less complex behaviors such as condom use, recycling, and cancer screening. Research into the predictive value of the TRA/TPB constructs has generally yielded positive results, but many studies have added additional constructs to the model, such as moral and descriptive norms, previous behavior change attempts, and anticipated affective reactions. Some researchers have established that the connection between behavioral intention and actual behavior change in the TRA and TPB is not as strongly demonstrable as the other relationships in the model.

4.4.4 Summary of the theoretical basis of smoking cessation

Both the TTM and the TRA/TPB theories of behavior change are applicable to smoking cessation. The TTM, in particular, has been applied to many smoking interventions over the past 20 years, although the theory itself is beginning to fall out of favor among some scholars. The TRA/TPB theories are also applicable to smoking cessation, although they have not been reported as the theoretical framework for as many tobacco-related interventions as the TTM.

4.5 Social marketing

4.5.1 History and status of social marketing

Social marketing can be defined as “the use of marketing to design and implement programs to promote socially beneficial behavior change” (Grier & Bryant, 2005, p. 5). Social marketing has been applied to public health interventions since the 1970s, when a pioneering paper, co-authored by commercial marketing authority Philip Kotler (Kotler & Zaltman, 1971), was published. This paper proposed that the “principles of marketing analysis, planning, and control” (p. 3) could be applied to problems of social change.

Social marketing, like commercial marketing, is not a theory (M. Stead, Gordon, Angus, & McDermott, 2007). It is instead a framework for building an intervention, which in turn can be built on behavior change theories, including TRA/TPB or TTM (Lee & Kotler, 2011).

Social marketing now commands two dedicated scholarly journals (Journal of Social Marketing, n.d.; Social Marketing Quarterly, n.d.), three international listservs, one international and several regional and national professional societies, and graduate level specializations in several universities worldwide. The 2013 biennial World Social Marketing Conference attracted several hundred attendees from Europe, Africa, Asia, North and South America, and Australasia (C. Bryant, personal communication, June 12, 2013). Social marketing articles are published in journals from other disciplines as well, for example psychology, business, public health and medicine (Andreasen, 2002; Hastings, Stead, & Webb, 2004; Peattie &

Peattie, 2009; Sly, Heald, & Ray, 2001; F. L. Wong, Greenwell, Gates, & Berkowitz, 2008). Healthy People 2020 called for increased use of social marketing in public health departments, increased offering of social marketing instruction in Master of Public Health programs, and increased workforce development in social marketing (Health Communication and Health Information Technology objectives, HC/HIT 13; (Healthy People 2020, 2010).

Examples of prominent social marketing campaigns include the CDC's VERB™ childhood physical activity campaign (F. Wong et al., 2004), the American Legacy Foundation's EX tobacco cessation campaign (McCausland et al., 2009), and an anti-malarial mosquito-netting campaign sponsored by a pan-African consortium, Roll Back Malaria (Baume & Marin, 2008). Other social marketing campaigns have targeted behavior changes as diverse as composting, traffic safety, personal savings, scooping-the-poop, family planning, and oral rehydration (Lee & Kotler, 2011).

4.5.2 Relationship of social marketing and behavior change theories

Similar to commercial marketing, which is based in part on psychological theories of human behavior (Hoyer & MacInnis, 2010), social marketing also incorporates theories of behavior change, such as the TTM and the Theories of Reasoned Action and Planned Behavior described in Section 4.4. According to Lefebvre (2013), theory can be applied at several social marketing decision points, including choosing what problem to address, how to segment the population, what questions to ask in formative research, what program strategies and tactics to use, and what benefits and barriers are most crucial to address (p. 78).

For example, the TTM may inform, in a social marketing-based smoking cessation intervention, either the selection of the target population (e.g. those in pre-contemplation or those in contemplation stages) or the design of the product strategy (e.g., treating those in action differently than those in maintenance). Similarly, the Theory of Planned Behavior may inform a social marketing promotion

strategy (e.g., emphasis on the development of social norms) or a product strategy (e.g., skill development to improve perception of control).

It should be noted that, while social marketing is considered a framework rather than a theory, there are parallels between some of its elements and elements of particular behavior theories. For example, the social marketing emphasis on barriers and benefits is similar to the TTM concept of decisional balance (DiClemente et al., 1991), as both relate to the process of weighing the benefits and costs prior to making a behavior change. As another example, the social marketing concept of place is related in part to the TTM concept of helping relationships, in that both attempt to place the person making the behavior change into an environment conducive to that change.

4.5.3 Relationship of commercial marketing and social marketing

In an overview of the history and implications of social marketing as a discipline, (Andreasen, 2003) described social marketing as:

the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of . . . society (p. 296).

Unlike commercial marketing, which is typically aimed at profit making, social marketing is specifically aimed at voluntary behavior change to improve the welfare of an individual and, in many cases, of society. Prominent among the commercial marketing concepts adopted by social marketing (Grier & Bryant, 2005) is the *marketing mix, exchange theory, audience segmentation and targeting, audience research, and competitive analysis*.

4.5.3.1 Marketing mix

Marketing mix in commercial marketing is a broad term meaning the “mixture of controllable marketing variables” used by the firm to pursue sales (Kotler, 1984, p.68). Examples of these variables are product features, list price, discounts, warranties, advertising, sales force structure, couponing, and retail and

wholesale arrangements (Kotler & Keller, 2012). In commercial marketing, these variables have traditionally been grouped into what is known as the 4Ps, price, product, place, and promotion. The 4P scheme in commercial marketing was originally popularized in a 1960s basic marketing textbook by E. J. McCarthy (as cited in Kotler, 1984).

4.5.3.1.1 Marketing mix in commercial marketing

According to Kotler and Keller (2012), today's commercial marketing 4Ps are defined as:

- Price: What the consumer pays, in monetary terms, for the product. Examples of marketing variables included are list price, warranties, and discount structure.
- Product: The physical product or service together with optional auxiliary services, for example a new car together with free maintenance for 12 months.
- Place: What channels, or pathways, the product goes through before reaching the consumer, for example any combination of retail outlets, wholesale arrangements, and Internet sales. Place includes deciding which locations will carry the product and how logistics such as inventory and transportation will be handled.
- Promotion: How consumers become aware of a product and come to desire and eventually purchase it. Promotion includes, for example, advertising, personal selling, publicity, event sponsorship, and social media (e.g., Facebook.).

The definitions of the 4Ps were virtually unchanged between the very early and the most recent editions of the standard reference textbook, *Marketing Management* (Kotler, 1984; Kotler & Keller, 2012). New marketing variables have been developed since 1984 and have been subsumed under the existing 4Ps. For example, for the product, place, and promotion Ps, respectively, virtual products

such as smart phone apps have been developed, the Internet has emerged as a new channel of distribution, and social media has become an important method of marketing and advertising.

4.5.3.1.2 Marketing mix in social marketing

Social marketing adopted the 4Ps marketing mix framework and has refined the definitions to apply to behavioral change as follows:

- **Price:** The use of monetary and non-monetary incentives and disincentives for adopting the designated behavior change (Lee and Kotler, 2011). The social marketer designs the intervention in a way that increases the benefits and decreases the costs of the behavior change. For a tobacco cessation intervention, the social marketer might highlight monetary savings and the non-monetary health benefits of quitting, while working to decrease the non-monetary costs of quitting, such as loss of social ties and increased stress.
- **Product:** Three forms: core product, actual product, and augmented product (Grier & Bryant, 2005; Lee & Kotler, 2011). The core product is the benefit, from the customer's perspective, of adopting a behavior change. The actual product is the desired behavior change, and the augmented product includes goods and services, or both provided by the social marketing campaign to facilitate the behavior change. For example, in a tobacco cessation intervention, the core product might be improved stamina, the actual product would be quitting tobacco, and the augmented product might be individual counseling and free nicotine patches.
- **Place:** includes two concepts:
 - where the priority audience performs the behavior and where it acquires related goods and services (Lee & Kotler, 2011). For example, for tobacco cessation, place would include where a priority audience member might choose to smoke or not smoke, for example at home after morning coffee or at a party, and

- where the counseling service is offered, for example a health clinic, and where the client would procure pharmaceuticals, for example at the clinic or a local pharmacy.
- Promotion: refers to the development of persuasive communications designed to convey the product, price, and place strategies (Grier & Bryant, 2005). It is very similar to the promotion concept in commercial marketing. For example, for a tobacco cessation intervention, the promotional strategy might include the development of logos and slogans, the specification of print, television, web, or radio advertising, and the selection of public relations opportunities such as conducting seminars or sponsoring a local sporting event.

4.5.3.2 Exchange theory

Exchange theory (Emerson, 1976) as related to commercial marketing postulates that, before purchasing goods or services, consumers evaluate the tangible (i.e. monetary) and intangible costs of the exchange (e.g., time, stress) and weigh these costs against the tangible and intangible benefits of the exchange. A purchase is made only if the benefits outweigh the costs. For example, for the purchase of a new car from a dealership, cost clearly includes the tangible monetary outlay, but intangible costs might include the price of the car, the time to shop at multiple retail outlets, and the stress of negotiating. The tangible benefits of the new car would include reliable transportation, while the intangible benefits might include status derived from a particular brand. Exchange theory further states that the consumer would purchase the car only if, from his or her personal perspective, the benefits outweighed the costs.

Exchange theory as applied to social marketing is congruent to its application to commercial marketing, in that the priority audience member weighs the tangible and intangible costs of making the behavior change versus the tangible and intangible benefits of making the behavior change. For example, for a smoker, the

intangible costs of quitting might include experiencing withdrawal symptoms, gaining weight, and loss of peer approval. The tangible benefits might include having more disposable income, better health in the short- and long-term, and being a positive role model in the family or community. According to exchange theory, the smoker would only quit smoking if, from their personal perspective, the benefits outweighed the costs.

4.5.3.3 Audience segmentation and targeting

Audience segmentation is key in both commercial and social marketing (Kotler & Keller, 2012; Lee & Kotler, 2011). In both forms of marketing, a market is divided by various demographic, geographic, and behavioral characteristics. For example, in a commercial setting, long-term care insurance would typically be marketed to people of a certain age and income, while eco-tourism might be marketed based on ecological orientation and income.

In social marketing, a tobacco cessation campaign might be marketed to those in the contemplation stage-of-change, while a living will campaign might be marketed to baby boomers. Segmentation allows the marketer to tailor a campaign specific to that segment's needs and wants (Kotler & Keller, 2012). Targeting is the process of identifying which segment or segments are the most preferable to serve. In commercial marketing, the process of targeting is virtually always based on a return-on-investment (ROI) analysis that quantifies the potential financial benefit of addressing each segment (Kotler & Keller, 2012). According to these authors, elements such as profitability, accessibility, market size, and market growth over time are considered in the ROI analysis

In social marketing, the priority market(s) can similarly be selected by analyzing the prospective segments' ROI, although the practice is not as ubiquitous as it is in commercial marketing. A social marketing ROI analysis should include total costs of the campaign and, for the target behavior change, the prevalence of the behavior, cost per changed behavior, and monetary benefit per changed behavior (Lee, 2011). The monetary benefit per changed behavior is difficult to calculate and

is therefore grossly estimated in most social marketing projects that attempt a return on investment analysis (Lee, 2011).

4.5.3.4 Audience research

Audience research is a mainstay of commercial marketing, including both qualitative methods such as focus groups and interviews and quantitative methods such as surveys and data mining, which is the statistical analysis of detailed purchase behavior data captured by a company's information management systems (Hoyer & MacInnis, 2010; Kotler & Keller, 2012). Commercial marketers strive to understand their customers' wants and needs, their buying behavior, and their thought processes relative to purchasing or not purchasing the firm's goods and services. This understanding helps the commercial marketer to craft appropriate products at an appropriate price and to build a distribution (place) strategy and promotion strategy that will reach the firm's audience.

Social marketing also emphasizes audience research, using both qualitative and quantitative methods to understand the priority audience's perspectives of the benefits of their current behavior, the potential benefits of the desired behavior change, and the barriers to change (Grier & Bryant, 2005). Social marketing audience research also investigates preferences for behavior change support and delivery of support (place) and promotional messages (Grier & Bryant, 2005). Analogous to commercial marketing practices, social marketers use audience research to craft the 4Ps marketing mix.

4.5.3.5 Competitive analysis

In commercial marketing, firms often devote considerable resources to understanding their competitors' strategic direction, financial position, and strengths and weaknesses (Kotler & Keller, 2012). This understanding then allows them to develop counter-strategies to their competitors' projected market moves, such as price changes, new product introduction, new distribution strategies, or new promotional campaigns (Porter, 2008).

Social marketers likewise must understand the competition to their targeted behavior change, which is typically a behavior that the priority audience would prefer over the behavior being championed by the social marketer. For example, to develop a social-marketing based tobacco cessation campaign, a social marketer must understand the benefits and the disadvantages of smoking, the effect of habit and addiction on his or her priority market's smoking patterns, and the marketing strategies of tobacco companies.

4.5.4 Effectiveness of social marketing

Two meta-analysis studies were reviewed (Gordon, McDermott, Stead, & Angus, 2006; M. Stead et al., 2007). Both employed strict inclusion criteria, including adherence to six benchmark criteria proposed by Andreasen (2002): behavior change, consumer research, segmentation and targeting, marketing mix, exchange theory, and competitive analysis.

M. Stead et al. (2007) included 54 studies across a range of topics, including tobacco cessation, alcohol abuse and physical activity. Intervention design ranged from simply mass media to complex multi-component campaigns that included mass media, community and family activities, and policy change. The authors reported "reasonable evidence that interventions developed using social marketing principles can be effective," especially for alcohol and drug abuse and youth tobacco prevention (p. 30). Evidence for effectiveness in adult smoking cessation was mixed and evidence for positive physical activity outcomes was modest. Of the 30 smoking-related studies, 21 targeted youth prevention and 9 targeted adult cessation.

Gordon et al. (2006) reported on three separate reviews of social marketing effectiveness covering diet and nutrition, physical activity, and substance misuse (including tobacco). Strong evidence was found that social marketing interventions are effective for increasing fruit and vegetable consumption, improving physical activity and nutrition knowledge, and preventing smoking and drug use. Evidence was weak for smoking cessation interventions and for diet and exercise impact on

Body Mass Index¹² reduction. Of the 34 smoking-related studies included in Gordon et al. (2006), 9 targeted adult cessation, 19 targeted youth prevention, and seven targeted policy change.

4.5.5 Summary of social marketing

Social marketing is a widely used framework for designing behavior change interventions in public health, environmental protection, and financial well-being (Lee & Kotler, 2011). Social marketing adopted and then tailored many principles of commercial marketing, including the marketing mix, exchange theory, audience segmentation and targeting, audience research, and competitive analysis (Grier & Bryant, 2005). Recent meta-analyses (Gordon et al., 2006; M. Stead et al., 2007) have shown true social marketing interventions are effective for some health behavior changes, including increasing fruit and vegetable consumption and preventing smoking and drug use, but the evidence is weaker regarding smoking cessation and diet and exercise impact on BMI.

¹² Body Mass Index, or BMI, is a commonly used indicator of obesity. It is body weight in kilograms divided by the square of height in meters. Normal BMI range is 18.5 – 24.9 (Centers for Disease Control and Prevention, n.d.-a).

5 Phase 1 Activities and Findings

This study used a two-stage study design, heavily based on qualitative methods. This chapter describes the methods and findings of the first phase.

Phase 1 was designed to inform the design of Phase 2. The aim of Phase 1 was to test four elements of study design:

- recruiting methods,
- the informed consent form and process,
- the demographic questionnaire, and
- the wording and completeness of the semi-structured interview guide questions.

Six semi-structured individual interviews with key informants, who were members of the priority population, were conducted over three days (November 2-4, 2011). Tobacco use initiation, habits, attitudes, and cessation attempts were explored and data related to the above aims were collected.

Interviews were limited to 60 minutes, based on SEARHC experience with members of this population and the suggestion in Krueger and Casey (2009) that research conducted with younger populations be designed for short time periods (p. 158).

5.1 Phase 1 Activities and Methods

5.1.1 Dissertation committee Phase 1 activities

The dissertation committee met in March 2011 to review the research proposal prior to the IRB submission. The proposal, which included background, goals, and objectives as well as a short literature review and a high-level description of the methods, was emailed in advance. A companion Powerpoint® presentation was used to guide the discussion. The committee agreed to the proposal, and provided helpful guidance on expanding the literature review and on separating Phase 1 from Phase 2 in the IRB submission process.

Prior to the submission of the UAF and Alaska Area IRB documents, the two co-chairs (EL and RJ) commented extensively on the applications and protocols.

Their suggestions included increasing the maximum sample size, modifying the inclusion criteria in a way that would not require screening instruments, describing the participation incentive more thoroughly, modifying the demographic questionnaire, and clarifying the relationship between Phases 1 and 2.

5.1.2 Research team structure and methods

The research team consisted of the Anchorage-based lead researcher (KA); the Sitka-based SEARHC Tobacco Program manager (AT); and two Juneau-based Tobacco Program staff, health promotion specialist (ER) and tobacco counselor (RR). The researcher was responsible for organizing the meetings, producing all input (e.g., draft semi-structured interview guide), taking notes, and following up on action items assigned to each research team member. The SEARHC team's role was to collaborate in all major decisions, obtain funds to cover the researcher's travel, and complete SEARHC- or Juneau-specific action items. All meetings were held via conference call, with agendas emailed in advance. Computer-based notes documenting discussion, decisions, and action items were taken by the lead researcher and distributed via email to all research team members after each conference call.

During the five months prior to the Phase 1 interviews, the lead researcher prepared drafts of the semi-structured interview guide, the demographic questionnaire, and the recruiting materials. These drafts were discussed by the research team during the conference calls as described in subsequent sections. The researcher incorporated the team's decisions and re-sent the materials for review. When substantial changes arose, a second conference call was scheduled to review the updated materials.

5.1.3 Interview guide development

Phase 1 interviews used a semi-structured interview guide that was developed specifically for this study and interview questions explored three of the four Ps of social marketing (price, product, and place) (Lee & Kotler, 2011). The

fourth P, promotion, was deferred to Phase 2 for reasons described in Section 5.1.3.2.

5.1.3.1 Interview guide development process

Interview guide development was informed by a review of the literature, including general and social marketing textbooks and social marketing scholarly articles reporting research based on focus groups. Textbooks included Hesse-Biber (2010), Krueger and Casey (2009), Ulin et al. (2004), and Lee and Kotler (2011). Social-marketing formative research reports included MacAskill, Stead, MacKintosh, and Hastings (2002), McCausland et al. (2009), and Roddy, Antoniak, Britton, Molyneux, and Lewis (2006).

The researcher developed the first draft of the Interview Guide. Questions were designed using the “Qualities of Good Questions” checklist in Krueger and Casey (2009) and principles of social marketing (Lee & Kotler, 2011). A mock interview was conducted with a subject from outside the priority population to time the interview and refine the wording of the questions. The researcher then reviewed the Interview Guide with SEARHC team members, first via email and subsequently in a conference call. The research team discussed the wording and completeness of the questions.

Based on the mock interview and SEARHC’s experience with reticence in this priority population, and consistent with recommendations in Krueger and Casey (2009), the warm-up question was changed from asking about smoking initiation to a more welcoming, “Tell me a little bit about yourself, where you’re from, and what you like to do.”

Based on the mock interview and the knowledge that the smokeless tobacco usage rate in Southeast Alaska was 4% (Chronic Disease Prevention and Health Promotion, 2013), the research team concluded that the continuous use of the somewhat awkward phrase “using tobacco” was usually not necessary. Agreement

was made that the phrase “smoking” would be used in place of “using tobacco” unless the key informant used smokeless tobacco exclusively and had not smoked.

5.1.3.2 Incorporation of social marketing concepts

Price in social marketing is the weighing of benefits versus disadvantages, or costs, of a behavior change (Lee & Kotler, 2011). This comparison of benefits versus costs is known as perceived value (Kotler & Keller, 2012). The perceived value of quitting smoking was investigated in the Phase 1 research by querying the key informants about their perception of the benefits and disadvantages of smoking, the benefits of quitting, and the barriers associated with quitting. Other than the cost of cigarettes, most elements of price in this study were expected to be intangible, such as, on the cost side, social norm violations and withdrawal symptoms, and on the benefit side, improved health and better role modeling for children (Bader et al., 2007; De Gruchy & Coppel, 2008; Foraker, Patten, Lopez, Croghan, & Thomas, 2005).

Price-related questions and probes in Phase 1 included:

- What things in your life make you (made you)¹³ smoke more?
- What effect does smoking (quitting) have on your life now?
- What do you (did you) see as the benefits of smoking?
- What do you see as the disadvantages of smoking?
- What, if anything, makes you (made you) think about quitting?
- What do you see as the benefits of quitting?
- What seems (seemed) hard about quitting?
- What keeps you (kept you) from quitting?

Product, in social marketing terms, means products or services, or both, and consists of core, actual, and augmented product (Lee & Kotler, 2011). The core product is the underlying health benefit of the behavior, in this case improved lung health. The actual and augmented products are the products and services used to accomplish the behavior change, in this case the SEARHC Tobacco Cessation

¹³ Parenthetical expressions were used if the interviewee was a former rather than a current smoker.

Program and associated products such as pharmacotherapy. Product concepts were explored in the Phase 1 interviews via questions about cessation methods the key informants had tried and ideas for cessation support methods in the future.

Specifically, they were asked

- How did you go about trying to quit?
- What do you think might work better? and
- If you were to try to quit smoking in the future (If you imagined yourself as a tobacco user again), what ways, if any, might you want to be supported?

Place, in social marketing, is the delivery system for the intervention, including where, how, and when the priority market will perform the new behavior (Lee & Kotler, 2011). In this case, place would include the location the cessation service would be delivered. SEARHC was unable to consider moving the location of the counseling service from their Juneau clinic to an offsite location, for budgetary reasons; however, social marketing place also includes how the service is delivered. Based on the literature (Rodgers et al., 2005; Whittaker et al., 2009), the research team believed that parts of the cessation service might be redesigned to include electronic communications such as the Internet, texting, smart phone apps and social media. This electronic concept of place was explored by asking key informants, "What are your preferred ways of communicating with friends and family?"

Promotion was not explored in Phase 1. The research team believed that the promotion strategy would be more straightforward than the other three social marketing Ps. Based on both the mock interview and the social marketing experience of the researcher, the team decided to explore just the price, product, and place in depth rather than address all four Ps more superficially in the limited time available.

5.1.3.3 Semi-structured interview guide

The resulting structured interview guide (Appendix E) included nine primary questions, each with three to four probe questions to be used to deepen the conversation, if necessary. The nine primary questions were customizable depending on whether the interviewee was a current or former tobacco user:

1. Tell me a little bit about yourself, where you're from, and what you like to do.
2. What were the top one or two reasons for you starting to smoke?
3. How would you describe your smoking habit now?
4. What things in your life make you (made you) smoke more?
5. How do you feel now about smoking?
6. What, if anything, makes you (made you) think about quitting?
7. What experience do you have with quitting?
8. If you were to try to quit tobacco in the future (If you imagined yourself as a smoker again), what ways, if any, might you want to be supported?
9. What are your preferred ways of communicating with friends and family?

5.1.4 Demographic questionnaire development

The first draft of the demographic questionnaire was developed in a conference call setting. Because the research used elements of grounded theory (Strauss & Corbin, 1994) rather than incorporating a behavior change theory related to specific key informant characteristics, such as the Transtheoretical Model (J. O. Prochaska & DiClemente, 1983), the most common elements of demographic segmentation were used (Kotler & Keller, 2012). These elements included employment, education, income, number of children in household, and marital status. Smoking status, age of initiation, and use of smokeless tobacco were also selected, in order to correlate responses to current tobacco use status.

Exact wording of the questions was informed by the experience of the researcher and the SEARHC team members. The wording of questions about children and income generated the most discussion. Based on their knowledge of the priority population, SEARHC team members suggested that, because their

beneficiaries often live in extended family households, the question about number of children should be asked of all key informants, not just those living with partners.

The researcher proposed that, rather than using dollar amounts, the demographic questionnaire should ask questions that are more subjective about finances (Studts et al., 2012). The proposed questionnaire asked the key informants to select one of these three statements to describe their financial situation: "I have a hard time meeting my needs," "I meet my needs most of the time," or "I have more than I need to meet my needs." The SEARHC team approved this wording because, in their opinion, listing dollar figures that might include amounts well above the young adults' aspirations could have been embarrassing or disempowering for the key informants.

The final questions in the demographic questionnaire, included in detail in Appendix F, were:

1. Name (alias only)
2. Gender
3. Age
4. Employment status
5. Education level
6. Ability to meet financial needs
7. Marital status
8. Current smoking status (every day, some days, never)
9. Age of smoking initiation
10. Date of most recent cigarette smoking
11. Current smokeless tobacco use (every day, some days, never)
12. Age of smokeless tobacco initiation (if applicable)
13. Date of most recent smokeless tobacco use (if applicable)

5.1.5 Incentive structure

The SEARHC team successfully used a \$30 iTunes gift card as a participation incentive in prior research on a different topic. In that setting, for a slightly younger population, the gift card had been considered an appropriate inducement and not a coercive measure. The amount of \$30 was similar to amounts given to participants in other studies in the literature (Bader, Skinner, & Travis, 2006; Foraker et al., 2005; Renner et al., 2004). Because of SEARHC's previous success and the similarity to the incentive amounts cited in the literature, and because ten cards remained from the previous study, the research team decided to re-use the \$30 iTunes gift cards in the present study. Because SEARHC accounting policy required tracking the name and address of every person receiving the incentive, a simple incentive tracking form was developed. Key informants were required to complete the form to receive the gift card.

5.1.6 Protection of human subjects and confidentiality

Phase 1 IRB documents were submitted to the Alaska Area IRB and the UAF IRB in April, 2011. The UAF IRB approved the project as exempt in May 2011. The Alaska Area IRB considered the project as expedited in May 2011, but required one modification, that the participant's contact telephone number be removed from the informed consent form. The required change was submitted in August 2011, and approved at the October 2011 meeting.

In keeping with IRB-approved protocols, strict precautions were taken to separate the key informant's identity from the data collected in the interview. Only the alias chosen by the key informant was used during the interview, thus the actual name was not captured in the audio recording. Using only the alias on the demographic form both protected key informants' privacy and allowed the researcher to cross-reference the interview transcript and the interviewee's characteristics during data analysis.

The informed consent forms and the incentive tracking forms were the only documentation containing the key informants' actual identities. These two forms,

once completed, were placed in a separate, opaque envelope, which the researcher delivered to the SEARHC health promotion specialist (ER) at the conclusion of each day. All forms containing identifying information were stored on the SEARHC premises in a locked cabinet to which the researcher had no access.

5.1.7 Inclusion and exclusion criteria

The included population was Alaska Native people eligible for services at SEARHC who self-described as current or former tobacco users. SEARHC expressed a desire to be inclusive of all daily, intermittent, and former tobacco users, so no further screening criteria such as lifetime number of cigarettes or time since last tobacco use were used.

Additional inclusion criteria included:

- being between the ages of 19 and 29
- living in the Juneau-Douglas area, and
- providing informed consent.

Excluded were those who described themselves as not feeling comfortable speaking English. No key informants were excluded based on this language criterion.

5.1.8 Phase 1 recruiting

5.1.8.1 Recruiting materials

The researcher designed the first draft of the recruiting poster. Information included the inclusion criteria, the incentive, the office phone number of the health promotion specialist, and the co-sponsorship of SEARHC and UAF.

The SEARHC team members commented, via email, that the first draft was neither eye-catching nor professional looking. The researcher modified the design to address these concerns, basing the second draft on typical Southeast Alaska tribal colors of red and black (Alaska Native Heritage Center, 2013). A free-access image of musical notes from the Internet was incorporated, the size of the lettering was increased, and the boundary between the red and black sections was made curved

rather than straight. The SEARHC team requested, via email, that the incentive information be enlarged significantly, but the researcher noted that neither the Alaska Area IRB nor the UAF IRB would permit the incentive to be the primary focus of the recruiting material. The SEARHC team agreed to this final design (Appendix G) via email.

5.1.8.2 Recruiting methods

A purposive sampling strategy (Hesse-Biber, 2010) was selected to insure that a rich sample of key informants was reached. The initial recruitment strategy involved outreach to current SEARHC beneficiaries and was originally planned through three means: publicity, referrals, and snowball sampling.

For recruitment, colorful, eye-catching posters and flyers (Appendix G), based on the design described in Section 5.1.8.1, were placed at the SEARHC Juneau clinic and the tribal offices of the Central Council Tlingit and Haida Indian Tribes and the Douglas Island Indian Association during the ten days prior to the interview sessions. The posters and flyers instructed those interested in participating to schedule an interview by contacting the Juneau health promotion specialist (ER). In addition, the SEARHC Tobacco Program manager sent email with the flyer attached to all Juneau-based SEARHC employees (Appendix H), requesting that they participate, if eligible, or pass along information about the study to their friends and family who qualified for the study.

On the day prior to the start of the interviews, the researcher and the SEARHC tobacco counselor and health promotion specialist noted that only four key informants had signed up for an interview, two by referral from the tobacco counselor and two from publicity methods (posters, flyers, and email). The tobacco counselor agreed to attempt further referrals during the three-day study window and was successful in recruiting four additional key informants.

The researcher had experience with a technique called on-location recruiting, which seemed applicable to the situation. Krueger and Casey (2009) described on-location recruiting as recruiters stopping prospective key informants

as they move about the target location. The recruiter asks screening questions, and, for prospective key informants meeting the criteria, issues an invitation to participate in the focus group or interview, which is held soon afterwards near the place of recruitment (p. 70). This technique was deemed to be in keeping with the specific approved IRB protocol of “reaching out to SEARHC beneficiaries.”

Permission to recruit in this manner was obtained from the Tobacco Program Manager (AT). The research team agreed to attempt this method during the three scheduled days of interviews, with the researcher acting as recruiter.

To support the on-location recruiting, the research team constructed a 36” x 24” tri-fold poster board displaying study flyers (Appendix G) and set it up in the clinic waiting area when the researcher was not conducting interviews. The researcher observed people who were present at the clinic. Those whose facial features appeared to place them in the appropriate age group, and who did not appear to be rushing elsewhere or to be distracted, were approached and asked if they were willing to have a short discussion. If they agreed, the researcher showed them a recruiting flyer (Appendix G), pointed out the eligibility criteria (Alaska Native, ages 19-29, and current or former smoker), and asked if they or someone they knew might qualify. If they themselves were eligible, the researcher asked if they would like to participate and, if so, offered them an interview time. If the prospective key informant indicated that they were not eligible to participate, they were offered one or more flyers and asked to pass them along to others who might be interested. Of the approximately 15 people approached over three days, only three took flyers and none agreed to participate.

Snowball sampling was attempted, with each key informant being offered flyers and asked to pass along information to others they knew who might qualify. No appointments resulted from this effort.

The two key informants who had scheduled interviews as a result of publicity did not arrive for their appointments nor did they call to reschedule. Thus, publicity,

on-location recruiting, and snowball recruiting did not generate any key informants. All six key informants were recruited via referral from the SEARHC tobacco counselor. Two were recruited prior to the study window and four were recruited during the three days of interviews.

5.1.9 Phase 1 data collection

The researcher conducted the Phase I interviews in a private room on the first floor of the main building on the SEARHC Juneau campus, beneath the health clinic. No SEARHC team members were present for the interviews. Key informants were offered bottled water as a gesture of hospitality and asked to select an alias name to use in the interview. The interview process began with a review of the entire consent form and the key informant was encouraged to ask questions of the researcher before signing. After the participant signed the consent form, he/she was offered a copy for personal use. Each key informant was then asked to complete the demographic questionnaire (Appendix F) and the incentive tracking form. All key informants were willing to sign informed consent and complete the demographic questionnaire and incentive tracking form.

The research team was concerned that the key informants might tend to give answers that they thought SEARHC would want to hear, for example, that they wanted to quit smoking even although they did not. To help insure that the interview atmosphere was conducive to frank and honest answers, the researcher emphasized in introductory remarks that no pressure for tobacco users to quit would be applied.

After the warm-up question about preferred activities, which was designed to encourage the key informant to talk early in the session (Krueger & Casey, 2009), the researcher used the Phase 1 semi-structured interview guide (Appendix E, also Section 5.1.3.3) to manage the discussion. Each interview was audio-recorded, with permission, using a high-quality digital voice recorder as the primary instrument and an iPhone recording application as backup. In addition, the researcher took hand-written notes to record key findings and non-verbal cues (Krueger & Casey,

2009). At the completion of the interview, each key informant was thanked and offered the incentive gift card.

5.1.10 Phase 1 data analysis

In order to test the wording and completeness of the semi-structured interview guide questions, a full-scale qualitative analysis was conducted on the transcripts of the interviews. However, Phase 1 findings were *not* used to answer the seven research questions of this dissertation.

5.1.10.1 Preparation of transcripts

All recordings were transcribed verbatim into electronic file format (Microsoft Word®) by the researcher within 48 hours of the interview. After transcription was complete, the researcher listened to each recording a second time while following the transcript, making corrections, additions, and deletions to the transcript as required. Using transcription practices recommended by Krueger and Casey (2009), notations of laughter, emphasis and hesitation were made in the transcript and the researcher's questions and comments were italicized. The written notes taken by the researcher about body language exhibited during the interview were incorporated into the transcript (e.g., eye rolling or yawning). The researcher then read the transcripts twice more to develop a more "intimate relationship" with the data (Ulin et al., 2004)p. 145) in preparation for the analysis. Transcript files were imported into ATLAS.ti 6.2 qualitative analysis software (ATLAS.ti, 2011) on the researcher's laptop computer.

5.1.10.2 Grounded-theory based data analysis techniques

Rather than choosing a behavior change theory as the analysis framework, the researcher chose to use techniques of grounded theory (Strauss & Corbin, 1994). In grounded theory, no pre-conceived concepts of behavior and behavior change are applied in advance of the research. Rather, theory emerges through the process of the research itself and its "interplay" with the data analysis (p. 273).

A grounded theory approach was chosen both because no young Alaska Native adult smoking cessation literature existed on which to base a theory¹⁴, and because the research team wanted to be certain that the voices of this priority population were heard without the filter of predetermined concepts of smoking and smoking cessation.

Grounded theory (GT) is an inductive approach to generating theory, first documented in a 1967 book entitled *Discovery of Grounded Theory* (as cited in (Glaser, 2004)). Its basic tenet is that research, qualitative or quantitative, need not start with an a priori theoretical framework, but rather that theory can arise from the researcher developing a systematic yet intimate relationship with collected data (Glaser, 2004).

GT depends in part on the use of particular qualitative analysis techniques, including open coding and constant comparison (Boeije, 2002). Both of these techniques relate to the analysis of data, which comprises documentation of research encounters such as transcripts and field notes. Open coding involves assigning codes, or category names, to noteworthy elements in the collected data, allowing the codes to arise during the actual analysis rather than commencing analysis with a pre-defined set of categories. Constant comparison requires that, as a new code arises, the researcher iterate through previously coded data and re-synthesize the prior codes if necessary.

Since the original publication of *Discovery of Grounded Theory*, the discipline has evolved extensively, and not necessarily in ways approved by either author, most especially Glaser (Glaser, 2004). Cutcliffe (2005) described how the two original authors, Glaser and Strauss, have diverged in their view of GT, with Glaser emphasizing that GT must transcend people, time, and place, and involve a higher level of conceptualization than simply reporting a particular arena of study (Glaser, 2004). Glaser also emphasized that a GT researcher must approach a research

¹⁴ Studies of Alaska Native adults and adolescents have been conducted, but no reports of studies of young adults were found.

situation with “general wonderment” (Cutcliffe, 2005, p. 423) rather than a set of specific research questions, on the assumption that the important questions will arise from the research. In practice, many studies purporting to be GT lack both this higher level of conceptualization and “general wonderment” (Cutcliffe, 2005).

Benoliel (1996) revealed this trend of GT being claimed by studies not completely complying with the original “Glaserian” GT. Her analysis of 146 nursing studies self-characterized as GT reveals how the research community’s perception of GT has evolved, in practice, to three separate concepts: GT-approach, GT-as-method, and research.

A GT-approach, in Benoliel (1996), was the most prevalent study method in the included studies (84/146). These studies made use only of interview data but did not extend their analysis to the creation of theory. Further, these studies considered GT as a set of procedures rather than as a larger scientific method of inquiry.

GT-as-method accounted for 18 of the 146 studies in Benoliel (1996). GT-as-method was described as an extension of Glaser’s original model, allowing the researcher to consult sources in addition to the primary data, such as reports or theories describing how different social contexts give rise to different meanings for groups under study. GT-as-method studies are characterized in Benoliel (1996) as seeking to explain how social circumstance “could account for the behaviors and interactions of the people being studied” (p. 413).

The remaining 33 studies in Benoliel (1996) were characterized as actual applications of GT, in which the researcher applied GT in the classic “Glaserian” sense (Glaser, 2004). Such studies are described in Cutcliffe (2005) as (1) providing conceptual theory rather than simply reporting conceptual description, and (2) going on to synthesize a theory transcendent of people, time, and place.

Research such as that characterized in Benoliel (1996) as GT-approach may better describe itself as “directed content analysis,” in which the goal is to “validate

or extend conceptually a theoretical framework or theory” (Hsieh & Shannon, 2005). For instance, a researcher might believe that a phenomenon under study is related to the Health Belief Model, and frame her data analysis in terms of perceived susceptibility, perceived severity, and perceived benefits. Coding could proceed based primarily upon a priori categories from relevant theoretical framework, or open coding could be employed and the resulting codes then grouped into code families based on the a priori categories.

Use of these techniques is enhanced by sophisticated software programs such as ATLAS.ti (ATLAS.ti, 2011) and NVivo (QSR International, n.d.), available to manage qualitative data analysis. These products allow integrated analysis of multiple types of documentation for a project, including interview and focus group transcripts, video, and field notes. Powerful indexing of open and a priori coding facilitates constant comparison across all documentation types.

There is considerable conflict in the GT literature about what does and does not constitute grounded theory. It is clear, however, that its techniques, including open coding and constant comparison, are in common use today.

5.1.10.3 *Qualitative data analysis*

The lead researcher performed the data analysis using open coding and continuous comparison methods (Boeije, 2002). Open coding, performed with the ATLAS.ti software, involved reading each transcript line by line and assigning a code to noteworthy fragments of text, related to the concept that emerged from that text. Codes representing the primary interview questions were generated prior to analysis (e.g., *benefits of smoking*) and applied when related text was encountered, but new codes were designated as new concepts emerged. For example, when the phrase “everyone is going to die of something somewhere or other” was encountered in the analysis, the code *fatalism* was generated and applied to the text fragment. The same code could then be applied to other related text segments in the analysis of either the same or subsequent transcripts.

In applying constant comparison methods, text fragments within and across interviews that generated the same code were examined to insure that the code has been applied consistently. In addition, for text segments that were coded differently but, in fact, represented closely related concepts, codes were consolidated. For example, separate codes were developed for the relationship of alcohol abuse to smoking (*Alcohol abuse*) and the relationship of drug abuse to smoking (*Drug abuse*). Using constant comparison, the dynamics of the two different addictions were similar enough that the codes were consolidated into a single code (*Other addictions*).

Forty-three codes emerged in total during the open coding, which were winnowed to 37 through constant comparison. The final analysis step was grouping related codes into code families (ATLAS.ti, 2011). The grouping was accomplished using the pile-sorting technique (Ulin et al., 2004). Without pre-defining family code names, the researcher wrote each of the 37 codes on an index card, and sorted and re-sorted them into piles with similar characteristics. Any codes that were moved between two piles more than once were duplicated on another card, as codes can belong to more than one family. The result was eight piles of cards, which the researcher then operationally described and named. After the manual pile sort was complete, the results were incorporated into ATLAS.ti for further analysis.

5.1.10.4 Data analysis results

The eight code families that arose from the pile-sorting process were:

- advantages (the advantages of smoking)
- disadvantages (the disadvantages of smoking)
- friends/family (the influence of friends and family on smoking initiation, continuation, and quitting)
- health (long-term and short-term health impacts and risks)
- how to quit (cessation methods employed)
- quitting attitudes (wanting or not wanting to quit, barriers to quitting)

- communication (how the key informants communicate electronically with friends and family)
- smoking dynamics (when and where smoking occurs, how intensity varies)

As an example, the codes under the Smoking Dynamics family were:

- peer influence (influence of peers on smoking habits)
- smoke less (what makes one want to smoke less)
- smoke more (what makes one want to smoke more)
- smoke where (where does smoking occur)
- smoke triggers (what triggers one to smoke a cigarette)

An informal report synthesizing the results of the analysis was drafted by the researcher based on the eight code families and the demographic data. Sample quotes were listed under each code family. The report was written so that the research team could discuss the results in light of the fourth objective of Phase 1 described at the beginning of this section, to test the wording and completeness of the semi-structured interview guide questions. Results of this discussion are described in Section 5.3.

5.2 Phase 1 research findings

As Phase 1 was the pilot phase of the dissertation project, its results were used only to accomplish the four stated goals, to test the effectiveness of:

1. the recruiting methods,
2. the informed consent process,
3. the demographic questionnaire, and
4. semi-structured interview guide questions.

The qualitative analysis of the Phase 1 interviews was completed solely to accomplish the fourth goal, testing the wording and completeness of the semi-structured interview guide. Given the rich information provided in the interviews, however, the results of the data analysis are detailed in Appendix I and summarized here.

The demographics of the sample were obtained from the anonymous demographic questionnaire given to each key informant at the beginning of the interview. Results are captured in Table 5.1.

Table 5.1: Demographic summary, Phase 1

Average Age	23.7		Average age of intitation	12
Gender			Marital status	
Male	4		Married/living with partner	3
Female	2		Single	3
Employment			Children in home	
Employed FT/PT	2		Yes	5
Unemployed	4		No	1
Education			Smoking frequency	
High school or less	4		Every day	4
1+ years of college	2		Some days	2
Finances			Chew tobacco	
Hard time meeting needs	2		Every day	1
Meet needs	2		Some days	2
More than meet needs	2		Not at all	3

Major findings included the benefits and disadvantages of smoking, smoking triggers, difficulties of quitting, and preferred cessation methods. Benefits of smoking reported by Phase 1 key informants were:

- stress relief,
- general enjoyment, including the feel and taste of smoke and the nicotine buzz,
- time to reflect, and
- social connection, for example fitting in or meeting people.

Disadvantages of smoking included:

- short-term health effects such as shortness of breath and reduced stamina,
- long-term health effects such as the risk of cancer and emphysema,

- hassle of having to smoke outside due to clean air regulations or friends' preference,
- ill effects on children, including second hand smoke and negative role modeling,
- unpleasant odor and yellow teeth, and
- the monetary cost of cigarettes (emphasized by only two key informants).

Key informants reported smoking more when they experienced stress (particularly relationship stress), when they were irritated or bored, and when they were in smoking-friendly social situations such as being at a party or a bar. They smoked less when cigarettes were not readily available.

All key informants expressed an interest in quitting, although only one was making an active quit attempt. Key informants strongly preferred to quit using cold turkey and had limited experience with Nicotine Replacement Therapy (NRT) or varenicline. Quitting was described as difficult due to the strength of habit, severity of withdrawal symptoms, and the high prevalence of smoking in their extended family and social circles.

Key informants reported that watching older family members suffer from smoking-related disease caused general concern about smoking but did not motivate them to quit. All key informants reported having at least one parent who smoked.

Favored methods of communication were texting and cell phone voice calls. Facebook use was reported by some. Internet use, reported to be just a few hours per week, was typically obtained by cell phone rather than by computer.

5.3 Review of Phase 1 findings impacting Phase 2

When the data analysis was complete, a research team conference call was scheduled to debrief Phase 1, review the four objectives of Phase 1, and plan Phase 2. The four objectives of Phase 1 were to test the effectiveness of the recruiting methods, the informed consent form and process, and the demographic questionnaire; and the wording and completeness of the semi-structured interview

guide questions. The conference call was attended by the three SEARHC team members (AT, ER, RR) and the researcher (KA). Each team member had equal decision-making power.

5.3.1 Recruiting findings

Phase 1 offered helpful insights into the challenges of recruiting this difficult-to-reach population. Unlike young adult student populations, who attend classes and recreational events on campus, young adults who live in the general community are not easily found (Bader et al., 2006). Phase 1 recruiting efforts reflected this challenge, as no outreach methods for Phase 1, other than tobacco counselor referral, resulted in recruiting any young Alaska Native adults into the study.

Based on both the researcher's familiarity with on-location recruiting from previous corporate marketing experience and the tobacco counselor's personal and professional knowledge of young Alaska Native adult habits and attitudes, it was decided that on-location recruiting would be incorporated more systematically into the design of Phase 2 recruiting, using multiple venues to reduce potential sample bias. The team attributed the lack of success of on-location recruiting in Phase 1 to the limited venue, the SEARHC clinic, where young adults represent a relatively small percentage of patients (R. Reeves, personal communication, December 23, 2011).

The tobacco counselor (RR), herself a longtime resident of Juneau and an Alaska Native mother of a young adult, related that young adults in Juneau could be found working, recreating, and relaxing in several locations: a particular enclosed shopping mall (Mendenhall Mall), the UAS campus, and in and around the Main Street park in the central downtown district. Other downtown locations frequented by young adults included a particular pizza parlor (Bullwinkle's) and a particular Russian dumpling restaurant shop (Pel'meni).

Krueger and Casey (2009) stated that on-location focus groups should be held in close proximity to the place of recruitment. The health promotion specialist

(ER) suggested that suitable venues for focus groups could be found near the mall, the campus, and the downtown areas favored by the young adults. The tobacco counselor suggested renting a known vacant storefront at the mall, reserving a conference room on campus, and renting a conference room at a downtown hotel (Goldbelt) as focus group venues. With the locations for recruiting selected and the identification of nearby venues for focus groups, the on-location recruiting strategy for Phase 2 was deemed complete.

It was apparent in hindsight that the posters, which were displayed in SEARHC and tribal offices, had not been optimally placed. The health promotion specialist (ER) knew of a charitable organization that would post the promotional material in locations around town for a nominal fee, including the young adults' favored places listed above. The research team agreed to this strategy once the Tobacco Program manager agreed to fund it.

Various SEARHC staff members not associated with the project had complimented the research team on the look of the poster (Appendix G), so the decision was made to leave the graphic essentially the same for Phase 2, except to change the dates and mention focus groups rather than interviews.

5.3.2 Informed consent findings

The researcher related that obtaining informed consent took at least five minutes for each interview and questioned if the time could be shortened. The research team reviewed the informed consent script that the researcher had developed and used. Based in particular on the health promotion specialist's experience with informed consent, agreement was reached that the elements covered were required and that the time for the process could not be shortened without risking incomplete understanding on the part of the key informant.

5.3.3 Demographic questionnaire findings

The demographic questionnaire was filled in completely by all but one key informant, who neglected to fill in education level. The research team discussed rewording the education level question, but as the wording was identical to surveys

used successfully in prior projects with which the health promotion specialist was familiar, no changes were made. The questionnaire was deemed successful based on the completeness of the tabular summary (Table 5.1) that the researcher had prepared using the completed questionnaires, and the research team agreed to reuse it in Phase 2.

5.3.4 Semi-structured interview guide findings

The conference call also addressed the fourth goal of Phase 1, to review the wording and completeness of the semi-structured interview guide questions. Each research team member reviewed the informal report (Section 5.1.10.4) prior to the conference call.

5.3.4.1 Wording of questions

The researcher reported that some key informants requested clarification of the questions “What do you see as the benefits/disadvantages of using tobacco,” which was worded based on the concepts of social marketing (Lee & Kotler, 2011). The SEARHC team members were asked for their input on how to reword the questions. The health promotion specialist suggested that asking, “What is good about smoking” and, “What is not so good about smoking” would be more readily understood and still capture the social marketing concepts of benefits and disadvantages. The research team agreed that this change would be incorporated in the Phase 2 interview guide.

Five of the six key informants had no suggestions when asked, “If you were to try to quit smoking in the future, what ways, if any, might you want to be supported?” The researcher asked for the research team’s input on how to elicit better responses to this open-ended question. The tobacco counselor suggested that the question was not structured enough to inspire a response from the priority audience; the researcher agreed that some of the interviewees had responded in more depth to the probes than to the open-ended primary questions. The health promotion specialist suggested that the interviewees might have been tired, as the

question was asked towards the end of the interview; the researcher corroborated that some of the key informants seemed fatigued by the end of the 60 minutes. Based on this analysis, the research team agreed that more structure was required to explore additional support methods and that the question needed to be posed in a livelier manner.

No other issues with question wording were encountered during the interviews.

5.3.4.2 Completeness of questions

To address the completeness of the semi-structured interview guide questions on the conference call, the researcher:

1. stepped through each report heading sequentially and asked for reactions to the findings, and
2. conducted a guided discussion of the results with respect to the social marketing aims of the project.

The SEARHC team said that Phase 1 raised some unique insights but that the results generally corroborated their experience with the priority population. The tobacco counselor had the most experience with young adult smokers. She said that her clients in this group had related very similar experiences and attitudes in the course of counseling. She was somewhat surprised by the strength of the responses regarding short-term health concerns (e.g., reduced stamina and shortness of breath). The Tobacco Program manager, as a member of the statewide Tobacco Control Alliance, was familiar with the literature and with various tobacco-related statewide research and practices. She felt that the Phase 1 results were consistent with what she knew and was only surprised that the price of cigarettes was a second-order concern, and not a first order concern, for most of the key informants. The research team agreed that the similarity between the Phase 1 results and the SEARHC experience corroborated the research effort.

Next, the researcher guided the discussion of the completeness of the findings with respect to the 4Ps of social marketing (price, product, place, and

promotion). The research team was satisfied, based on the informal report, that the elements of price were sufficiently covered by responses to questions about benefits and disadvantages of smoking and barriers to quitting.

Concerns were raised over the completeness of results related to product. The design of the interview guide had relied on the open-ended question, about how the interviewee would like to be supported, to provide input to product design. Due to the lack of key informant answers to this question, no new knowledge about product was gained in Phase 1.

Regarding place, the research team felt that sufficient information was elicited about where smoking took place and how a potential technology-based intervention might be delivered.

Information about promotion was not sought in Phase 1, as described above in Section 5.1.3. However, its importance in the eventual social marketing plan required that input be gathered in Phase 2.

5.3.4.3 Other findings

The research team discussed the low sample size (n=6). Based on the robustness of the discussion of Phase 1 objectives described above in this section, the research team concluded that the sample size was sufficient for the limited purpose of informing the four Phase 2 elements. According to Guest, Bunce, and Johnson (2006), a sample size of six in qualitative research can be sufficient to reveal the majority of codes that would ultimately arise in a qualitative data analysis.

During the ad hoc on-location recruiting in Phase 1, the 8.5 in. by 11 in. paper flyer was used to point out the inclusion criteria to prospective interviewees. While letter-sized paper worked in the indoor setting of Phase 1, the research team decided to use a smaller, laminated card in Phase 2 to appear more professional and to withstand the outdoor elements in some of the Phase 2 venues.

Based on the observation that some key informants were fatigued by the end of the 60-minute interview, the research team decided to continue to limit the focus group sessions to 60 minutes in Phase 2. The researcher reported that the \$30 iTunes gift card was appreciated by the Phase 1 key informants, so the research team agreed to use it as the incentive in Phase 2.

A second conference call was conducted to determine how to solicit input about new support methods in a more structured and lively way and how to address promotion in the Phase 2 interview guide. The three SEARHC team members and the researcher attended the conference call (KA, ER, RR, AT).

Borrowing a concept from commercial marketing focus groups (Langford & McDonagh, 2004), the researcher proposed, and the team agreed, that a visual aid, or storyboard (p. 162) be used to address both the need for more information about promotion and potential support methods and the desire to engage the participants in a more lively manner. Design of the storyboards was deferred until a later date.

5.4 Summary Impact of Phase 1 on Phase 2

The debriefing of Phase 1 described above resulted in several major recommendations for Phase 2.

The informed consent form and process and the demographic questionnaire were approved for reuse in Phase 2.

Recommendations for Phase 2 recruiting methods were:

- incorporating on-location recruiting and on-location focus groups, per Krueger and Casey (2009), at venues frequented by young adults;
- continuing recruiting through referrals from the tobacco counselor and other, to-be-determined stakeholders; and
- expanding the placement of the posters to locations outside the SEARHC and tribal facilities, especially to locations frequented by young adults.

Recommendations for rewording questions were:

- changing the questions about benefits and disadvantages to questions about what is good and not-so-good about smoking; and

- use of storyboards as a more structured and lively way to solicit input about new support methods.

Other recommendations were:

- including questions related to promotion in Phase 2;
- developing a laminated card with similar layout and color to the flyers, for use in on-location recruiting;
- limiting the focus groups to 60 minutes; and
- using \$30 iTunes gift cards for incentives.

Because the questions in the Phase 1 semi-structured interview guide were successful in eliciting the information required to answer the dissertation research questions, the research team agreed that the Phase 2 guide would follow a similar outline.

6 Phase 2 Activities and Methods

The intent of Phase 2 was to answer the seven research questions outlined in Chapter 3 (Objectives):

1. What are the perceived benefits of continuing to use tobacco?
2. What are the perceived benefits of quitting tobacco?
3. What are the perceived barriers to quitting?
4. What has been their experience, if any, with tobacco cessation programs?
5. What has been helpful and what has not been helpful in any quit attempts?
6. What are their ideas for program elements that might work?
7. Where and how are they best reached (e.g., home, school, work, cell, internet, other)?

Activities and methods were informed by the learnings from Phase 1, as described in Section 5.4. Major recommendations were:

- improving recruiting methods through expanded poster and flyer placement and extensive use of on-location recruiting,
- rewording of selected semi-structured interview guide questions,
- use of storyboards as a more structured and lively way to solicit input about new quit support methods (social marketing product), and
- researching participant attitudes toward various promotion techniques (social marketing promotion).

Eleven focus groups were originally scheduled over six days in April.

6.1 Phase 2 Planning

6.1.1 Research team structure and methods

The Phase 2 research team was identical to the Phase 1 team: the lead researcher (KA), the SEARHC Tobacco Program Manager (AT), and the two Juneau-based SEARHC Tobacco Program staff (ER and RR). Collaboration occurred via email and during conference calls, using protocols identical to Phase 1 (Section 5.1.1).

6.1.2 Interview guide development

In May 2012, a conference call was conducted to determine how to implement the Phase 1 recommendations. The call focused in particular on two of the interview guide-related recommendations: incorporating storyboards for quit support and promotion methods, and ensuring that the focus group sessions would last no more than 60 minutes. The three SEARHC team members and the researcher participated in the conference call (KA, ER, RR, AT).

The researcher proposed that the storyboards be created on a poster board, large enough so that the images could be seen from about five feet away (the estimated distance between three of the anticipated 6 - 10 chairs), but small enough to pass around the focus group. The research team agreed that this would be appropriate for the predicted size of the focus groups.

For promotion, the researcher proposed acquiring colorful images of diverse tobacco countermarketing messages, such as fear or family-based advertisements, to be pasted onto the poster board. The research team asked the researcher how such advertisements would be chosen. The researcher agreed to propose a variety from which to choose, based on the countermarketing literature (Murphy-Hoefer et al., 2008; National Cancer Institute, 2008; Schar et al., 2006).

For potential support methods, the researcher proposed acquiring colorful images related to various cessation interventions. The interview guide questions would then be based on the images on the poster board. The research team expressed a desire to include an intervention combining counseling and NRT, similar to the SEARHC Tobacco Cessation Program, and technology-related interventions, such as texting and smart phone apps. The researcher agreed to research the literature and provide samples of such interventions for consideration.

The SEARHC tobacco manager was interested in continuing to ask the participants for their original ideas about cessation support and advocated for continuing to ask the open-ended question about other support methods the participants would be interested in. The research team felt that the Phase 2

participants, perhaps invigorated by the storyboard discussions, might be more willing to venture an opinion than the Phase 1 participants were, so the open-ended question was retained and placed after the visual aid discussions.

6.1.2.1 Countermarketing storyboard

In order to select an appropriate variety of advertisements for the countermarketing storyboard, the researcher examined categories of advertisements described in Section 4.2.1. Based on congruence of categories in the literature with the research findings of Phase 1, the categories from two reviews of youth tobacco countermarketing were selected (Farrelly et al., 2003; Goldman & Glantz, 1998). These two studies characterized countermarketing advertisements in similar ways, as shown in Table 4.2. Additionally, a mixture of high and low emotional level and positive and negative emotional valence was sought, based on the countermarketing categorization in (National Cancer Institute, 2008).

Based on this literature review and on the experience of the SEARHC tobacco team members, three styles of advertising were selected for further research:

- fear, highlighting serious health and cosmetic effects;
- gentle-persuasion, highlighting positive messages about cessation;
and
- family-values advertisements, highlighting the benefit to the family of the parent quitting smoking.

These three advertising styles are included in Table 6.1, including their categorizations based on (Farrelly et al., 2003), (National Cancer Institute, 2008), and (Goldman & Glantz, 1998).

Table 6.1: Advertising types for countermarketing storyboards

Type of advertisement	Category from Farrelly et al. (2003) and Goldman and Glantz (1998)	Brief description	Emotional level/valence from (NCI, 2008)
Fear	Long term effects + romantic rejection	-Man with stoma -Smoking woman with yellow, misshapen teeth	High/negative
Gentle-persuasion	Cessation	-Sketch of woman wearing nicotine patch -Black-and-white graphic of words “over half of smokers have quit”	Low/neutral
Family values	Negative role model for children	-Crushed cigarette “I put it out because my family loves me” -Stick figure “Mom, I love you, stop smoking”	High/positive

6.1.2.2 Quit support storyboard

The researcher led the team through a review of the best practices in tobacco cessation (Fiore et al., 2008) and the latest texting cessation research (Whittaker et al., 2012) described in the present literature review (Section 4.3). The unproven potential of smart phone cessation applications for tobacco cessation (Abroms et al., 2011) was also reviewed. Based on the literature and the experience of the SEARHC team with the priority population, four types of tobacco quit support programs were selected for inclusion on the storyboard: texting, intensive counseling with optional pharmacotherapy, a smart phone-based video game, and a smart phone app.

6.1.2.3 Storyboard construction

Storyboards reflecting types of advertising and types of quit support aids were constructed for use during the discussions. The researcher downloaded several full color open-access pictures depicting each of three cessation advertising types (fear ads, gentle-persuasion ads, and family-values ads) and each of four

potential cessation programs (texting, counseling, video game, and smart phone app).

Based on the countermarketing literature and the SEARHC members' experience with the priority population, the research team selected the two most thought-provoking pictures for each advertising type and the two or three most thought-provoking pictures for each cessation program. Storyboard panels were constructed by placing glossy 3 in. by 5 in. prints of the selected pictures on 11 in. by 14 in. white poster board, one poster board for each of the three countermarketing types (Appendix J) and one panel for each of the four quit support methods (Appendix K). Two sets of the seven panels were made to ensure that focus group participants would have easy access to the panels during the discussion.

6.1.2.4 Other semi-structured interview guide decisions

With the focus group limited to 60 minutes, and the addition of the storyboard discussion, the need to eliminate some questions from the Phase 1 interview guide was clear. The researcher proposed and the team agreed to eliminate the questions about smoking initiation and current smoking habits, as these were captured quantitatively on the demographic questionnaire.

Additionally, the researcher proposed and the team agreed to eliminate questions about what makes one smoke more or smoke less, because the Phase 1 analysis showed that information was also being reported under the benefits and disadvantages of smoking.

The questions using the phrases "benefits" and "disadvantages" of smoking were reworded as recommended by Phase 1, replacing these words with "what is good" and "what is not-so-good," respectively.

6.1.2.5 Semi-structured interview guide

The resulting structured interview guide (Appendix L) included ten primary questions, each with three to four probe questions to be used to deepen the conversation, if necessary. The primary questions and major probes were:

1. Tell me a little bit about yourself, where you're from, and what you like to do.
2. How do you feel now about smoking?
 - a. What is good about smoking?
 - b. What is not-so-good about smoking?
3. What if anything, makes you think about quitting?
4. What seems hard about quitting?
5. What experience do you have with quitting?
6. How do you usually stay in touch with friends and family, far and near?
7. We'd like to get your reaction to some programs that have been proposed to encourage people to quit.
 - a. (Show, in sequence, fear ads, gentle-persuasion, family values storyboards)
 - i. What do you like about it?
 - ii. What do you dislike about it?
 - iii. How do you think it might work for you or people like you?
 - b. Of all these, which type of program do you think would work best for you or for people like you?
8. We'd like to get your reaction to some programs that have been proposed to help people actually quit. Some involve working with other people and some are more of an individual effort.
 - a. (Show, in sequence, displays for text messaging, counseling, video game, smart phone app)
 - i. What do you like about it?
 - ii. What do you dislike about it?
 - iii. How do you think it might work for you or people like you?
 - b. Of all these, which type of program do you think would work best for you or for people like you?
9. Let's just brainstorm for a minute. What other kinds of support might help you or people like you to quit?

10. What else would you like to say about smoking or quitting, or things that might change your attitude about smoking?

6.1.3 Demographic questionnaire development.

As recommended by Phase 1, the demographic questionnaire was unchanged for Phase 2 (Appendix F). The final questions in the demographic questionnaire were:

1. Name (alias only)
2. Gender
3. Age
4. Employment status
5. Education level
6. Ability to meet financial needs
7. Marital status
8. Current smoking status (every day, some days, never)
9. Age of smoking initiation
10. Date of most recent cigarette smoking
11. Current smokeless tobacco use (every day, some days, never)
12. Age of smokeless tobacco initiation (if applicable)
13. Date of most recent smokeless tobacco use (if applicable)

6.1.4 Incentive structure

As recommended by Phase 1, the \$30 iTunes gift card was again offered as an incentive for participation. Participants were required, per SEARHC accounting policy, to complete an incentive tracking form, which requested their full name and address.

6.1.5 Recruiting materials

The Phase 2 recruiting posters and email were identical to the Phase 1 materials (Appendices G and H), except the phrase “focus group” was used instead of “interview,” and the April 2012 dates of the Phase 2 focus groups were listed

instead of the October 2011 dates for the individual interviews of Phase 1. Flyers, for takeaway, were half-size versions of the recruiting posters.

6.1.6 Protection of human subjects and confidentiality

The Phase 2 documents were submitted to the UAF and the Alaska Area IRBs in January 2012, and the project was considered expedited in both IRBs. The UAF IRB required one modification, to reduce the informed consent form reading level from Grade 12 to Grade 8. This change was submitted to both the UAF and the Alaska Area IRB in February 2012. The UAF IRB approved the project in February and the Alaska Area IRB approved the project in April 2012.

Phase 2 protection of human subjects and confidentiality was similar to that of Phase 1. The major changes to the protocol between Phase 1 and Phase 2 were the explicit inclusion of on-location recruiting techniques, the use of focus groups in addition to key informant interviews, and more extensive placement of recruiting posters and flyers.

In keeping with IRB-approved protocols, strict precautions were taken to separate the participant's identity from the data collected in the interview. Only the alias chosen by the participant was used during the research encounter, thus the actual name was not captured in the audio recording. Using only the alias on the demographic form both protected participants' privacy and allowed the researcher to cross-reference the interview transcript and the interviewee's characteristics during data analysis.

The informed consent forms and the incentive tracking forms were the only documentation containing the participants' actual identities. These two forms, once completed, were placed in a separate, opaque envelope, which the researcher delivered to the SEARHC health promotion specialist (ER) at the conclusion of each day. All forms containing identifying information were stored on the SEARHC premises in a locked cabinet to which the researcher had no access.

6.1.7 Inclusion and exclusion criteria

The included population was identical to Phase 1: Alaska Native people eligible for services at SEARHC who described themselves as current or former tobacco users, ages 19 - 29, living in the Juneau-Douglas area, and who provided informed consent. Excluded were those who described themselves as not feeling comfortable speaking in English. As in Phase 1, no participants were excluded based on the English language criteria.

6.2 Phase 2 implementation

Eleven sessions were scheduled as follows: three at a downtown Juneau hotel, five at the University of Alaska Southeast (UAS) campus, and three at a local mall popular with young adults. As described in Section 5.3.1, the disparate venues were chosen to maximize diversity of age, education, and employment status.

Three of the eleven sessions (one each at the mall, the hotel, and UAS) were cancelled due to lack of participation. During the course of the UAS sessions, contact was made with staff from Zach Gordon Center, the downtown drop-in youth center catering to young people up to the age of 21. One additional session was then scheduled at Zach Gordon Center for the last day of the interview series, netting nine total sessions.

6.2.1 Phase 2 recruiting

Focus group participants were recruited using IRB-approved purposive sampling (Hesse-Biber, 2010). The three recruitment methods recommended by Phase 1 findings (Section 5.4) were used:

- poster advertising and takeaway flyers at the SEARHC clinic and venues frequented by young adults (one week in advance of the first focus group);
- referrals from three sources (SEARHC Tobacco Counseling program, the University of Alaska Southeast (UAS) Rural and Native Student office, and the downtown youth center), and

- on-location recruiting (Krueger & Casey, 2009) conducted the day of the focus group.

The posters and flyers, which did not yield results in Phase 1, were included only because they were low-cost and the research team expected better response given the wider distribution. In addition, because the Tobacco Program had a sufficient budget to support it, a radio public service announcement was developed and recorded for play on stations favored by young adults.

The researcher conducted same-day on-location recruiting by approaching people whose facial features appeared to fall within the age group. She asked if they knew anyone who met the inclusion criteria, which were presented on a colorful laminated 4.5 in. by 5.5 in. card identical to the poster (Appendix M). If the person approached met the criteria themselves or knew of someone who did, they were given an invitation listing all upcoming focus group locations and times and encouraged to attend, if eligible, or to pass the invitation to others. The on-location recruiting was conducted on the streets and in retail establishments in downtown Juneau, on the University of Alaska Southeast (UAS) campus, at an indoor shopping mall popular with young adults, and at the downtown youth center, corresponding to the four venues for the focus groups.

On-location recruiting was the most successful, accounting for about 65% of the participants. Approximately 100 persons were approached, yielding 15 participants. Additionally, two referrals were made by SEARHC Tobacco Counseling, three by the UAS Native and Rural Student Center, and three by the downtown youth center. Posters, flyers, and radio PSAs did not directly generate any participation.

Recruitment generated a total of 23 young Alaska Native adults who participated in nine total sessions held over a five-day period. Five sessions were conducted as focus groups, as scheduled, and four sessions were conducted, due to participation, as one-on-one interviews. The same structured interview guide was used for both the focus groups and the interviews.

The focus groups were heterogeneous with respect to age, gender, and smoking status. They ranged in size from a low of two to a high of six, with mean size 3.8. Group demographics are outlined in Table 6.2. Generally, the two mall groups and the downtown youth center group reported lower educational attainment, and one mall group and the downtown youth center group reported more difficulty meeting their financial needs. Those who were interviewed individually were older than the focus group participants.

Table 6.2: Demographic summary, Phase 2

Group	A	B	C	D	E	Individual interviews	Total
n	4	6	2	5	2	4	23
Venue	Youth center	Mall	UAS	Mall	UAS	Various	
Average Age	19.5	20	19.5	22.4	25	26.8	22
Gender							
Male	3	4	1	2	2	2	14
Female	1	2	1	3	-	2	9
Employment							
Employed FT/PT	1	-	1	4	2	3	11
Student FT/PT	1	-	2	-	-	1	3
Unemployed	2	6	-	1	-	1	10
Education							
High School or less	4	6	-	3	-	1	14
1+ years of college	-	-	2	1	2	3	8
Finances							
Hard time meeting needs	2	2	-	-	-	-	4
Meets needs	1	3	-	3	1	3	11
More than meets needs	-	1	2	-	1	1	5
Marital status							
Married/living with partner	2	3	-	4	2	3	14
Single	2	3	2	1	-	1	9
Children in home							
Yes	-	2	-	2	-	2	6
No	4	3	2	3	2	2	16
Smoking frequency							
Every day	1	2	-	-	1	2	6
Some days	1	2	1	3	1	-	8
Not smoking	2	2	1	2	-	2	9
Average age of initiation	14.7	9.8	18	14.3	18	14	13.7
Chew tobacco							
Yes	-	-	-	1	-	1	2
No	3	6	2	4	2	3	20

Of the 23 participants, 14 reported smoking some days or every day, while the remaining nine reported not smoking at the time of the research encounter. The sample was not large enough to draw any statistical conclusions about its consistency with the priority population. However, the proportion of former smokers in this sample is slightly less than the reported 51% of ever-smokers in the US who have quit successfully (Centers for Disease Control and Prevention, 2002).

Of the 23 participants, 15 reported being employed full or part time, four reported being full or part time students, and 10 reported being unemployed (with some participants double-reporting). As with smoking frequency, the sample was not large enough to draw any statistical conclusions about its consistency with the

priority population. However, the sample may be overly weighted toward the unemployed, as the overall unemployment rate in Juneau in 2012 was 4.9% and the unemployment rate among all adults ages 20-29 residing in Juneau was 15.2%¹⁵ (Alaska Department of Labor and Workforce Development, 2013a). Tempering this potential bias, however, the 2011 unemployment rate in all of Southeast Alaska among Alaska Natives ages 16 - 64 was 58.9% (Alaska Department of Labor and Workforce Development, 2013a).

6.2.2 Phase 2 data collection

The one-hour sessions were facilitated by the lead researcher. A SEARHC co-facilitator (ER or RR) was present at all but one session (the downtown youth center). The co-facilitator assisted with room setup, informed consent, and captured handwritten notes recording key findings and non-verbal cues (Krueger & Casey, 2009).

As a gesture of hospitality, participants were offered pizza, energy bars, bottled water, and bottled tea. Each participant was asked to choose an alias name from a selection of 4.25 in. by 5.5 in. pre-printed folded tent cards.

The researcher or co-facilitator reviewed the entire consent form individually with each participant, encouraging him or her to ask questions before signing. After the participant signed the consent form, he/she was offered a copy for personal use. Each participant was then asked to complete the demographic questionnaire (Appendix F) and the incentive tracking form. All participants were willing to sign informed consent and complete the demographic questionnaire and incentive tracking form.

Given that SEARHC is the health care provider for all of the participants, the research team was concerned that the participants might tend to give answers that they thought SEARHC would want to hear, for example, that they wanted to quit

¹⁵ The unemployment rate among young Alaska Native adults living in Juneau was not available from the Alaska State Department of Labor and Workforce Development.

smoking even although they did not. To help insure that the interview atmosphere was conducive to frank and honest answers, the researcher emphasized in introductory remarks that no pressure for tobacco users to quit would be applied.

Each focus group and individual interview was audio-recorded, with permission, using a high-quality digital voice recorder as the primary instrument and an iPhone recording application as backup.

After the warm-up question about preferred activities, which was designed to build rapport and encourage the participants to talk early in the session (Krueger & Casey, 2009), the researcher used the Phase 2 semi-structured interview guide (Appendix L, also Section 6.1.2.5) to manage the discussion.

6.2.3 Phase 2 data analysis

6.2.3.1 Preparation of transcripts

All recordings were transcribed verbatim into electronic file format (Microsoft Word®) by the researcher (KA) within seven days of the focus group or interview. Procedures for transcript preparation were identical to Phase 1 as described in Section 5.1.10.1.

6.2.3.2 Data analysis techniques

As in Phase 1, the researcher chose to use techniques of grounded theory (Strauss & Corbin, 1994) to insure that the voice of this understudied population would be heard. Open coding and continuous comparison methods (Boeije, 2002) identical to Phase 1 were used, as described in Section 5.1.10.2.

In this Phase 2 analysis, 117 codes emerged in total during the open coding, which were winnowed to 85 through constant comparison. The final analysis step was grouping related codes into code families using the family coding feature in ATLAS.ti (ATLAS.ti, 2011). Unlike Phase 1, in which family code names emerged from a pile-sort (Ulin et al., 2004), the seven research questions were designated the seven family names to facilitate reporting. The researcher used the software to assign each of the 85 codes to one or more families.

6.2.3.3 *Data analysis results*

The seven code families, derived from the seven research questions, were:

1. Good about smoking (what are the benefits of smoking?)
2. Bad about smoking (what are the perceived benefits of quitting?)
3. Hard about quitting (what are the perceived barriers to quitting?)
4. Quit methods (what has been their experience, if any, with tobacco cessation programs?)
5. Reaction to quit aids (what has been helpful and what has not been helpful in any quit attempts?)
6. What are their ideas for program elements that might work?
7. Where and how are they best reached (e.g., home, school, work, cell, internet, other)?

As an example, the codes under the first family, *good about smoking* were:

- *buzz high* (enjoyment from getting high)
- *get away from things* (ability to step away from current situations)
- *nothing* (nothing is good about smoking)
- *oral satisfaction* (taste and feel of smoke, pleasurable use of one's mouth)
- *relax* (allows participant to relax)
- *relieve boredom* (gives participant something to do)
- *satisfaction general* (other)
- *social* (means of "fitting in" and meeting people)
- *stress relief* (means of stepping away or ignoring current stressors)

An interim report, including a synthesis of the findings by research question and associated detailed quotations, was constructed and reviewed by the researcher with the SEARHC team (AT, ER, RR). Modifications were made to the findings to reflect shared understanding. The two major points of discussion were the role of stress and which quit support method was favored.

Based on the quotations included in the interim report related to “What is good about smoking?” the SEARHC team felt that the role of stress was overstated to the detriment of other benefits of smoking, including social acceptance and habit. The health promotion specialist (ER) in particular felt that the report implied that if the stress were eliminated through an ecological approach (Sallis & Owen, 2002), then more young adults would quit smoking. The research team agreed that, while stress and stress management were important to consider in dealing with overall population health, addressing the young adults’ stressors were beyond the scope of this study.

The original report indicated that texting was the most favored quit support method, but the SEARHC health promotion specialist (ER), who had attended half of the sessions, remembered that the smart phone app received more enthusiastic response. The SEARHC tobacco counselor, who had attended the other half of the sessions, agreed. The researcher agreed to re-read and, if warranted, re-code the transcripts. This reanalysis affirmed the SEARHC team members’ concerns, and the conclusions were rewritten.

6.2.4 Dissertation committee Phase 2 activities

The committee met in August 2012 to review the Phase 2 findings and to discuss the format of the dissertation. Concern was expressed about the relatively small number of participants ($n=23$), and the opinion of the committee was that saturation was likely not reached. The researcher related that SEARHC was comfortable with the sample size and was not willing to sponsor another week of interviews. The committee then recommended that the small sample size be included in the discussion of limitations. They also indicated that this limitation could be partially mitigated by triangulating the data with the literature and with the SEARHC Tobacco Program staff members, who had extensive experience with the priority population.

At that time, this dissertation was expected to be in manuscript format, rather than the monograph format that was ultimately produced. At the August 2012 meeting, three separate manuscripts were discussed and approved in concept:

- a general, standard summary of project methods and results, with no mention of social marketing,
- an analysis of the findings in social marketing terms and resulting recommendations for a social marketing campaign, and
- an analysis of priority audience reactions to tobacco cessation advertising and quit-aids.

In November 2012, a 4,700 word draft of the first of these manuscripts was sent to the committee members for review and comment. While the decision was made in January 2013 to use the monograph format, the committee's comments on the first manuscript were ultimately helpful in preparing this monograph.

Suggestions included:

- making a stronger connection to behavior change theory,
- describing the data analysis techniques in more detail,
- ensuring the quotations selected were closely aligned with the reported findings,
- improving the structure of the tables, and
- improving the precision of certain terms (e.g., defining "traditional cessation methods").

6.3 Summary of Phase 2 Methods

Phase 2 was designed to answer the seven research questions:

1. What are the perceived benefits of continuing to use tobacco?
2. What are the perceived benefits of quitting tobacco?
3. What are the perceived barriers to quitting?
4. What has been their experience, if any, with tobacco cessation programs?
5. What has been helpful and what has not been helpful in any quit attempts?

6. What are their ideas for program elements that might work?
7. Where and how are they best reached (e.g., home, school, work, cell, internet, other)?

Phase 2 design was informed by the Phase 1 experience. Major recommendations from Phase 1 were:

- improving recruiting methods through expanded poster and flyer placement and extensive use of on-location recruiting,
- rewording of selected semi-structured interview guide questions,
- soliciting input about new quit support methods in a more structured and lively way (social marketing product) by incorporating storyboards, and
- researching participant attitudes toward various promotion techniques (social marketing promotion).

The Phase 1 recommendations were implemented. The incorporation of the storyboards required a refinement of the interview guide in order to limit the focus groups to the recommended 60 minutes.

The research team structure and methods, demographic questionnaire, incentive structure, protection of human subjects and confidentiality, and inclusion and exclusion criteria were identical to those in Phase 1. Small changes were required to recruiting materials to note the dates and the focus group approach (versus the Phase 1 individual interviews).

7 Findings

Findings for this qualitative study are reported by research question (RQ). Discussion and comparison with the literature is provided in each section along with a summary (Burnard, 2004). Perceived benefits of continuing to smoke are addressed, followed by perceived benefits of quitting, barriers to quitting, methods of quitting, ideas for promotional material, ideas for new programs, and electronic communication habits.

As described in Chapter 6, focus groups and individual interviews were conducted with self-identified young Alaska Native adult current and former smokers. Focus groups were conducted in Juneau, Alaska: two at a local mall, two on the University of Alaska Southeast (UAS) campus, and one at the Zach Gordon downtown youth center. Additionally, four individual interviews were conducted, two at a downtown hotel and two at UAS.

7.1 RQ1: Perceived Benefits of Continuing to Use Tobacco

To explore RQ1, participants were asked, “How do you feel about smoking now?” and, when needed, were provided the follow-up probe “What’s good about smoking?” The most common responses to these questions were related to stress and boredom relief, “getting away from it all,” and general enjoyment. Several participants also responded to the question by saying “nothing is good about smoking.”

7.1.1 Smoking to relieve stress

Participants in all but one group spoke about using smoking as a coping mechanism for stressors they experience, such as finances or relationships. This is consistent with qualitative studies of young adults, low-income urban residents of the U.K, and Indigenous persons (Bader et al., 2007; Burgess et al., 2007; Choi et al., 2006; De Gruchy & Coppel, 2008; Kishchuk et al., 2004; MacAskill et al., 2002; Patten et al., 2009).

In the present study, a 20-year-old current smoker and father of two described how he used smoking as a time-out to think through his situations:

It's like anger management for me. When I get angry, I want to smoke. I get stressed out, I want to smoke. And then I sit there and I sit there, and it kinda like talks to me 'cause I think about a lot of stuff that I've been doing, what made me mad, what should I do about it?

He went on to describe the importance of this opportunity to reflect, saying, "It's like, I can't find the words for it, it's like personal counseling, you know . . . It relaxes, relaxes *my* mind. I don't know about anybody else."

A 28-year-old single mother, who had successfully quit for about a year, described how the financial stress in her life lead to a relapse.

Well, I just purchased a home in November, and I started school, and it was the financial burdens. I've been going so strong for so long and you know, everything was going my way, and then I have all this crushing pressure. Arghhh. So I just kinda said, oh, forget it, I don't even care! So, I think part of it [the relapse] was just like this depressive state, because of all the crushing pressure. I just didn't care anymore.

In one focus group, two individuals described relationship stress as part of the reason they smoke. In another group, a 19-year-old single mother said, in the context of how she smoked under stress, "My sister is a very stressful person. I always have to go down and help her with her kids, even though her baby's daddy is right there." A 22-year-old woman living with her boyfriend said, "It [smoking] just helps us calm down, and not be so mad or stressed at each other."

A 29-year-old former smoker described how, before he learned about stress management techniques from the SEARHC Tobacco Cessation Program, smoking was his only outlet for stress. He said, "Well, that's how I dealt with stress, you know. I didn't know how to deal with stress, cigarette or nicotine free. It's the only way, I thought, that can relieve any tension whatsoever."

This same participant then shared his revelations about the momentary impact of smoking:

You know, to me it felt like every time I took a drag off a cigarette, you know inhale and when I exhale it felt like my problems were gone. Temporarily. 'Til the next hour. But now that I think about it, I was masking, masking my emotions and problems with cigarettes.

In the focus group conducted at the youth center, which was younger on average than the other focus groups, the discussion about the good things about smoking was quite short. Instead, the participants tended to jump ahead and discuss what was not good about smoking. Only one person in this group mentioned smoking as a way to relax and the other three did not mention relaxation as a benefit. The one person who mentioned smoking as a way to relax (a 19-year-old female intermittent smoker) shared:

M: It helps when you're angry. . . Almost.

Facilitator [KA]: Say some more about that. How does it help, do you suppose?

M: Umm, I don't know, taking your mind off it, and concentrating on smoking the cigarette. Not what you're thinking about or what was going on before . . . it feels relaxing, yeah.

Using smoking specifically as a way to "step away from things" and collect oneself was mentioned in several different venues. None of the literature referred directly to this stepping away from things, but it may be that it was included under stress management.

A 28-year-old working single mother described smoking as a way to remove herself from immediate difficult situations. She said, "What was good about it [smoking]? Ohhh, like the whole satisfaction, you know, relax, you know, it throws everything out the window. The capacity to kinda just be soothed, I guess."

A 20-year-old female former smoker declared that she was not able to articulate the benefit, but appeared to be alluding to stepping away from things: "Ummm, I don't know, it sounds funny, but like taking a breather, but you're not

because you're smoking. [Everyone laughs.] You're doing *something* I guess, in a way. I don't really know how to describe it."

Smoking was also reported to be a useful way to remove oneself from social pressures. A 28-year-old artist, who described himself as a very occasional smoker, said that he usually smoked at parties "to move away from . . . all that energy and kinda collect yourself." He went on to describe other ways that he used smoking:

The time to sorta step away from what I'm focusing on, and focus on something else that's less immediate. It's pretty common, yeah. Like once a month I'd smoke a cigar in the rain [laughs]. Usually at night when it was dark, I'd just walk the streets, like in the old areas. And just think about the meaning of life or whatever.

7.1.2 Smoking to relieve boredom

Boredom was a reported factor in smoking for participants, especially for younger smokers who did not have family or work responsibilities. Other studies have included boredom relief as a benefit of smoking for groups such as American Indians (Burgess et al., 2007), young adults (Ling & Glantz, 2004), low income urban residents of the UK (MacAskill et al., 2002), and Alaska Native adolescents (Renner et al., 2004).

In response to the warm-up question, "What do you like to do when you're not working or going to school?" a 19-year-old unemployed woman laughed and answered, "Drive cars, drive cars constantly, that's it." Later, when her focus group was asked what was good about smoking, she described how it relieved her boredom, "Well, it's like smoking is a habit, so when you're bored, you're smoking. It's like you're doing something when you smoke a cigarette."

A 20-year-old intermittent smoker likened boredom related smoking to eating, saying, "Yeah, it's like you eat when you're bored, you're not hungry but you're bored, then you eat. That's how you get fat."

A 19-year-old former smoker called into question the premise that both addiction and boredom are relevant to smoking, intimating that people who claim both as reasons for smoking are somehow disingenuous.

That's what I don't get, everybody says that smoking is so addictive and that they HAVE to smoke a cigarette, and other times they'll just say oh, it's just something that I do when I'm bored. OK, it's either do it because you're bored or you're addicted.

7.1.3 Smoking for enjoyment and oral satisfaction

Consistent with both clinical guidelines and published studies of minority populations (Fiore et al., 2008; Foraker et al., 2005; Ling & Glantz, 2004; MacAskill et al., 2002), many participants reported smoking for general enjoyment and for oral satisfaction. In response to the question, "What is good about smoking?" several participants' immediate response was a generic, "I enjoy it."

Others were more specific and described liking the taste or the feel of the smoke in their mouth or throat. A 28-year-old male intermittent smoker said, "I'd just hold the smoke in my mouth. There's like a tingling, or just kind of, some kind of effect that happened in my mouth." A 26-year-old female former smoker said, "I wanted to try different ones and see how they tasted. And how it felt to inhale it. I really liked the feeling on my throat when I was inhaling it."

A 28-year-old recently relapsed female stated, "A lot of it for me, too, is oral. If I'm not you know doing something like smoking, you'll probably find me drinking water, chewing gum, something, having some sort of snack."

7.1.4 Smoking for social connection

Only two participants, both in one of the university focus groups, explicitly mentioned smoking as a way of fitting in socially. A 19-year-old intermittent smoker described how smoking was part of social life at his dormitory:

Yeah, well I live over at the dorms on Benfield. If we're just hanging out, we'll take a step outside. You have to be 40 feet from the building or something,

so, I'll just go ahead and smoke and I'll just kinda talk and hang out like we were doing outside, but now we're smokin'. I don't smoke too often, it's just on occasion.

A 20-year-old former smoker described how she observed smoking as social interaction on campus:

I feel like a lot of people on campus smoke, 'cause it's that kind of atmosphere. I go outside, and there's a lot of people outside, you know, lighting up. Just kind of our age group, I think. So... and I think it's kind of a phase that people go through, too. But I can't say for sure.

While not emphasized explicitly in the present study, smoking as a means of fitting into society is common in the literature. Participants in several studies (Bader et al., 2007; Kishchuk et al., 2004; MacAskill et al., 2002) described smoking both as a way of feeling at ease in social situations and as a way of meeting other people.

7.1.5 Summary of RQ1: Benefits of continuing to smoke

Participants across groups considered stress relief, the opportunity to step away from stressors, and oral satisfaction as the major benefits of smoking. Members of the younger focus groups also reported that smoking was a good way to relieve boredom. The benefit of fitting into society by smoking was not emphasized in the present study, but it is found in the young adult literature (Bader et al., 2007; Kishchuk et al., 2004).

7.1.5.1 Comparison with literature

The benefits of continuing to smoke described in the present study are consistent with the existing qualitative young adult, Indigenous, and general cessation literature. Stress relief and oral satisfaction were each mentioned in multiple peer-reviewed articles (Bader et al., 2007; Burgess et al., 2007; De Gruchy & Coppel, 2008; Kishchuk et al., 2004).

7.1.5.2 Social marketing implications

As described in Chapter 1, a social marketing approach to the study was requested by SEARHC. The perceived benefits of smoking comprise one element of

the price component of social marketing (Lee & Kotler, 2011). In social marketing pricing for tobacco cessation, the benefits of continuing to smoke (Section 7.1) and the barriers to quitting (Section 7.3) are minimized through intervention elements such as service features and promotional material, while the perceived benefits of quitting tobacco (Section 7.2) are maximized. In other words, developers of a social-marketing based cessation intervention must ensure that, from the perspective of the priority audience, the benefits of quitting outweigh the combination of barriers to quitting and the loss of the benefits of smoking.

Findings from this present study indicate that a social marketing-based smoking cessation intervention aimed at young Alaska Native adults must consider providing alternate means of stress relief, other methods of “getting away from it all,” and replacement methods of oral satisfaction, as well as ways to relieve boredom for younger adults.

Such a tactic was employed in the design of the national EX smoking cessation campaign designed by American Legacy Foundation (McCausland et al., 2009), which featured tips for “re-learning life” without cigarettes (p. 85). EX formative research indicated that smokers stayed in the TTM contemplation stage of quitting for extended time periods because they “did not know how to prepare effectively for a quit attempt” (p. 85). Advertisements were then designed that featured scenarios in which former smokers coped with everyday habits they had formerly associated with smoking. These advertisements said, “When you’re used to always doing something with a cigarette, it can be hard doing it without one. But if you can learn how to drink coffee [drive, start your day] without cigarettes, then you can learn to do anything without cigarettes” (p. 85). An evaluation of the EX campaign (Vallone, Duke, Cullen, McCausland, & Allen, 2011), using a longitudinal analysis of 4,067 smokers in markets where the advertisements had been aired, demonstrated that individuals with confirmed campaign awareness had a 24%

greater chance than did those who were not aware of the campaign of making a quit attempt ($p < .048$).

7.2 RQ2: Perceived Benefits of Quitting Tobacco

To explore RQ2, participants were asked, “What is not so good about smoking?” and “What, if anything, makes you think about quitting?”

Almost all participants reported wanting to quit smoking. In terms of the health-related benefits of quitting smoking, young adults across all focus groups expressed greater concern about the short-term health and social consequences of smoking than about long-term negative health effects. These topics are described in more detail in the following sub-sections.

7.2.1 Short-term smoking-related health benefits of quitting

Short-term health concerns such as stamina and sports performance were mentioned by many respondents across all venues. In the literature, some qualitative studies (Bader et al., 2007; Nademin et al., 2010; Patten et al., 2009) reporting on young adults, college women, and Alaska Native adolescents, respectively, mentioned avoiding short-term health effects as a perceived benefit of quitting. However, other qualitative studies, such as those with young adult Latinos (Foraker et al., 2005), urban American Indians (Burgess et al., 2007; Choi et al., 2006), and low income urban residents in the U.K. (De Gruchy & Coppel, 2008; MacAskill et al., 2002), made no mention of smokers’ and former smokers’ concerns for immediate health effects.

The short-term health effects of concern in the present study included reduced stamina, shortness of breath, coughing and spitting up phlegm, vulnerability to illness such as colds and strep throat, and reduced performance in strenuous activity. Of these, the most frequently and most emphatically mentioned side effect was reduced stamina, which was similar to findings for college women (Nademin et al., 2010) and Alaska Native adolescents (Patten et al., 2009).

A 20-year-old male, a former smoker, shared a recent experience:

Before the bus comes. And the line takes forever. And when you're running for it, you just feel slow, (exhales) oh shit, I need to quit. It makes you feel like you're going to suffocate. Ah (sigh) that's the way it is for me.

Some participants emphasized the impact that this reduced stamina had on their athletic ability. A 19-year-old unemployed woman, an everyday smoker, described the repercussions of her smoking on a recent sporting event, saying, "Well, me, I like to do the boxing. I just did the Alaska Beatdown at the Centennial Hall this past week, and I lost because I smoke."

A 21-year-old current smoker described what happened when he and a friend worked out at a teen center. It had been some time since he had worked out because of his job schedule, and he described the outcome as "pathetic for me." He went on to compare his performance to his pre-smoking life:

This is a kid who always had like three gym classes in one day in high school. In one day. I was really active, but since smoking, and not working out, in 20 minutes I was out of breath. I couldn't do anything.

Some participants reported experiencing immediate physical sensations such as reduced lung function, feelings of suffocation, and phlegm production when they smoked. A 28-year-old intermittent male smoker said, "And then when I try to run, I just [hesitates], I can feel that my oxygen intake is *not* as effective [laughs]. Like my lungs won't open up as much, there's something in there!"

A 26-year-old woman, a former smoker, said, "Especially after I like started smoking more each day, I didn't like the way it felt to breathe, or not be able to breathe. Because suffocation has always been a big fear of mine." A 27-year-old male every day smoker described his lung and throat symptoms:

I'm real heavy chested in the morning. And even worse, I haven't been in for a physical for a long time. I just kinda put it off. Yeah, it'll be all right. But lately I've started noticing like I start losing my voice sometimes in the morning.

Real hoarse. I have to drink like a gallon of water before I can get my voice back. I know it's from smoking.

His remarks were similar to those of a 28-year-old recently relapsed female smoker who said, "But that feeling in my chest, too, as well - that phlegmy, coughy, I just kind of get it all out, because I smoke, it happens every time. Every time."

7.2.2 Long term smoking-related health benefits of quitting

In the context of discussions about quit-smoking programs and potential advertisements and in response to the question "What is not good about smoking?" participants reported being very aware of long-term health risks associated with smoking. They attributed their awareness to advertisements, school health education, and the suffering of family members, particularly elders, from smoking-related illnesses. Some said this awareness was motivation to want to quit, but not sufficient to actually cause them to quit.

Lung disease and lung and throat cancer were mentioned as specific long-term health risks, with no mention of other cancers or cardiovascular disease.

Participants attributed learning this information to public school health education, the media and watching relatives suffer from smoking-related diseases. The Centers for Disease Control and Prevention's (CDC's) "Tips from Former Smokers" campaign (Centers for Disease Control and Prevention, 2013) was mentioned several times. This campaign features ordinary people disfigured by smoking-related disease, including facial disfigurement from oral cancer surgery, speaking through a stoma via an electrolarynx due to throat cancer, and amputations due to worsened circulation.

The stoma in particular evoked comment. A 29-year-old recent quitter said, "Their stomas [hesitates], and you know who's not to say that's what I'd get in 20 years if I didn't quit smoking."

A 28-year-old recently relapsed woman said:

If you've ever seen the commercials where it shows the individuals with the stoma, that right there is shocking. That is outrageously shocking. And I've

actually met a gentleman who has a stoma and has to use the electronic voice, and yet I've seen him smoking outside. I was shocked. Shocked.

Several participants, across all venues, mentioned family members who had developed cancer or lung disease from smoking, although most said that their relatives' disease had little or no effect on their own smoking. This lack of impact is consistent with the young adult and Indigenous cessation literature (Bader et al., 2007; Choi et al., 2006; Foraker et al., 2005; Patten et al., 2009), which all mention awareness of long-term risks but do not report behavior change as a result.

Just two participants in the present study, both former smokers, described how their relatives' smoking-related disease contributed to their quitting.

It's crazy. A lot of my family has had cancer, so every time I think about that, I feel like I'll get cancer. It's like, no, no cancer in me please. So it's not a main reason. But it's a small reason why I quit. It's just crazy. (19-year-old male)

Within recent years, I've really considered my health, because my dad's health has failed because of his smoking. It's failed really badly actually, and I really consider that. How I'm going to be when I'm his age, like when I'm 60, what am I going to be like? (26-year-old female)

7.2.3 Social benefits of quitting smoking

Negative social consequences of smoking, including bad smell on clothes, bad breath, and yellow teeth, were a common theme in almost all focus groups and individual interviews. In the literature, most young adult studies fail to corroborate this theme, including Bader et al. (2007), Kishchuk et al. (2004) and Foraker et al. (2005), but some studies of college women and adolescents mention smokers' concerns about cosmetic appearance and unpleasant smell (e.g. (Nademin et al., 2010; K. H. Smith & Stutts, 2003).

Comments were made about smoking's impact on the cosmetic appearance of teeth. A 28-year-old recently relapsed woman said, "I know that . . . it stinks, it's bad for you, bad for your teeth," and a 19-year old female intermittent smoker said simply, "[yellow] teeth are *gross*."

Smells resulting from smoking were mentioned across all focus groups and individual interviews, regardless of participant gender and smoking status. Some participants mentioned fearing that they themselves smelled bad because of smoking:

And eventually I didn't like to smell myself because it was covering, you know because I was smoking so much . . . I didn't like . . . the way that I smelled, the way I felt people were looking at me, and judging me, because I was a smoker. (26-year-old former smoker, female)

Some participants complained about their own and others' bad smell: Anybody who doesn't smoke just smells it like vapor on you. [My mother] smokes inside. And it's all around. Everything, you know, your clothes, your hair, everything smells like cigarettes. And I wanted no part of it. It's just absolutely deplorable behavior. (28-year-old recently relapsed smoker, female)

The impact of smoking on romantic relationships was also considered a downside of smoking. Both men and women, and both current and former smokers, related their distaste of dating and kissing smokers. A 20-year-old woman, a former smoker, said, "Every time he [boyfriend who is a smoker] kisses me, I'm like ugh." A 19-year-old daily smoker said, without referencing any self-awareness, "I had a girlfriend who did [smoke]. It was disgusting. Really. It was really gross hanging out with her. Unless it's menthol, it's like no. It's really gross." A 29-year-old former

smoker said, “Scary now. And when I see it, see females smoking, it’s a big turnoff. ‘Cause it smells horrendous.”

7.2.4 Financial benefits of quitting

Most of the participants in the present study mentioned the high price of cigarettes but only two described it as a major benefit of quitting. This lack of impact of the price of cigarettes on smoking is consistent with many published studies of, respectively, Indigenous smokers, low income adults, college women, and California adults (Choi et al., 2006; MacAskill et al., 2002; Nademin et al., 2010; Sheu, Hu, Keeler, Ong, & Sung, 2004). However, two studies (Bader et al., 2007; Tauras, 2004) reported that the cost of cigarettes did impact young adults’ decision to quit smoking.

One of the two participants who indicated that the cost of cigarettes had driven him to quit was a 29-year-old unemployed male who had enrolled in the SEARHC Tobacco Cessation Program. He said, in response to the question about what is not good about smoking, “Financially, that’s why I wanted to quit.”

The other participant indicating that finances played a role in her decision to quit was a 20-year-old who quit cold turkey. She said that she used to smoke, but that spending 9 or 10 dollars a pack did not “seem worth it.”

Other participants mentioned financial concerns as reasons for quitting, although none described these as their major concern. For example, a 19-year-old intermittent smoker described cigarettes as “draining” his money, but he declared that the main reason he would like to quit was to regain stamina.

One conversation, between a smoking boyfriend and his non-smoking girlfriend, revealed a financial motive that she had not been aware of:

Girlfriend: You know, he doesn’t know it, but he cut down on smoking a lot.

Boyfriend: (quietly) That’s because I can’t afford it.

In another conversation in the downtown youth center group, a different boyfriend-girlfriend financial dynamic emerged:

Girlfriend (intermittent smoker): You waste a lot of money on buying cigarettes. We go through a pack every two days. That's, uh, expensive.

Boyfriend (every day smoker): That's better than a pack each.

In one of the mall groups, three unemployed smokers had the following short exchange about the cost of cigarettes late in the conversation about the disadvantages of smoking:

Facilitator (third followup probe): What else is not so good about smoking?

Female: The money.

Male1: The money.

Male2: Oh, God, the money.

It did not appear that the cost of cigarettes was a major motivator for quitting in this research. For all but two participants, the first and second probes about the disadvantages of smoking elicited responses about short-term health risks and social consequences, and high cost was reported only on later probes.

7.2.5 Family benefits of quitting

Several participants described a desire to quit in order to be a positive role model for the children in their lives and to be alive and healthy enough to take care of children.

In the qualitative literature, family role modeling was emphasized in five young adult and AI/AN studies:

- young adult Latinos subjects (Foraker et al., 2005),
- urban American Indian adult subjects (Choi et al., 2006), and
- two studies of Alaska Native people in the Y-K Delta region (Patten et al., 2009; Renner et al., 2004).

Each of these studies reported that family members were strong role models with respect to smoking behavior. In both Alaska Native studies and the American Indian study, grandparents, parents, and siblings were reported to be both positive and negative (i.e. smoking and non-smoking) role models. In the Latino study, older role models were described as non-smoking. No mention of family role modeling

was made in other young adult qualitative studies (Bader et al., 2007; Kishchuk et al., 2004; Nademin et al., 2010).

In the present study, many participants mentioned strong positive and negative role modeling experienced as a child. For example, a 19-year-old female every day smoker said:

But when I hang out with my mom, which is like every day, she's like, let's go out and smoke a cigarette, come smoke a cigarette with me, are you going to come meet me so we can smoke a cigarette? It's like every day. It's just everybody around me is smoking constantly.

A 28-year-old female every day smoker described her family's smoking behavior as ubiquitous:

Yeah, and it's not just myself, my mother and my grandmother, there's uncles and aunts. The majority of my cousins smoke. I can only think of one who quit when he was 30. It's definitely generational, I see it. I see it. (28-year-old female, recently relapsed)

A 29-year-old man, having recently quit, described how he was now a role model in his family:

My sister's going to quit smoking, several of my friends are going to quit smoking. And they all started at the same time I did. My younger sister started, she just started smoking. And they're kinda impressed that I quit. I recently came back from a trip home . . . Just the look in his eyes when I told [my nephew] that I quit smoking, that I don't need cigarettes. I felt like my actions were going to speak louder than words. And he's seeing that.

Several participants in the present study expressed concern that their smoking might interfere with their being able to take care of children and watch them grow up. Participants were concerned for children in both their immediate and extended family.

In the present study, a 22-year-old intermittent smoker, a single woman without children, said, “With my nieces, I want to be around long enough see them grow up.” A 28-year-old single mother, a recently relapsed smoker, said, “Oh golly, yes, my kids, my kids, I think about my kids. I think about my family. You have to think about being there way down the line.”

A 28-year-old smoking father expressed both the desire to be there for his children and be a good role model, saying:

You know, I want to be around long enough to see my kids grow up. I want to *not* be a smoker when they’re old enough, you know, to learn from mom and I. I don’t want them to grow up with me being a smoker their whole life.

This concern for children in the immediate family was similarly reported in two American Indian qualitative cessation studies (Burgess et al., 2007; Choi et al., 2006), but no young adult studies reported comparable findings. No studies reported concerns for children in extended family.

7.2.6 Summary of RQ2: Benefits of quitting tobacco

Most of the currently smoking participants indicated a desire to quit smoking, but only one was currently making an active quit attempt. Short-term health consequences were reported to be more compelling reasons to quit than longer term health consequences. Participants described being concerned about the negative social consequences of smoking, including being less socially desirable because of the smell of smoke on their person and smoker’s breath. Family benefits of quitting, applicable to both immediate and extended family members, included being a positive role model for children and being alive and well in the long run for them. The financial benefits of quitting smoking were mentioned as a primary driver of quitting by only two of the 23 participants.

7.2.6.1 Summary of comparison with the literature

The unclear impact of long-term health risks and the lack of impact of the cost of cigarettes on quit attempts reported in this research are consistent with findings in other studies of Indigenous persons (Choi et al., 2006), college women

(Nademin et al., 2010), and adults in general (MacAskill et al., 2002; Sheu et al., 2004). The perceived benefit that quitting would make one a positive role model for immediate family members was consistent with AI/AN literature (Burgess et al., 2007; Choi et al., 2006) and a young adult Latino study (Foraker et al., 2005), but not with general young adult literature (Bader et al., 2007; Kishchuk et al., 2004; Nademin et al., 2010). The present study appeared to be the only qualitative report in the AI/AN and young adult literature to document a desire to be a positive role model for extended family.

The importance of short-term health consequences and the emphasis on social consequences of smoking, such as yellow teeth and unpleasant smell, appear to be different from young adult-specific qualitative studies in the literature.

7.2.6.2 Social marketing implications

As part of the social marketing price strategy for young Alaska Native adult smokers, a cessation intervention for this population must consider emphasizing the benefits of quitting as seen by the participants in this research. The intervention elements for this population might include emphasizing the short-term health benefits of quitting, enhancing one's social desirability, or both, although no specific instances of social marketing-based interventions emphasizing these were found in the literature. It does not appear that emphasizing the financial benefits of quitting or the long-term health risks of smoking would be as useful to incorporate into the intervention as the other findings. Emphasizing family values must be considered, as many participants, both with and without children of their own, expressed a desire to be positive role model and to be able to care for children "in the long run."

7.3 RQ3: Perceived Barriers to Quitting Tobacco

To explore RQ3, participants were asked, "What seems hard about quitting?" In addition to discussing how they would miss the perceived benefits of smoking described in RQ1, participants also revealed what made quitting difficult, including habit, addiction, other people's smoking, and, for some, curbing other addictions.

Some participants also expressed a sense of fatalism about the ultimate cause of their own death or a sense of being invulnerable to the effects of smoking.

7.3.1 Habit as a barrier to quitting

Habit was described as a major barrier to quitting by several participants across several venues. This is similar to findings in other qualitative studies (Bader et al., 2007; Foraker et al., 2005; McCausland et al., 2009).

In the present study, smoking was described as “mindless,” “routine,” and “second-nature.” A 21-year-old male, employed full time, described his habit as having become part of his work routine:

It’s become so much a part of my routine now. Well, every time I step outside at work, I end up lighting up a cigarette. And I’m not the kind of guy who smokes a whole cigarette, I put it out like three or four times before I finish it . . . I’m lighting up all the time, pretty much, at work.

Similarly, a 19-year-old male intermittent smoker talked about how the habit of smoking led to his recent relapse:

‘Cause you know, I thought two or three months smoking, it becomes second nature. Sometimes you just pull it out, and you don’t even realize you have a cigarette in your mouth, and you say oh yeah I quit smoking, I forgot about that. It’s just second nature.

A 24-year-old father of two mentioned that his smoking habit had become associated with one of his favorite activities, woodcarving, saying “I smoke a lot when I’m carving - a lot!”

A 25-year-old full time student attributed her former smoking behavior mainly to habit:

It all became habit, like when I would get into my car, I would smoke a cigarette just because I got into my car, didn’t necessarily want it. Or if I was driving around it was just something else to do while I was driving around. My guess, it was just mindless.

7.3.2 Addiction as a barrier to quitting

Nicotine addiction was described as a barrier to quitting by both former and current smokers, similar to descriptions in the qualitative cessation literature (Bader et al., 2007; Burgess et al., 2007) and in clinical guideline documents (Fiore et al., 2008).

A 28-year-old recently relapsed woman likened her tobacco addiction to alcoholism, “But I continue, because it is an addiction. Even though, you know, I’ve quit on numerous occasions. It’s always there. You know. It’s almost like alcoholism, it’s always there.” She also appeared to be using the addiction as motivation to quit, describing her currently contemplated quit attempt this way, “I don’t want to continue to be a slave to my addiction, I don’t wanna do my body any more harm. I’m not getting any younger. ”

Two people mentioned that withdrawal symptoms were difficult to handle, implying that having gone through withdrawal once would be a deterrent to quitting again. A 22-year-old student who had recently quit but relapsed after three days noted, “The withdrawals are too [hesitates], the physical withdrawals are like really hard to deal with.”

A 29-year-old recent quitter spoke poignantly about his withdrawal, saying, “Those first three days were the longest 3 days in my entire life. You know. Those first 72 hours were no joke when you’re quitting smoking.”

In the context of discussing one of the advertising storyboards, a 20-year-old woman, a former smoker, noted that the power of addiction is not always understood by others, saying, “Sometimes you know you want someone to quit, but when you’re addicted it’s a lot harder, I don’t think some people get that.”

7.3.3 Others’ smoking as a barrier to quitting

Being in the presence of other smokers was described by many as a barrier to quitting or staying quit. Other qualitative cessation studies of young adults (Bader

et al., 2007) and American Indians (Burgess et al., 2007; Choi et al., 2006) also describe others' smoking as hampering quitting.

In an individual interview, a 26-year-old former smoker described her struggle with staying quit:

What's been hard is that I've still been around people who smoke. And so, when I would quit smoking, which I've done numerous times, when I would get back into a social setting, it would just seem natural for me to want to smoke with them. That made it difficult, because I knew that there's a chance that I was gonna start it all over again. Like the whole cycle. So that's been tough about quitting.

One 27-year-old man described how, after he had successfully quit for several months, exposure to smoking and constant offers of cigarettes on his new job led to relapse.

And when I finally got a job with someone landscaping, he'd smoke. And he'd smoke in the company truck right next to me. And at first I could say no, and then after a couple of days I'd just take a drag or two, so it would be like a couple drags a day and then before I knew it, I was carrying around a cigarette with me all the time. Just one cigarette like a day. And from there it just progressed, progressed until I was right back to where I was when I quit.

Several people mentioned that small, everyday situations such as observing a smoker, smelling smoke, or being offered a cigarette would cause them to want to smoke. A 20-year-old man described in detail his experience as an ex-smoker moving back to Juneau from Anchorage:

And when I came back to Juneau, I noticed so many more people smoke here than in Anchorage. I saw this old lady walking down the street, she looked at a cigarette, and I was like "what?" You know, where the old McDonald's used to be. I saw like, one, two, three people at the same time whipped out

cigarettes, I was like “what?” And then over by the Sealaska¹⁶ place, I was walking over to Bullwinkle’s [pizza parlor], and four people just lit up cigarettes, like dey-hey. This is gnarly. Pretty crazy man, but it kinda made me feel like I should smoke again. But I was like, it’s all right.

Two other participants, one a current smoker and one an ex-smoker, described their experience with the influences of others smoking similarly. A 20-year-old male former smoker said, “Cause when I was trying to quit smoking, like whenever I would see someone with a cigarette, it just makes me want a cigarette.” A 20-year-old male current smoker said:

I don’t know, I’d just stop buying them. But then, like every time I’d stop thinking about it, somebody would say “You want a cigarette?”, I’d be like damn, you know. [others laugh] Yeah, shit, yeah, I do, actually! [laughs]

The smell of cigarette smoking in particular was described as a temptation. A 23-year-old intermittent female smoker said, “Well, my roommate smokes *all* the time. So it’s really hard to quit, because he’s usually smoking and he leaves the door open and so the smell just like goes through the house. A 28-year-old relapsed female smoker described how outdoor smoking impacted her, saying, “I smell it on the street, and I have to mentally kick myself in the, in the butt, and say, ‘don’t even think about it, don’t even think about it, just keep walking.’”

7.3.4 Relationship between quitting smoking and other addictions

Several participants, across venues, made a connection between tobacco use and other addictions such as alcohol and marijuana use. Most of these described smoking tobacco as an alternative to resuming other addictions such as alcohol or drugs. Their perception is at odds with several studies that indicate that quitting smoking and quitting other addictions are positively correlated (De Soto, O’Donnell, & De Soto, 1989; Lemon, Friedmann, & Stein, 2003; J. J. Prochaska, Delucchi, & Hall, 2004; Romberger & Grant, 2004).

¹⁶ A local corporation’s headquarters building in Juneau.

Two male participants described how smoking helped them stay clean from other addictions.

'Cause like if you're trying to remove from any other addiction, smoking cigarettes actually helps. Trying to quit cigarettes is really hard, it really is. Trying to cut down drinking, I started smoking cigarettes. Cut down on weed, smoked more cigarettes. (19-year-old intermittent smoker, male)

There's a lot of people out there who find things to put them at ease, a lot of people out there who drink to cover themselves up with something, people who smoke weed or do harder drugs. But cigarettes aren't really like that, it helps you out and it relaxes you some, but it doesn't keep you addicted like the other drugs do. It doesn't for me, you know, I can't speak for anybody else. I did a whole lot of hard drugs in my life, you know, if I crave something, like I crave alcohol, I've been clean and sober since about 4 months now, but if I crave something that I used to do, I just smoke a cigarette and it's gone. (24-year-old father of two, every day smoker)

A 29-year-old man, who had recently quit smoking through the SEARHC Tobacco Cessation Program, said that quitting tobacco was a good complement to quitting alcohol. His statement, "If I quit smoking, you know, I can also use that to reinforce my sobriety," is consistent with the literature cited above.

7.3.5 Fatalism as a barrier to quitting

In four groups, across all venues, participants described a sense of fatalism, indicating that they were likely fated to die of a particular cause that might or might not be smoking related. Similar fatalistic attitudes toward the health risks of smoking are reported in the literature (Cho & Salmon, 2006; Hastings et al., 2004; Henley, 2002).

In the present study, a 19-year-old man, an intermittent smoker, said, “No matter what, you’re going to die, so you might as well enjoy it with a cigarette,” and several participants in his focus group agreed. Other similar comments included, from a 28-year-old male intermittent smoker, “Life is going to kill me, I mean I’m going to die eventually,”

A boyfriend-girlfriend pair exchanged words about his fatalism during the focus group. He was a self-described heavy smoker, while she had only smoked occasionally as a teen and was not currently smoking.

Boyfriend: I’m not afraid of it [dying from smoking].

Another male: Yeah, you die someday.

Girlfriend: You die from that!

Boyfriend: I’m not afraid to die. If it’s my time, it’s my time.

Girlfriend: It’s not your time, you’re killing yourself. Your time is when you die when something natural happens. Not because you smoke cigarettes.

Cho and Salmon (2006) reported that, using a stages of change model, pre-contemplators were more likely to think fatalistically about health risks. This dissertation research did not assess stage of change, however, so no similar conclusions can be drawn about those expressing fatalism.

7.3.6 Invulnerability as a barrier to quitting

Some participants expressed a lack of vulnerability to the health risks of smoking, with statements such as “this [disease] could never happen to me,” or “I didn’t really care about it, no, that’s not going to happen to me.” The oldest person among all participants, a 29-year-old recent quitter, saw himself changing his opinion about invulnerability over time:

You know, because I told myself when I was younger, I’m never going to quit smoking. I’m not going to get hurt. You know, medically, my entire life, I’ve never been in the hospital for any medical conditions but, you know, that probably would change in 20 years. Who’s to say I won’t get cancer?

Feelings of invulnerability were not reported in the young adult cessation literature, but such feelings have been reported for adolescents (Institute of Medicine, 2007; Pechmann et al., 2003). For example, Pechmann et al. (2003) exposed 1,129 adolescents to a random sample of eight or nine of 197 different countermarketing television advertisements. The study found fear advertisements to increase the adolescents' perception of the severity of health risks but had no impact on their intentions to quit, "presumably because youths perceived themselves to be invulnerable to the long-term physical risks" of smoking (p. 179).

7.3.7 Summary of RQ3: Barriers to quitting

Habit, addiction, and other people's smoking were seen as significant barriers to quitting smoking. Some participants indicated that smoking helped them to curb other addictions to drugs and alcohol, which they considered more serious than smoking addiction. Fatalism and feelings of invulnerability also appeared to be barriers to quitting.

7.3.7.1 Summary of comparison to literature

The findings of this dissertation research were consistent with the literature with respect to habit, addiction, and others' smoking acting as barriers to quitting (Bader et al., 2007; Burgess et al., 2007; Choi et al., 2006; Fiore et al., 2008).

The participants in the present study were inconsistent in their descriptions of how smoking interacted with other addictions, with some statements at odds with the positive correlation of quitting smoking and quitting other substance use found in the literature (De Soto et al., 1989; J. J. Prochaska et al., 2004).

Fatalistic attitudes about dying from smoking-related diseases were reported both in this study and in the literature (Cho & Salmon, 2006; Henley, 2002). Feelings of invulnerability, expressed by a few participants in the present study, were not reported in the young adult cessation literature but have been reported in the adolescent tobacco literature (Institute of Medicine, 2007; Pechmann, 2001; Pechmann et al., 2003).

7.3.7.2 Social marketing implications

As described above, in a social marketing-based intervention for smoking cessation in this priority population, the barriers to quitting comprise an element of the price strategy. Based on the results of RQ3, an intervention design for this priority population should consider methods of alleviating addiction, breaking habits, and dealing with other people's smoking. Breaking habits was a key element in the national EX social-marketing based cessation campaign (Legacy Foundation, 2013; McCausland et al., 2009), with advertisements featuring specific tips to break such habits as smoking with morning coffee or lighting up when with friends who smoke.

The social marketing cessation intervention should also consider addressing feelings of invulnerability and fatalism, perhaps by providing ways of measuring those short-term effects of concern to this population, such as reduced stamina.

7.4 RQ4: Methods of Smoking Cessation

To explore RQ4, participants were asked, "What experience do you have with quitting smoking?" Three methods of quitting were described by participants, unaided by the facilitator's questions, including unassisted quitting, or cold turkey; counseling; and pharmacotherapy.

7.4.1 Quitting cold turkey

Participants in this dissertation research strongly preferred to use cold turkey methods of quitting rather than counseling or pharmacotherapy. The lack of interest in assisted quitting and the preference for quitting cold turkey in the present study is consistent with the qualitative literature (Bader et al., 2007; Foraker et al., 2005; Kishchuk et al., 2004) and with quantitative data on prevalence of quit support methods (Centers for Disease Control and Prevention, 2011; Shiffman et al., 2008).

Those who expressed a preference for unassisted quitting knew of others who had quit successfully using cold turkey and they viewed quitting as a matter of

willpower. In most focus groups and interviews, participants clearly stated that they had their own approach to quitting and did not want or need input from others. A 19-year-old former smoker stated, “So I don’t want any advice from anyone, I just want to do it myself,” and a 20-year-old former smoker said, “I don’t know, what helps me is me telling myself things, like I tell myself I am weak, I tell myself cigarettes do not exist [laughs].”

The theme of independence appeared in one of the individual interviews as well. A 26-year-old woman, who had successfully quit smoking cold turkey upon learning she was pregnant said:

I’ve always been really independent, I guess. And then I remember I’ve heard people who have used the patch who said that it made them feel sick. And I just didn’t want to go through that. And my grandpa did it and when he did it, he just quit cold turkey. And I guess I always had that in my mind, that if my grandpa could do it, I could do it too. And I did it.

Some participants acknowledged that they had been unsuccessful using the cold turkey method in the past, yet believed that they would continue to use it for subsequent quit attempts. For example, after stating that she was independent and favored the cold turkey approach, the pregnant woman described above went on to say:

Of course, I guess it doesn’t work if I keep going back to it [smoking]. I mean I would go years without smoking and then just go back. Go back to it. And then go months without smoking and then go back to it. [hesitates] I don’t know.

Not all current smokers who reported having quit cold turkey in the past recognized any disconnect with their continued belief in the cold turkey method. A 26-year-old female recent quitter said, “I think it [counseling] would help some people. But since I’ve done it on my own so many times, I don’t know if I would actually utilize a quit program.” Similarly, a 19-year-old male intermittent smoker

said, “I did [cold turkey], and it worked, I tried to cut down seriously. Like I did good for a little bit but I ended up smoking again.”

In one of the mall groups, a 27-year-old father of two described his success in quitting cold turkey under forced circumstances:

Well, it doesn't really count I guess, but I was able to quit because I was incarcerated for about 60 days. And when I got out, I just didn't start again. I quit, it was about a year. Yeah, I quit cold turkey 'cause I was incarcerated and you can't have cigarettes in there. So, it was cold turkey and it didn't seem to really bother me. Really. 'Cause all I was worried about was getting out. Well, I'm not saying that you should go to jail, though. [group laughs]

A few participants described ways that they tried to enhance the cold-turkey method, such as chewing gum or reciting a mantra like “cigarettes don't exist.” The pregnant woman who was individually interviewed relied on a self-designed form of aversion therapy:

What I notice about when I'm ready to quit, I'll make a mental note in my head that I need to quit. That I don't like the way this feels. And I'll typically smoke a lot more than I will, like I'm smoking all I can before I stop smoking [laughs]. And I'll smoke so much that I just get sick of it. And then I just don't want to touch it anymore. I just get disgusted with it. And then I'll just stop.

7.4.2 Counseling as quit support

There was a mixed reaction to counseling as a quit support technique, with the two participants who had used the SEARHC counselor supporting it strongly and other participants having largely negative opinions of it. The participants' lack of experience with counseling is consistent with both the qualitative literature (Bader et al., 2007; Burgess et al., 2007) and quantitative data, which reported less than ten percent of quitters using counseling with or without pharmacotherapy (Shiffman et al., 2008). The participants' negative opinion of counseling is also consistent with

the literature (Bader et al., 2007; Foraker et al., 2005), in spite of the demonstrated effectiveness of counseling (Fiore et al., 2008; Lancaster & Stead, 2008).

The two mall focus groups found the notion of counseling to be inappropriate for smoking and better reserved for what they perceived as the more serious addictions of drugs and alcohol. The first mall group, one of the youngest, took a strong stand against counseling for smoking cessation:

O: I think it's a little too extreme, someone trying to be like Alcoholics Anonymous.

B: Yeah, that's what it kind of feels like.

O: Cigarettes aren't as extreme as alcohol. It doesn't have the effect that . . .

Facilitator (KA): So say some more, what reminds you of the alcohol program here?

L: Counseling

O: Counseling, one on ones . . .

B: Education. Yeah, all of this just feels like an AA meeting.

D: It does feel like an AA meeting.

In the second mall group, the notion of sharing intimate details with a stranger was viewed negatively.

Facilitator: So you think going to a counselor would be nasty?

D: Yeah!

[Everyone laughs]

Facilitator: [laughs] So tell me more about that, what would be nasty about it?

D: I don't know, talking to someone strange.

M: Telling them all your problems.

D: Yeah. And you don't know a thing about this guy.

One woman, a 23-year-old intermittent smoker, pointed out that not everyone would be willing to invest the time and energy to participate in counseling:

I think it's good, it just depends I'd say on how often you smoke. I think that for some people, they feel they don't smoke enough to where they want to go do it [get counseled]. Just because it's a lot of time, you have to sit down and go talk to somebody and go pick up whatever they want you to get and sit down and learn about it. I think a lot of people already know what the effects of smoking are, so they only want to just pick up some gum or medication and just leave. They don't really want to talk to anyone about it.

The two individuals who had tried the SEARHC Tobacco Cessation Program expressed strong support for it. A 29-year-old man who had recently quit described how conflicted he was about starting to use the service and how the counselor dispelled his fears:

So that was, that was the longest walk. Just going down her hallway. Going into her office and asking somebody for help. You know, I thought [hesitates] I thought in my lifetime, I don't need help, you know, I can do it on my own. That was like that, you know. It's nice to talk to people that's been through the same experience, you know, and they can help me, help me or help others. You know, using their living testimony - she quit smoking, you know, she quit smoking, why can't I quit smoking?

The other person who had used the counseling service, a 28-year-old single mother, had quit smoking using the SEARHC Tobacco Cessation Program a few times, but had repeatedly relapsed. She stayed with the program because of the education and the particular counselor:

The program itself is just wonderful. It allows somebody to not just say, "I need to quit smoking." It gives them the means with which to quit. The education is . . . necessary, in that, you know, this is what it is, this is how it affects you, these are the benefits and whatnot. But mostly it's the counseling and the products themselves that are so helpful. And because it's offered, it

makes it easier for somebody to quit . . . There's no dislike. You know, it's a free offering. It's a blessing is what it is.

She went on to say:

I can call up my counselor or send her an email. You know, she's really helpful and she's always calling me back, wondering how I'm doing or making a new appointment. When's the next time we can see each other, the next time we can talk? Not as frequently as I'd like, we're both busy.

A 28-year-old intermittent smoker, who had no prior knowledge of the SEARHC Tobacco Cessation Program, had a positive reaction to the concept:

M: I think it's a good, it's like a net for the community. Where someone makes a choice, they know where to go. There's an organization focusing on it. I think that's a strength in the community.

Facilitator (KA): And how about its impact on you as smokers? I mean, would this support you if you had made the decision to quit?

M: It would. For me.

7.4.3 Nicotine replacement therapy as quit support

Few of the current and former smokers in the present study reported having used NRT to support a quit attempt. This is inconsistent with the national prevalence of pharmacotherapy use, reported at about 30% (Centers for Disease Control and Prevention, 2011 ; Shiffman et al., 2008) and different from a study of young Canadian adults, which reported that about one quarter of their participants had tried NRT (Bader et al., 2006).

According to some respondents, NRT had a bad reputation. Some participants had experienced side effects like nightmares and nausea, and, for nicotine gum, unpleasant taste. Participants in the present study have unfavorable opinions of NRT and little experience with varenicline or other smoking-cessation prescription drugs. This is consistent with the young adult and Indigenous cessation literature (Bader et al., 2007; Burgess et al., 2007; Kishchuk et al., 2004; Wardman & Khan, 2004).

A 29-year-old male former smoker described a personal bad experience with NRT, saying, "You know, I tried once in the past, nicotine patches, but . . . the dreams you have when you're on that is kinda scary. So I stopped." A 19-year-old female intermittent smoker said, "Actually I tried nicotine gum and that was really gross . . . It made the back of my mouth tingle to the point it almost hurt. And it tasted disgusting." Another participant, a 22-year-old male who had recently relapsed reported disliking the patch but liking nicotine, saying, "I tried the month before with the patch and I had nightmares and it didn't help with the cravings, so I don't like the patch. But the gum was helping."

One person had heard about such side effects but had not personally tried NRT. Noting that the patch had made his friend "feel sick," he expressed an unwillingness to try the patch himself.

Two participants objected to the form of particular NRT modes such as patches and gum. A 19-year-old female who smoked daily said, "I don't do well with gum, so I don't think that quitting products would work for me." A 24-year-old every day smoker, male, said, "I don't really like Band-Aids, so I wouldn't wear a patch. I'm not exactly hurt from smoking, so why should I put that Band-Aid on me?"

One intermittent smoker, a 19-year-old man, described that NRT had worked for him, but he relapsed when he had to discontinue the treatment:

Well, a couple of times before, I tried to get the school to help me for a bit. They gave me some Nicorette mints to help for a while, but I kinda went back to it [smoking] because, eh, after a while they stopped giving [Nicorette] to me. I was only 17 at the time, and you had to be 18 to get it. So I got cut off, and I went back to smoking.

Only one respondent, a 28-year-old female currently enrolled in the SEARHC Tobacco Cessation Program, mentioned using the prescription drug varenicline (Chantix®) in combination with NRT products. She was very satisfied with the varenicline, even although she had recently relapsed while using it. During the

course of her individual interview, she discussed her enthusiasm for the drug and NRT with the SEARHC co-facilitator (a health educator, not the counselor):

Facilitator (KA): So, you're still smoking?

Participant: Yeah, I've gone back to the SEARHC tobacco cessation, and I met with the clinician there, Ms. Reeves, and got on track again. We tried with the patches . . . I've used that for a week, continued to smoke; the amount that I smoke though went down drastically. But, it was still, you know, pretty much every day, pretty much every day. But we definitely decided that, ok, well patches aren't going to work. Gum is wonderful and it's very helpful. But the Chantix, which I had used previously the last time I quit, is actually *the* most effective. So, that's where I'm at with that. I'll quit the 12th, we started over as far as our quit date. You know, mark a date and say stop here, and move on. But, I actually have not met with her to get the Chantix yet, so it's just patches right now, patches and gum. So, but yes, still currently smoking. I'll probably smoke a cigarette after this.

SEARHC Co-facilitator (ER): After 9 months of no smoking? I wasn't really clear about that.

P: Yeah, but the Chantix though is very, very effective. Big kudos to whoever invented or discovered that [laughs].

(ER): Yes, I think it's an anti-anxiety medicine.

Participant: Really? You know, I can see that, too, if you're not anxious and whatnot. Not only that, but it turned off a lot of the need and the want, and there was no enjoyment orally. You can actually taste the [hesitates] the tobacco. It's almost like being awakened to the fact that it's so useless.

[Laughs]

Similar to participants in Bader et al. (2007) and Foraker et al. (2005), a few participants expressed a disinterest in using NRT because of its high cost, perhaps unaware that their tribal health coverage included free access to NRT through the SEARHC Tobacco Cessation Program. A 28-year-old recently relapsed woman said,

“A lot of people can’t afford these products, especially if you don’t have insurance.” A 23-year-old intermittent smoker said, “Normally, you can get the patches for \$50. I didn’t really want to pay for that. So I tried to just stop.”

In several qualitative studies (Bader et al., 2007; Burgess et al., 2007; Foraker et al., 2005; Kishchuk et al., 2004; Patten et al., 2009), young adult and Indigenous study participants appeared to be willing to learn more about pharmacological quit support, but this willingness to learn was not apparent in this dissertation research.

7.4.4 Belief that quitting smoking is personal

Participants expressed that quitting tobacco was a personal matter and that they wanted to be treated as individuals. This preference for personalized quit support found in the present study is consistent with the literature (Bader et al., 2007; Foraker et al., 2005; Kishchuk et al., 2004; Roddy et al., 2006; Rodgers et al., 2005).

For example, a 28-year-old female who had recently relapsed offered the following comment:

That’s the hard part, quitting smoking is so personal. It’s not something that you really share with somebody else. You don’t have the common bond of “My craving, this is my need, this is my want, how am I going to fix this.” You don’t share it with anybody, it’s your own.

A 20-year-old female student who had recently quit cold turkey pointed out that a potential for individualization would be a benefit of counseling:

I think the one-on-one counseling would be good, because people get to know about you personally now, they get to know what it is you like about smoking and why you feel the need to. So you really get the help, I think.

7.4.5 Summary of RQ4: Methods of quitting tobacco

Cold turkey quitting was the most frequently mentioned method of quitting, regardless of current smoking status, and even participants who had repeatedly been unsuccessful using it indicated they would continue its use. The two

participants who had used the SEARHC Tobacco Cessation Program recommended the counseling component highly, but in two of the youngest groups, counseling was seen both as something to be used for what they considered more serious addictions than smoking and as having to tell a stranger intimate details of their lives. The use of nicotine replacement therapy (NRT) had a bad reputation among participants in each venue, with some participants reporting personal negative experiences and others relating the negative experience of friends or family. Only one person, who was enrolled in the SEARHC Tobacco Cessation Program, mentioned having used the prescription drug varenicline, and she highly endorsed the drug even though she had recently relapsed.

7.4.5.1 Summary of comparison to the literature

The present study and the literature (Bader et al., 2007; Centers for Disease Control and Prevention, 2011; Foraker et al., 2005) both report a strong preference for the cold turkey method of quitting, a negative attitude towards counseling, and suspicions about pharmacotherapy. However, qualitative studies of young adult and Indigenous smoking cessation report participants' willingness to learn more about pharmacotherapy (Bader et al., 2007; Burgess et al., 2007; Wardman & Khan, 2004). No such willingness was uncovered in the present study.

A desire for personalized cessation support was expressed in both this dissertation research and in the literature (Bader et al., 2007; Roddy et al., 2006; Rodgers et al., 2005).

7.4.5.2 Social marketing implications

The findings about young Alaska Native adult attitudes towards cessation methods have implications for the design of the product and the promotion strategies in a social marketing-based intervention.

The product, which would be the cessation service and any associated tangible items, should be designed to minimize any similarity to drug and alcohol abuse counseling. The product design may also include a special module addressing how to quit smoking in the context of former or current addictions to drug and

alcohol. In addition, the service should include a discussion of the use of NRT and prescription drugs in a way that addresses the pre-conceived negative attitude of this priority population toward pharmacotherapy.

The promotion strategy should emphasize that the service is individualized and will help smokers wanting to quit to do so on their own terms, and it must take care to differentiate the service from counseling therapy for drug and alcohol abuse.

7.5 RQ5: Attitude Toward Countermarketing Advertisements

To explore RQ5, attitude toward countermarketing advertisements, participants were asked for their reaction to a sequences of three storyboards (Langford & McDonagh, 2004), depicting various styles of tobacco countermarketing. As described in Chapter 6, the storyboards were constructed of 12" by 15" white poster board, each with two separate pictures of sample open-access tobacco countermarketing advertisements found on the Internet. The storyboards were handed out to participants at the appropriate point during the session.

For the countermarketing discussion, three advertising storyboards (Appendix J) were used in turn: fear advertisements (#1), gentle-persuasion advertisements (#2), and family values advertisements (#3). The facilitator (KA) asked the participants three separate questions about each storyboard: what they liked about each, what they disliked, and how they thought it might influence their attitude toward smoking. At the conclusion of the third storyboard discussion, participants were asked, "Of all these, which type of ad do you think would work best for you or for people like you?"

7.5.1 Reaction to fear series

Participants reported diverse reactions to the fear advertisement series (#1), which were high emotion, strongly negative emotional valence advertisements (National Cancer Institute, 2008). Some said that fear-based advertisements made them want to quit, while others reported ignoring them. The literature is consistent

with the former reaction. According to contemporary studies (National Cancer Institute, 2008; Wakefield et al., 2003), fear-based countermarketing such as print and television commercials (Centers for Disease Control and Prevention, 2013) or graphic pictures on cigarette packs (Borland et al., 2009) with a strongly negative emotional valence (e.g., fear or disgust) are considered the most effective.

The fear advertisement storyboard showed two pictures, one of an ex-smoker with a stoma from throat cancer and a second of a woman with yellow teeth smoking (Appendix J). Most comments concerned the stoma picture.

Some participants, including both current and former smokers, said that fear advertisements cause them to consider quitting. A 19-year-old intermittent smoker said, "I wouldn't like this one so much [stoma], 'cause it's scary, thinking I could have throat cancer. I guess it might scare me to not smoke, but it's kinda scary to see it," and a 26-year-old female former smoker said, "I've seen ads similar to this that have impacted me. They've made me not want to smoke." A 27-year-old male every day smoker said:

A lot of commercials that I've been seeing lately that show the younger people with shaved heads from radiation. And they have tubes, holes in their neck. And they have to talk with voice boxes. I'm really scared to end up like that.

A 28-year-old recently relapsed woman felt that the fear advertisements would help a smoker confront what their habit is actually doing to his or her body:

It [fear advertisement] is definitely powerful. These are the kinds of ads that I think are effective. Nobody wants to look like that, nobody wants to have that sort of effect on their body. Smoking has long-term effects, these are the drastic effects, you know. Full blown, in your face. That's yeah. These are the ones I think are most effective. The guy with the stoma, you know, or the awful teeth. Most smokers don't even see what they're doing to their body.

One of the youngest participants, a 19-year-old former smoker succinctly stated, "It [fear advertisement] makes you feel so bastard. More inspiration to quit."

Unlike what the literature predicts, others thought that fear advertisements were largely ignored and, while “disgusting,” would not have an impact on their decision to quit. One participant believed that smokers consider the fear advertisements irritating, while another believed these advertisements were ignorable. A 28-year-old intermittent smoker said, “I don’t think that they’re effective. I think just people, I think are annoyed by the fear factor.” A 19-year-old former smoker, male, said, “Usually people who smoke, they already know this [disease risk] is going on . . . Maybe it would encourage me not to smoke at that time, but if I really wanted to smoke, it wouldn’t change my mind at all.”

One former smoker, a 20-year-old female college student, pointed out that, while she was smoking, she did not feel that these types of advertisements applied to her:

Well, I guess there’s a bit in your head that says, oh, this could never happen to me. I’d never look like that. I feel like I would think I would have to be smoking for a long period in time for that to happen.

A 28-year-former smoker described how he saw fear advertisements from a new angle after he quit, perhaps revealing that he had not allowed himself to consider the long-term risks of smoking while he continued to smoke:

When I was smoking you know, I didn’t really, excuse my language, I didn’t give two shits about these kinds of advertisements you know. Like, sure, just brush it off. It doesn’t bother me. Now, after you quit smoking it’s a whole different perspective.

Similarly, a 19-year-old former smoker felt that, while he was a smoker, fear advertisements might have had the unintended consequence of increasing his smoking:

When I was smoking and saw these things, I got kinda pissed off. And it was like, really, why do you want to show me that? It kinda made me want to smoke cigarettes. ‘Cause of that, ‘cause I’ll like rebel.

A 20-year-old every day smoker tried to make light of the stoma fear advertisement, but as the conversation unfolded, he admitted that it made him uncomfortable:

Participant (D): [laughs] I seen this commercial “you don’t always die from tobacco” [mimics stoma patient speaking with electrolarynx]

[D and others laugh]

Facilitator (KA): [laughs] So, what do you think about ads like that, the scary ones?

D: [laughs] They shouldn’t show it. [laughs]

KA: What makes you say that?

D: It’s so disgusting!

KA: So what about it is so disgusting?

D: Ohhhhhh man, [laughs] it’s so crazy.

KA: So say some more about why they shouldn’t show that.

D: [Laughs] I don’t know. [hesitates] [laughs] ‘Cause it like makes you feel weird. Feel weird.

Most participants chose the fear advertisements as the most impactful. It is important to note that, in spite of distinct questions being asked about the likeability versus the impact of the advertisements, this qualitative research can only inquire about attitudes and intentions, and not about whether the individual actually takes action.

7.5.2 Reaction to gentle-persuasion series

The gentle-persuasion storyboard consisted of two advertisements, one a drawing of a woman wearing a patch on her arm and the other a stark black and white advertisement stating that more than half of all people who smoked have quit (Appendix J).

No participant liked the drawing of the woman wearing the patch, which was consistent with the findings in Wakefield et al. (2003) and National Cancer Institute (2008) that stated low emotional level messages are not effective in smoking

cessation. In one of the mall groups, both the vagueness of the drawing and its older style were criticized:

O: I don't really like the top one very much.

C: It looks like an old, old, old.

O: Yeah, I don't know, I don't relate very well to it, and I feel like if you didn't notice the writing in the corner you wouldn't really understand what it was about.

D: It could be about birth control, really.

C: It just looks too old for me to want to look at. It just looks very old, I don't like looking at it.

Other participants did not find anything of interest in the drawing. For example, two former smokers, a 26-year-old female and a 29-year-old male, said:

Umm I'm not sure. Yeah, I guess there's not anything that I dislike about it. It just doesn't appeal to me. It doesn't jump out to me or anything. It doesn't seem real, I guess. (26-year-old former smoker, female)

It's not something that really grabs your attention. (29-year-old former smoker, male)

Some of the participants liked the black-and-white advertisement that stated that half of all adults who have tried to quit have succeeded, indicating that they favored its positive, supportive message, consistent with the prediction in National Cancer Institute (2008) that advertisements with strongly positive emotional valence might be as effective as those with negative valence.

A 23-year-old female intermittent smoker said, "I like the one that talks about how all these other people have quit. Cause it's sometimes like when you quit, you feel like you're the only person doing it." A 28-year-old male intermittent smoker said:

Yeah, cause it's saying the positive. The outcome. Not the outcome, but the goal, so this is your goal, this is where you need to go. It seems more like a positive message to me. It doesn't feel like a judgment or looking down upon.

At the conclusion of the discussion of all three storyboards (fear ads, gentle-persuasion, and family values), no individual chose the gentle-persuasion panel as the most impactful of the stop smoking series, consistent with the finding in National Cancer Institute (2008) that low emotional level advertisements are less effective than those with a high emotional level .

A 20-year-old former smoker wrapped up the discussion in her focus group by saying, "I don't think [storyboard 2] has any effect, if I did smoke. It's just like, wear a patch, and then telling you how many people have quit smoking. Like, ok, good for them."

7.5.3 Reaction to family values series

The family values panel (#3) resonated with almost everyone, including many but not all of those without children in their life. This is consistent with the literature (National Cancer Institute, 2008) in that these advertisements were of a moderate or high emotional level and a very positive emotional valence.

The first picture showed a crushed cigarette surrounded by the words "I put it out for good because my family loves me." The second picture featured a stick figure of a child with the caption "Mom, I love you, stop smoking!"

Many said that these advertisements reinforced the love of family. As expressed by a 19-year-old female, an everyday smoker and single mother of one:

It's just like family. I'd rather quit for my family than quit for anybody else. And like I said, I don't really look at those first ones [fear ads], because they're just so gross, and [hesitates] I don't know, I'm more of a family person, I care about my family a lot.

A single childless man, a 29-year-old former smoker, also talked about how this storyboard resonated with the importance that he placed on family:

It's powerful, because, you know, most people have that. Most people's value system, you know, family is way up there. So that's something that would cross my mind. I would actually read it, because, you know, it's about my family."

However, some expressed concern that the family values advertisements would make them feel guilty about their smoking or about a failed quit attempt. A married father of two pointed out the possibility of guilt arising:

I think they're tough. I like it, but, I mean if you can't do it, that's just a big guilt trip staring at you every day. I mean if it helps, then, I think it's a great ad. It makes you really think about what you're doing.

Interestingly, two single men without children made similar statements about the possibility of guilt being induced:

Yeah, I think it's focused on like a sympathy, or the emotional attachment to the family. This is for the number three [family values]. It does come with, like if I was really a full time smoker, I'd feel bad about smoking. But it wouldn't make me want to stop, it would just basically be like pointing a finger. (28-year-old intermittent smoker)

The bottom picture, it makes you feel bad to smoke, that picture. Making a child cry, an adorable child cry whose dad is [hesitates]. I don't know, if she was a little more adorable or a little more sad, it would make me feel bad, but it wouldn't make me quit. (19-year-old intermittent smoker)

Only one of the 17 participants without children, a 23-year-old intermittent smoker, declared her personal neutrality on the family values series:

I think it would work really well for people who have families. Like I don't have any kids, so it's not really the same thing. But I'm sure for people who do have kids it would probably be pretty effective.

One participant, a single mother of one, made an important distinction between the two family values ads. She indicated that the crushed cigarette advertisement would help her to stay quit but not actually incent her to quit, while the "Mom, I love you" advertisement would actually incent her to quit.

This ["Mom, I love you"] is a good one. But this [crushed cigarette] is the after, this one here, I put it out for my family. This is the after. This is not the during. It's not the struggle. This second one, with the mom I love you stop smoking, that's a good one.

7.5.4 General comments about advertisements

In addition to discussing the smoking-related content and feelings toward the three storyboards, participants made comments on the general style and tone of the advertisements.

7.5.4.1 Effectiveness of advertising in incenting a quit attempt

A few participants remarked that advertising might work to reinforce a quit decision but would not cause someone to take action to stop smoking. This view is in opposition to research which shows that tobacco countermarketing is a "key component of tobacco control efforts" (National Cancer Institute, 2008).

A 28-year-old recently relapsed smoker indicated that, while advertisements remind her why she should quit, they did not actually cause her to quit:

It [fear ad] wouldn't *make* me stop smoking. When I see them, it reminds me, this is why you need to stop. This is why you need to stop. These types of advertisements that you see on television are the reason why, you know, you get the constant reminders.

Interestingly, a 26-year-old pregnant woman who had quit smoking upon learning of her pregnancy said she would not have been moved by either family values advertisement:

I don't know if I like or dislike anything about it. I don't think it would tell me to quit. I mean I don't think it would urge me to quit. I wouldn't feel that inside, I think. But I would think about it.

A 20-year-old male former smoker called the entire advertising approach into question, alluding to the need for practical advice:

D: I don't think that stuff helps.

Facilitator (KA): So, what makes you say that?

D: You just decide you have to quit. Or just keep smoking. For show.

KA: Yeah. And so how does this [advertisement] make you feel instead?

Di: It's like [hesitates] it's [hesitates] not helpful.

7.5.4.2 Preference for real people in advertisements

Some of those who commented on the graphics style expressed a desire to see the depiction of an actual person they could relate to and not a cartoon or abstraction. During the conversation about the fear ads, one female student, a former smoker, responded to the question, "What do you like about these?" by saying, "Well, they're real people." Others also talked about their preference for real people:

This second one [family values #2], with the "Mom I love you stop smoking," that's a good one. The picture itself doesn't do a whole heck of a lot for me. It's not an actual face. It's cartoon character. And that doesn't really personalize anything for me. And, with the first one, too, with the cigarette butt, it's not very personal. It doesn't have a whole heck of a lot of effect. But, the words themselves are impactful. (28-year-old single mother, recently relapsed)

"Yeah, I guess there's not anything that I dislike about it [gentle-persuasion #1]. It just doesn't appeal to me. It doesn't jump out to me or anything. It

doesn't seem real, I guess. Whereas that other one [Fear Ads, stoma], it shows a person, who looks like he's telling his personal story. Whether he's an actor or not." (26-year-old former smoker)

One participant, a 19-year-old former smoker, indicated that he could relate to the Caucasian man in the stoma fear advertisement, but that was turned off by the African-American woman in the yellow-teeth fear advertisement. He stated, "I'm not down with that, I'll hang out with the dude, 'cause I'm pretty hillbilly. But like other than that, I wouldn't really hang with her. Nappy. Smile with your mouth closed, please. Use toothpaste."

7.5.4.3 Preference for factual and honest presentation

Several participants stated a preference for a factual, honest approach, most including but not limited to the fear advertisements. The stoma advertisement evoked comments such as this, from a 28-year-old female, current smoker: "The gentleman with the electronic buzzer, you know, voice thing, it's real, you know. It's somebody who actually has a problem, and, it's realistic and it happens." A 27-year-old male every day smoker remarked that he liked the fear advertisement showing the man with the stoma, saying, "I like that it's honest. I like the brutally honest commercials."

The yellow-teeth fear advertisement elicited both positive and negative comments about its authenticity. A 19-year-old male every day smoker said, "This one [fear ad, teeth] looks fake, her teeth look fake," while a 19-year-old male intermittent smoker said:

I like how true it is that the girl's teeth are so yellow. I was in class the other day, and I noticed she had yellow teeth. And I'd seen her smoking one day, and like, it kinda made that connection when I seen her smile! (Laughs) It's true, it's the first thing came to my mind [when I saw the ad].

7.5.4.4 Attitude towards emotional valence of advertisements

As discussed in the countermarketing literature review (Section 4.2.1), emotional content of advertising is measured on emotional level (low emotion to high emotion) and on emotional valence (positive, such as pride or joy; or negative, such as fear or disgust).

Scary advertisements, which would be graded high on emotional level and strongly negative on emotional valence, were thought by many in the present study to be effective. For example, in response to the question of which type of advertising was most impactful, a 27-year-old father of two replied unequivocally that the stoma fear advertisement was best, and the following exchange ensued:

Facilitator (KA): Number one, then, [fear ads] for you. And the reason is?

L: Just because I think it's very scary to see what happens to other people cause of smoking. How much it can really change somebody's life.

KA: So, for you, the gorier the better.

L: Uh huh oh yeah, scare the hell out of everybody!

Similarly, in response to the question about the most impactful storyboard, a 22-year-old intermittent smoker, female, said, "I'd think it has to be number one [fear ads], because they should show you before and after pictures. About how they first looked like and how they look like now. That's just scary."

However, some participants, across most venues, stated a preference for positive emotional valence advertisements. A 19-year-old intermittent smoker, a single man without children, supported the family values advertisements:

Like this one [family values, "Mom I love you"] actually has some humor to it.

Like that's going to catch some people's eye. That's a pretty good one. It's kinda like a feel good and kind of light ad, and it focuses like kinda like on the happy vibe, so it's a lot, I don't know [hesitates], for me it's more encouraging to not smoke when I see these kind of ads.

Other participants agreed with incorporating a positive message, referring in these cases to the black-and-white graphic on the gentle-persuasion storyboard. A 28-year-old male intermittent smoker said, “A positive message within the ad. I think that will catch people more than like the guilt.” A 21-year-old every day male smoker said, “The half of adults quit smoking, I think it’s positive,” and a 23-year-old female intermittent smoker said, “I like that it’s more supportive of quitting smoking, that it’s showing other people are trying to quit too and it’s not just you.”

7.5.4.5 Comments on graphic style

The graphic style of the black-and-white advertisement [gentle-persuasion #2] drew both praise and criticism. Some were positively stimulated by the visual appeal of so many words. A 19-year old every day female smoker said, “The lower one has more words, so it makes me want to read it. ‘Cause I actually love reading.” A 28-year old male artist, an intermittent smoker, said:

It’s visually a little more exciting and there’s different size texts. And there’s some key texts that are kinda bulleted . . . I still say it’s a lot of writing. But I’d say that you can pinpoint some of the key words that are bigger. Which is nice.

On the criticism side, the amount of text in the advertisement was considered a weakness by others. A 20-year-old female former smoker said, “I mean, a lot of ads you see at a quick glance. And that one, I wouldn’t pay attention to the words of it.” A 26-year-old female former smoker and a 19-year-old male intermittent smoker said, respectively:

I like to see facts, I guess. And this says half of all adult smokers have quit. But, I don’t know [hesitates], it just doesn’t appeal to me at all. I would see it and not think anything of it.

I didn’t really like it when you asked me. It took me a few seconds to read it. So I couldn’t have a reaction to that, so I couldn’t respond. It’s not very bright, at some point, so like nothing is standing out to me. And it’s just the harder I

try to read it, it's just really repetitive. It wouldn't make me want to stop smoking.

The younger of the two mall groups had a lively exchange about the shortcomings of gentle-persuasion #2:

B: That one's too long, I wouldn't read it. I'd just walk by.

[various]: Yeah. Yes.

M: It just says the same thing over and over and over again.

B: If this was a sign, I'm not going to take time out of my life to read this.

O: I'd probably read it while I'm smoking.

7.5.5 Summary of countermarketing advertisements

Most participants thought that high emotion and negative emotional valence advertisements, such as fear advertisement #1 showing the throat cancer victim with the stoma, were most impactful. No individuals favored the neutral emotion, negative emotional valence fear advertisement #2, showing a smoking woman with disfigured, yellow teeth. Several participants, including both parents and childless individuals, thought that the medium-to-high emotion, strongly positive emotional valence advertisements in the Family Value storyboard would also be effective.

No participants thought that the low emotion, neutral emotional valence advertisement, gentle-persuasion #1, was impactful. Gentle-persuasion #2, positive in emotional level and neutral in emotional valence, generated disagreement as to its effectiveness, largely due to its graphic style.

Most participants said that countermarketing might influence their intention to quit, but many indicated that it would not make them actually quit. Most favored the use of real people in advertisements, and they preferred factual and honest content. Text-intensive advertisements, such as gentle-persuasion #2, drew mixed results.

7.5.5.1 Comparison to the literature

Consistent with the literature (National Cancer Institute, 2008; Wakefield et al., 2003), participants in the present study preferred high emotional level and strongly positive or strongly negative emotional valence advertisements such as the health-oriented fear advertisement and the family values storyboard. Some stated that advertisements in general did not influence their intention to quit, which is counter to the evidence in the literature showing the importance of countermarketing in tobacco control efforts (National Cancer Institute, 2008)

7.5.5.2 Implications for social marketing

Findings about countermarketing have a direct bearing on the social marketing promotion strategy of the intervention desired by SEARHC. The intended behavior change was for members of the priority population to enroll in the SEARHC Tobacco Cessation Program rather than quit cold turkey. The findings from this RQ indicated that the promotion strategy should consider both fear advertisements and family values as major promotional themes. The strategy should also avoid low and neutral emotion level and neutral emotional valence advertisements, as these were not favored by the participants. Further, the use in advertisements of real Alaska Native people, as opposed to line drawings or non-Native persons, was indicated.

7.6 RQ6: Ideas for Program Elements

To address RQ6, new ideas for cessation program elements, reactions to the four quit support storyboards were elicited. These particular quit support methods were chosen, as described in Chapter 6, to provide SEARHC with the participants' views on traditional versus technology-based quit support methods.

Similar to the method used in the RQ5 countermarketing discussion (Section 7.5), four quit support storyboards (Appendix K) were discussed in turn: texting (#1), counseling (#2), smart phone-based video game (#3) and smart phone app (#4). Each storyboard featured three separate pictures of sample open-access images found on the Internet. The researcher (KA) asked the participants three

separate questions about each storyboard: what they liked about each, what they disliked, and if they thought it would work for them or people like them. At the conclusion of the fourth storyboard discussion, participants were asked, “Of all these, which quit support method do you think would work best for you or for people like you?”

The quit support methods are described in Table 7.1. Note that these four cessation support methods were discussed in what the research team saw as increasing order of active support, starting with programs that are more passive and ending with the more active programs. Once a participant enrolls in a text-messaging program, receiving a text message requires the least act of will by the participant, as most messages are broadcast automatically by the applications. The video game and the smart phone app require the user to take action to be supported, initiating either the game or the app. Counseling was seen as a balance of active and passive, with both a sign-up activity required initially and potentially a more passive pharmacotherapy approach afterwards.

Table 7.1 Programs for quit support storyboards

Quit support program	Description used with storyboard	Availability
Texting	User signs up via text, picks quit date. Information and encouraging messages are sent to user at regular intervals. User can text “craving” or “slip” to the application and receive advice.	Available free from CDC at http://smokefree.gov/smokefreetxt/
Counseling	Individualized counseling, initial meeting face-to-face, other meetings either face-to-face or phone. Optional access to free pharmacotherapy.	Described as hypothetical, but reflects current SEARHC Tobacco Program
Video game	Two game options for smart phone, operated by breathing into microphone. One mimics “relaxation” and is won with long, slow breaths. Other mimics “buzz” and is won with rapid, forcible breathing.	Not available at time of research, being trialed in New York City with young Latino population
Smart phone app	My Last Cigarette (MLC). User enters quit date, smoking history, age. App then used as desired by ex-smoker. Daily “gross-out” picture plus review of financial savings since quit date, estimate of improvement of lung and cardiovascular health improvement.	\$.99 at iPhone app store by Mastersoft Mobile Solutions

Evaluations of texting-based smoking cessation programs in the literature have been favorable (Free et al., 2009; Rodgers et al., 2005; Whittaker et al., 2009). In the present study, the reaction to the texting application on the quit support storyboard was somewhat but not completely favorable. Some participants especially liked its “automatic” or “nagging” nature, but a minority thought it would be annoying or even motivate the participant receiving the texts to smoke out of rebellion. A few participants thought that texting was too impersonal to be helpful to them.

Some of the favorable comments about texting revolved around the ability of such an application to be persistent and to be delivered at a time when support might most be needed. A 19-year-old male intermittent smoker said, “And like having the app and the texting thing nagging at you every few hours, yeah, it’s like I’m not allowed to smoke a cigarette today. . . . It just keeps you on your toes.” A 20-year-old female former smoker said, “I think it would be good if they do text you when you tend to have a cigarette at a certain time of the day. I thought that was kinda a cool feature of it.”

A 19-year-old male intermittent smoker and a 28-year-old recently relapsed female were also favorable to the “nagging” aspect of the texting application. The young man related the automatic texting to parental intervention, saying, “Yeah, like a nagging mom, this thing keeps nagging you to quit. All right, cool, quit. As long as it keeps nagging at you, I guess, yeah. But it all depends on the person.” The woman said:

Oh! It would be a constant reminder, it would be great. It would be like having somebody who’s always on the ball, somebody who would help you, remind you . . . I like this, it’s creating some helping hands, I guess you would say. Anything to push you in the right direction, I guess.

Other favorable comments about the texting quit support program highlighted the ubiquity of cell phone use and texting in particular. A 19-year-old male intermittent smoker pointed out, “It’s just a reminder to tell yourself, because

you constantly have your phone. Usually, it's always on you and you know where it is. It's just a good reminder because you have it around you all the time." A 20-year-old female former smoker in the same group agreed, saying, "Yeah, I think this would be good, 'cause like he said, everyone has their phone on them these days. You'd be able to get the text message."

The participants who did not favor the texting applications described it as annoying or ignorable, with a 29-year-old male recent quitter saying, "Annoying. Spam. Something you would delete," and a 26-year-old female former smoker saying, "I would probably just ignore it. I mean if I feel too overwhelmed for it, I would just ignore it."

One intermittent smoker, a 19-year-old female, said that the annoyance would actually trigger the urge to smoke, saying, "It would just be annoying, and it would just remind you that, oh yes, about the same time you'd have a cigarette, OMG I want a cigarette. It's annoying me, I want a cigarette."

One participant said they would like the application if they were being texted by a person, but not if the messages came from an automated system:

But I don't like about it, I guess, it doesn't seem very personal either. I mean it gives words of encouragement, so it's good if you know there's a person on the other side, not like a robot or something (laughs). (20-year-old former smoker, female)

7.6.1 Reaction to counseling intervention

The counseling intervention was described to participants as individual counseling, cessation education, and optional pharmacotherapy. As detailed above in Section 7.4.2, counseling was favored by only a few, including all of those who had enrolled in the SEARHC program and a few individuals across venues who had never heard of the SEARHC program. Two focus groups showed strong negative reaction to the notion of counseling: one group was unfavorable based on their perception that tobacco counseling resembled alcohol abuse treatment, and the

other group did not like the concept of interacting with a stranger about a personal topic. Other negative reactions included lack of time for appointments and disinterest in talking with a counselor. All of these objections are consistent with the literature (Bader et al., 2007; Foraker et al., 2005; Kishchuk et al., 2004; Roddy et al., 2006).

7.6.2 Reaction to video game

Reaction to the video game (#3) was largely negative. There is no literature describing or evaluating the use of video games for smoking cessation.

Several participants indicated that the video game would appeal to a younger group and a few indicated that it was silly or trivial. Some participants related it favorably to fulfilling their need for oral satisfaction.

I like the idea of it [hesitates] I mean, I would never need this kind of thing, but if I was to think, the oral, like the oral fixation, like blowing into this little thing . . . The visual stimulation, I think it would help create the rush that you're looking for. (28-year-old intermittent smoker, male)

I like it. When I was quitting last month, I really focused on breathing and I think this is good. It will target a younger age group. I think younger, yeah. That's when video games are huge. That's when you have time for it, like 6th grade and stuff, you know. But I think this would support people. (22-year-old daily smoker, male)

It's a funny game. I definitely think it's too funny for me to even try. So I think maybe some people would like it, but it wouldn't be a game for me. But, uh, yeah, it's something I wouldn't do. But I could see people doing it. (19-year-old intermittent smoker, male, self-described gamer)

The oldest participant, a 29-year-old male former smoker, dismissed the idea of the game completely, saying, “You’re better off just doing breathing exercises.” He described himself as disliking technology in general and engaged with the facilitator further about the video game:

Facilitator (KA): What do you think about the video game?

M: [hesitates] No, it wouldn’t help me quit, no.

Facilitator: So what do you dislike about it?

M: Just not my cup of tea. No, I’m not going to go to a smart phone, be like I want to quit smoking, what do I do? There’s no feedback. You know. When you’re talking to somebody one-on-one or face-to-face, it’s a lot different than talking trying to get interaction.

Facilitator: So for you this wouldn’t really be a way to get any kind of information.

M: No, I need interaction.

7.6.3 Reaction to smart phone app

There was considerable interest in the smart phone app (#4) in all but the youngest group (the downtown youth center). The only study in the literature that addressed the use of smart phone apps for smoking cessation was Abrams et al. (2011). These authors reported that current apps do not follow best practice guidelines for tobacco cessation. The app examined in this dissertation research was not included in the Abrams et al. (2011) study, but it also would not be considered to be following best practices (Fiore et al., 2008).

Favorable comments about the smart phone app in the present study included the ability to see health improvement, the graphic nature of the daily picture, and the focus on cost savings. The smart phone app was selected as the favorite quit support panel by most participants.

It's awesome. I definitely get it. I just like that you can kinda track your progress. You can see the fruits of your labor there, you know. It might not be 100% accurate, you know, but you can see it. Awesome. (27-year-old every day smoker, male)

I would use it. Just because I like the information that it offers. If it has good enough information then I would look at it every day. I would definitely use it. Just because it has, I guess, the graphic information. (Laughs) (26-year-old former smoker, female)

I think it's very informational. I think that since last December, that toll, worldwide. I didn't know it was a million people. I think of December as not that long ago. I think it's very informational. I like the information side of it, saying how much you save and whatnot, and showing you pictures. I like it a lot. (19-year-old intermittent smoker, male)

A 24-year-old male every day smoker said, "It's best because they give you pictures on how you're getting healthy. And see how you're doing. And the savings, on the money, instead of buying cigarettes." A 20-year-old female former smoker, in choosing which support method she preferred, named the smart phone app because "there's a picture of what could happen, and all of these people die, and all that stuff."

In the session at the downtown youth center, which was the youngest focus group, the smart phone app was not favored. As the facilitator described how the app could show various statistics based on the user's quit date, one participant voiced complete disinterest in the information available in the app:

Facilitator (KA) [describing the app]: If you select this option, the screen says that a million people have died around the world since the quit date in December. And then . . .

M: So?

KA: What's that?

M: So, why would anybody want to know how many people have died?

7.6.4 Summary of reactions to quit support methods

Mixed reactions were had to each of the four quit support methods, texting, counseling, video game, and smart phone app. When asked which of the four would be most useful to them or people like them, most respondents chose the smart phone app.

7.6.4.1 Comparison to literature

The participants in the present study had mixed reactions to texting-based quit support, which is inconsistent with evaluations of actual texting trials. Unlike Bader et al. (2007), which found little interest in technology-based quit support, the present study did find interest in the use of a smart phone app. It is likely relevant to this inconsistency that the Bader et al. (2006) research took place in 2004, prior to the steep increase in smart phone usage that began in 2010 (A. Smith, 2013).

7.6.4.2 Implications for social marketing

The young adults in this study clearly were not interested in counseling, as they defined it, to assist in their quit attempts. However, as discussed in the Literature Review in Chapter 4, the evidence is compelling that counseling combined with pharmacotherapy greatly increases one's chances of quitting successfully (Fiore et al., 2008) (Galanti, 2008). The SEARHC goal was to develop a social marketing campaign that would increase the number of young adult smokers selecting the free tribal cessation service over cold turkey or self-administered NRT.

The findings of this research study about cessation methods implied that the product and promotional elements of the social marketing plan should consider addressing the participants' concerns about counseling being "overkill" for smoking cessation and NRT having undesirable side effects. Further, because of the research participants' mixed reaction to technology-based elements, texting, video gaming,

and smart phone apps should be judiciously applied to Product design. These technology-based elements should only be included as optional elements, and only if they are low cost to SEARHC. The incorporation of a smart phone app or a video game should be deferred until evidence about its effectiveness is available.

7.7 RQ7: Technology-based Communication Habits

In order to assess their receptivity to technology-based interventions, participants were asked, “How do you usually stay in touch with friends and family, far and near?” Topics were ownership and use of cell phones; texting, social media, email, and Internet habits and attitudes; and methods of Internet access.

All but two of the participants owned cell phones, and most but not all of these were smart phones. All participants reported using multiple technologies to communicate with friends and family.

All but one cell phone owner reported texting. Texting volumes ranged from “only when I have to,” to “150 per day.”

Those with smart phones reported using them often for Internet access, especially Facebook. In an exchange between two male friends in a university focus group, smart phones and Facebook were both referred to as addictions. The first speaker was an intermittent smoker and the second a daily smoker:

O: I’m looking at my phone all the time. Like when I have a Facebook craving, I go to Facebook right away.

M: He [O] is addicted to his iPhone like I’m addicted to smoking.

Facebook was reportedly used quite heavily for messaging as well as status posting. A 19-year-old male intermittent smoker said, “Just Facebook, that’s basically the email of today. That’s all.”

Most participants reported smart phones as their exclusive or almost exclusive method of accessing the Internet for personal use. Only students and gamers reported using a traditional computer for Internet access. In the youngest focus group, a participant reporting having Wi-Fi at home elicited catcalls and whistles. Many participants said they accessed Facebook and mobile banking on

their cell phones, but few participants reported using their cell phone for more general Internet access (e.g., search engines or visiting websites).

Email was reportedly not used for informal communication. Many described having an email account only because one is required in order to sign up for Facebook or other applications like mobile banking. Students and those who worked full time generally reported using email only for professional and academic purposes and not for personal communication.

7.7.1 Summary of technology-based communication habits

7.7.1.1 Comparison to the literature

Near-ubiquitous cell phone ownership, heavy use of texting, and minimal reliance on computer-based Internet access and email are consistent with 2010 data from the Pew Internet & American Life Project's study of teens and young adults (Lenhart, Purcell, Smith, & Zickuhr, 2010).

7.7.1.2 Implications for social marketing

These findings concerning communication habits relate to the product, place, and promotion social marketing strategies. The product and promotion strategy should avoid incorporating website or email components, as these young adults do not frequent the general internet and seldom do email. The product strategy may also want to consider a Facebook application that could post encouraging messages to the participant.

In the promotion strategy, a Facebook component could be considered in which young adults who are pleased with the SEARHC Tobacco Cessation Program would post a favorable review on their own Facebook page, which would then be seen by their friends.

The place strategy could consider incorporating a mobile phone component, since the participants indicated heavy cell phone use. Attention should be paid to the form of any mobile phone-based application, though, as smart phones are not yet ubiquitous in this priority population.

7.8 Summary of Findings

7.8.1 Summary of RQ findings and comparison with the literature

The benefits of continuing to smoke (RQ1) described in the present study were stress relief, boredom relief, and oral satisfaction, which is consistent with the literature (Choi et al., 2006; Kishchuk et al., 2004).

The benefits of quitting smoking (RQ2) included avoiding short-term health consequences and negative social consequences of smoking, and having a positive influence on children in the extended family. The relatively small impact of long-term health risks and the lack of impact of the cost of cigarettes on quit attempts reported in this research were consistent with the literature (Bader et al., 2007; Foraker et al., 2005). The importance of short-term health consequences and the participants' emphasis on social consequences of smoking appeared to differ from young-adult-specific qualitative studies in the literature (De Gruchy & Coppel, 2008; Foraker et al., 2005). Emphasis on positive role-modeling for children and being alive and well in the long run for them was consistent with Indigenous literature (Choi et al., 2006; Patten et al., 2004) but not with the general young adult literature (Bader et al., 2007; Kishchuk et al., 2004).

The barriers to quitting smoking (RQ3) were habit, addiction, other people's smoking, and fatalism, which were consistent with the literature (Burgess et al., 2007; Choi et al., 2006). Mixed results were obtained regarding the interaction of quitting smoking and quitting drugs and alcohol, with some saying that quitting smoking reinforced their sobriety and others saying that having quit other addictions made it more difficult to quit smoking. The literature supports the positive impact that quitting other addictions has on tobacco cessation (De Soto et al., 1989; Lemon et al., 2003). Feelings of invulnerability were expressed in some focus groups, which is inconsistent with adult cessation literature but consistent with adolescent literature (Pechmann, 2001).

Participants noted three methods of quitting (RQ4): cold turkey, NRT, and counseling. Of these, cold turkey was by far the most prevalent. There were mixed

reactions to counseling, with those who had enrolled in the SEARHC counseling-based program recommending it highly. The high prevalence of cold turkey quitting and the mixed reputation of NRT are consistent with qualitative and quantitative literature (Bader et al., 2007; Centers for Disease Control and Prevention, 2011). No participant expressed a willingness to learn more about NRT, which is inconsistent with the literature (Foraker et al., 2005; Patten et al., 2009). A desire for personalized cessation support was expressed in both this dissertation study and in the literature (Roddy et al., 2006; Rodgers et al., 2005).

Regarding tobacco countermarketing (RQ5), participants thought that high emotional level, strongly negative emotional valence advertisements, such as highly graphic fear advertisements, were most impactful. Several participants, including both parents and individuals without children, thought that medium-to-high emotional level, strongly positive emotional valence family values advertisements would also be effective. Both of these findings are consistent with the literature (National Cancer Institute, 2008; Wakefield et al., 2003). Some participants stated that advertisements in general did not influence their intention to quit, which is counter to the evidence in the literature showing the positive impact of countermarketing in tobacco control efforts (National Cancer Institute, 2008).

Reactions to the four quit support methods (RQ6) (texting, counseling, video game, and smart phone app) were mixed; however, most participants chose the smart phone app as the most useful. Almost no participants expressed interest in counseling or NRT, which is inconsistent with best practices in smoking cessation (Fiore et al., 2008). Participants had mixed reactions to texting-based quit support, which is inconsistent with the favorable evaluations of most texting trials reported in the literature (Rodgers et al., 2005; Whittaker et al., 2009) but consistent with a major young adult qualitative research report (Bader et al., 2007). The interest in technology-based quit support, specifically the smart phone app, is also inconsistent with Bader et al. (2007). However, the fact that the dramatic acceleration in smart

phone penetration in the US has taken place since the other studies were conducted (A. Smith, 2013) may explain the inconsistency between earlier literature and the present study.

Patterns of cell phone ownership, texting, Internet use and access, social media use, and email use (RQ6) among the participants are consistent with quantitative data reported for young adults in the US (Lenhart et al., 2010).

7.8.2 Social marketing summary

Guidance for the development of a social marketing strategy, including all four Ps (price, product, place, and promotion) in the product mix, was found in the present study.

Regarding price strategy, in order to maximize the benefits of quitting and minimize the barriers to quitting and the benefits of smoking, developers of a social marketing strategy should consider the following:

- helping participants find alternate means of stress relief, other methods of “getting away from it all,” replacement methods of oral satisfaction, and ways to relieve boredom (RQ1),
- emphasizing the short-term health benefits of quitting and enhancing one’s social desirability, and not emphasizing the financial benefits of quitting or the long-term health risks of smoking (RQ2), and
- employing methods of alleviating addiction, breaking habits, and dealing with other people smoking (RQ3).

The product strategy should consider:

- avoiding any components that might be reminiscent of alcohol or drug counseling (RQ4),
- incorporating an optional module to assist those dealing with nicotine addiction simultaneously with drug addiction, alcohol addiction, or both (RQ4),
- incorporating a young-adult specific non-coercive educational component on the benefits of NRT and varenicline (RQ4),

- a Facebook app component that would post information and messages related to smoking cessation, and
- building the service in a customizable, personalized way.

The place strategy should consider:

- avoiding using email or a website to deliver any portion of the program (RQ7) and
- incorporating technology-based components such as texting and smart phone apps, but only optionally and only if they are low cost (RQ6, RQ7).

The promotion strategy should consider:

- the use of high emotional level, strongly positive promotional materials, particularly family-values based (RQ5),
 - Strongly negative advertisements were also favored by the participants (RQ5), but such messages are already prominent in the media through campaigns like the CDC's "Tips for Former Smokers" (Centers for Disease Control and Prevention, 2013).
- the use of actual Alaska Native people in the advertisements (RQ5),
- emphasizing the difference between tobacco counseling and drug and alcohol counseling (RQ6),
- incorporating a Facebook component in which young adults who are pleased with the SEARHC Tobacco Program could post a favorable review on their own Facebook page (RQ7), and
- avoiding the use of websites or email as promotion vehicles (RQ7).

8 Discussion

In addition to the comparison to the literature cited in Chapter 7, topics in this discussion chapter includes a brief summary of the key similarities and differences found between the priority population (young Southeast Alaska Native adult smokers and former smokers) and other study populations. Also discussed are the following: achievement of goals, strengths and limitations, recommendations for practice, contribution to the literature, and implications for future research.

8.1 Similarities and Differences with Other Studies

As described in Section 7.8, the results of this study indicate that the smoking related attitudes and behaviors of young Southeast Alaska Native adult smokers and former smokers are similar in many ways to those of young adults and AI/AN people reported in the literature. There are, however, several important and unique areas of difference.

8.1.1 Similarities

Many similarities exist between the findings of the present study and other qualitative studies conducted with young adults, underserved adults, and AI/AN people (Bader et al., 2007; Burgess et al., 2007; Foraker et al., 2005; MacAskill et al., 2002). Similarities included:

- stress relief, boredom relief, and oral satisfaction as benefits of smoking;
- positive role-modeling for children and being there for them “in the long run” as benefits of quitting smoking;
- habit, addiction, other people’s smoking, and fatalism as barriers to quitting;
- long-term health risks as weak motivation for quit attempts;
- strong preference to quit cold turkey rather than use counseling or pharmacotherapy;
- desire for personalized cessation support among those willing to consider any support; and

- perception of effectiveness highest for high emotional level/strongly negative emotional valence or high emotional level/strongly positive emotional valence countermarketing advertisements.

In addition, patterns of cell phone ownership, texting, Internet use and access, social media use, and email use among the participants were consistent with quantitative data reported for young adults in the US (Lenhart et al., 2010).

8.1.2 Differences

Differences between the present study and other studies cited above included:

- noted concern for short term health impacts of smoking, such as shortness of breath, coughing and spitting, susceptibility to illnesses, and decreased athletic performance;
- noted concern for the cosmetic downsides of smoking, including yellow teeth, bad breath, and unpleasant odors on one's person and one's clothes;
- noted concern for the impact of their smoking on members of the extended family, rather than just those in their household; and
- no expressed willingness to learn more about NRT.

8.2 Achievement of Research Goals

SEARHC's overarching aim in this study was to lower smoking rates among its young adult beneficiaries. As described in Chapter 2, three goals were developed in support of that aim, and each goal was satisfactorily informed by this dissertation research.

As background for the discussion of goal achievement, an understanding of the SEARHC Tobacco Cessation Program is useful.¹⁷ The program was similar to the best practice Intensive Counseling, as recommended in Fiore et al. (2008) and described in Table 4.1 and Section 4.1.1.1. The slight difference was that, while best

¹⁷ The SEARHC Tobacco Cessation Program was suspended in mid-2013 due to federal funding cuts (sequestration). SEARHC is hopeful it will be reinstated in 2014 (A. Thomas, personal communication, July 28, 2013).

practices specify a minimum of four sessions, the SEARHC program did not require a minimum number of sessions. The SEARHC program was offered to beneficiaries of all ages at several tribal clinics across the region. The counselor was trained in tobacco cessation counseling. The program included individual counseling, education, and optional Nicotine Replacement Therapy (NRT) and pharmacotherapy. Clients could be referred by tribal healthcare providers or they could enroll directly without referral. Initial appointments were face-to-face with the tobacco counselor for up to one hour, and followup appointments, scheduled as required, were either in-person or by phone (A. Thomas, personal communication, August 23, 2011).

In the Juneau clinic, the SEARHC counselor was an Alaska Native woman, an ex-smoker herself and the mother of a young adult. The program was flexible, with the counselor being able to decide, based on the initial interview, what treatment plan would be most appropriate. For example, she might decide to spend more time on how to break habits, or how to handle withdrawal, or the physiological basis of addiction, depending on the needs and interest of the client. The use of pharmacotherapy was strongly recommended but optional (R. Reeves, personal communication, April 9, 2012).

8.2.1 Goal #1: Three options for next steps

The first goal was to determine which, if any, of three options for next steps would be most appropriate for SEARHC to take: increasing use of current services, increasing desire to quit, or designing and developing a new service for this priority population.

8.2.1.1 Option A: Increasing use of current services

Option A, if implemented, would include the development of a social marketing campaign to encourage young adults who already wish to quit to use the current service rather than quitting cold turkey.

Two of the focus groups exhibited strong negative reactions to counseling for smoking cessation (Section 7.4.2). One group thought that counseling was “overkill” for smoking and that it was more applicable to serious addictions such as drugs and alcohol. A second group objected to telling a stranger about the details of one’s life.

In both cases, participants appeared to misunderstand the nature of the current SEARHC program. The first group envisioned an intensive intervention akin to drug or alcohol abuse treatment, rather than the actual collegial style of the SEARHC Tobacco Program. The second group envisioned a psychoanalytic approach¹⁸ in which the client would be required to share intimate details of his or her life with a counselor. The current SEARHC program protocol approach is more tactical and less intrusive, and is performed by a health educator rather than a psychotherapist (R. Reeves, personal communication, April 13, 2012).

On the other hand, as described in Section 7.4.2, the two participants in the present study who had used the SEARHC cessation program were highly enthusiastic about its approach and their results. They valued the counselor’s non-judgmental approach, the availability of program personalization, and the flexible scheduling which included both in-person and telephone appointments. Perhaps of interest is the fact that these two individuals were among the oldest study participants.

In between these highly negative and highly favorable extremes, other participants could see the merits of the program. None said that they would try it, but some indicated that they saw its value for others but not for themselves.

It is possible that the present study did not reach saturation on this topic and that further interviews would have provided more clarity about the viability of this option. However, both quantitative (Centers for Disease Control and Prevention, 2011; Shiffman et al., 2008) and young adult qualitative reports (Bader et al., 2007; Curry et al., 2007; Kishchuk et al., 2004) indicate that most smokers who attempt to

¹⁸ In psychoanalysis, a client and a practitioner explore, through conversation, how unconscious factors affect the client’s thoughts, emotions and behaviors (American Psychoanalytic Association, 2009).

quit use cold turkey and that young adults are resistant to counseling for tobacco cessation. Given this evidence, it seems likely that the participants' resistance to counseling was genuine.

8.2.1.2 Option B: Increasing desire to quit

Option B, if implemented, would leave the current SEARHC program intact and direct program dollars instead to a social marketing campaign to increase the desire of young adults to quit.

In this study, all but three of the participants expressed a desire to quit, and most of them had attempted to quit on more than one occasion. This was consistent with the quantitative literature, which indicated that almost 70% of smokers wish to quit (Centers for Disease Control and Prevention, 2011) and over 40% make a quit attempt in a given year (Shiffman et al., 2008).

As described in Section 4.5.3.4 and in Lee (2011), social marketing emphasizes targeting markets that will deliver the best return for program dollars spent. Under this definition, it is seldom effective to spend resources on those priority audience members who are the most resistant to change.

Thus, devoting resources to increase the number of young adults who want to quit was likely not advisable, both because most participants were already interested in quitting, and those who did not want to quit were more resistant to the behavior change.

8.2.1.3 Option C: Developing new service for young adults

Option C, if implemented, would build an entirely new service tailored to the needs and preferences of SEARHC young adults.

No one style of program emerged from the research as a clear preference. The texting application was favored by some but considered annoying by others. The counseling program attracted both vehement detractors and enthusiastic supporters. The smart phone video game was dismissed as childish and "funny." The

smart phone app, which was consistently popular, is not based on best practices, nor is there any evidence base to demonstrate its effectiveness.

8.2.1.4 Choice of options

The research team (KA, ER, RR, ET) discussed the choice of options in a series of conference calls in the summer of 2012. Option B (increasing desire to quit) would not be an effective use of program dollars, because the priority audience would be the most resistant to quitting and the likelihood of a SEARHC-specific social marketing campaign changing their mind seemed low. Option C (developing a new service for young adults) was not supported by the research. Option A (increasing use of the existing service), while posing challenges with the priority population, appeared to be the best choice.

A social marketing approach could be developed to overcome the participants' specific concerns about and disinterest in the current service (Option A). By devising price, product, place, and promotion strategies as detailed in Section 7.8.2, including making slight modifications to the existing program, SEARHC could increase interest in their current service offering.

Some participants were interested in the texting application. Smokefreetxt.gov, the free texting application from the CDC (Centers for Disease Control and Prevention, n.d.-b), could be suggested by the SEARHC counselor service at no SEARHC expense, as the service is offered free of charge by the CDC. It did not seem appropriate to similarly suggest the smart phone app, as it was not based on best practices (Abroms et al., 2011) and the mHealth literature has not yet verified the effectiveness of smart phone apps in general (Mechael et al., 2010). The mHealth literature should be followed, as the incorporation of a smart phone-based cessation intervention may be appropriate in the future, if evidence of its effectiveness in general and in young adult and Indigenous populations in particular is found.

An outline of a social marketing program based on the choice of Option A and the findings in Summary of Social Marketing Implications (Section 7.8.2) appears in Section 8.4.2.

8.2.2 Goal #2: Quit support method and marketing messages

The second goal of this research was to determine what quit support method members of the priority population preferred and what types of marketing messages they found most effective.

As described above, the quit support method chosen by the research team for the young adult program was the current SEARHC program, counseling with optional pharmacotherapy, with the addition of optional texting support.

The marketing message should incent the priority population to use the SEARHC Tobacco Cessation program rather than attempt to quit cold turkey, which is found to be less effective than counseling-based interventions (Fiore et al., 2008). It was clear (Section 7.5.5.2) that the participants perceive advertisements with high emotion (versus neutral or low emotion) and strongly positive or strongly negative emotional valence (versus neutral valence) to be most effective.

The participants noted that the family values advertisements on the storyboards were meaningful to them because they highlighted what was important to them. They also made repeated reference to the effectiveness of the health fear advertisement (Fear advertisement #1, man with stoma, Appendix J). Given the abundance of fear advertisements in the media currently, especially the CDC Tips from Former Smokers campaign (Centers for Disease Control and Prevention, 2013) that was familiar to the research participants, the most appropriate theme for messaging was a family values-based campaign to promote the SEARHC Tobacco Cessation Program.

8.2.3 Goal #3: Develop baseline protocol

The research methodology described in this dissertation worked well and it is thoroughly documented. Chapter 6 serves as a detailed guide to the protocol, and

the electronic documents (e.g., semi-structured interview guide, demographic questionnaire, recruiting materials) are reusable. Should SEARHC wish to extend this research into their other relatively large towns, such as Ketchikan (pop. 8,119) or Sitka (pop. 8,952), the research protocol should be transferrable.

For smaller locations such as Angoon or Hoonah, with populations under 1,000, the feasibility of young adult focus groups might be limited, and individual interviews should be considered.

8.3 Strengths and Limitations

The quality of qualitative research has been defined as “trustworthiness” by Lincoln and Guba (as cited in (Ulin et al., 2004)). These authors outlined what they considered the essential criteria for trustworthiness in qualitative research: *credibility, transferability, dependability, and confirmability*. Ulin et al. (2004) described strategies for enhancing the trustworthiness of qualitative research through attention to specific topics in each of the Lincoln and Guba (1985) criteria.

Table 8.1 lists and defines these four trustworthiness criteria along with the parallel criteria used in quantitative research. Also included in the table are strategies recommended by Ulin et al. (2004) and Cresswell (2007) for enhancing rigor per each qualitative criterion. Finally, the table reveals for the present study a self-rating of each criterion, including elements of the study design contributing to the rating. Key components of the self-ratings are discussed in detail in the remainder of this section.

Table 8.1: Self-rating vs. criteria for qualitative research quality

Adapted from Cresswell (2007) and Ulin et al. (2004).

●: Strength ☉: Neutral ○: Limitation.

Qualitative components of trustworthiness (Quantitative counterpart)	Strategies to enhance trustworthiness	Strategies used and Self-Ratings of present study
Credibility (internal validity): Confidence in truth of the findings, from the perspective of participants within context of the research	Checking that study findings show logical relationship to each other	● - Assembled findings into social marketing framework that revealed coherence between all components
	Ensuring that the narrative data is rich enough to support the findings	● - Used multiple probes per question during interviews/focus groups. - Used visual aids.
	Reviewing findings with study participants (member checking)	○ - Not conducted.
	Adhering rigorously to data reporting and analytic methods	● - Used grounded theory techniques with consistency (open coding and constant comparison)
	Looking for and testing competing explanations	● - Conducted thorough literature review
	Using multiple methods	○ - Used only qualitative methods
	Including a researcher with a strong track record in the use of qualitative methods	● - Employed collaboration. Co-chair (EL) provided expertise in qualitative studies, Indigenous studies. Researcher (KA) provided expertise in commercial qualitative research
	Ensuring researcher understanding of underlying paradigm	● - Employed expertise. Researcher (KA) certified in Social Marketing
Dependability (reliability): Confidence that the findings would re-occur if repeated in similar circumstances by other researchers	Ensuring that the research questions relate directly to the research purpose	● - Ensured strict correlation between research and seven social-marketing-based research questions (RQs). - Report vs. RQs, Goals, & Objectives
	Enforcing inter-observer consistency of methods	○ - Used solely one coder (KA), precluding ability to calculate inter-rater reliability
	Longer field engagements	○ - Recruited small <i>n</i> (23) over 5 focus groups and 4 individual interviews, possibly precluding saturation
	Peer review prior to reporting finding	● - Facilitated multiple peer reviews with SEARHC team and committee
	Including rich descriptions of research encounters	● - Used extensive verbatim quotes and inter-participant exchanges
Confirmability (objectivity): Extent to which the researcher understands own subjectivity and can limit its effect	Retaining records for audit (e.g., raw data, analysis and synthesis products, process notes)	☉ - Retained all records. Conducted internal audit vs. interim reports. Did not conduct external audit.
Transferability (external validity): Confidence that the research findings would apply in other similar studies in other contexts	Selecting participants carefully to ensure that a wide scope of views is obtained	● - Recruited on-location at four different venues, leading to demographic diversity. ○ - One-week sample only

8.3.1 Credibility of present study

- Credibility in qualitative research is the extent to which confidence can be established that the research reflects the relative truth. Comparing the methods of the present study to the techniques suggested for enhancing credibility (listed in Table 8.1), this dissertation study showed both limitations and strengths.

Ethical considerations led the team to decide against re-contacting participants to perform member checking. However, the SEARHC members of the research team did review the results of the data analysis for consistency with both their impressions from attending the sessions and their experience with this priority population.

Another limitation was use of only a single method, qualitative analysis. Apart from the use of the quantitative SEARHC-specific Alaska BRFSS data (Alaska Tobacco Prevention and Control Program, 2013b) and the demographic questionnaire (Appendix F), the study relied on two particular qualitative methods: the analysis of focus groups and interview transcripts, and triangulation with the qualitative literature (Bader et al., 2007; Burgess et al., 2007; Foraker et al., 2005). The researcher did not observe any of the SEARHC counseling sessions and no quantitative techniques were used. Had counseling observations occurred, richer narrative and thicker descriptions might have been developed. No quantitative techniques were employed. A cross-sectional survey could have been employed to obtain more succinct information about preferred cessation methods, for example, similar to Leatherdale and McDonald (2005).

One strength of the study with regard to credibility was the researcher's attention to richness of narrative. Through the design of a broad-ranging semi-structured interview guide, the use of visual aids, and the consistent use of probes, responses from the participants were rich in detail. Where appropriate, narratives

involving more than one person were reported, to illustrate the interplay between the participants.

Another strength is the social marketing experience brought by the researcher (KA), ensuring that an understanding of the underlying paradigm of the research was brought to bear on the research design. Additionally, the researcher has conducted corporate qualitative research in her earlier marketing career. The committee co-chair (EL), who guided the research design, has an extensive track record in the design, implementation, and reporting of qualitative research, and each committee member brought particular skills in qualitative research, smoking cessation, and behavior theory.

8.3.2 Dependability of present study

- Dependability in qualitative research is the extent that confidence can be established that the research findings would again emerge if repeated in similar circumstances (Ulin et al., 2004). Comparing the methods of the present study to the techniques of dependability enhancement listed in Table 8.1, this dissertation study had both limitations and strengths.

One limitation of this study with respect to dependability was the shortness of the field engagement and the resultant inability to form homogenous groups with potential sub-segments, for example gender, younger versus older age, or smoking status. The SEARHC timeline and budget for the research study required that all focus groups and interviews be conducted in a one-week timeframe. Repeating the study at a different time of the year and using additional venues for on-location recruiting could have allowed a more detailed analysis by sub-segment.

Another limitation of this dissertation research with respect to dependability relates to inter-observer consistency methods. The researcher was the sole person to code the transcripts, as such no inter-rater reliability coefficient (such as Cohen's Kappa) could be calculated and reported. This limitation was partially mitigated by

the presence of a SEARHC team member at all but one interview/focus group and by the active SEARHC participation in review of interim reports.

A strength of this dissertation research with respect to dependability was the strict correlation of the research questions to the research purpose. As described in Chapters 2 and 3, the study was designed to address a real-world challenge posed by the SEARHC Tobacco Program manager. SEARHC's overarching goal was to increase the number of young adult beneficiaries who successfully quit tobacco. Three alternative program modifications were considered, and a social marketing framework was requested. The research questions, outlined in Chapter 3, were built around the major principles of social marketing.

Another strength with respect to dependability was the multiple peer review sessions conducted prior to reporting. As described in Chapter 6, the SEARHC team reviewed the findings multiple times prior to construction of the interim report. In addition, the dissertation committee members critiqued both an informal presentation of the findings in August 2012 and a draft journal article in October 2012, both of which resulted in refinement of the results.

8.3.3 Confirmability of present study

- Confirmability in qualitative research is the extent that confidence can be established that the researcher understands his or her own subjectivity and limits its effect (Ulin et al., 2004). Comparing the methods of the present study to the single technique of confirmability enhancement listed in Table 8.1, this dissertation study appears strong.

Ulin et al. (2004, p. 168) suggested that an audit trail be used to enhance confirmability. They described an audit trail as "the record that enables you and others to track the process that has led to your conclusions." Examples of items recommended for retention by these authors are: raw data, data analysis and synthesis products, process notes, study protocol, and descriptions of instruments and protocols. All of this material, including the digital audio recordings of the interviews and focus groups and the ATLAS.ti hermeneutic units (ATLAS.ti, 2011),

was collected and retained on the researcher's laptop computer and at least two backup devices. Internal auditing was conducted in that the SEARHC team members participated in the interviews/focus groups and reviewed the interim reports. External auditing was conducted only to the extent that the dissertation committee members reviewed the interim report.

In addition, not listed in Table 8.1, the committee co-chair (EL) has extensive experience in cross-cultural health research, in particular with Alaska Native tribes in Interior and Southwestern Alaska. The researcher (KA) has been trained in cross-cultural health issues, and the SEARHC team (ER, RR, AT), one of whom was an Alaska Native person, has extensive on-the-job experience working with the priority population.

8.3.4 Transferability of present study

- Transferability in qualitative research is the extent that confidence can be established that the research findings would apply in other similar studies in other contexts. Comparing the methods of the present study to the single strategy of transferability enhancement listed in Table 8.1, this dissertation study has both limitations and strengths.

The major limitation with respect to transferability was the small sample size. The sampling occurred over the period of just one week in April, during which six of the seven days were sunny. Repeating the sampling at a different time of year, when Alaskans might be more likely and willing to be indoors, would broaden the sampling pool and perspective, enhancing confidence in the study's transferability.

The strategy recommended to enhance transferability was to select participants carefully to ensure that a wide scope of views was obtained. In the present study, on-location and referral recruiting, which accounted for the majority of participants, was conducted in four different venues: downtown Juneau, the university campus, a popular mall, and a drop-in youth center. This recruiting

resulted in participants with diversity of gender, education, financial well-being, marital status, children in household, and smoking status.

It should be noted, however, as a limitation for SEARHC's use of these findings, that the participants in this study were specifically young adult Alaska Native current and former smokers living in the relatively urban setting of Juneau (pop. 32,164). Transferring these findings to either smaller locations, such as remote villages with less than 1,000 inhabitants, or to the much larger city of Anchorage (pop. 295,570), may not be appropriate. Transferring these findings to American Indian populations in the continental US also may not be appropriate, as smoking patterns have been shown to differ between the two groups (Redwood et al., 2010).

8.3.5 Summary of strengths and limitations

Based on the strategies to enhance trustworthiness in Cresswell (2007) and Ulin et al. (2004), this dissertation had both notable limitations and notable strengths.

Limitations included: lack of member checking, reliance on only qualitative methods, having only one person code the data, limited field engagement resulting in a small *n* and a potential lack of saturation, and lack of formal external audit. Strengths included: rich narrative data, strong track record of researchers, strong relationship between research questions and research purpose, peer review prior to reporting, retention of an audit trail, participant demographic diversity, and the engagement of SEARHC team members during the focus groups and interviews.

8.4 Recommendations for Practice

This dissertation research helped to form a foundation for designing a social marketing-based smoking cessation intervention for young Southeast Alaska Native adult smokers. The approach chosen, as described above, is not focused directly on cessation, rather it is designed to incent young adult smokers already wishing to quit smoking to enroll in the SEARHC Tobacco Cessation Program rather than attempting to quit cold turkey.

8.4.1 Theoretical foundation

8.4.1.1 TRA as a fit for intervention

Because the participants held largely favorable attitudes towards quitting tobacco, but generally unfavorable attitudes towards the behavior of enrolling in counseling, the Theory of Reasoned Action (TRA) (Montano & Kasprzyk, 2002) is an appropriate foundation for developing an intervention. As described in the Literature Review, TRA suggests that behavioral intention is influenced primarily by attitude towards the behavior (i.e., enrolling in the SEARHC Tobacco Cessation Program) and not by attitude towards the target (i.e., quitting tobacco).

The dynamics of TRA as applied to the intervention (to enroll in the SEARHC Tobacco Cessation Program) are diagrammed in Figure 8.1.

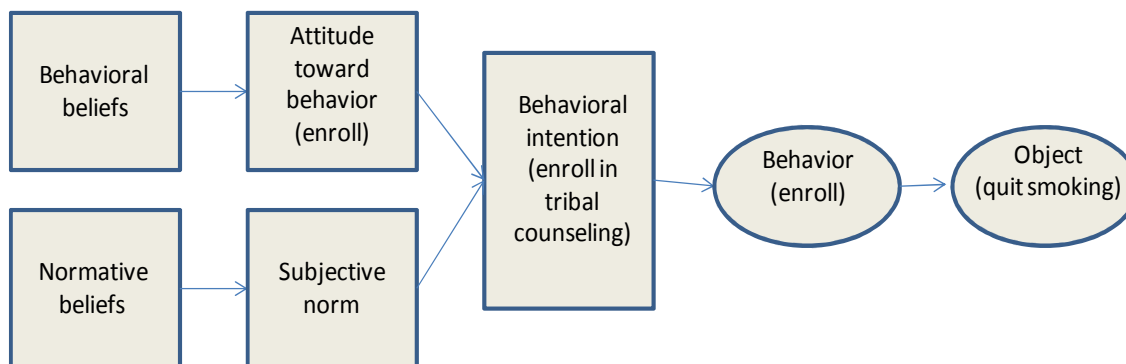


Figure 8.1: TRA as applied to present intervention

First, the intervention must take into account that the smoker is unlikely to choose the SEARHC program over attempting to quit cold turkey, and it must persuade quitters to change their intention to try the SEARHC program (behavioral intention). Their attitude towards the counseling, shown in the research to be negative, must be reshaped via social marketing to be positive.

Second, the intervention must take into account that, according to the research, the priority population thinks that they and people like them would not use counseling for smoking cessation (normative beliefs). The intervention must impact this subjective norm and lead the priority population to acknowledge that

others like them have enrolled in the program and had success. Impacting this subjective norm can be accomplished through social marketing, as described in Section 8.4.2.

8.4.1.2 Less applicable alternative theories

As described in the literature review, the Theory of Planned Behavior (TPB) adds the element of perceived behavioral control to the TRA. Behavioral control is not completely applicable to the proposed intervention, because choosing the counseling program (the behavior) is relatively simple once one has made the decision to quit. Enrolling required only a phone call and one face-to-face meeting, which SEARHC deliberately designed for the convenience of prospective clients.

The Transtheoretical Model (TTM), which, as described in the Literature Review, has been used extensively in smoking cessation interventions, is likewise not as well suited to the behavior change (enrolling in the program) targeted by the proposed intervention as the TRA. The act of enrolling is a binary decision and not as complex and process-oriented behavior as smoking cessation itself, so the intervention may be more suited to a continuum-based theory (Armitage & Conner, 2001; Hardeman et al., 2002).

The TTM is useful to some aspects of the intervention, however. It is applicable to the targeting process, which, per the description of the intervention aims at those in the contemplation or preparation stage of readiness to quit¹⁹. The TTM would also be applicable to the content of a counseling session, in which the counselor might treat those in the contemplation stage differently than those in the preparation stage.

Another behavior change theory occasionally used for smoking cessation interventions is the Health Belief Model. It states that there are six key drivers of health-related behavior change: perceived susceptibility, perceived severity, perceived benefits and barriers, cues to action, and self-efficacy (Janz, Champion, &

¹⁹ Those in contemplation or preparation are seriously considering a quit attempt in the next six months (DiClemente et al., 1991).

Strecher, 2002). Susceptibility, severity, and self-efficacy play a large role in making the decision to quit, but a relatively small role in choosing the SEARHC program over cold turkey. However, the SEARHC counseling session might employ the Health Belief Model, for example, to tailor the intervention to the client's self-efficacy or perceived susceptibility beliefs.

8.4.2 Intervention design

This dissertation study proposes a social-marketing-based intervention to increase young adult enrollment in the SEARHC Tobacco Cessation Program.

The hypothesis of the intervention, code-named YA-Quit (Young Adult-Quit), is as follows:

If young Alaska Native adult smokers hear about a tobacco cessation program that they believe is tailored to their needs, and they come to understand that using support will increase their chances of successfully quitting tobacco, they will enroll in it and complete the program.

The goal of the YA-Quit program is to increase the number of young adult smokers who successfully quit tobacco, which will lead to better health outcomes among SEARHC beneficiaries.

Guidance for developing a social marketing strategy, including all four Ps (price, product, place, and promotion) in the product mix, was revealed in the present study findings and captured in detail in Section 7.8.2.

The price strategy should emphasize alternate ways, besides smoking, to cope with stress, boredom, and the need for oral satisfaction. It should also stress the short-term health benefits and social and cosmetic upsides of quitting. Finally, it should educate the young adults, in a non-coercive way, about how pharmacotherapy increases the odds of a successful quit attempt.

The product, in social marketing parlance, is enrollment in YA-Quit by people wishing to quit. The augmented product should include the following:

- the current one-on-one counseling program offered to beneficiaries, with a change in name from counseling to coaching to avoid comparison with drug and alcohol interventions,
- tailored educational materials for counseling clients incorporating the price strategy and non-coercive education about the benefits of pharmacotherapy,
- the current pharmacotherapy offerings (NRT and varenicline), free of charge,
- referral to the CDC texting-based cessation support program SmokefreeTXT (Centers for Disease Control and Prevention, n.d.-b)
- modularization of the offerings, allowing the counselor to incorporate only those elements suitable for each particular client, and
- Quitcards, which are laminated wallet-size cards with promotional messages and program contact information.

The place strategy comprises methods of delivering YA-Quit. As noted in Chapter 6, SEARHC budget limitations constrained any change of location or hours of the tobacco counseling service. However, texting as a method of delivering support to a quitter would provide a no-cost adjunct to in-person counseling. Per the findings from this research, email and Internet applications would not be appropriate place strategies.

The promotion strategy includes messages and messenger as well as communication channels. YA-Quit promotional materials should feature real Alaska Native young adults and emphasize, with high emotional level/strongly positive emotional valence style, the impact that smoking has on one's family. The tone and content of the advertisements should reinforce the fact that YA-Quit utilizes a coaching style rather than a confrontational or intrusive style. Promotion of the program should occur through the following:

- posters, flyers, and Quitcards placed in community locations frequented by young adults;
- the SEARHC Facebook page;
- referral through the healthcare providers at the SEARHC medical clinic;

- a program that incents clients of YA-Quit to post favorable comments on Facebook about their experience in the program, which will in turn provide exposure to others in the priority population and potentially impact social norms;
- informational events held in conjunction with health fairs and tribal events; and
- stand-alone events in locations frequented by the priority audience, such as the Community College campus and local malls.

The healthcare providers in the SEARHC clinic should be educated about YA-Quit and how to describe the program in ways that will reflect the price strategy.

8.5 Contribution to the Literature

This dissertation study contributes to the young adult tobacco cessation literature. It also contributes to methods of recruiting community-based young adults, as opposed to methods based solely on university recruiting.

8.5.1 Contribution to young adult cessation literature

The present study contributes to the sparse young adult smoking cessation literature. It complements the qualitative findings in the qualitative young adult cessation literature (Bader et al., 2007; Kishchuk et al., 2004; Nademin et al., 2010) and extends it by applying a social marketing framework to the research and the recommendations.

To our knowledge, this was the first and only young adult-specific qualitative study for Indigenous smokers. It reinforces the findings of concern for the impact of smoking on the family found in Indigenous adult studies (Burgess et al., 2007; Choi et al., 2006; Renner et al., 2004), and it extends these concerns to the extended family.

Other qualitative studies of tobacco use in Alaska Native populations have concentrated on residents of the Yukon-Kuskokwim Delta region (Patten et al., 2009; Renner et al., 2004), and on the homemade smokeless tobacco Iqmik (Patten

et al., 2004; Renner et al., 2005). None has specifically studied Alaska Native smokers in Southeast Alaska, who may be different from other Indigenous populations in the state by virtue either of their tribal affiliation or their status as urban rather than rural residents (Allen et al., 2006).

8.5.2 Young adult study recruitment

This study encountered and partially overcame challenges associated with recruiting young adults to focus groups from community-based rather than university settings. The only other such qualitative study (Bader et al., 2007) used word-of-mouth, referral, and newspaper advertisements to recruit participants. This dissertation study appears to be the first young adult study to make use of the on-location recruiting technique suggested by Krueger and Casey (2009).

8.6 Implications for Future Research

As described above, the present study appears to be the only qualitative report of behaviors and attitudes of Southeast Alaska smokers and of Indigenous young adult smokers. The uniqueness of this report provides guidance for future related studies.

8.6.1 SEARHC-specific research recommendations

Before developing the social marketing-based intervention described here, SEARHC should consider conducting further research in Juneau, to gain further perspective about this priority population, including any differences between sub-segments. SEARHC should also consider replicating the research in at least one other town setting (e.g., Sitka) and modifying the protocol for use in one or more remote villages (e.g., Angoon, Hoonah), to include rural beneficiaries who live in more demographically homogenous settings than Juneau.

Additional research would allow for the assembling more homogenous focus groups. For example, groups based on age (e.g., 19 - 24 and 25 - 29), gender, or current smoking status might find differences in attitudes and behaviors between these more finely distinguished subgroups.

The major similarities and differences between this study's findings and the literature should be verified through this additional research. Member checking is advised to add strength to the conclusions.

8.6.2 Alaska-specific research recommendations

The tobacco prevention community should be made aware of the findings of this study and given access to the protocols for use in further young adult and Alaska Native smoking cessation studies. This community includes the Alaska Tobacco Control Alliance (Alaska Tobacco Control Alliance, n.d.), the Alaska Tobacco Prevention and Control Program (Alaska Tobacco Prevention and Control Program, n.d.), and Alaska Native Health Consortium Tobacco Prevention and Control (Alaska Native Tribal Health Consortium, n.d.).

8.6.3 General research recommendations

Several areas of further research with respect to smoking cessation among young Alaska Native adults should be considered, including the role of stress relief, the young adult definition of successful quitting, the resistance to counseling as a quit-support method, the role of elders as role models, and the use of smartphone apps in cessation.

As discussed in Section 6.2.3.3, stress relief was reported by the participants to be a major benefit of smoking. Further research into the nature of the stress experienced by this priority population is warranted, with the possibility to discover how that stress might be alleviated through an intervention informed by an ecological model of health behavior (Sallis & Owen, 2002). An overall reduction in young-adult stress, or a young adult-specific stress-management component added to specially tailored intervention, might be helpful in reducing smoking in this priority population.

As discussed in Section 7.4.1, participants often felt that they were successful with cold turkey quit attempts, even if they later relapsed. Also, as discussed in Section 4.1.1.3, the literature varies in its definition of success. Further research

could address the question of how smokers and former smokers define success in quitting, especially versus the literature.

The resistance of the priority population to counseling (Section 7.4.2) may have been related to the experience of some with counseling for other addictions. Additionally, the findings were inconclusive, due to small sample size, regarding whether quitting smoking was a help or a hindrance to quitting other addictions (Section 7.3.4). Additional research into the management of addiction co-morbidities in this priority population may be warranted.

The ubiquity of smoking within the extended family, including by parents and elders, was discussed by many of the participants (Section 7.3.3). Yet, the Alaska Native cultures, including the people of Southeast Alaska, place great importance on respect for elders (Mohatt et al., 2004). This negative role-modeling, which was discussed in relation to Alaska Native villages in the Yukon-Kuskokwim Delta in (Renner et al., 2004), is worthy of further research in Southeast Alaska as well.

This dissertation research found that the priority population was interested in smartphone-based interventions for cessation, yet no evidence base currently exists demonstrating the effectiveness of such approaches (Section 7.6.3). Evidence-based interventions should be developed and tested in the young adult population.

Finally, as stated in the expert panel component of the knowledge synthesis in Bader et al. (2007), a greater understanding is needed as to “why young adults choose to smoke and choose to quit, rather than just whether they are successful” (p. 1438). A social marketing research framework would be appropriate to study the “why” of young adult smoking and cessation.

9 Conclusions

This dissertation research followed expert-recommended strategies (Cresswell, 2007; Ulin et al., 2004) for enhancing qualitative research trustworthiness, as described in Chapter 8. The three research goals (Chapter 2) were attained, and the seven research questions (Chapter 3) were answered.

9.1 Research Goals

The three stated goals of this project were accomplished as follows:

Goal #1: To determine which, if any, of the three options (increasing use of current service, increasing desire to quit, or designing and developing a new service for this priority population) would be most appropriate for SEARHC to implement in order to increase the number of young adult smokers who successfully quit.

- The research findings support developing a social marketing-based intervention to increase use of the current service, with special attention to promotion strategies that characterize the service as coaching to distinguish it from drug and alcohol counseling. The study findings informed the design of a social marketing intervention, outlined in Chapter 8.

Goal #2: To determine what quit support methods and what types of marketing messages appeal to the priority population.

- The research findings support modifying the current counseling service to ensure it can be tailored to the individual young adult. Adding the CDC texting-based cessation support program, smokefreeTXT (Centers for Disease Control and Prevention, n.d.-b), is also supported by the findings.

Goal #3: To develop a baseline qualitative research protocol for assessing the priority population's perception of the benefits of tobacco use, benefits of quitting, and the barriers to quitting.

- The research protocol developed for this dissertation study is well documented and may be transferable to other relatively urban settings. In village settings, the feasibility of focus groups of only

young adult smokers and former smokers might be limited, and individual interviews should be considered.

9.2 Research Questions

Each of the seven research questions (Chapter 3) was answered relative to the perspectives of the priority population: young Southeast Alaska Native adult smokers and former smokers (key research question phrases in italics):

1. The *perceived benefits of continuing to smoke* were stress relief, boredom relief, and oral satisfaction.
2. The *perceived benefits of quitting smoking* were avoiding both short-term health consequences and negative social consequences of smoking, and being a positive role model for children in the extended family.
3. The *perceived barriers to quitting smoking* were habit, addiction, other people's smoking, and fatalism.
4. The favored *method of quitting* was cold turkey. Nicotine Replacement Therapy was viewed as ineffective and having undesirable side effects. Most participants had not heard of varenicline. Only the two participants who had used the SEARHC Tobacco Cessation Program favored counseling.
5. *Attitudes toward tobacco countermarketing* included a preference for high emotional level advertisements with either strongly negative emotional valence (e.g., fear and disgust) or strongly positive emotional valence (e.g., joy, happiness).
6. Of the *ideas for programs* presented, most participants did not like counseling or the sample smart phone video game. Reactions to texting support were mixed, and reactions to a sample smart phone app were positive.
7. Participants reported *being best reached* by mobile phone (texting or voice) or Facebook. They reported little use of email and websites.

9.3 Personal Lessons

There was much to be learned over the course of the dissertation research and documentation. The project provided an excellent synthesis of topics studied in the Interdisciplinary PhD curriculum, particularly from studies in social marketing, consumer behavior, qualitative methods, and cross-cultural health. The rigor required to implement qualitative methods was a particularly dramatic revelation, with the actual practice illuminating and reinforcing coursework.

The present study provided an opportunity for the researcher to build on her social and commercial marketing experience, while at the same time developing an academic perspective, particularly as regards project development, communication and documentation.

9.4 Contribution to the Literature

This dissertation study contributed to the sparse young adult smoking cessation literature (Bader et al., 2007; Kishchuk et al., 2004; Nademin et al., 2010) and extended it by applying a social marketing framework to research and recommendations. It is likely the first and only young-adult specific qualitative study for Indigenous smokers and the first and only qualitative study conducted with Southeast Alaska Native smokers.

Although the research answered many questions, it also generated several other questions and opportunities for further research. Additional investigation is recommended at the tribal health organization level (SEARHC), the Alaska state level, and the young adult level.

Appendix A: UAF IRB Approval, Phases 1 and 2

Review Details

[235925-1] (UAF) Tobacco Use and Cessation:What matters to Southeast Alaska Native Young Adults?
[University of Alaska Fairbanks IRB, Fairbanks, AK](#)

Submission Details
Submitted To University of Alaska Fairbanks IRB, Fairbanks, AK
Submitted by Kathryn Anderson
Submission Date 04/29/2011
Submission Type New Project
Local Board Reference Number

Review Details:

Agenda	Review Type	Board Action	Effective Date	Expiration Date
05/26/2011 09:00 AM	Exempt Review	Exempt	06/01/2011	06/01/2012

Board Documents:

There are currently no documents from University of Alaska Fairbanks IRB.



(907) 474-7800
(907) 474-5444 fax
fyirb@uaf.edu
www.uaf.edu/irb

Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

May 31, 2012

To: Ellen Lopez, PhD
Principal Investigator

From: University of Alaska Fairbanks IRB

Re: [235925-2] (UAF) Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?

Thank you for submitting the Continuing Review/Progress Report referenced below. The submission was handled by Exempt Review. The Office of Research Integrity has determined that the proposed research qualifies for exemption from the requirements of 45 CFR 46. This exemption does not waive the researchers' responsibility to adhere to basic ethical principles for the responsible conduct of research and discipline specific professional standards.

Title:	(UAF) Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?
Received:	May 29, 2012
Exemption Category:	2
Effective Date:	May 31, 2012

This action is included on the June 14, 2012 IRB Agenda.

Prior to making substantive changes to the scope of research, research tools, or personnel involved on the project, please contact the Office of Research Integrity to determine whether or not additional review is required. Additional review is not required for small editorial changes to improve the clarity or readability of the research tools or other documents.

Appendix B: IHS Alaska Area IRB Approval, Phases 1 and 2

4315 Diplomacy Drive - RMCC
Anchorage, AK 99508
Phone: (907) 729-3924

Alaska Area Institutional Review Board

DATE: November 17, 2011

TO: Ellen Lopez, PhD
Principal Investigator
*Assistant Professor, Department of Psychology and
The Center for Alaska Native Health Research
The University of Alaska Fairbanks
238 Arctic Health Research Building
Fairbanks, Alaska 99775*

FROM: Alaska Area Institutional Review Board (IHS IRB #2)

STUDY TITLE: [288643-3] (IHS) Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?

IRB REFERENCE #: 2011-05-022

SUBMISSION TYPE: Required Revisions to New Protocol

ACTION: APPROVED

APPROVAL DATE: October 18, 2011

EXPIRATION DATE: October 17, 2012

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited Review

Dear Dr. Lopez:

The Alaska Area Institutional Review Board has given approval through Expedited Review to the protocol 2011-05-022 (IHS) Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?. Tribal approval is required in addition to IRB approval. The protocol was approved on October 18, 2011 and has an **expiration date of October 17, 2012**.

As a reminder, the protocol and all accompanying documents **may not have modifications** for this decision to remain valid. It is your responsibility as Principal Investigator (PI) to maintain the status of your project by tracking and monitoring all activities related to the protocol. All research approved by the Alaska Area IRB is subject to 45 CFR 48 "Protection of Human Subjects" regulations, the US Food and Drug Administration regulations and the principles of the Belmont Report. Investigators are expected to be familiar with these provisions and adhere strictly to all requirements. You are required to have all personnel involved in the research complete the training at www.citi-program.org, once every 36 months and retain your completion certificates from the Collaborative Institutional Training Initiative (CITI).

Prior to making any changes to the protocol you must receive approval from the Alaska Area IRB. The IRB does not accept modifications and the Status Report and Renewal Application at the same time. Please ensure that project information is complete and submitted to the IRB using the electronic submission process at IRBNet at least four weeks prior to the expiration date of the project. In addition remember that the IRB agenda is closed on the first day of each month; all complete submissions received after the first day of each month will be placed in the IRB queue for the next IRB meeting.

The Alaska Area IRB has moved to an electronic submission process using IRBNet. To submit to the IRB proceed to IRBNet (www.irbnet.org) and log in to your existing project. The continuing review information

must include but not be limited to the Alaska Area IRB Status Report and Renewal Application forms, the current IRB approved protocol, a short abstract of the protocol, a current copy of the consent/assent forms, and a cover letter to the IRB signed by the principal investigator. Submit to the Alaska Area Institutional Review Board (I.H.S. IRB #2) by uploading into IRBNet and add each item to the project. Send a single paper copy of all items submitted in IRBNet to the IRB Office for the official protocol file, and inform the IRB by letter when the protocol is complete/closed.

As a reminder, the IRB must review and approve all human subjects' research protocols at intervals appropriate to the degree of risk, but not less than once per year. Per 45 CFR 46.109(e), there is no grace period beyond one year from the last IRB approval date unless the protocol approval period is shorter than one year.

It is your responsibility as Principal Investigator (PI) to maintain approval status for your project by tracking, renewing and obtaining IRB approval for all modifications to the protocol and the consent form. Keep this approval in your protocol file as proof of IRB approval and as a reminder of the expiration date. To avoid lapses in approval of your research which will result in suspension of participant enrollment and/or termination of the protocol submit the protocol continuation request at least 4 weeks prior to the **expiration date of October 17, 2012**.

All research involving staff, patients, or resources at the Alaska Native Medical Center (ANMC) must be reviewed and approved by ANMC's parent organizations after the Alaska Area Institutional Review Board approval is obtained. The parent organizations of ANMC are the Alaska Native Tribal Health Consortium (ANTHC) and the Southcentral Foundation (SCF). Tribal review and approval is required for all research protocols prior to initiation. Any manuscripts or abstracts for publication or presentations involving ANMC staff, patients, or resources must also be reviewed and receive tribal approval prior to submission. To initiate tribal review please contact ramreview@anthc.org, this is a shared SCF and ANTHC email group. Please allow at least 8 weeks for tribal review and approval.

If you have further questions for the Alaska Area IRB you may contact us via email at: akaalaskaareaIRB@anthc.org.

Sincerely,

Terry J. M. Powell
Alaska Area Institutional Review Board
IRB Administrator
4315 Dporracy Drive RMCC
Anchorage, Alaska 99508

Alaska Area Institutional Review Board

4315 Diplomacy Drive - RMCC
Anchorage, AK 99508
Phone: (907) 729-3924

DATE: May 1, 2012

TO: Ellen Lopez, PhD
Principal Investigator
Assistant Professor, Department of Psychology
University of Alaska Fairbanks
Center for Alaska Native Health Research
236 Arctic Health Research Building
Fairbanks, Alaska 99775

FROM: Alaska Area Institutional Review Board (IHS IRB #2)

STUDY TITLE: [299673-3] (IHS) Phase 2 Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?

IRB REFERENCE #: 2012-01-003

SUBMISSION TYPE: IRB Revisions Required

ACTION: APPROVED

APPROVAL DATE: April 18, 2012

EXPIRATION DATE: April 17, 2013

REVIEW TYPE: EXPEDITED

REVIEW CATEGORY: EXPEDITED

Dear Dr. Lopez:

The Alaska Area Institutional Review Board has given approval through Expedited Review to the protocol 2012-01-003 (IHS) Phase 2 Tobacco Use and Cessation: What matters to Southeast Alaska Native Young Adults?. Tribal approval is required in addition to IRB approval. The protocol was approved on April 17, 2012 and has an **expiration date of April 17, 2013**.

As a reminder, the protocol and all accompanying documents **may not have modifications** for this decision to remain valid. It is your responsibility as Principal Investigator (PI) to maintain the status of your project by tracking and monitoring all activities related to the protocol. All research approved by the Alaska Area IRB is subject to 45 CFR 46 "Protection of Human Subjects" regulations, the US Food and Drug Administration regulations and the principles of the Belmont Report. Investigators are expected to be familiar with these provisions and adhere strictly to all requirements. You are required to have all personnel involved in the research complete the training at www.citi-program.org, once every 36 months, obtain a 75% proficiency on all modules, and retain your completion certificates from the Collaborative Institutional Training Initiative (CITI).

Prior to making any changes to the protocol you must receive approval from the Alaska Area IRB. The IRB does not accept modifications and the Status Report and Renewal Application at the same time. Please ensure that project information is complete and submitted to the IRB using the electronic submission process at IRBNet at least four weeks prior to the expiration date of the project. In addition remember that the IRB agenda is closed on the first day of each month; all complete submissions received after the first day of each month will be placed in the IRB queue for the next IRB meeting.

The Alaska Area IRB has moved to an electronic submission process using IRBNet. To submit to the IRB proceed to IRBNet (www.irbnet.org) and log in to your existing project. The continuing review information must include but not be limited to the Alaska Area IRB Status Report and Renewal Application forms, the current IRB approved protocol, a short abstract of the protocol, a current copy of the consent/assent forms, and a cover letter to the IRB signed by the principal investigator. Submit to the Alaska Area Institutional Review Board (I.H.S. IRB #2) by uploading into IRBNet and add each item to the project. Send hard copy of all items submitted in IRBNet to the IRB Office for the official protocol file, and inform the IRB by letter when the protocol is complete/closed.

As a reminder, the IRB must review and approve all human subjects' research protocols at intervals appropriate to the degree of risk, but not less than once per year. Per 45 CFR 46.109(e), there is no grace period beyond one year from the last IRB approval date unless the protocol approval period is shorter than one year.

It is your responsibility as Principal Investigator (PI) to maintain approval status for your project by tracking, renewing and obtaining IRB approval for all modifications to the protocol and the consent form. Keep this approval in your protocol file as proof of IRB approval and as a reminder of the expiration date. To avoid lapses in approval of your research which will result in suspension of participant enrollment and/or termination of the protocol submit the protocol continuation request at least 4 weeks prior to the **expiration date of April 17, 2013**.

All research involving staff, patients, or resources at the Alaska Native Medical Center (ANMC) must be reviewed and approved by ANMC's parent organizations after the Alaska Area Institutional Review Board approval is obtained. The parent organizations of ANMC are the Alaska Native Tribal Health Consortium (ANTHC) and the Southcentral Foundation (SCF). Tribal review and approval is required for all research protocols prior to initiation. Any manuscripts or abstracts for publication or presentations involving ANMC staff, patients, or resources must also be reviewed and receive tribal approval prior to submission. To initiate tribal review please contact rampreview@anthc.org, this is a shared SCF and ANTHC email group. Please allow at least 8 weeks for tribal review and approval.

If you have further questions for the Alaska Area IRB you may contact us at akaalaskaarealrb@anthc.org or call (907) 729-3924.

Sincerely,

Terry J. M. Powell
Alaska Area Institutional Review Board
IRB Administrator
4315 Diplomacy Drive RMCC
Anchorage, Alaska 99508

Appendix C:

Central Council Tlingit-Haida Tribes Approval



Office of the President
320 West Willoughby Avenue • Suite 300
Juneau, Alaska 99801-1726

March 25, 2011

Andrea Thomas
SEARHC Tobacco Program
222 Tongass Drive
Sitka, Alaska

Dear Ms. Thomas:

On behalf of the Central Council Tlingit and Haida Indian Tribes of Alaska (Central Council), a tribal government representing over 27,000 Tlingit and Haida Indians worldwide, I strongly support the SEARHC Tobacco Cessation Program.

The proposed research project for data gathering is essential to learn more about tobacco use amongst young Alaska Native adults in Juneau. Gathering individualized information from current or former tobacco users in the 19 through 29 year old age group will assist in developing a customized and successful treatment strategy within this population.

Despite inarguable medical evidence demonstrating the devastating health conditions that originate from tobacco use, four out of five young adults continue with this harmful habit. The cost of providing cessation programs as well as smoke-free environments is considerably low once the cost of treating the irreversible illness that is the end result of this habit is considered.

Central Council whole heartedly supports this research effort with hopes that a better understanding may be gained and a more successful medical treatment may be offered to the young Alaska Native adults through this essential program.

Sincerely,

Edward K. Thomas
President

**Appendix D:
Douglas Indian Tribe Approval (TBD)**



**Douglas Indian Association
Tribal Government**

3161 Channel Dr., ste. 1A
Juneau, Alaska 99801
Phone: (907) 364-2916 Fax (907) 364-2917

Andrea Thomas, Tobacco Program
SEARHC Health Promotion
222 Tongass Drive
Sitka, AK 99835

March 15, 2011

Dear Ms. Thomas,

Douglas Island Indian Association is in support of the SEARHC Tobacco Program's proposed research to learn more about Alaska Native young adult tobacco users. We're increasingly concerned about the high rates of tobacco use of our young tribal members.

We need to know more about when and why young people start smoking and what helps them to stop. When 4 out of 5 young adults, age 18-24, report they smoke, we know we are not getting the message across and that more needs to be done. The cost of providing services to help quit tobacco and create smoke-free environments is relatively low when compared with the costs to our tribe, our families, and to individuals when we lose our loved ones to diseases caused by tobacco use. It is so important to identify and address the factors that lead to tobacco use and also to achieve the goal of supporting tribal members to stop the habit. It is for these reasons that we are writing in support of this project.

We sincerely hope that SEARHC completes this research and is successful in achieving the goal of improving the health of our young adult tribal members through reducing smoking.

Sincerely,

DJ Mazon
Caseworker/Housing Liaison
Douglas Indian Association
djmazon-dia@gci.net

Appendix E:
Interview Guide Phase 1

Warm-up Question:

- 1) Tell me a little bit about yourself, where you're from, and what you like to do.
 - A) Potential follow-up/probes
 - i) What kinds of things are you involved with in your community?
 - ii) What do you like to do with your friends? Your family?

Research-related questions:

- 2) What were the top one or two reasons for you starting to use tobacco?
 - A) Potential follow-up/probes:
 - i) What made you decide to start?
 - ii) How old were you?
 - iii) What was the reaction of other people in your life?
 - (a) Elders, family members, friends

- 3) How would you describe your tobacco use²⁰ now?
 - (a) How often do you smoke?
 - (b) How much do you smoke?
 - (c) How often do you chew?

- 4) What things in your life make you (made you)²¹ use tobacco more ?
 - (a) When and where do you (did you) most often use tobacco?
 - ii) What things in your life make you (made you) use tobacco less ?
 - iii) How do your friends/family affect your decision to use or not use tobacco?

- 5) How do you feel now about tobacco use?
 - A) Potential follow-up/probes:
 - i) What effect does using tobacco (quitting tobacco) have on your life now?
 - (a) health, finances, relationships
 - ii) What do you (did you) see as the benefits of using tobacco?
 - (a) Social?
 - (b) Mental?
 - (c) Physical?
 - iii) What do you see as the disadvantages of using tobacco?
 - (a) Social?
 - (b) Mental?

²⁰ If participant smokes, but does not chew tobacco, all references to tobacco use will be replaced with reference to smoking.

²¹ If participant no longer uses tobacco, use the phrases in ()'s.

- (c) Physical?
- (d) Financial?

- 6) What, if anything, makes you (made you) think about quitting tobacco?
- A) Potential follow-up/probes:
 - i) What do you see as the benefits of quitting?
 - ii) What seems (seemed) hard about quitting?
 - iii) What keeps you (kept you) from quitting?
- 7) What experience do you have with quitting smoking?
- A) If any, potential follow-up/probes (for each attempt):
 - i) How did you go about trying to quit?
 - ii) Tell me what it was like.
 - (a) What worked?
 - (b) What didn't work?
 - iii) How did it turn out?
 - iv) Why do you think it turned out the way it did?
 - v) What do you think might work better?
- 8) If you were to try to quit smoking in the future (If you imagined yourself as a tobacco user again), what ways, if any, might you want to be supported?
- 9) What are your preferred ways of communicating with friends and family?
- A) Potential follow-up/probes
 - i) How do you most prefer that friends or family get in touch with you?
 - ii) Do you use the internet for email or things like Facebook or Twitter?
 - (a) If so
 - (a) Where do you have access?
 - (b) How often do you use it? Do you use it every day?
 - (c) How many hours a week do you use the internet?
 - iii) Do you have a cell phone?
 - (a) If so
 - (a) What ways do you use it?
 - (b) How often do you use it?

Appendix F:
Demographic Questionnaire (Phases 1 and 2)

Name you have chosen for today's interview: _____

Gender (check one): ___ Male ___ Female

Your age today: ___ years

What is your employment status?

(Please check all that apply)

- Employed full time
- Employed part time
- Full time student
- Part-time student
- Unemployed, looking for work
- Unemployed, not looking for work

If you are employed, what is your occupation? _____

How much school have you completed?

(Please check all that apply)

- Grade school
- High school
- 1-3 years of college
- 4 or more years of college

Check which sentence best describes your financial situation: (Please check one answer)

- I have a hard time meeting my needs
- I meet my needs most of the time
- I have more than I need to meet my needs

What is your current Marital Status?

(Please check one answer)

- Married
- Divorced
- Separated
- Widowed
- Single and not living with boyfriend or girlfriend
- Single and living with boyfriend or girlfriend

Other _____

Number of children under age 16 living with you _____

Do you now smoke cigarettes every day, some days, or not at all?

- Everyday
- Some days
- Not at all

How old were you when you first start smoking? _____

If you no longer smoke, when did you have your last cigarette?

(Month/year)_____

Do you now use any smokeless tobacco products (chewing tobacco, snuff, Iqmik, or Blackbull) every day, some days, or not at all?

- Everyday
- Some days
- Not at all

How old were you when you first start using smokeless tobacco? _____

If you no longer use smokeless tobacco, when did you last use it?

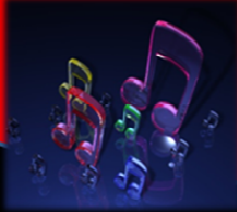
(Month/year) _____

**Appendix G:
Phase 1 and 2 Recruitment Posters**



**IF YOU'RE 19 – 29 YEARS OLD
and
A CURRENT OR FORMER
TOBACCO USER,**

**we want to know
what matters to you!**

- ✓ \$30 music download gift card
- ✓ no pressure, no judgment
- ✓ one hour interview



If you're interested participating in this research study,
please contact Edy Rodewald
at SEARHC in Juneau,
erode@searhc.org
907-364-4452
by November 1, 2011



**IF YOU'RE 19 – 29 YEARS OLD,
ALASKA NATIVE,
and
A CURRENT OR FORMER
TOBACCO USER,**

**we want to know
what matters to you!**

- ✓ \$30 music download gift card
- ✓ no pressure, no judgment
- ✓ one hour focus group



If you're interested participating in this research study,
please contact Edy Rodewald
at SEARHC in Juneau,
erode@searhc.org
907-364-4452
by April 9, 2012



Appendix H:
Recruiting Email to SEARHC Employees

FROM: Andrea Thomas, SEARHC Tobacco Department Manager

We're very much interested in tobacco use among young adults, ages 19 - 29. According to the 2008 Behavioral Risk Factor Survey, more than 50% of our client base in this age group smokes, and we would like to be able to better serve those who wish to quit.

The first step we're taking is to interview, one-on-one, a mix of current and former tobacco users living in Juneau who are eligible for SEARHC services and who are between the ages of 19 and 29. There won't be any pressure for them to quit tobacco, we just want to discuss their tobacco use, their attitudes and beliefs, and their experience (if any) with quitting. In exchange for up to one hour of their time, we're giving each participant a \$30 music download gift card.

We'd like help finding people to interview, so if you know any current or former tobacco users in the Juneau-Douglas area, ages 19-29 and eligible for SEARHC services, will you send them the attached flyer?

If you fit the description, and you're interested in participating, please contact Edy Rodewald, erode@searhc.org, (907)-364-4452.

Thanks!

Andrea Thomas SEARHC Tobacco Department Manager

Appendix I:

Detailed Findings of Phase 1

Benefits of smoking

The major benefits of smoking were reported to be stress relief, pleasure, social interaction, and time to reflect.

Stress relief: Several participants related that they experienced noticeable amounts of stress in their lives, due to relationships, employment, and work-family balance. A few also noted the irony of smoking to relieve stress, indicating that the relief was temporary and that smoking and smoking cessation could themselves cause stress.

Pleasure: For participants, components of pleasure included the taste of smoke, the oral satisfaction of smoking, and the feel of smoke going into one's lungs. The "buzz," especially just after smoking initiation, was also described as pleasurable by several participants. One participant, who described having successfully quit hard drugs and alcohol, described tobacco as his "only remaining vice."

Social interaction: Social interaction was considered a benefit of smoking. One young man described himself as shy and said that having to step outside a bar to smoke gave him the opportunity to speak with young women in a less pressured situation than inside the bar. Others described smoking as a way of fitting in and an opportunity to hang out with "other people that smoke, because it doesn't bother them."

Time to reflect: Both women and one of the men interviewed indicated that taking a smoke break allowed them the opportunity to reflect. They used phrases like "clear my mind," "center myself," and "take time to think" to describe what smoking allowed them to do in the context of their sometimes stressful lives.

Other: Many participants answered the question about the benefits of smoking by saying that there were not very many benefits. One young man responded, "The cons are starting to stack up."

Disadvantages of smoking

When asked, participants reported the disadvantages of smoking as short- and long-term health effects, cosmetic and social image effects, concern for children, and, to a lesser degree, financial implications.

Short-term health effects: Immediate health effects were of concern. Both men and women noted shortness of breath when exercising. Two male participants mentioned having more sexual stamina when they were not smoking. Several also reported having less energy than they did prior to starting smoking.

Long-term health effects: Risk of cancer and emphysema were mentioned by almost everyone. These long-term effects were reported as being of less concern than the short-term effects. Three participants noted that, even though they had relatives diagnosed with or who died of smoking-related lung disease, long term health was not an immediate issue for them. However, two participants described wanting to stay healthy for their own children.

Social image and cosmetic concerns: Social image and cosmetic concerns about smoking included smell, yellow teeth, bad breath, and cough. Some cosmetic and short term health concerns reflected the participant's own feelings, but others reflected what people in their lives were saying. One young man said his girlfriend objected to the phlegm he coughed up every morning.

Concern for children: Five of the six participants expressed concern for the children in their life, including their own and their significant others' children, as well as nieces and nephews. Participants worried about being a good role model and protecting the children from second-hand smoke. Both women stated that they would quit smoking once they became pregnant.

Cost of cigarettes: Several participants mentioned the high cost of cigarettes, which at the time of the interviews was more than \$9.00 per pack in Juneau. Still, only one participant categorized price as a major driver of quit attempts.

Methods of communication

SEARHC was interested in knowing if a technology-based intervention such as texting or a smart phone app would be appealing to this priority population, so the participants were asked how they used technology to communicate.

Participants noted that their cell phones were their primary means of communication. Texting was widely reported, but usage varied from “occasional” to “100 per day.” Two different people expressed the sense that heavy reliance on texting is not healthy for personal relationships. Very little use of email was reported. Some use of Facebook was reported, but it was not universal, and no Twitter usage was reported. Participants stated that their Internet access was largely through their phone and that they very seldom used the general Internet, outside of Facebook.

Smoking cessation

Five of the six participants expressed an interest in quitting tobacco eventually, but only one person was actively trying to quit at the time of the interview.

Several had made “cold-turkey” quit attempts, that is, quitting with no formal support such as pharmacotherapy or behavioral therapy (Fiore et al., 2008). Most believed that quitting was mainly a matter of willpower, and they had limited awareness of and proclivity to use assistance such as pharmacotherapy or behavioral therapy. They acknowledged that wanting to quit was a strong prerequisite to actually quitting.

The power of limited access to tobacco was acknowledged. Some mentioned that either having to “bum” cigarettes from others or rolling their own cigarettes helped them to smoke less. Several mentioned that staying away from other smokers was key to those quit attempts that had resulted in some success.

Pharmacological treatments such as nicotine gum, nicotine patch, or varenicline (Chantix ®) were not considered first-choice methods of quitting, but some participants mentioned them in passing.

When asked for ideas of quit support systems that might work for them, five of the six had no answer. One person, who had never been enrolled in the SEARHC Tobacco Program, described wishing for an advisor that, coincidentally, offered the same attributes that the current SEARHC tobacco counselor strives to provide, such as being outgoing, non-judgmental, optimistic, and open-minded.

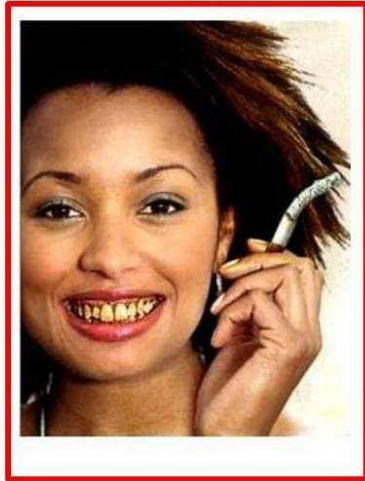
The participants said that quitting tobacco was hard because of addiction and the strength of habit, the difficulty of withdrawal, and the persistence of the problems that led them to start smoking. Fear of failure was cited by a few of the participants. Some had given up other addictions and likened quitting tobacco to quitting hard drugs or alcohol.

Many, especially those with young children, reported smoking outside while at home. Most said that they smoked more when they were with other smokers and when they were stressed, irritated, or bored. Some, however, stated that their habit was independent of specific other people, and that it was related more to social situations such as being in a bar.

No one described feeling actual peer pressure to continue smoking, but most reported that their first smoking experience involved other young people encouraging or daring them to try a cigarette. Two participants, one male and one female, indicated that many people were surprised that they smoked because it did not fit their “goody goody” or “Goody Two Shoes” image.

All reported that at least one parent smoked, and many reported that their siblings smoked.

Appendix J: Countermarketing Storyboards



STOP SMOKING: #1

Nothing Will Ever Be the Same.

Smoking gave me throat cancer at 39. Now I breathe through a hole in my throat and need this machine to speak.

— Ronald Martinez

QUIT SMOKING TODAY
FOR HELP CALL 311

The New York City Department of Health and Mental Hygiene. Michael S. Bloomberg, Mayor. Thomas E. Frieden, MD, M.P.H., Commissioner.

The advertisement features a photograph of Ronald Martinez, a man with a mustache, looking directly at the camera. He is wearing a blue plaid shirt and a dark jacket. The text is positioned to the left of his face. At the bottom, there is a black banner with white text and a small NYC Health logo.

Nicotine patches may help a person to quit smoking

A photograph of a woman in a white sleeveless top, applying a nicotine patch to her left upper arm. The patch is a small, rectangular, light-colored sticker. The image is framed with a red border.

STOP SMOKING: #2

Half of adult smokers have quit

so YOU CAN too

so YOU CAN too!

The advertisement has a black background with white text. The text is arranged in a vertical stack. At the bottom right, there is a photograph of a pair of feet wearing white socks, standing on a small patch of snow. The image is framed with a red border.



STOP SMOKING: #3



Appendix K: Quit Support Storyboards:

Quit support: Texting app



Tobacco Quit Program



One-on-one counseling

Quit Aid
Products



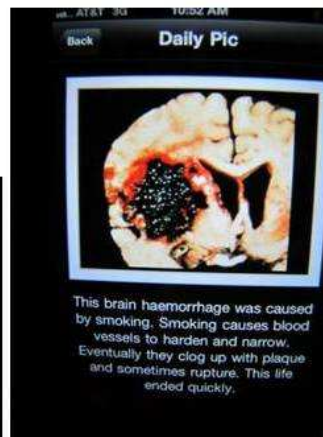
Education



Quit support: Video game



Quit support: Smartphone app



Appendix L:
Interview Guide Phase 2

Introduction: You're all here because you have experience using tobacco.

Warm-up Question:

- 1) Tell me a little bit about yourself, where you're from, and what you like to do when you're not working or going to school.
 - A) Potential follow-up/probes
 - i) What kinds of things are you involved with in your community?
 - ii) What do you like to do with your friends? Your family?

Research-related questions:

- 2) How do you feel now about tobacco use?
 - A) Potential follow-up/probes:
 - i) What's good about smoking or chewing?
 - (a) Social?
 - (b) Mental?
 - (c) Physical?
 - ii) What's not so good about smoking or chewing?
 - (a) Social?
 - (b) Mental?
 - (c) Physical?
 - (d) Financial?
- 3) What, if anything, makes you/made you think about quitting tobacco?
 - A) Potential follow-up/probes:
 - i) What might be/was good about quitting tobacco?
- 4) What seems/seemed hard about quitting?
- 5) What experience do you have with quitting smoking?

- A) Potential follow-up/probes:
- i) How did you go about trying to quit?
 - ii) Tell me what it was like.
 - (a) What worked?
 - (b) What didn't work?
 - iii) How did it turn out?
 - iv) Why do you think it turned out the way it did?
- 6) How do you usually stay in touch with friends and family, far and near?
- A) Potential follow-up/probes
- i) Do you use email?
 - (a) If so
 - (a) Where do you have access?
 - (b) How often do you use it? Do you use it every day?
 - ii) Do you use the internet for things like Facebook or Twitter?
 - (a) If so
 - (a) Where do you have access?
 - (b) How often do you use it? Do you use it every day?
 - iii) How many hours a week do you use the internet?
 - iv) Do you have a cell phone?
 - (a) If so
 - (a) What ways do you use it?
 - (b) How often do you use it?
- 7) We'd like to get your reaction to some programs that have been proposed to encourage people to quit. (Show, in sequence, Fear ads, gentle-persuasion, family values)
- A) Potential follow-up/probes:
- i) What is your reaction to this? (ask separately for each demo)
 - (a) What do you like about it?

- (b) What do you dislike about it?
 - (c) How do you think it might impact your attitude towards smoking?
 - ii) Of all these, which type of ad do you think would be work best for you or for people like you?
- 8) We'd like to get your reaction to some programs that have been proposed to help people actually quit. Some involve working with other people and some are more of an individual effort. (Show, in sequence, displays for text messaging, counseling, video game, smart phone app)
 - i) What is your reaction to this? (ask for each display in turn)
 - (a) What do you like about it?
 - (b) What do you dislike about it?
 - (c) How do you think it might work for you or people like you?
 - ii) Of all these, which type of program do you think would be work best for you or for people like you?
- 9) Let's just brainstorm for a minute. What other kinds of support might help you or people like you to quit?
- 10) What else would you like to say about smoking or quitting smoking, or things that might change your attitude about smoking?
- 11) Thanks so much for your help.

**Appendix M:
Criteria Card for Phase 2 Recruiting**

**IF YOU'RE 19 – 29 YEARS OLD,
ALASKA NATIVE,
and
A CURRENT OR FORMER
TOBACCO USER,**

**we want to know
what matters to you!**

- ✓ \$30 music download gift card
- ✓ no pressure, no judgment
- ✓ one hour focus group
- ✓ session held week of Apr 9



**If you're interested participating in this research study,
please contact Edy Rodewald
at SEARHC in Juneau,
erode@searhc.org
907-364-4452
by April 9, 2012**



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