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The Effectiveness of a Maori Noho Marae Smoking Cessation Intervention:
Utilising a Kaupapa Maori Methodology

Marewa Glover

A thesis submitted for the Degree of Doctor of Philosophy in Behavioural Science

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ABSTRACT

Maori smoking prevalence rates are double those of non-Maori. Despite recent government funded health promotion targeting Maori, this disparity appears to be widening. Smoking prevalence rates for Pakeha New Zealanders continue to fall, whereas Maori smoking prevalence rates remain stable at 50% of all Maori adults over the age of 15. In response to community demand for smoking cessation assistance, some Maori health providers developed a residential intervention based on marae. This study examined the effectiveness of that approach to aiding smoking cessation among Maori. A secondary purpose of the study was to support the development of uniquely Maori approaches to research, by utilising a kaupapa Maori methodology. The literature on kaupapa Maori health research methodology was reviewed. Consequently, Te Whare Tapa Wha, a contemporary Maori paradigm is used as the central organising framework for analysing and understanding both the act of research and smoking behaviour.

Two groups of smokers were interviewed, a group undertaking a Noho Marae smoking cessation programme (n=26) and a group of unaided quitters (n=104). Participants were interviewed prior to their quit attempt and again four months later. Nineteen of the unaided quitters were lost to follow-up. Both quantitative and qualitative data was collected. Few significant differences existed between the groups at the first interview. Among participants who completed both interviews, point prevalence at follow-up was 35% for the Noho Marae group versus 14% for the unaided group. The findings support the effectiveness of Noho Marae smoking cessation interventions.

Recommendations on how to strengthen New Zealand’s tobacco control programme are made. A greater emphasis on delivering to whanau, rather than focusing interventions on individuals, is recommended. Priority is currently given to groups identified as having higher smoking rates. Decline in smoking prevalence may be hastened by identifying and serving the groups most ready to change smoking behaviour. Further research is indicated, for example, to better understand the smoking cessation needs of pregnant Maori women.
Ko Ngatokimatawhaorua toku waka
Ko Puketi toku maunga
Ko Hokianga toku awa
Ko Nga Puhi Nui Tonu toku iwi
Ko Ngati Hine raua ko Ngati Manu oku hapu
Ko Cook raua ko Baker toku ingoa whanau
Ko Harry Cook toku tupuna, no Rangiahua ia.
    Ko Patricia May Cook toku mama.
    Ko Leslie Tanfield Glover toku papa.
    Ko Marewa Patricia Glover toku ingoa.
Na te kune te pupuke
Na te pupuke te hihiri
Na te hihiri te mahara
Na te mahara te hinengaro
Na te hinengaro te manako.

From the conception the increase
From the increase the thought
From the thought the remembrance
From the remembrance the consciousness
From the consciousness the desire.

(Taylor In Shirres, 1997).
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CHAPTER ONE

Introduction

SECTION ONE: PURPOSE AND OBJECTIVES

Tobacco smoking is the biggest killer of Maori people. Not only did tobacco smoking account for one-third of all Maori deaths in 1989-93 (Laugesen & Clements, 1998), smoking related illnesses plague Maori from conception. Up to two-thirds of pregnant Maori women smoke (Public Health Commission [PHC], 1994c). Sudden Infant Death Syndrome, asthma, glue ear, increased rates of chest infections and rheumatic fever are commonplace among Maori children (Pomare et al., 1995). Though over represented among the unemployed and lower income groups, Maori spend upwards of $200 million on tobacco products each year – an amount that could be usefully redirected to Maori economic development (S. Bradbrook, personal communication, 2000).

In 1976, nearly 60% of Maori smoked. This dropped to 50% by 1991 but hasn't changed much since. In 1998, half (49%) of all Maori adults still smoked (Ministry of Health [MoH], 1999). New Zealand health promotion and health education in the last fifteen years has failed to reduce Maori smoking prevalence rates. If anything, it looks as if smoking among younger New Zealanders, including taia tamariki, is increasing as daily smoking increased by 37% in 14-15 year olds between 1992 and 1997 (Laugesen & Scragg, 1999).

Even if preventive measures focusing on stopping uptake among young people were successful, it would do nothing to reduce the numbers of Maori who will die in the next twenty years from smoking related illnesses. The unchanging Maori smoking prevalence rates indicate either that quitting activity is low among Maori or that quitting success is low. Maori health workers believe motivation to quit among Maori is high with resulting quitting activity (PHC, 1994b) thus supporting the latter. There exists an urgent need to find effective smoking cessation interventions for Maori.
Smoking cessation, however, was not part of the New Zealand Government's tobacco control programme until 1999, despite Maori insistence that it should be. "More support for Maori wanting to give up smoking" (PHC, 1994b, p.12) has been an often repeated need. This cry for help was echoed at the international level when the 10th World Conference on Tobacco or Health held in Beijing, China in 1997, identified smoking cessation as the number one priority for action worldwide (Glover, 1997). Subsequent to this, smoking cessation was recognised as a legitimate tobacco control strategy deserving government and non-government agency support in New Zealand. So, at the turn of the millennium, New Zealand's tobacco control strategy includes the purchase of a national free phone Quitline service, supported by a national mass media campaign promoting quitting and a pilot programme trailing the delivery of support and free nicotine replacement products to Maori women who want to quit smoking.

Whilst this study contributes to a shared mission to reduce smoking related mortality and morbidity rates among Maori, the primary aim is to explore the Maori smoker's process and experience of smoking cessation. Specifically, the study was designed to investigate the effectiveness of the Maori Noho Marae smoking cessation method, by comparing quit rates achieved by participants in such a programme against Maori smokers attempting smoking cessation on their own. A parallel aim of the study was to adopt a kaupapa Maori methodology to strengthen the cultural validity of the study and support the development and acceptance of kaupapa Maori approaches to research.

In the remainder of this chapter I will outline the objectives of the study and define terms used in the thesis.

**Research Objectives**

In order to evaluate behavioural change interventions, baseline knowledge about the behaviour is needed to measure and detect change. Studies on Maori smoking have documented the size and quality of the problem (Broughton & Lawrence, 1993; Reid & Pouwhare, 1991), that is, how many Maori smoke, how much they smoke and why. At the initiation of this study there had been no formal studies on Maori smoking cessation behaviour or evaluations of Maori smoking
cessation interventions. Since then, some evaluations have been undertaken or initiated. One objective of this study, therefore, was to document for the first time the smoking cessation process for Maori.

A range of smoking cessation programmes existed at the start of this project, such as those run by the Seventh Day Adventist Church, ISIS or other independent providers, though these were not all available nationally. Only three Maori smoking cessation programmes existed. They were the Kiwi Stop Smoking programme offered by Aotearoa Smokefree, a programme modelled on Western approaches; Karakia, a marae based quit smoking programme particular to Tahuna Marae, Health Through The Marae holistic lifestyle programme (Minhinnick, no date); and the Noho Marae smoking cessation programme (NMSCP). Karakia and the NMSCPs are unique Maori initiatives based on Maori values and traditions.

Anecdotal evidence suggested that the NMSCPs were highly successful, for example, resulting in 50% of participants still smokefree two years later (M. Wano, personal communication, 1993). The NMSCP was chosen as a focus for this research because of its grounding in matauranga Maori and its potential to be shared with and applied by different hapu throughout New Zealand at minimal cost. In contrast, the Kiwi Stop Smoking Programme and Health Through The Marae including the Karakia stop smoking programme, were commercialised services. This study, therefore, aimed to assess the effectiveness of the NMSCP.

**Government Policy on Smoking Cessation**

Previous to 1999, Government health purchasing policy focused on preventing uptake of smoking among young people. Smoking cessation services were considered personal health services, therefore, the public health budget was not to be spent on smoking cessation (PHC, 1994c). Demand for funding of smoking cessation out of the personal health budget was insufficient against competing concerns, for example, for shorter waiting lists for elective surgery. Even if purchase of smoking cessation services was to be considered, with the advent of evidence based purchasing policy, health funding authorities were politically able to deny funding for interventions lacking evidence of their effectiveness. Maori health workers wanting to meet a perceived demand from their communities for cessation assistance could not secure
the funding to do so. The above-mentioned programmes were developed and implemented by dedicated individuals who scraped together funds from various sources. One of the reasons why I was motivated to study the effectiveness of NMSCPs, was in the hope that if the Government could be persuaded to purchase smoking cessation interventions, NMSCPs would, at least, have evidence supporting their effectiveness and potential as a purchase option.

A Training Resource

In addition to assisting current Maori smoking cessation services to increase their effectiveness, the results could be used as a resource for training health care workers and the development of new services. Aspects of the findings relating to measuring and facilitating behavioural change in Maori may be generalisable to intervention and treatment of Maori addiction to alcohol, cannabis and gambling. The results will also contribute to the international body of knowledge on smoking intervention programmes, in particular, making a valuable contribution to tobacco control among colonised indigenous groups, who share high rates of smoking.

A Kaupapa Maori Approach

An associated task of this project was to utilise a kaupapa Maori health research methodology. Kaupapa Maori health research is in a developmental stage, ideas are being shared, ethics are being discussed and informally and formally being set down. The Maori research community, however, has not established any formal association which would include the adoption of an agreed upon set of ethics and practice guidelines. Proposed rules, codes of practices and tikanga were gathered together to guide me in fulfilling my obligations as a kaupapa Maori health researcher, and to give rationale to the chosen method.

SECTION ONE: SUMMARY

In summary, the research programme had two main aims:

1. To conduct a prospective study of Maori smokers attempting to stop smoking
2. To utilise a kaupapa Maori health research methodology.

    To achieve the first aim, a number of objectives were set:
1.1 To conduct a review of the literature pertaining to Maori smoking cessation,
1.2 Interview Maori smokers about to stop smoking, either on their own or with
    the help of a NMSCP,
1.3 Interview research participants a second time three months later to ascertain
    quit rates for each group,
1.4 Compare and document the quitting process for each group, and identify
    predictors of cessation success; and
1.5 Make recommendations for Maori smoking cessation policy and programme
    development.

    With regards to the second aim, the objectives were to:
2.1 Conduct a literature review to identify the essential features of kaupapa Maori
    health research methodology
2.2 Base the smoking cessation research design on these features and critically
    review the application of a kaupapa Maori health research methodology; and
2.3 Make recommendations for the development of kaupapa Maori health
    research.

SECTION TWO: DEFINITION OF TERMS

The act of defining whom is and who is not a Maori has a demoralising
history, one that I did not want to emulate. Prior to European contact, the word Maori
was used to distinguish the “normal, usual, ordinary” character of objects “from
others having special characteristics” (Williams, 1985, p.179). Its more common
contemporary usage distinguishes the indigenous iwi (tribes) and hapu (sub-tribes) as
a whole from the new predominantly white United Kingdom and European
immigrants who were called “Pakeha.” Chinese and other non-European immigrants
retained their original ethnic labels. Today there is still confusion over who is a
Pakeha, as non-white and recent white immigrants, are commonly excluded from this
category. Hence, in this thesis the term non-Maori is used to distinguish hapu and iwi
Maori, as one party to the Treaty of Waitangi, from all other New Zealanders who
come under the governance of the other Treaty of Waitangi partner, the Crown. Where reference is made specifically to the predominantly white European population, the term Pakeha will be used.

Official practices of classification in the past, such as the blood quantum method, were contrary to Maori beliefs and assimilationist in intent. For instance, instead of recognising who someone was by establishing their whakapapa, Pakeha quantified the amount of Maori blood in a person. If they were deemed to have more than half, then they were classified as a Maori. In an attempt to standardise the recording of ethnicity, as from 1 July 1996, health providers are expected to record ethnicity using the same criteria as that used by Statistics New Zealand. That is, people are able to self-identify with one or more ethnic groups. An ethnic group is defined as:

people who have culture, language, history or traditions in common. These people have a 'sense of belonging' to the group, which may not be based on birth. It is possible to belong to more than one ethnic group. (MoH, 1996)

The last Census allowed for calculation of Maori population by three different criteria: Sole Maori, Maori and other, and Maori ancestry. Sixteen percent (16%) of the total population responded affirmatively to the Maori ancestry question, which is the closest to a Maori classification of identity based on whakapapa. However, 15% of them identified as non-Maori (Te Puni Kokiri [TPK], 1998). Official statistics, such as the smoking prevalence statistics quoted in this thesis, are based on the Maori and other (Maori ethnic group) figure of 15% (ibid.).

Rather than define the term Maori, and smoker, and establish a criteria to assess smokefree status, and then assess and assign these labels to people, participants were allowed to identify themselves as Maori, as a smoker and as having ceased smoking. If participants responded to recruitment advertisements calling for Maori smokers, it was assumed they identified as such. At the follow-up interview, if participants considered themselves smokefree, even if they had had a few slips, their identification as an ex-smoker was accepted.

It should be noted that smokeless tobacco is banned in New Zealand. Manufactured and roll-your-own cigarettes are the predominant tobacco products consumed. Cigars and pipes are also smoked in small numbers. The term smoking, in
this thesis, refers to tobacco smoking unless otherwise stated, for instance, when discussing the smoking of cannabis or herbal cigarettes.

It has been argued that the term “smoking cessation” does a disservice to the “clinical activity to which it refers” – treating tobacco dependence (Slade, 1999). In this thesis, smoking cessation is used with the understanding that the smoking of tobacco is in most cases, a compulsive behaviour resulting from an underlying dependency on nicotine.

**SECTION THREE: SUMMARY**

This chapter has included a brief outline of the purpose and objectives of this study and discussed the problem of identifying labels. The rest of the thesis reports on the various aspects of the study. Firstly, in Chapter 2 the literature review on kaupapa Maori health research is presented along with discussion of the implications for this project. Literature pertaining to Maori smoking and smoking cessation generally is presented in Chapter 3. Chapter 4 describes the research method for the smoking cessation study. The quantitative results are summarised in Chapter 5. Qualitative data describing the smoking cessation process up to the point of stopping is presented in Chapter 6. The quitting experience of participants who were smokefree at the follow-up interview is presented in Chapter 7 and what happened for participants who did not stop or who had returned to smoking by the follow-up interview is presented in Chapter 8. The qualitative data specific to participant’s experience of the NMSCP is appended. The analysis and discussion of the data as a whole can be read in Chapter 9. Implications of the findings for smoking cessation programmes and New Zealand tobacco control are discussed in Chapter 10. Finally, in Chapter 11, the kaupapa Maori health methodology used in the study is reconsidered.

A glossary of Maori terms is included as Appendix A.
CHAPTER TWO

Kaupapa Maori Health Research Methodology

SECTION ONE: INTRODUCTION

Throughout my graduate training and subsequent work in Maori health, "kaupapa Maori" has been promoted as a Maori way of doing research. Wanting to maximise beneficial outcome for Maori, I resolved to investigate and, if appropriate for the question under study, employ a kaupapa Maori health research methodology. At the initiation of this project there was no definitive text setting forth a commonly used and accepted discourse on kaupapa Maori health research, though numerous Maori and some non-Maori researchers had commented in brief on different aspects of it. Thus, one aim of this study was to conduct a literature review of kaupapa Maori health research methodology. To meet the objective of increasing understanding of kaupapa Maori health research methodology, critical reflection on the method used became another objective of this study. This chapter, therefore:

- Reviews what Maori have said about Maori health research and kaupapa Maori health research methodology
- Provides an overview of the issues and problems involved in conducting kaupapa Maori health research and identifies areas of consensus and debate
- Discusses the implications for designing a culturally appropriate and acceptable Maori health study.

This chapter will focus reflexively on my own process of coming to an understanding of kaupapa Maori health research methodology and the implications for this research project. An outstanding requirement of kaupapa Maori health researchers, often repeated in the literature reviewed, is the importance of attending to
the ethical and accountability requirements. As Jackson (1996) said, if we don’t take the time to:

...step back from the day-to-day reality of having to investigate lung cancer, unemployment, and give ourselves the space and resources to set our own rules and guidelines for the work that we do, then inevitably, the reality of the majority colonising paradigm will force us to take our tikanga, take our views and twist and shape it into a set of protocols which is not our own, and the end result is research that is damaging to our people. (p.9)

Studying the literature and opinions of others (I have predominantly reviewed what Maori have said about Maori health research, not what Pakeha have said) has helped clarify and establish my theoretical position as a Nga Puhi woman doing Maori health research.

SECTION TWO: BACKGROUND

This section summarises the contextual background to the research, highlighting influential factors, such as the Treaty of Waitangi, the negative effects of colonisation and Maori cultural endurance.

TE TIRITI O WAITANGI

Whilst it is beyond the scope of this thesis to describe the Treaty of Waitangi in full (see Durie, 1994) a summary of the main points is necessary as the Treaty of Waitangi has status today as “a founding document of modern New Zealand” (Durie, 1996a, p.11). The Treaty of Waitangi “is part of domestic law in specific statutes” and provides the rationale and justification for policy and programme development “across the full range of government business” (Parata, 1996, p.59). As Durie (1996a) said:

The Treaty of Waitangi remains essential to Government and Maori relationships and is the most frequently used justification for tino rangatiratanga, Maori self determination, including Maori control over health services and health research for Maori. (p.11)

Signed in 1840, the Treaty of Waitangi established the respective rights and responsibilities of the Crown and iwi Maori as governing partners in New Zealand (Watene-Haydon, Keefe-Ormsby, Reid & Robson, no date). The Treaty of Waitangi guaranteed that iwi and hapu would maintain the right of self-government. Article two
of the Treaty of Waitangi, specifically guaranteed "Maori protection over property rights and, in the Maori version" that protection extended to "taonga," cultural and social properties (Durie, 1996). Article three of the Treaty of Waitangi promised that Maori would have equal citizenship rights to other New Zealanders, inferring equal opportunity and access (ibid.).

The guarantees in the Treaty of Waitangi have not been upheld. New Zealand is governed singularly by the Crown; iwi Maori do not exercise any real form of self-government; most of the hapu and iwi asset base has been progressively "removed" or simply not recognised as taonga over which iwi Maori have rights, for example, underground resources or airwaves. Different interpretations of the Treaty of Waitangi are still being debated, but the process of token reparation is underway, facilitated by a Crown funded agency, The Waitangi Tribunal (Temm, 1990). "Principles" (that is, of partnership, protection and equity) have been drawn from the Treaty of Waitangi and promoted as essential to the relationship between Crown agencies and Maori.

All research conducted in New Zealand now could be audited for "adherence to the Treaty of Waitangi" (Health Research Council [HRC], no date). Researchers seeking HRC funding are routinely required to show "sensitivity to Treaty of Waitangi issues" especially when research involves Maori participants:

but also when the health research may impact on Maori, tino rangatiratanga, kaitiakitanga and mana tangata/whenua/moana (Maori self-determination through communal control and guardianship of iwi and its inherited resources).

This doctoral research, particularly as it was funded by the HRC and conducted under the auspices of the University of Auckland (another institution of the Crown), is subject to the Treaty of Waitangi. My responsibilities under the Treaty of Waitangi will be examined later in this chapter.

**BRITISH COLONISATION OF NEW ZEALAND**

Painting the backdrop to the conduct of this project necessitates an introduction to British colonisation of New Zealand, (see Smith, 1999, for a fuller account) particularly attending to the role of research in the colonising process, for as Smith (1986) said:
research was a small but important part of the colonisation process because it concerned defining knowledge. To be colonised is to be defined by someone else and to believe it even though you are confronted daily by evidence to the contrary. (p.8)

Maori have been observed, described, measured and subjected to the judgements of tauiwi since first contact. We have been represented variously, often unfavourably; first as noble savages, then later as “dissipated, inferior, decadent, unpredictable, subversive” and “amoral” (Te Awekotuku, 1991, p.10). Aotearoa has been treated similarly, though judgements of the resources of the land and sea have been more favourable. Although Maori have been studied a great deal, with some Maori thinking “we are the most researched people in the world” (Smith, 1999, p.3), it has not necessarily led to better understanding of our needs or improvement of our situation (Robertson & Larsen, 1994). As imperialists tend to measure “everything new against what was known” to them (Smith, 1999, p.80) Maori were often, and still are, “constructed as deficit when compared to a Pakeha population” (Cram, 1995, p.4). The renaming and the misrepresentation of Maori would be enough to account for the deep distrust many Maori express towards all research (Smith, 1999) but scientific colonialism (as described by Jones in Cram, 1995) rationalised more extreme abuses. Ignorant of Maori beliefs about knowledge, for example, that it was:

...considered to be tapu and there were sanctions that ensured that it was protected, used appropriately and transmitted with accuracy... to only selected students. (Smith, 1986, p.4)

Colonising scientists assumed unlimited right of access to any data source and any information belonging to Maori. Academic, corporate and populist researchers invaded Maori communities, raided the pataka, cooked their books and built careers on the backs of Maori without reciprocation (Cram, 1995; Smith, 1999). Maori are over-represented among the unemployed, the poverty stricken, the ill and imprisoned. There is, therefore, some basis for the resentment that we create wealth as objects to be described, portrayed and studied, but that little, if any, of this wealth returns to those who need it most - the research participants and their whanau. As Watene-Haydon et al., (no date) suggest:

in the worst scenario, researchers can be seen as cultural voyeurs, feeding off our communities. (p.492)

Unfortunately for Maori:
the misappropriation of indigenous knowledge is escalating and is particularly virulent in key areas of research such as the environmental sciences and medicine. (Mead cited in Smith, 1999, p.100)

The obscenities performed under the mantle of research, such as "farming" umbilical cord blood from aborted foetuses (Smith, 1999), further support Maori sceptism about all forms of research.

Jones' third strategy of scientific colonialism adds to the damning record of research for Maori, that is, when the centre of knowledge and information about a people or community is re-located outside of the community or people themselves (Cram, 1995). Research can then be used to exercise ownership and control. Overt moves by the Crown, such as the Tohunga Suppression Act of 1907, which forbade the role of tohunga (people with superior knowledge or learning in a particular area) enabled Christianity to supplant the ancestral atua or spiritual kaitiaki (Roberts, Norman, Minhinnick, Wihongi, & Kirkwood, 1995). Thus, Maori traditional relationships with the environment were seriously impaired. More overt imposition occurred through colonial education, as Smith (1999) explains:

although colonial universities saw themselves as being part of an international community and inheritors of a legacy of Western knowledge, they were also part of the historical processes of imperialism. (p.65)

The colonial academy claimed positional superiority over knowledge, language and culture and excluded Maori language, knowledge, practices and people. The result was that Maori, like the respondents in a study conducted by Te Ariki, Spoonley and Tomoana (1992), felt that "research is something non-Maori do."

**Mana Maori**

It was not really until the 1960s, that Maori started to articulate more publicly their criticism and resentment of the role of research in colonisation (Smith, 1995). This occurred within the context of a wider "rangatiratanga" movement which gained national momentum in 1975 with the Maori Land March (Kotuku Partners, 1994). The resentment towards research extended beyond concern that research methodology breached tikanga, or that the result of research decreased rather than increased the

1 A "period of resurgence of Maoridom, socially, culturally, economically and politically and the acknowledgement of tribal principals as a positive foundation for future change" (Kotuku Partners, 1994).
mana of iwi. Maori were also critical of "the different set of beliefs that underlie the whole process" (Smith, 1986, p.8).

Several Maori commentators on the subject claim that Western beliefs about knowledge, that is, the predominant Western epistemology differed from te wananga mo te matauranga (Maori epistemology) and that Maori epistemology was "unique" (see Smith, 1996; Durie, Sept 1996). Western epistemology is particularly criticised for assuming that anything that can be known and experienced, can be universally accessed, measured and described by others; that is, knowledge is universal and objective. As Cram (1995) explains, Western epistemology held that:

knowledge is cumulative/progressive. Therefore, eventually all the facts will have been discovered resulting in the creation of universal laws of behaviour. (p.3)

In contrast, Maori knowledge was hierarchical, that is, it was layered, complex and intertwined (Smith, 1996). Knowledge was attained level by level, though it was accepted that "some knowledge had popular more secular versions" and that the more specialised "esoteric versions... were passed on to only selected students" (Smith, 1986, p.6). Knowledge was not necessarily accumulated by progressing from one level to the next; that is, it was not addictive, and there was acceptance of co-existing distinct theories of behaviour.

Given the current focus on biculturalism in New Zealand (Maori/non-Maori), it is important to restate that, ancient Maori society was essentially tribal, with each iwi being a nation unto itself (Te Awekotuku, 1991). The purpose of knowledge was to uphold the interests and mana of the iwi (Cram, 1995). Therefore, knowledge was highly valued in ancient Maori society (Te Awekotuku, 1991, p.7) and "recognised as a source of power, though possibly in different ways today" (Smith, 1995). As mentioned previously, knowledge was deemed tapu and subject to complex rules governing its handling and treatment.

"Knowledge was never universally available" (Cram, 1995, p.6), which is antithetical to Western reliance on objectivity which asserts that, if objects, events or experiences can not be observed or replicated or validated by people seen to be external to the "discovery", the information remains suspect. These were convenient guidelines for imperialists who sought to deny indigenous people's history. For example, Maori accounts of their migration to, and settlement of, Aotearoa are
disputed by Pakeha scientists who claim there is no scientific proof for it, or they claim to have scientific proof to the contrary (Smith, 1999). For Maori, the external observers were invariably Pakeha, who if admitted to Maori knowledge, were likely exposed to secular versions. Smith (1995) tells of how “Best found it difficult to get access to certain types of knowledge especially ‘sacred rights’” (p.7) and gives an example of how different and conflicting accounts were given to him, possibly deliberately in an attempt to guard knowledge.

Another Western epistemological foundation under fire from Maori critics, is that:

- reality is based in the immediate, here and now, so social, historical, cultural factors can be ignored. (Cram, 1995, p.3)

This is contrary to the Maori experience of time, which sees the past, present and future unified in time; for example, “i nga wa o mua (time that is in front) was the expression used for times past” (Royal, 1992, p.26). History stands in front of us, an ever present influence on where we are going. Information, therefore, can not be understood in isolation from either past or future, history or outcome.

The Western epistemological tradition of universality and objectivity reinforces a dichotomous analysis of information, resulting in true/false, right/wrong judgements. The scientific paradigms of “positivism” and “modernism” are premised on this tradition. Durie (Sept 1996) argues that these particular processes of rationality are culture specific, that is, knowledge is not “an accultural concept” (Smith, 1986, p.3) as it was thought to be. Instead, knowledge is manipulated by dominant groups to conceal, but maintain the power relations that exist within society and thus the maintenance of inequalities and the continued oppression of Maori people (Pihama cited in Smith, 1999). Objectivity is revealed as a myth when the culturally derived assumptions and values underpinning Western epistemology are exposed. Thus, it is the more relativist theoretical frameworks that acknowledge the existence of multiple realities flavoured by their unique history and culture that are closest to Maori epistemology. Subjectivity, recognising “that our perception may not necessarily be the perception of someone else,” is embraced by a Maori epistemology (Cram, 1995, p.1). The Western scientific view of the researcher as the expert and the research respondent as “the inexpert knowee” is rejected because it establishes a false power hierarchy, placing the researcher at risk of breaching tikanga, for example, by
showing a lack of respect for elders/tohunga or by not acting in accordance with tuakana-teina relationships (Cram, 1995). The researcher cannot be separated from the researched, exempted from cultural norms and untied from their whakapapa. Every researcher is from somewhere and it is their whakapapa, not methodology, that determines their relationship with the researched.

This chapter has so far focused on the introduction of Western science to New Zealand, the often negative effects of that, the denial of Maori science and the differences between positivism and a classic Maori epistemology, which Durie (Sept 1996) claims “overlooks the extensive common ground.” As Reid (1996) said:

our tupuna had significant scientific knowledge in areas such as astronomy, horticulture, navigation, food technologies, pharmacology and public health. Furthermore, we had processes to test hypotheses.... Whakapapa could provide commentary on demographic issues. We had processes to test scientific theory. (p.7)

The next section summarises recent developments that have forged out a very different research environment, one characterised by exploration driven by Maori.

SECTION THREE: THE DEVELOPMENT OF MAORI CENTRED HEALTH RESEARCH

Durie (1996a) points to three developments that have accelerated the move towards a Maori centred approach to Maori health research:

1. The world-wide move by indigenous people towards self-determination and greater autonomy
2. New Zealand’s reaffirmed commitment to the Treaty of Waitangi in the 1980s and the subsequent inclusion of the Treaty in the obligations (if not legislation) of Government; and
3. Recognition, by 1980, that Maori worldviews and Maori understandings of knowledge were themselves distinctive.

Maori have been undergoing a process of decolonisation. Past damage is being documented and acknowledged. Past mistakes are being analysed. Maori knowledge that has been submerged, hidden or driven underground (Smith, 1999) is being revived. Research is not the sole preserve of Western science and is being reclaimed as a human endeavour common to all peoples, but practised in culturally specific
ways. One of the challenges that Maori researchers are taking up is the rediscovery and centering of Maori specific research theories and methodologies. Smith (1999) outlines three further challenges:

1. To convince Maori people of the value of research for Maori
2. To convince the various, fragmented but powerful research communities of the need for greater Maori involvement in research; and
3. To develop approaches and ways of carrying out research which take into account, without being limited by, the legacies of previous research, and the parameters of both previous and current approaches.

There have been repeated calls from Maori for “Maori to do their own research and to generate their own statistics” (Kilgour & Keefe, 1992, p.68). There is a small but steadily growing volume of Maori health research reports, though they are not systematically catalogued or easily accessed. There are a growing number of Maori research centres, at least five of which are dedicated to Maori health research. One of these research centres, Te Ropu Rangahau Hauora Maori o Ngai Tahu (The Ngai Tahu Maori Health Research Unit) was established as a joint partnership between Te Runanga o Ngai Tahu and the Dunedin School of Medicine. There is a small (about 50) dedicated workforce of Maori health researchers, which is a recognised problem that the HRC is trying to rectify through its Maori health researcher development awards. This development of a Maori health research infrastructure is occurring alongside tribal reconstruction and redevelopment. Research is again being recognised by iwi as having potential to support their development (Watene-Haydon et al., no date). As Moewaka-Barnes and Stanley (no date) put it:

Maori health research is in its relative infancy and we are merely contributors to this new field... we are all in a time of dynamic change with regard to Maori health research, and being part of that frontline allows us some unique contributions and opportunities. (p.7)

Maori commentators on this topic share a recognition of the setback to Maori structures and processes that ensured the accumulation of and passing on of Maori knowledge. They know there are basic information gaps which creates a need to be doing “survival research” that is, establishing baseline data, documenting and describing current states, answering questions of high practical value, rather than pursuing academic or scientific theories with less definable practical use. The need to set Maori health research priorities and develop Maori health research standards has
been laid down at several hui and incorporated in to the Hongoeka Declaration (see Appendix B) and the HRC’s Strategic Plan for Maori Health Research (HRC, 1996a).

**MAORI INVOLVEMENT IN RESEARCH**

An increasing number of research projects conducted in New Zealand have some level of Maori involvement. Cunningham (1998) classified research into four types: research not involving Maori; research involving Maori; Maori-centred research; and kaupapa Maori research. Maori participation increases from nil to possibly exclusive Maori involvement and control at the other end of the spectrum. There are projects where Maori involvement could be considered token, for example, Pakeha controlled research which use Maori to conduct interviews with Maori participants but have no further involvement of Maori at any other stage of the research. Some projects have been conducted with minimal Pakeha involvement, but utilising totally Western scientific precepts and methodology.

For Cunningham, research only qualifies as kaupapa Maori if the project is under Maori control, in contrast to Maori centred research where control still rests with mainstream. Consensus on the criteria research has to meet to be deemed kaupapa Maori is elusive. The literature revealed a vast array of expectations of Maori health research, especially kaupapa Maori health research. There resulted an even longer list of criteria and requirements Maori health researchers are expected to live up to. What was clear was that there is no one way, or right way of doing Maori research (Takino, 1998). There are a multitude of Maori paradigms, theoretical models and analytical frameworks.

**WHAKAARO MAORI**

Several frameworks have been proposed by other researchers for presenting and discussing research. These range from a simple three-pronged approach discussing the theoretical base, ethical issues and the practice of research (Watene-Haydon et al., no date) to Bevan-Brown’s (1998) use of the pataka mounted on eight poles representing ten components of Maori research.
A number of Maori models of health have been developed also (these are reviewed in Durie, 1994). It is proposed here that one model, Te Whare Tapa Wha, has achieved status as a paradigm given Kuhn's (1962) definition. That is, a paradigm is an accepted model that has attracted an enduring group of adherents away from competing modes of scientific activity and is sufficiently open-ended leaving problems to be resolved. It has therefore moved beyond status as a model. Te Whare Tapa Wha is one such exemplar. In the field of Maori health, Te Whare Tapa Wha has succeeded other models. It is being applied to a variety of situations to reveal a Maori perspective on the nature of things (Kuhn, 1962). Te Whare Tapa Wha gives rise to predictions that Maori scientific activity, such as this thesis, seeks to explore. Te Whare Tapa Wha is attractive for its simplicity, metaphorical resonance for Maori and basis in a Maori worldview, which will facilitate comprehension of scientific findings beyond academia. Therefore, it is Te Whare Tapa Wha that will be used as the primary theoretical framework for this thesis, whether discussing research or smoking.

**TE WHARE TAPA WHA**

Te Whare Tapa Wha became widely accepted as the preferred Maori definition of health during the 1980s (Durie, 1994) and has since achieved wide and common usage as a Maori model of health. Using the analogy of a wharenui (the meeting house), all aspects of wellbeing can be represented whilst reflecting fundamental tenets of Maori epistemology and remaining consistent with contemporary Maori thinking, as illustrated in Figure 1. The paradigm as a whole illustrates the holistic interdependent relationship between all aspects, that balance is required to enjoy stability, and poor health is regarded as a manifestation of a breakdown in harmony within the individual and between the individual and the wider environment. The four sides of the whare represent the immediate effects on an individual – te taha wairua, the spiritual realm; te taha hinengaro, the psychological world; te taha tinana, the physical body; and, te taha whanau, the family and wider community of support. Te ao turoa, the long-standing world, represents the environment which impacts on health.
Figure 1. Te Whare Tapa Wha.

In Whaiora: Maori health development, in which Durie (1994) describes Te Whare Tapa Wha, te taha wairua is cited as the most essential requirement for health. Te taha wairua is the spiritual realm representing capacity for faith and relationship with tupuna.

It implies a capacity to have faith and to be able to understand the links between the human situation and the environment. Without a spiritual awareness and a mauri (spirit or vitality, sometimes called the life-force) an individual cannot be healthy and is more prone to illness or misfortune. (Durie, 1994, p.70)

According to Durie’s interpretation of the paradigm’s themes, taha wairua implies that “health is related to unseen and unspoken energies” (ibid.)

Te Taha Hinengaro

Thoughts, emotions, desires, and the heart are situated in the realm of hinengaro. Mental wellbeing is also vital to health. Durie (1994) explains that:

healthy thinking from a Maori perspective is integrative not analytical; explanations are sought from searching outwards rather than inwards... understanding occurs less by division into smaller and smaller parts, the analytical approach, than by synthesis into
wider contextual systems so that any recognition of similarities is based on comparisons at a higher level of organisation. (p. 72)

- Maori do not separate mind and body or thoughts and feelings to the same extent as Western psychology, nor are words elevated in importance above feelings; for example, the capacity to express appropriate affect is highly valued.

**Te Taha Tinana**

Good physical health is necessary for optimal development. (Durie, 1994, p. 70)

The New Zealand health system has focused mainly on biomedical approaches to health, principally diagnosing and treating physical bodily illnesses. This is the realm of te taha tinana. For Maori, physical health is not just about reducing mortality and morbidity. For example, a Maori perspective would place emphasis on physical fitness and ability (Tahana, 1994).

**Te Taha Whanau**

The family, rather than the individual, is the basic building block of Maori society. Nestled within an interdependent system of extended whanau, hapu, iwi, whenua, moana and te ao, te taha whanau represents "the capacity to belong, to care, and to share" (Durie, 1994, p.73). Individual health is dependent on the whanau, that is:

Maori still maintain that ill health in an individual is a reflection on the family and may well blame a family for allowing a person to become ill or to die, even when there is no direct causal link. (ibid.)

Wellbeing requires a secure sense of identity, for example, knowing one's whakapapa. Knowing one's place and role in the whanau, hapu and iwi gives sense of purpose and meaningfulness. In the whanau, everyone has a role that contributes to the wellbeing and mana of the whole. Family dysfunction highlights the breakdown in Maori traditional whanau, hapu and iwi structures. Through urbanisation particularly, many Maori were encouraged to move to the cities, thus providing a ready (in-waiting) source of labour. Integrationist policies, such as “pepper-potting” were meant to facilitate Maori adoption of the Pakeha way of life. As a result there are “urban tribes” of Maori, who are the third or fourth generation to be raised away from...
“home.” Many are unsure of their tribal links and have no sense of a kainga tuturu. The introduced culture favours individualism over whanaungatanga (valuing the good of the community over the individual). For Maori, lack of a sense of responsibility for whanau would be cause for concern. “Interdependence rather than independence is the healthier goal” (Durie, 1994, p.73).

Te Ao Turoa

The wellbeing of the physical environment is an integral part of the healthy interdependent life system. Whakapapa links all people back to the land and sea and sky and outer universe - therefore the obligations of whanaungatanga extend to the physical world and all beings in it. Maori cosmology outlined the place and role of all living things. Papatuanuku (the earth mother) and Ranginui (the sky father) sustain and support us in a reciprocal relationship that was protected by way of a complex system of rules and traditions (kawa or tikanga). This aspect is an encompassing component to Te Whare Tapa Wha, that Nga Puhi commentators on health added to the original model (Whaia Te Hauora, 1994).

SECTION FOUR: TE WHARE RANGAHAU HAUORA MAORI

The components of kaupapa or Maori-centred health research methodology will now be discussed using Te Whare Tapa Wha as an organising framework, as follows. The socio-historical context and current political environment will be discussed under te ao turoa; te taha whanau is about the people who conduct, control, support and participate in research. Once the kaupapa has been laid down and “the right people” are on board the next important facet of research is to attend to the ethical conduct of research, which is grouped under te taha wairua. Which methods are employed to collect data are grouped under te taha tinana and the theoretical and analytic process is outlined under te taha hinengaro.
**TE AO TUROA**

Te ao turoa is used here to provide a category for the contextual, political, environmental influences affecting Maori health research. The encompassing world within which kaupapa or Maori-centred health research is conducted is a Maori one where a Maori worldview is central. For example, Maori concepts of time and space take precedence over introduced theories. Te ao turoa, however, recognises the wider context of a changing world, te ao hurihuri, of a Maori world influenced by external worldviews and peoples, and thus forever dynamic and evolving.

**Mana Maori - The Power to Define**

Throughout the literature, Maori consistently expressed desire to have control, that is, tino rangatiratanga, over all aspects of research. Maori self-determination assumes "the ability to define" (Moewaka-Barnes & Stanley, p.8) both what research is and what terms within research mean, such as ethics and accountability (Maori health research caucus, 1996). Pomare (1992) defines Maori health research as "research which has direct relevance to Maori health and includes both the acquisition of information and its analysis" (p.7).

Kaupapa Maori research is distinguished by Maori control and is frequently described as research by Maori, for Maori and with Maori (Smith, 1995). Graham Smith (cited in Smith, 1999, p.185) said that kaupapa Maori research takes for granted the validity and legitimacy of Maori, the importance of Maori language and culture. Nepe (cited in Smith, 1999) argues that kaupapa Maori is derived from very different epistemological and metaphysical foundations and it is these which give kaupapa Maori its distinctiveness from Western philosophies:

Kaupapa Maori is a ‘conceptualisation of Maori knowledge’. It is a way of abstracting that knowledge, reflecting on it, engaging with it, taking it for granted sometimes, making assumptions based on it, and at times critically engaging in the way it has been and is being constructed. (p.188)

Emancipatory aims are cited as a significant component of kaupapa Maori research (Smith, 1996). Pihama (cited in Smith, 1996) suggested that:

...intrinsic to kaupapa Maori theory is an analysis of existing power structures and societal inequalities. Kaupapa Maori theory therefore aligns with critical theory in the act of exposing underlying assumptions. (p.16)
Bishop (cited in Smith, 1999) disagrees, saying instead that critical approaches to research have “failed” to address the issues of communities such as Maori and that the development of alternative approaches by Maori reflects a form of resistance to critical theory. Smith argues that kaupapa Maori is a “local” theoretical positioning (p.186). Though kaupapa Maori research is “imbued with a strong anti-positivistic stance... its wider kaupapa is to include within it all those researchers that are attempting to work with Maori and on topics of importance to Maori” (Smith, 1996, p.20).

**Mana Maori - The Power to Prioritise**

Consensus in the literature is that Maori need to set our own priorities, that is, Maori control should extend to “control over the agenda for research” (Smith, 1996, p.25). Maori have repeatedly questioned the purpose of research (Kilgour & Keefe, 1992). For instance, they ask: What does the information do for Maori at the end of the day? Who benefits from the information? Who has determined the research priorities, Maori or Pakeha? And how have research priorities been determined? Opinion in the literature was consistent - research should benefit Maori and the Maori community expects researchers to “spell out in detail” what those benefits are (Te Awekotuku, 1991; Smith, 1999, p.118). Pomare (1992) suggested that “to maximise the value of the research it should, as often as possible, be associated with a health development programme” (p.8).

Appropriateness of research, therefore, can in part be measured by its purpose. However, the aims, objectives and method of a research project are often predefined by the purchaser of research, which is often the State as it is “the largest funding institution for research in New Zealand” (Smith, 1996, p.19). An implication of this according to Smith is that:

the research is not research it is a purchased product which becomes owned by the state... there are accountabilities and pre-research discussions which have already framed, and to an extent, transformed the approach to research. (ibid., p.19)

In the past, priorities have often been defined by Pakeha health professionals rather than by the communities being studied. “As a result, the key issues (as seen by the community) have often not been addressed, and the research has often been primarily of academic value” (Pomare, 1992, p.8). Further, most of this research on
Maori has been "obsessed with describing various modes of cultural decay" (Smith, 1999, p.87) and the common practice has been to measure Maori health by comparing Maori and non-Maori morbidity and mortality rates (Kilgour & Keefe, 1992). For example, one of the six public health goals for New Zealand adopted by government, in 1993, was:

To improve Maori health status so in the future Maori will have the opportunity to enjoy at least the same level of health as non-Maori. (PHC, 1994, p.7)

This goal illustrates an expectation "that Maori outcomes will be the same as non-Maori outcomes and that non-Maori strategies can achieve the same level of effective outcomes for Maori as non-Maori" (Watene-Haydon et al., no date, p.492). This is an assumption that is rejected by some Maori. For example, Durie (1996a) said this goal implies that:

...the same measuring rod can be used for all people or that similar outcomes are desirable. That would be an assimilative device, totally unacceptable to Maori and, more to the point inconsistent with the finding that health and culture are inseparable. (p.7)

Research on Maori does not necessarily need to always compare Maori with Pakeha. Instead it could focus on and celebrate progress (Glover, 1996). A further criticism of past research is that it has not been enlightening for Maori, for example:

We already know that differences exist between cultures, what is the point of trying to document each variation. (Palmer, 1991, p.13)

Maori researchers have learnt from Western scientific standards that it is unethical to collect information that is not useful or appropriate (Kilgour & Keefe, 1992), therefore, it is not ethical to carry out projects which describe what is already known (Smith, 1999, p.147).

Maori defined health research priorities are numerous and include many of the same research goals the State has, for example, developing knowledge of disorders which are highly prevalent among Maori (Durie, 1996b). Maori health status, as outlined in Chapter 1, is in crisis. Hence, much Maori health research has been reactive (Pomare, 1992), sometimes driven by the need to influence policy, a well recognised and desired outcome of research (Pomare, 1992; Keefe-Ormsby et al., 1995). Research offers an opportunity to set right past impacts. Thus, after 15 years of focus on Maori development, a range of Government and iwi organisations have mounted an ambitious research programme, "one that is very strategic in its purpose
and activities and relentless in its pursuit of social justice" (Smith, 1999, p.142). Maori prioritisation of research goals is influenced, as Watene-Haydon et al., (no date) note "by the need to start at different points" (p.493). For example, the starting point for Sudden Infant Death Syndrome was to provide grief counselling for bereaved families before providing health promotion and conducting research. A dearth of information was a key theme that arose out of Te Pumanawa Hauora ki Manawatu consultation with Maori community organisations, for their *Oranga Kaumatua* study (Durie et al., 1996).

**Mana Maori - The Power to Resource**

Maori commentators agree that Maori should also control "the resources and how they are distributed" (Smith, 1999, p.25). Access to research funding remains a major concern for Maori (Lomax, 1995). Different barriers to access include that funding agency criteria does not always reflect Maori aspirations for research.

**Summary**

The power to define, prioritise and resource are basic to Maori self-determination. These are some of the broader political issues, categorised here under te ao turoa, affecting the practice and development of Maori health research. Researchers, research participants and the broader concept of a research whanau are discussed next.

**TE TAHĀ WHANAU**

"Getting the kaupapa ‘right’ is the first and major step, the second step is employing the most appropriate methods and people" (Smith, 1996, p.20). Who conducts research is vitally important to Maori. The literature revealed a wide range of opinions, but there was general support for the “ideal” that Maori research should be done by Maori researchers. There was division over who qualifies as a Maori researcher however. This category, te taha whanau, outlines the expectations of and criteria for Maori researchers and proposes how research could be managed to ensure better involvement of research participants.
By Maori

Non-Maori control over and involvement in the conduct of Maori research remains a contentious issue (Cram, 1995; Smith, 1999). Some Maori are absolutely opposed to Pakeha conducting research on Maori (for example, Walker cited in Cram, 1995; Stanley cited in Cram, 1995), believing non-Maori involvement is unnecessary and counter-productive. It is not only because of their poor record as cited above, or that their different historical, social and cultural view inhibits an accurate understanding of Maori (Cram, 1995, p.7), practical reasons exist also. Development of rapport with research participants and the potential to collect more detailed and possibly more accurate data is enhanced when Maori researchers work with Maori research participants. For example, Kilgour and Keefe (1992) suggest that personal questions such as asking about iwi affiliation, might best be asked by a Maori researcher.

One practical benefit of preferring Maori researchers is the provision of employment for Maori. Maori are over-represented among the unemployed and casual, part-time workforce as a result of historically instituted racism. Discrimination against Maori job applicants and Maori research applications has required the establishment of various affirmative action initiatives to improve Maori access to research funding and employment in research (for example, the HRC Maori Health Committee). Research is a highly competitive arena in New Zealand and even Maori research centres have been known to pass over Maori researchers in favour of non-Maori to bolster their credibility and likelihood of attracting funding or winning a contract. Ironically, supporters of non-Maori involvement in Maori health research cite a shortage of Maori researchers (Durie, 1996a), a situation that is not likely to change unless the funders and purchasers of research begin to understand and value Maori centred and kaupapa Maori research. Until enough Maori researchers are available, Walker (cited in Te Awekotuku, 1991) suggested Pakeha “specialists” could be used “as consultants or advisers, working away from the field of research, with a carefully regulated input” (p.14). The current situation is that non-Maori, including very new immigrants with little knowledge of New Zealand’s socio-historical context, are employed to manage and conduct all aspects and types of Maori research.
research. Maori health researcher consensus as stated in the Hongoeka Declaration for Maori Health Research, is that:

we believe Maori health research should be determined and coordinated by Maori; working with Maori, for Maori.

In lieu of Maori control over funding for Maori research and in the absence of processes requiring non-Maori researchers to obtain approval from some kind of Maori ethics committee, Maori are involved in research to varying degrees, sometimes in tokenistic ways. There have been repeated criticisms of the practice whereby Maori are used to “brown wash” some research (Smith cited in Robertson, 1996), for example, in a study by Thomas (1988) children were interviewed by a Maori researcher with knowledge of te reo Maori “to provide a culturally sensitive interview environment” (p.1761).

Growing in popularity is a parallel research process, where Maori researchers enter into a joint venture or are sub-contracted to conduct a parallel research project, usually on the same topic. This provides for the observance of tikanga Maori and therefore, the cultural protection of everyone involved in the research. A Maori-centred or kaupapa Maori methodology would then be able to be used throughout, ensuring culturally relevant and appropriate data collection, analysis and interpretation, and dissemination of the results.

Not all research by Maori is conducted under a kaupapa Maori framework, nor do all Maori researchers regard either themselves, or their research, as fitting within a kaupapa Maori framework (Smith, 1996). Whilst some Maori researchers accept non-Maori involvement in Maori research, when it comes to kaupapa Maori health research, Bishop, Irwin, Pihama and Smith have all argued that being Maori, identifying as Maori and as a Maori researcher, is a critical element (Smith, 1999, p.186). Even a Maori researcher who is anti-Maori could not carry out kaupapa Maori research.

Eligibility to Conduct Kaupapa Maori Research

Fears have been expressed about more damage being done to Maori communities by “researchers who may be visually Maori, but do not operate from a kaupapa Maori base” (Tunks, 1996). Smith (1996) summarises by saying that kaupapa
Maori research is related to "being Maori" but does not "preclude those who identify as Maori but cannot speak Maori language, those who are Maori but do not know their whakapapa, nor those who are Maori but have lived away from their iwi or whanau territories" (Smith, 1996, p.18). However, being able to identify as Maori through whakapapa is not claim enough be accepted as a kaupapa Maori researcher.

In a new twist on an ancient practice, Maori are still saying that "not anyone can do the research. What might be appropriate in one area may not be appropriate in another" (MoH, 1997, p.8). Different iwi have different needs, protocols and sometimes dialects and there will be times when research is hapu or iwi specific and the hapu or iwi will require one of their own researchers. There have even been suggestions that researchers should belong to the same whanau whanui (extended family) as participants (Milroy in Doublett, 1997, p.20). Stanley (cited in HRC, 1996) states that "the closer you are [to your respondent] in whakapapa, the better the quality of the data." Te Runanga o Te Rarawa (1995) felt that whanaungatanga and local knowledge were vital in obtaining the trust of those surveyed. Therefore, when considering one's ability to fulfil a project's requirements, Te Awekotuku (1991) suggested that researchers need to consider their tribal background (particularly as inter-tribal differences or historical difficulties may cause a conflict of interest, or clouding of perspective); gender (as some information may be restricted to women or to men); language fluency; and age, and ask: "Are you the right person to receive such information?" (Royal, 1992, p.42).

Hence the urging from Cairns (1996) that it is "of utmost importance" that Maori researchers know themselves as belonging to a particular whanau, hapu and iwi. He also prefers that Maori researchers understand te reo and customary concepts (p.31). Simpson (cited in Te Ropu Rangahau Hauora a Eru Pomare, 1996) wants Maori researchers to learn tikanga from their own area(s). Others have argued more strenously that Maori researchers have to be "competent" in things Maori. such as Durie (1996a):

Three groupings of competencies are sought: competence in health research, competence in understanding and managing Maori knowledge and competence in operating within Maori society. (p.10)

Some people believe that "the inability to korero Maori can impede one's appreciation of the significance of many issues" (Doublett, 1997, p.19). Therefore, to
competently understand and manage Maori knowledge, Maori researchers need to have a range of skills with Maori language (Smith, 1999), whilst aiming for fluency in te reo Maori and the ability to whakapapa (Durie, 1996a). The ability to korero Maori and understanding of tikanga enhances the researcher’s ability to abide by cultural protocols and expectations, for example, to give oral presentations (Smith, 1999).

A person’s credibility as a kaupapa Maori researcher is assessed mainly through personal kanohi ki te kanohi (face to face) interaction, what Smith (1999) calls “kanohi kitea” or the “seen face”, which:

conveys the sense that being seen by the people - showing your face, turning up at important cultural events - cements your membership within a community in an ongoing way and is part of how one’s credibility is continually developed and maintained. (p.15)

The face-to-face encounter allows others to assess the “personalities and spirit” (Smith, 1999, p.156) of the researcher, whether they walk the talk and live by Maori values, for example, “kaua e mahaki - (don’t flaunt your knowledge)” (Smith, 1999, p.27). This unspoken “cultural” code of conduct for Maori researchers determines if someone has “good” qualities as a person (ibid., p.120) and, therefore, warrants the tautoko of the community.

Continual involvement in the community predominantly affected by a project is an important feature of Maori research. (Milroy in Doublett, 1997, p.12)

The relationships established through research initiate a long-term commitment to sharing knowledge.

Because the quality and validity of the data that is collected is also dependent on the skills of the interviewers (Roberts et al., no date, p.1) Maori health researchers are expected to be academically competent also and able to undertake and complete the research. Researchers have an ethical duty to avail themselves of past and current knowledge so that they have a well developed theoretical analysis of the topic. Earlier theoretical explanations for phenomena are often later debunked as shallow, simplistic, or worse, damaging; for example, the victim-blaming conclusions of early researchers into men’s violence against women. Further, because of the lack of research funding and the urgent need to have information gaps filled, “reinventing the wheel” could be seen to be an unethical waste of valuable resources. Maori researchers are expected to:
have some form of historical and critical analysis of the role of research in the indigenous world. (Smith, 1999, p.5)

have a respect and empathy for the differences that characterise Maori culturally from non-Maori. (Parata, 1996, p.58)

In Te Awekotuku’s (1991) principles of ethical conduct for researchers in the Maori community, she proposed that researchers should be scrupulously honest in their self-presentation of their qualifications, capabilities and commitment to the proposed research project. Finally, Smith (1999) believes “it takes considerable sensitivity, skill, maturity, experience and knowledge” (p.10) to work through the issues that arise from working as an “insider.”

The “Objective” Subject

When Maori researchers conduct research on Maori, we conduct research on ourselves. (Moewaka-Barnes & Stanley, no date, p.10)

Maori researchers are subjected to the consequences of their research and they, their families and communities, have to live with the consequences on a day-to-day basis forever more (Smith, 1999, p.137). This engenders a huge sense of responsibility to get it right. Smith reports that many indigenous researchers struggle with the competing and sometimes disparate demands of research and the realities they encounter in their communities (ibid., p.5).

Since Maori researchers are seen to be reporting on themselves, their research is often considered biased and judged to lack credibility. As Cram (1995) reports:

Values, like feelings, political commitments, or aesthetic preferences, belong to the domain of subjectivity and of individual bias. (Fee cited in Cram, p.3)

To benefit Maori, to ensure research is utilised, Maori health research has to qualify as scientifically rigorous according to Western academic standards, which are dominated by positivistic “objective” requirements. This puts pressure on Maori researchers “to work as a detached and neutral researcher” which contradicts Maori values (Moewaka-Barnes & Stanley, no date, p.10).

Due to our historical experience of research, Maori know that research is political, it is not objective, that it is in itself a powerful intervention and that researchers:
have the power to distort, to make invisible, to overlook, to exaggerate and to draw conclusions, based not on factual data, but on assumptions, hidden value judgements, and often downright misunderstandings. (Smith, 1999, p.176)

Maori researchers are expected to be explicit about “the power dynamic which is embedded in the relationship with their subjects,” (Smith, 1999, p.176) and thus, need to have a critical analysis of their own process (ibid., p.137) and be able to engage a reflexive process that reveals sources of bias (Gilgen cited in Robertson & Larsen, 1994). Specifically researchers should make clear their intentions, their underlying assumptions and theoretical positions and “the values guiding your research actions” (Cram, 1995, p.9). Moewaka-Barnes and Stanley add the necessity “to identify what we are getting from this professional relationship” (no date, p.7); for example, academic qualifications. Meeting these expectations is not problematic for Maori; as McKinley explains, Maori tradition deals explicitly with the identification of self to one’s audience, requiring the speaker to position themselves and state from whence they came (Clothier in McKinley, 1995).

Some common sources of “bias” were acknowledged in the literature. As previously mentioned there is the recognition that research has an effect on all involved. Research can provide intervention type outcomes, for example, talking to a researcher about one’s experience of male-partner violence can contribute to the victim’s healing from that abuse (Glover, 1993). Research can support social change, particularly kaupapa Maori research which, located within the wider struggle for tino rangatiratanga (Smith, 1995) openly “addresses the prevailing ideologies of cultural superiority which pervade our social, economic and political institutions”. As kaupapa Maori research seeks to facilitate and support healing, decolonisation and recovery, it is considered “too politically interested rather than neutral and objective” (Smith, 1999, p.117). Rather than “building up their own status” Maori researchers are expected and seen to be “fighting for the betterment of their iwi and for Maori people in general” (Cram, 1995, p.6). Jackson (1996) suggested that you can not be a Maori researcher “without realising the process of history from which you operate” (p.10). Thus, Maori health researchers state in the Hongoeka Declaration for Maori Health Research:

As Maori researchers in the area of Maori health we are committed to working for research which contributes towards hapu, iwi, tangata whenua development. This process means regarding Tino Rangatiratanga and overcoming the negative impacts of colonisation. We acknowledge the Treaty of Waitangi as the basis for partnership

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between Maori and the Crown and will work to incorporate the values underpinning the Treaty in our work.

The commitment to support Maori development stretches the realm of duty Maori researchers are expected to undertake. For example, Tunks (1996) suggested that researchers have a responsibility to act as resource people to community groups who may be unfamiliar with and unable to access funding because of things such as the nature of the forms that need to be filled out. Smith (1999) said “negotiating and transforming institutional practices and research frameworks is as significant as the carrying out of actual research programmes” (p.140). All the while, Maori researchers have responsibilities to promote and maintain tribal traditions, Maori values, beliefs, social structures, processes and language (Royal, 1992; Dyall, 1996).

**Being a Western Trained Academic**

Both recognised as a source of bias and a site of struggle for Maori researchers is their training in Western knowledge and research practice. As Moewaka-Barnes and Stanley state “essentially we see ourselves as Maori academics trained in a non-Maori institution” and they say “there are times when we are mistrusted by our own because we are seen as collaborators with the oppressor” (no date, p.7). Maori researchers trained in Western academia are expected to conform to the models provided for them, which Maori communities may deem “not useful”, “not indigenous”, “not friendly” and “not just” (Smith, 1999, p. 140). Smith recounts a number of criticisms “levelled at indigenous intellectuals” one of which is "that our Western education precludes us from writing or speaking from a 'real' and authentic indigenous position" (ibid., p.14) as we are “seen to have emerged from different colonial and indigenous systems” (ibid., p.70). This conflicts with the view, held by many Maori that “education in its Western, modern, sense” is “critical to development and self-determination” (ibid., p.71).

New Zealand universities and most employment opportunities in research are situated in the main urban centres, requiring many Maori researchers to train and work away from their tribal territories. They can then easily be criticised “because they live away from home, and are perceived therefore as being distanced from the people” (Smith, 1999, p.72). Thus, attending university and obtaining Western
qualifications cloaks the insider researcher in outsider apparel, which can be sufficient to alienate the insider researcher from the group under study, but it is not sufficient to ensure insider research is granted outside validity.

Maori researchers have coped with this dilemma in various ways. Rather than use the label “researcher”, some researchers have described their role as a scribe, recorder, mangai (speaker) or he karere (messenger) (for example, Ngawhika, 1996). Some researchers have chosen to undertake particular kinds of research, for example, community action research or emancipatory research. Moewaka-Barnes and Stanley have said of formative evaluation that it “allows the evaluator to overtly have a vested interest in the community and their programme succeeding” (no date, p.5).

Further sources of possible bias that Maori researchers are expected to be explicit about are the personal, professional and legal motivations driving commitment to a particular research project. For example, “personal connections with a particular group, or having developed an interest in a particular area because of personal experiences”; professional requirements to maintain up-to-date knowledge and experience through professional development; and legal obligations under legislation, such as the State Services Act 1988 (Robertson & Larsen, 1994). Te Awekotuku (1991) proposes that ethically “researchers must not exploit informants, or the information volunteered, for personal gain or aggrandisement” (p.18). There is not, however, a common interpretation of the statement resulting in vastly different rates of remuneration for research work. “Aroha ki te whanau” (for the love of the whanau, that is, doing it for free) is a real cultural expectation Maori researchers meet to varying degrees.

**Whanau Support**

Maori researchers are not expected to negotiate these issues and expectations on their own. Consistent with Maori philosophy, values and practice, Maori research is ideally conducted by Maori researchers within a “whanau” structure. As Smith (1996) explains, the whanau remains a:

persistent way of living and organising the social world. In terms of research, the whanau is one of several Maori concepts or tikanga which have become part of a methodology, a way of organising a research group, a way of incorporating ethical procedures which report back to the community... the whanau is a way of distributing
tasks, of incorporating people with particular expertise, and of keeping Maori values central to the project. (p18)

The whanau principle is one identified by Smith (1999) as an important aspect of kaupapa Maori approaches.

Maori researchers and Maori research units have established a range of whanau-like arrangements. At a minimum a whanau support group is formed to which the researcher can report and which can be used as an advisory panel. Most of the Maori health research units have developed strong ties with specific Maori communities (Smith, 1999) for example, via the establishment of advisory boards or councils (Pomare, 1992). Some research projects go further by adopting and institutionalising whanau management models that use processes such as networking and consultation to work with “communities of interest” to maximise the participation and the interest of Maori (Smith, 1999). The whanau can provide support in the form of supervision, peer revision, community or iwi involvement and kaumatua “mentorship.”

Kaumatua involvement is seen by some commentators to be necessary if research is to be considered “culturally safe” (Irwin cited in Smith, 1999; Wairarapa Maori Executive et al., 1992). Te Awekotuku (1991) proposes that researchers must have access to appropriate guidance, protection and counselling of a spiritual nature. Smith (1996) identifies the role of kaumatua within the whanau research group as important because they “make the pathways to knowledge clearer… through their use of karakia, their involvement in the welcoming rituals and mihimihi, as well as their intellectual involvement in analysing data” (p.27); they look after or “attend to the formal, ritual and spiritual dimensions of tikanga” (p.24). Thus, kaumatua have been included as members of research teams; individually asked to oversee projects; included on advisory committees; or they may be the appointed kaumatua for the host organisation. “In some contexts an elder has been selected or self-selected to act as a guardian of the researcher, mediating their journeys through the community and through the research” (Smith, 1999, p.139).

**With Maori**

Nau te rourou, naku te rourou, ka ora te manuhiri.
With your basket and my basket, we will ensure the people will live. (Brougham & Reed, 1963, p.16)

Maori-centred or kaupapa Maori research is noted for its commitment to the involvement of Maori research participants and their communities throughout the various stages of the research (Ngawhika, 1996). Consultation with local hapu or iwi authorities may be conducted to determine research needs and priorities; in some “contexts research cannot proceed without the project being discussed by a community or tribal gathering and supported” (Smith, 1999, p.191). One recommendation from Hui Whakaoranga was for more participatory research to occur allowing:

a shared learning and development experience in which there is a continuing interaction between people and those whom they have engaged so that goals, changes, programmes and directions can be negotiated. (Department of Health [DoH], 1984, p.44)

Maori researchers represented in the literature, support the idea that direct benefits to the community should include employment and training opportunities for those within the community who have an interest in research, and nurturing and supporting those who already work at a grass roots level within the community (Watene-Haydon et al., 1993). Some researchers believe this “improves the research” (Stanley quoted in HRC, 1996). Potaka, Durie and Ratima (1993) saw the involvement of tribal researchers as an essential component of their Whanau Ora study, because of the depth of liaison and networking skills the local research assistants were able to bring to the study. Te Ropu Rangahau Hauora a Eru Pomare regularly employ, train and mentor Maori/iwi researchers to work on local projects (Keefe et al., 1998). Research budgets need to provide for this employment and training, and should not overlook the sometimes “considerable strain on the communities resources” (Wairarapa Maori Executive et al., 1992, p.48) that studies can impose. “The implications of such input for impoverished communities or communities under stress can be enormous” (Smith, 1999, p.140).

**Accountability**

The notion of accountability is a much used and debated notion. In the Western scientific world, the researcher “was deemed accountable only to her/himself and possibly to the sponsoring institution, corporation or government agency” (Te
This is not the case in the Maori world, where a researcher’s responsibility is primarily to the people. Pomare (1992) takes this further. He said that:

processes of accountability to the Maori people participating in any health research project should be set up for each stage - design, assessment of applications for funding, management of data collection, analyses, syntheses, writing up, information sharing, integration with health development, input into policy and training of health researchers. (p.9)

Maori health researchers have declared a commitment to be accountable to whanau, hapu and iwi (Hongoeka Declaration for Maori Health Research). Some commentators state quite strongly that research projects should not proceed unless “iwi mandated” (Fitzgerald et al., 1996). Researchers’ experience suggested this is not an easy task, for example, Ratima, Durie, et al. (1993) report that:

within a single iwi there may be more than one constituted authority and a prerequisite for the implementation of any partnership is the prior identification of the appropriate authority as well as the identification of iwi in the area/region who are tangata whenua. (p.8)

Whilst it is important to develop strong links with hapu and iwi, Pomare (1992) reminds us not to forget the important place of taura here (urban Maori groups).

In addition to establishing processes of accountability to the community involved or to be affected by the research, each individual Maori researcher is expected to have accountability processes back to their own whanau, hapu, iwi and organisation such as their university or professional association. This can result in dual and competing accountabilities.

Summary

The whanau aspect of te whare rangahau hauora includes all the people involved in and affected by the research. The main issues outlined above are that Maori health research should ideally be controlled and conducted by Maori researchers. Acceptance as a Maori health researcher is not automatic, with Maori criteria for acceptance sometimes competing with “academic” demands, for example, to maintain objectivity. Neither must the Maori researcher work in isolation. Whanau support should be institutionalised. Consulting the community under study and
facilitating their involvement at practical levels of research is desirable to facilitate accountability.

**TE TAHĀ WAIRUA**

Assuming that the kaupapa has been laid down correctly and the right people have been enlisted to control, manage, advise and conduct the research, the next major concern is that research is conducted appropriately. That is, the research is conducted in accordance with Maori tikanga (Dyall, 1996; Cairns, 1996) and upholds the mana of all involved. Te taha wairua is used here to encompass the discussion of the process of conducting research ethically according to Maori.

**A Maori Code of Ethics**

It has been recognised for some time that “there is a need for a Maori health research code of ethics which will identify how knowledge will be accessed, by whom and under what circumstances” (Pomare, 1992; see also: Te Ropu Rangahau Hauora a Eru Pomare, 1996; Watene-Haydon et al., 1993; Robertson & Larsen, 1994). As Te Awekotuku (1991) said early in the debate, “only a code of ethics, scrupulously observed” can prevent “the mismanagement or manipulation of either the information, or the informants” (p.13). The Maori health research community has continued to debate and develop tikanga (such as the Hongoeka Declaration for Maori Health Research) covering the conduct of Maori health research, but is still to reach consensus regarding definitions and codes of ethics and practice. Resistance exists because of a perceived “danger” that guidelines for conducting Maori research will reduce iwi/Maori protocols and values to a set of simple steps or procedures that becomes a fixed criteria for determining ethical practices and good conduct (Smith, 1996). Maori kawa (which was central to the Rapiura research design cited in Kotuku Partners, 1994) or tikanga Maori and te kawa of te marae (used to guide Broughton & Joseph’s, 1994 study) will vary with each project and depend on the area and hapu or iwi overseeing each project. Consensus may not be reached until a Maori research ethics committee has formed and established a code based on extensive consultation. In the meantime, it is necessary to obtain ethical approval from one of a number of mainstream university or health services based committees.
There are few mechanisms for monitoring compliance. In the past, Maori scholars, driven by concern for the people’s wellbeing and prosperity were integral to, and therefore accountable to, their communities which “ensured the observance of ethical practice” (Te Awekotuku, 1991, p.8). If necessary, compliance with rules was “enforced, primarily by fear of divine retribution or failing that by human acts of muru (confiscation of resources)” (Roberts et al., 1995). The literature highlights an agreed upon need to instigate mechanisms for regular review of Maori researcher practice; and research methodology; progress and outcomes (Watene-Haydon et al., no date). There were few suggestions for how this could occur, though the Hongoeka Declaration for Maori Health Research states “we will monitor, critique, and discuss, including in hui and public forums, all research impacting on Maori health.” There is some indication that Maori researchers want the review conducted by other Maori researchers. Peretini (1996) suggested that “well qualified and trained Maori researchers, well qualified in things Maori” go and monitor research projects, particularly as “most ethics committees do not have the ability or the funding to monitor research protocols” (p.13).

**Tapu**

The concept of tapu is one of the reasons the observance of process is so important to Maori. Research is an interaction between living beings, be they people, animals or plants and as everything has its own tapu, research is, therefore, one activity where there is a meeting of tapu with tapu. As Shirres (1997) explains:

> the meeting of tapu with tapu is dynamic. It is constructive or destructive, never neutral... there can be violations of tapu whenever people meet. They occur between individuals, within our own families, within tribes and between peoples... (p.37)

As such, research is a relationship that is governed by the same kawa and tikanga that guide and protect people in interaction with others. Kaupapa Maori research particularly recognises this and, therefore, finds its codes of conduct for researchers already expressed in cultural terms, such as:

> Kaua e takahia te mana o te tangata - (do not trample over the mana of people). (Smith, 1996, p.27)

A person’s intrinsic tapu is determined by whakapapa. The process of whakawahanaungatanga, sharing whakapapa and establishing one’s relationship to
others, enables the identification of obligations, for example, attached to tuakana-teina relationships. The process of whakawhanaungatanga is important, also, for establishing obligations to reciprocate that may have been established in previous meetings or by previous generations (Evans, 1993). Maori researchers who include whakawhanaungatanga in their research procedure say it is important for developing and gaining the trust of participants (Kilgour & Keefe, 1992) and establishing good relations (Smith, 1999).

Different relationships or interactions have specific cultural protocols that apply to them. For instance, “there are cultural protocols that relate to the integrity of whakapapa (genealogy), which we see inextricably linked to the physical gene” (Mead, 1995, p.3). Genetic research, or any research that takes samples from the body “immediately exudes the concept of whakamaa and tapu” (Stinson, Howden-Chapman, & Carter, 1995, p.7), hence the importance of implementing appropriate cultural procedures. The removal and use of body parts is the topic of ongoing controversy in the Maori community.

As previously mentioned, knowledge itself is tapu. This tapu is put at risk when knowledge is shared, especially if the result is commercialisation. If this happens the “sacredness” and “fertility” is lost, and the knowledge becomes “common” (Te Uira Manihera cited in Roberts, 1995). Recognising the tapu nature of data demands the incorporation of another cultural principal into the practice of Maori research, that of “aroha ki te tangata - (a respect for people)” (Smith, 1996, p.27). Ensuring the cultural safety of researchers and participants is important because breaches of tikanga are implicated in the aetiology of ailments, injuries and causes of death (for example, mate Maori). Depending on the topic of research, some tikanga may dictate the time and place where certain things can and cannot be discussed (Smith, 1995). In recognition of te taha wairua and the tapu nature of some topics, some researchers begin their interviews with a karakia (Stinson et al., 1995) for the mutual protection of those involved in the discussion (Smith, 1995).

**Kaitiakitanga**

For the reasons listed above, Maori regularly express concerns relating to the use of research data (Durie, Allan, et al., 1996); security (Doublett, 1997), control and
ownership of data (Kilgour & Keefe, 1992). The concept of kaitiaki (guardianship), rather than ownership, is important to Maori (Lomax, 1995). As Jackson (1996) explains "ownership which is a very Pakeha capitalist view" is designed to protect commercial interests (p.10). Rapid appropriation and commodification of indigenous knowledge as intellectual property, such as the Human Genome Diversity Project which is attempting to patent human genetic material (Smith, 1999), and reclassification of collective knowledge as public knowledge, has required modern Maori to vigorously pursue intellectual property rights.

Royal (1992) argues that "tribal control of tribal taonga; that is the tribes (families and individuals) should always be recognised as the primary proprietors of their history" (p.85). Thus, any rights of ownership, possession, or custody of data and information by iwi and hapu will need to be negotiated with them (Parata, 1996). This respect is paid not just to hapu or iwi based knowledge but to all research respondents, as Te Awekotuku (1991) proposed:

the people studied have an absolute right to exercise control over the information they have volunteered; the right to control it, restrict access to it, or withdraw it from the actual project findings. (p.18)

This position is supported by the Privacy Act, 1992 which dictates that the ownership of information rests with those who provide it (cited in Doublett, 1997); and is reflected in the Department of Justice Psychological Services, Draft Principles to Guide Research with Maori. The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples signed in Whakatane, New Zealand (1993) also declares that:

indigenous peoples of the world have the right to self-determination and in exercising that right must be recognised as the exclusive owners of their cultural and intellectual property... the first beneficiaries of indigenous knowledge must be direct indigenous descendants of that knowledge. (p.1)

At a minimum Maori researchers need to "negotiate a protocol acceptable to all parties in recognition of the intellectual property rights of Maori" (James Henare Maori Research Centre to Te Tai Tokerau, Autumn, 1996). In some cases Maori have supported the establishment of kaitiaki groups that oversee and manage the storage and release of data (Watene-Haydon et al., 1993). An exemplar case is the National Kaitiaki Group set up under regulation, to protect and control the release of statistical information on the National Cervical Screening Register identifiable as relating to
Maori women. “Widespread apprehension about the potential misuse of Maori women’s information” was identified as a barrier to Maori women’s enrolment on the National Cervical Screening Register (PHC, 1994a, p.22). Maori women’s concerns about the collection, storage and ownership of very personal and highly tapu information led to the establishment of a separate register for Maori women. In the absence of measures such as these, individual researchers may sometimes be situated as custodian and “in turn, must act in harmony with his/her iwi, hapu and whanau, in respect of the taonga” (Royal, 1992, p.84).

Confidentiality

Confidentiality is a central, Broughton and Joseph (1994) say “paramount”, concern for hapu and iwi (Kilgour & Keefe, 1992) and often talked about. For example, some people at Hui Rangahau Hauora felt that the need for confidentiality was not well addressed amongst Maori (Watene-Haydon et al., 1993). The term confidentiality is used interchangeably with the term anonymity and may lead to misunderstandings. Participants may be assured of confidentiality, that is, that they can share secrets in confidence and may subsequently expect their information to remain secret, when in fact their information is stripped of identifying information and shared anonymously with the world. In other instances maintaining confidentiality may be difficult. For example, whilst the generality of the data provided by Statistics New Zealand allows for the maintenance of confidentiality, the level of detail that iwi authorities can acquire through the services that they provide can be analysed in such a way as to compromise that integrity. So, as Ihaka (1996) said, iwi statistics have to be secure and generalised when used outside of the environment in which they were originally created. The confidentiality and anonymity of information collected and managed in small communities may be harder to protect. One organisation, reported in Kilgour and Keefe (1992), did not record any written information at all, as any breech of confidentiality would have jeopardised their work. Te Runanga o Te Rarawa (TPK, 1994b) found that participants in their study of young Maori men’s health needs became concerned that confidentiality would be breached when faced with a researcher from the same community. An alternative researcher with the same iwi affiliation, but who did not live in the same community was acceptable to the participants. However, detailed results of this survey were not published “because the
small sample size meant that there was potential for confidentiality to be breached” (p.8). The report stated that “given the illegal nature of the topic the surveys have all been destroyed to protect the identity of those who participated. Although there were no questions which could identify participants, some chose to sign their comments” (Te Runanga o Te Rarawa, 1995, p.15). This raises a dilemma for Maori researchers and participants. Whilst informants studied have a right to remain anonymous (Te Awekotuku, 1991) as mentioned above, it is customary to identify oneself (oral tradition did not provide for anonymity) and some participants want to be quoted.

**Informed Consent**

People have a right not to give information and to withdraw from research at any stage of the process. Ethics committees, the Privacy Act and Maori guidelines for conducting research all state that informed consent of the people studied should be sought and confirmed before the project begins (Te Awekotuku, 1991). The term “informed” refers to the requirement that research participants will be clearly told, in a language and media understandable to them, in te reo Maori if necessary (Durie, 1996a): the purpose and aims of the study; how the data will be analysed and used, for example, that their korero would be included in an evaluation report to TPK; anticipated outcomes; and the limitations of a project. Transparency provides the optimum conditions for true informed consent.

Most university ethics committees require research participants be provided with information sheets that set out this information, along with contact details should participants want to contact the researcher’s supervisor. It is important not to assume competence to consent, or literacy, and to ensure that language used in the Participant Information Sheet and Consent Form is not loaded toward preventing potential participants from refusing participation. Researchers are usually expected to gain signed consent, which can be a sticking point with Maori participants. Stinson et al., (1995) found that “not all participants felt the need to sign” the consent forms and they felt it was culturally inappropriate to force the issue (p.10). In the case of telephone interviews verbal consent is sufficient. The processes used for obtaining informed consent “must minimise any institutional pressure to participate and should
distinguish between tribal consent and the consent of individual participants” (Durie, 1996a, p.9).

The need for informed consent is another area Hui Rangahau Hauora participants felt could be improved (Watene-Haydon et al., 1993). For example, Kilgour and Keefe (1992) expressed concern that:

consent is not sought for information collected on hospital admission forms and that people may not realise that the information is entered onto a national computer system and may be used for research. (p.70)

The Pakeha process for obtaining informed consent is highly individualised and, therefore, inconsistent with Maori values. Some information, for example, genetic information, is collective. Hence, Mead (1995) poses the question:

if the outcomes relate to collectives such as families and communities, should not consent therefore be a collective consensus? (p.4)

The whanau, hapu and iwi may have a role in determining consent also. At the very least individuals may need time to access advice from appropriate people.

It should be remembered that consent may not be given for a project or specific set of questions as such, but for a person, for their credibility. As Smith (1999) explains, informed consent is not “a static decision”; rather it indicates trust in the researcher and willingness to enter into a reciprocal relationship that will be constantly negotiated (p.136).

Time

Time, or rather lack of it, was a recurring theme in the literature. Short lead in time and tight deadlines don’t leave enough time to attend adequately to the cultural processes outlined so far in this section. Maori research projects frequently cited lack of time as cause for not commencing as quickly as was hoped, obtaining a smaller sample size; and, achieving poorer validity than originally intended (for example, Te Karere Matauranga Maori, 1994). The Department of Justice, Psychological Services, Draft Principles to Guide Research with Maori, include a principle that says “entering into research with particular communities/cultures implies an individual or group is committed to putting the required time and effort in.”
Manaaki

Another prescribed cultural code of conduct for researchers as described by Smith (1999) is “manaaki ki te tangata - (share and host people, be generous)” (p.27). Maori researchers who implement Maori tikanga in the course of their research can expect to hold a number of hui, for example, consultation hui, review meetings and hui to disseminate results. The costs associated with fulfilling these obligations are not commonly incurred by mainstream research. Researchers must manaaki research participants and vice versa if the researcher happens to go in to the participant’s home.

Prior to European arrival Maori upheld and practiced a belief system based on reciprocity, that is of giving in order to receive; that for every action there was an equal and opposite reaction; that every gift requires a return gift; every insult, retribution. Reciprocity is still an important value in Maori society, which is reflected in the following comments by Royal (1992) “as other people have shared with you, so you must share with them” (p.85) and Smith (1999) “to be able to share, to have something worth sharing gives dignity to the giver. To accept a gift and to reciprocate gives dignity to the receiver” (p.105). Reciprocity maintained balance (Roberts et al., 1995). One sort of reciprocal action is the giving of koha.

Koha is a traditional Maori practice and has an equivalent modern use in research, whereby the researcher offers a gift in return for the knowledge shared. This may be in the form of food, practical assistance, copies of resources, information, movie tickets, money or other thanks appropriate to the relationship established. Stinson et al., (1995) describe their reciprocal relationship with participants as involving nga tikanga Maori, such as “the use of te reo rangatira, aroha ki te tangata, he kapu tii, nga korero ki a ratou e nga wa katoa” (which roughly translated means to use Maori language, show love and respect for the people, give them a cup of tea and speak with them all the time) (p.9).

Summary

Te taha wairua as it pertains to the conduct of research implies the observance of appropriate cultural values and traditions. Ethical considerations, such as ownership, confidentiality and informed consent, have been included here.
**Te Taha Hīnengaro**

Te taha hinengaro o te whare rangahau Maori represents the theory and analysis aspect of research. The primary concern in the literature was the displacement of Maori knowledge.

**Competing Paradigms**

Maori research is conducted with an awareness that greater power is afforded to the user of the “dominant paradigm” and that there is a cost and potential negative impact for Maori when Maori perceptions are overlooked (Gilgen cited in Robertson & Larsen, 1994; Smith, 1989). Despite the cost to individual Maori researchers (for example, attaining lower status), there is pressure to prioritise Maori thinking, particularly maturanga Maori, when conceptualising and designing research (Doublett, 1997; Durie, 1996a). As Smith (1986) said:

> it will not improve matters greatly by having Maori researchers operating from similarly deficient indexes. (p.2)

Maori have called for Maori models of research to be used (MoH, 1997). It can be difficult to prioritise Maori models, however, when “the funder's definition of health” (Pardoe & Brewin, 1996) is a focus on illness rather than wellness, and when Western models, such as the Ottawa Charter and Alma Ata have become institutionalised in the New Zealand health system (Glover, 1996). Maori have adopted these models “to highlight the fundamental importance of economic and social development to achieving health outcomes” (Watene-Haydon et al., no date, p.492). Though Maori may have redesigned the Ottawa Charter to better suit their needs, this generates Maori commitment to the ongoing use of these models. Thus, Maori health researchers work within and with such views while needing to pose, contest and struggle for the legitimacy of oppositional or alternative histories, theories and ways of writing. (Smith, 1999, p.39)

Reference to “the difficulties of working within an ethnocentric framework” (Robertson & Larsen, 1994) were common in the literature. Smith (1999) reports that:

> ...many indigenous students find little space for indigenous perspectives in most academic disciplines and most research approaches... Indigenous staff and students, too, have found the institution to be toxic. (p.129)
Some researchers questioned the appropriateness of hosting Maori research projects within Pakeha controlled organisational settings.

Maori Models

How information is analysed is as important as the other issues already discussed. Watene-Haydon et al., (no date, p.493) suggest that it is important to “adopt an analysis that intersects with Maori society at culturally relevant axes.” Analysis done in accordance with a Maori worldview should attempt to provide a broad, holistic analysis. For example, a strict biomedical analysis of disease causation must not ignore factors belonging to the “spiritual” realm. As Durie (Sept 1996) said:

neither research nor health can be reduced to an independent variable or isolated from human experience, culture, the economy and society. (p.23)

The re-emergence of traditional Maori frameworks for assessing, monitoring and promoting evaluation has been paralleled by the development of new and appropriate models from which Maori may work (Watene-Haydon et al., no date). The principle traditional analytical model is whakapapa. Whakapapa is a causal tool, as it posits that all things occur through some kind of parental interaction (Royal, 1998). Royal describes it as an organic rather than deconstructive method. Whakapapa urges a focus on relationships and provides a way of predicting phenomena. The holistic, integrative essence of matauranga Maori stems from whakapapa. Everything in the universe, animate and inanimate, has its own whakapapa, everything is part of a unified dynamic whole partaking in an ongoing process of continuous creation and recreation (Marsden cited in Roberts et al., 1995). Hence, the common use of chronology as a structure for the presentation of information. Whilst “Maori are more likely to emphasize the inter-relationships between elements and the common themes,” this does “not necessarily reflect absolute points of difference from conventional science so much as a difference in balance” (Durie, Sept 1996).

Summary

Traditional and new Maori paradigms and theoretical frameworks compete for recognition in a research environment dominated by Western knowledges. Without access to training in matauranga Maori and support for application of Maori concepts
in research, expectations that Maori researchers will prioritise Maori models seems unrealistic.

TE Taha Tinana

Te taha tinana is used to present that part of the research concerned with the tools and measures used to collect data, that is the research method. According to Roberts, Taua, Everard and Elwood (no date) "more value needs to be placed on the data collection process" (p.1). The practical aspects of the research, such as writing and dissemination are also discussed here.

Maori Methods

In their report Hauora Wahine Maori: Recent directions for Maori womens health 1984-1994, Kotuku Partners (1994) report a shift over the last 30 years from:

an emphasis on the collection of statistics to research which used both quantitative and qualitative methods. The multiple methods used in recent projects, reflect a concern with process, impact and cost measures, including an attempt to look at access, equity and affordability. These more complex research questions require the use of more varied innovative methods.

As Durie (1996a) said, the use of multiple methodologies rightly characterises Maori health research. He adds however, that there is a need to develop "methodologies that will better measure and reflect Maori health as defined by Maori" (p.9). The Department of Justice Psychological Services, has adopted this goal and makes a commitment to it in their Draft Principles to Guide Research with Maori which states that:

data will be collected in ways which are meaningful to, and respectful to the participants, i.e. acknowledges their values and beliefs.

Durie (1996a) would particularly like to see development of "a method of research which integrates sectors, disciplines and varying cultural views" (p.10). Irwin (cited in Smith, 1999) argues that this is work Maori can and will do, she said, "we don’t need anyone else developing the tools which will help us to come to terms with who we are" (p.38).
People new to Maori research often ask “what are the different methods we use?” (Maori health research caucus, 1996). The response from experienced Maori researchers is that tools are neutral, they are not the sole domain of any cultural group. “The key is how we use the tools” (Jackson, 1996, p.10). As such, Maori claim the right to use any research methods, including randomised controlled trials (RCT) (Glover, 1996) and strictly positivistic research (Smith, 1999). As stated in the Hongoeka Declaration for Maori Health Research:

as partners to the Treaty, Maori reserve the right to use any approach to health research which will benefit our people;
we will promote and develop kaupapa Maori methodology and methods.

The following comment by Reid (1996) sums up the accepted position at the moment, that:

...we can use modern statistical tools and methodologies just as we can drive Japanese cars, wear Nike gear, eat Thai food and drink French champagne. (p.7)

This is not to say that there are not sufficient Maori methods or Maori methods that parallel Western ones. For example, there are similarities between focus groups and hui.

**Report Writing**

The quality of the research reviewed varied widely, either that or the reporting did not accurately reflect the research. Comprehensive coverage of the issues Maori researchers face as outlined so far in this chapter was rare. Very few reports contained any content reflecting on the research process or appropriateness of the methodology. Many reports appeared highly selective in that they only reported on a portion of the information they said they had collected. Other reports merely present raw data and no analysis. This would seem to contradict advice to report back fully, for example, Smith (1999) suggested that:

the responsibility of researchers and academics is not simply to share surface information (pamphlet knowledge) but to share the theories and analyses which inform the way knowledge and information are constructed and represented. (p.16)

The language and writing style of research reports is highly problematic for Maori researchers, as they struggle to communicate with vastly different audiences in the same piece of work. For most research “it is the academic community who are the ultimate consumers as the language used in the finished product is usually the
language of academia” (Doublett, 1997, p. 16). Broughton (1999) and Reid (1993) have made valiant and creative attempts to present written research results in a more acceptable and accessible format, interspersing story, photos, graphics and quotes with statistical findings (see also Broughton & Lawrence, 1993; Broughton, 1999; Reid & Pouwhare, 1991).

**Authorship**

It was noted while reviewing the literature that Maori researchers do not handle authorship consistently. Some projects provide a full list of people who contributed, for example, by way of discussions, written submissions and site visits (The Review Team to Consider Hearing Impairment Among Maori People, 1989). Others do not list any individual names, instead crediting authorship to the group as a whole (for example, Whariki Research Group, 1995). This is the most common practice of Government agencies who do not credit authorship to individuals employed by the organisation, though occasionally they will acknowledge the principal author, but include disclaimers. For Maori, authorship collides with ownership, which as mentioned previously is a contentious issue. For example, Royal (1992) explains that “authorship also belongs to the tribal experts whom the various writers approached” (p.25) therefore, he tends to say “published in the names of those people in order to make it clear that no one author could have written any of those histories” (p.23). Perhaps in trying to appear humble (an important Maori value reflected in the saying the kumara never says how sweet it is) individual researchers are not named, but in doing that assessment of validity is inhibited and accountability avoided, other important Maori research requirements.

**Te Reo Rangatira**

With regard to Maori language, Maori health researchers have declared that:

we are committed to promoting te reo Maori and tikanga Maori as appropriate for Maori health research (Hongoeka Declaration for Maori Health Research).

Such a commitment is necessary because of the critical state of the Maori language today. A 1994 study of Maori secondary school students showed that only 53% said they spoke Maori, though there was no indication of fluency, and only 37% said
Maori was spoken at home (TPK, 1994c). In the 1996 census, 26% of Maori indicated that they were able to hold conversations about everyday things in Maori (Statistics New Zealand, 1997). As “Maori world views are embedded in the language” (Smith, 1996, p.23) it is crucial that te reo Maori survives. In this sense it has been argued that te reo Maori should be “recognised as a basic unit of health” (Durie, 1984; Whaia Te Hauora, 1994).

Maori researchers use and include te reo Maori in research to varying degrees. This can range from minimal use of Maori greetings on correspondence and when meeting or leaving participants, to the provision of questionnaires written fully in te reo Maori and interviews conducted mainly in te reo Maori. Some research reports are written in English, with a smattering of te reo Maori (for example see Glover, 1996a). Others provide Maori translations of some sections (for example see Pomare et al., 1995), while others are written in both English and Maori (for example see The Review Team to Consider Hearing Impairment Among Maori People, 1989). There is no stated consensus on what should occur.

Simply switching to total use of te reo Maori is not possible for a number of reasons. First, neither all Maori researchers nor all Maori research participants can understand and speak te reo Maori to the same level. Further, as Mutu (cited in Roberts et al., 1995) explains there are “inherent difficulties that exist when one attempts to describe the concepts and values of one culture using the language of another culture.” This difficulty increases when the two cultures concerned hold quite different worldviews and value systems, as is the case with Maori and English. Roberts et al. (ibid.) claim the two languages are incommensurable, that is, when trying to translate Maori in to English “the real meaning of a custom or word is frequently debased and divorced from its traditional cultural setting, so that its proper functioning is impaired.” An example provided by Smith (1999) is that it is impossible to translate or interpret Maori societies into “English, French or Castilian, for example, without making gendered distinctions” (p.46). Sexism is an outcome of colonisation and the introduced religions. It was not inherent to Maori language (Opai, no date). Maori translations of survey questions originating in English can, therefore, result in a very different question being asked, thus undermining the internal validity of a study.
Dissemination

Dissemination of results deserves a mention as the sharing of information and reporting back to research participants, communities involved in research and whanau, hapu, iwi and other organisations that supported the research is an important aspect of Maori research. Kaupapa Maori researchers are especially committed to reporting back to the people concerned, both as a function of reciprocity and accountability (Smith, 1996). It is important that Maori don’t continue to feel that research is “like sending stuff into a black hole” (Kilgour & Keefe, 1992, p.65).

Dissemination of results depends on the “owners” or kaitiaki of the information, who need to be involved in deciding “when and how wider dissemination might be undertaken” Pomare (1992, p.28). The Department of Justice Psychological Services, Draft Principles to Guide Research with Maori declares that “arrangements for publication of the data will be discussed early in the study and will be mutually agreed on by all collaborators”. Presentation of findings needs to be appropriate and effective. For example, at an individual level participants can be supplied with summaries of the written report (Doublett, 1997, p.24). Participants should have the opportunity to attend a community based seminar conducive to their asking questions. For example, Te Reo o te Ora: The Wairarapa Maori Asthma Project was launched with a series of hui at marae in the Wairarapa (Wairarapa Maori Executive et al, 1992) and the James Henare Maori Research Centre present the results of each year’s research in report form, then hui (Summer, 1996). Opinion in the literature was consistent that:

All research findings should be made available to the general public; only in matters of supreme cultural sensitivity should this access be denied; and only in close, genuine consultation with the participants who have volunteered that information. (Te Awekotuku, 1991, p.18)

Participants at Hui Rangahau Hauora felt that newsletters, networking and regular hui should promote the sharing of research findings by Maori (Watene-Haydon et al., 1993). Efforts to inform the public can also be achieved via the media, particularly Maori radio. Particular care is required, however, when disseminating negative information, for instance, negative statistics which when reported “often make people feel disillusioned, helpless, hopeless and powerless” (PHC, 1994b, p.4). For this reason it is important that results, especially results showing how poorly
Maori are doing compared to other groups, are disseminated along with recommendations for action. Recommendations can be addressed to Ministries of Government, organisations, providers, local authorities, iwi and other key stakeholders. Recommendations may also be appropriately directed at the target group under study. In their cannabis project report, Te Runanga o Te Rarawa (1995) included recommendations for the dissemination and use of the report. For example, it was recommended that Te Runanga o Te Rarawa:

- circulate the report to all marae, sports and social groups, and interested persons
- meet with health providers and purchasers in the area to discuss the report and any opportunities to address its findings; and
- forward the report as a submission to the Public Health Commission/Ministry of Health as a response to the recent publication Cannabis and Health in New Zealand. (p.65)

Finally, as mentioned at the beginning of this chapter, locating copies of Maori research reports is difficult as there is no central clearing house for Maori health information. The need for such a service has been raised repeatedly (MoH, 1997; Glover, 1996). Participants at Hui Rangahau Hauora expressed concern about Maori data held in institutions, for example, theses in universities, where access by Maori was often difficult (Watene-Haydon et al., 1993). Some of the responsibility for ensuring research results are accessible must rest with the researchers. However, dissemination costs can be prohibitive. If committed to meeting expectations as outlined here, Maori researchers need to factor in the costs of producing lay reports of results, other display materials, printing multiple copies of reports, travel and hui. Maori researchers need to factor in that “sharing knowledge is also a long-term commitment” (Smith, 1999, p.16).

**Summary**

There are expectations that Maori health researchers will prioritise Maori research methods, whilst maintaining the right to use whichever method is most appropriate for the question under study. Report writing, authorship, the use of te reo Maori and the dissemination of results have been introduced above, as each research task carries particular cultural obligations.
**CONCLUSION**

The review of the literature netted an extensive list of expectations both of Maori health research projects and researchers. These are summarised below. Then in the following section I will reflect on these expectations and discuss how each has influenced the design and process of the study.

**A kaupapa Maori health research project should:**

- Adhere to the Treaty of Waitangi
- Allow for Maori control over all aspects of research
- Be conducted by Maori researchers within a whanau structure that provides kaumatua mentorship
- Involve Maori research participants and their communities
- Provide a shared learning and development experience including employment and training opportunities
- Recognise the validity and legitimacy of Maori, the importance of Maori language and culture
- Be emancipatory in intent
- Benefit Maori
- Have direct relevance to Maori health, for example, by being associated with a health development programme
- Attend to ethical and accountability requirements
- Clearly explain whether data will be treated as confidential and/or anonymous
- Obtain informed consent of participants
- Manaaki ki te tangata
- Prioritise matauranga Maori
- Be scientifically rigorous
- Disseminate results along with recommendations for action
- Negotiate a dissemination protocol with the owners or kaitiaki of information in recognition of intellectual property rights
- Make findings available to the general public
- Report on the theories and analyses used
- Give participants the opportunity to attend a community based seminar conducive to their asking questions about the results
- Produce a lay version of research reports for wider distribution to the Maori community.

**In summary, a kaupapa Maori health researcher is expected to:**

- Identify and live as a Maori
- Know their whakapapa and tikanga
- Have a range of skills with Maori language whilst aiming for fluency
- Engage in the process of whakawhanaungatanga with research participants
- Practice reciprocity
- Consider their tribal background, gender, language fluency and age when deciding if they are the right person for the job
- Support Maori development
- Maintain personal involvement in the community
- Promote and maintain Maori values, beliefs, social structures, processes and language
- Act as a resource person to community groups who may be unfamiliar with and unable to access funding
- Have respect and empathy for the differences that characterise Maori culturally from non-Maori
- Have a critical analysis of the role of research in the indigenous world
- Have sensitivity, skill, maturity, experience and knowledge of the dynamics of working as an insider
- Negotiate and transform institutional practices and research frameworks
- Promote and develop kaupapa Maori methodology and methods
- Be academically competent and able to undertake and complete the research
- Have a well developed theoretical analysis of the topic under study
- Be prepared to put in the required time and effort
- Be scrupulously honest about their qualifications, capabilities and commitment to the research
- Engage a reflexive process that reveals sources of bias
- Be accountable to whanau, hapu and iwi
- Explicitly acknowledge any affiliations
- Identify what they are getting from the relationship
• Act in harmony with his/her iwi, hapu and whanau as custodian of data, in respect of the taonga
• Ensure research results are accessible.

SECTION FIVE: REFLECTION ON EXPECTATIONS

Using a reflective style I will now consider how well I meet the expectations of Maori researchers that arose out of the above literature review. After looking at what I can offer to the project, I will turn to the more general expectations of Maori research projects and discuss which of these expectations influenced or were incorporated in to the current project.

AM I THE RIGHT PERSON FOR THE JOB?

My ability to conduct kaupapa Maori health research depends on my whakapapa. My ancestors were Ngati Hine from the Hokianga and Ngati Manu from Waikare, two of the earliest areas to be colonised by traders, missionaries and agents of the British monarchy, from whom I am also descended. Miscegenation and other consequences of colonisation have resulted in ever-diminishing expressions of Maori culture within my whanau. Despite this, I have pride in my whakapapa and identify primarily as Maori. I am continuing to learn tikanga and te reo Maori. Though far from fluent, I understand enough to cope with the little Maori language spoken within the context of research on smoking. However, if I was fluent, I expect I could have held deeper conversations with some participants, possibly resulting in a greater expression of Maori worldviews.

There are no acting kaumatua within my immediate family. I, therefore, bolstered my immediate whanau support with the guidance of a whanau review group consisting of other Maori health researchers and Maori psychologists (peers). Dr Peter Adams in the Department of Psychiatry and Behavioural Science, Auckland School of Medicine provided academic supervision on behalf of the University of Auckland. Dr Ross McCormick, also in the Auckland School of Medicine, was consulted as a second supervisor. Dr Paparangi Reid, Director of Te Ropu Rangahau Hauora a Eru Pomare, Wellington School of Medicine, was consulted as an external collaborator.
Tangata whenua in each rohe where the research was conducted, were consulted and informed on an ongoing basis about the research. As required by a kaupapa Maori approach, I am accountable to iwi through these whanau and iwi networks.

As a Nga Puhi woman, I feel duty bound to seek positive gains for Maori and I have a definite wish to not support the ongoing colonisation of Maori. Mindful of our history and alert to any potential negative effects for Maori, I am committed to upholding the Hongoeka Declaration, developed at a hui I attended. Thus, I wanted to implement a kaupapa Maori research methodology. A kaupapa Maori health research methodology assumes identification of research needs and priorities are or have been done by Maori. I have a history of working in public health and more specifically in the area of tobacco control since 1993, when I worked as a policy analyst for the PHC. During my term with the PHC I participated in a national consultation process, including several hui with Maori on general and specific public health goals, including consultation on Maori smokefree programme development (PHC, 1994b). It was at that time that I decided to concentrate on reducing Maori smoking rates.

The proposed objectives of this study were discussed with numerous individuals working in public health, policy, Maori “personal” health, research and psychology, and members of hapu or iwi representative groups such as Te Hauora o Te Tai Tokerau, prior to seeking HRC funding.

A kaupapa Maori approach recognises Maori researchers as insiders. Rather than maintaining ourselves apart from the objects of our investigation, Maori researchers are expected to remain a part of our community, thus enabling accountability. The community of Maori health researchers is small in number, however, and experiences a high demand for our involvement in many projects extending beyond the realm of research. It can be difficult for individual Maori to pursue higher degrees in this environment, when the demands to help our own whanau, hapu, iwi and to further Maori development as a whole leave little time for study. Pursuing a higher degree can be construed as a pursuit of individual status and wealth which is contrary to Maori values. Historical accounts, however, record Maori as vociferous in our pursuit of knowledge (Smith, 1999) and we are supported to do so by the frequently cited whakatauki:
E tipu, e rea, mo nga ra o tou ao; ko to ringa ki nga rakau a te Pakeha hei ara mo to tinana, ko to ngakau ki nga taonga a o tupuna Maori hei tikitiki mo to mahuna; ko to wairua ki to atua, nana nei nga mea katoa.

Grow up and thrive for the days destined to you, your hand to the tools of the Pakeha to provide physical sustenance, your heart to the treasures of your Maori ancestors as a diadem for your brow, your soul to your God to whom all things belong. (Ngata in Brougham & Reed, 1963, p.62)

My pursuit of this doctorate is a strategic move to enable me to better meet the health research and development needs identified by Maori. A comprehensive tobacco control strategy requires a critical mass of dedicated fulltime workers, including researchers (Robinson et al., 1995). Maori development is dependent on the development of a critical mass of Maori researchers and the reinstitution of matauranga Maori. It has taken me four years full-time to complete this project, because of my attention to kaupapa Maori health research methodological requirements and concurrent ongoing involvement in the Maori smokefree and Maori research communities. For instance, I have been a member of the Executive Committee as Vice-Chairperson of Apaarangi Tautoko Auahi Kore (the Maori Smokefree Coalition). My progress has unfortunately been slowed by occupational overuse syndrome, which has required a switch to voice activated software and WorkPace, a software tool that monitors computer use, prompting and if necessary forcing breaks. Sustained involvement in the community has served to offset the isolation I have sometimes experienced being a sole Maori working within a Pakeha academic department. This reality is recognised by the HRC who thankfully provided funds, in addition to the Postgraduate Scholarship, to enable my attendance at public health, Maori health and Maori research hui and conferences; and visits and meetings with other Maori health researchers and research centres.

My tribal affiliations (Nga Puhi Nui Tonu) express in me a want to benefit my own tribe which I did by committing to include Te Tai Tokerau in my research when I sought support from Te Hauora o Te Tai Tokerau and Ringa Atawhai (two Nga Puhi based health organisations). Travelling to Te Tai Tokerau and Thames allowed for whanau contact and time visiting my turangawaewae, which from a kaupapa Maori perspective is important to the maintenance of a researcher’s integrity and spiritual wellbeing.
With regards to my academic background, I have majored in Psychology from my undergraduate years at the University of New South Wales in Sydney, Australia, through to Masters at the University of Waikato, where I concurrently studied for a Diploma in Community Psychology. Since 1995, I have worked as a Maori health consultant/contract researcher undertaking a range of evaluation research, advisory roles and training jobs.

I have often thought it ironic that I am so intimately involved with smoking cessation as my personal smoking history left me with a passionate hatred for it. My parents smoked when I was a child and I have no doubt that was the primary cause of the asthma I suffered then, but later grew out of. I began smoking when I was 13 and smoked occasionally until I began working at 16 when I took up regular but light smoking. I had an on-again, off-again, smoking career culminating in chronic bronchitis in my early 20s which alerted me to the likely fatal consequences of smoking, so I stopped. Other people’s smoking has been annoying ever since, as post-cessation I became highly sensitive to cigarette smoke which limits where I can go socially and who I can mix with. Smoking was something I never understood before, and like many people I had little empathy or tolerance for people who smoked. Now I find myself defending smokers, arguing for understanding and access to treatment for them.

DESIGNING A KAUPAPA MAORI STUDY

The method section of this thesis outlines in more detail how the study of Maori smoking cessation behaviour was carried out. Many of the expectations of Maori research projects that arose out of the literature were not new to me and confirmed the approach I planned to take. In the last part of this chapter I will nevertheless reflect on the expectations as listed above.

Te Tiriti o Waitangi sets out guidelines for the relationship between hapu, iwi and the Crown. It is not always easy for individuals to interpret how these guidelines apply to their own relationships. The University of Auckland and the HRC of New Zealand, as agents of the Crown, partly fulfill obligations they have under Article I and Article III of the Treaty by supporting this project. That is, this research is in some ways a product of kawanatanga (the provision of government). Government
policies, designed and developed in consultation with Maori, established the research priorities this project was in line with and the funds accessed to do the study. Under Article III, the university and the HRC have extended equal rights to me as a citizen of New Zealand. Because of my individual commitments as outlined above, the project was designed in recognition of the right of iwi and hapu to exercise full control over themselves, as assured under Article II of the Treaty. Maori individuals, groups and iwi exert control over this research through the researcher, and by their stated support and involvement in the project.

The project meets other expectations in that Maori paradigms and tikanga are prioritised, involving the adoption of Te Whare Tapa Wha as the primary theoretical framework for this study. Both aspects of the study, that is investigating kaupapa Maori methodology and evaluating Maori smoking cessation behaviour, contribute to Maori emancipation and development and have direct relevance to Maori health. This study did not deliberately provide for employment and training opportunities for anyone other than the principal researcher, although where assistants were employed casually, Maori were encouraged to apply. Dissemination will be an ongoing task, which will be factored in to future research projects. My ongoing involvement in the Smokefree/Auahi Kore community in New Zealand has allowed for knowledge and recommendations arising from this research to be shared as they were formulated.

**SECTION SIX: CONCLUSION**

The review of literature on Maori health research has been presented in this chapter. A particular historical and political environment for research exists in New Zealand, made unique by the relationship between Maori and tauwiwi represented by the Crown. Maori health research is a developing area, characterised by exploration and experimentation. Using Te Whare Tapa Wha to structure the discussion, a set of guidelines for conducting Maori health research was gleaned from the literature. Maori health researchers themselves were the subject of a long list of expectations. Finally in this chapter, this project and my right to complete it were considered against the expectations and guidelines derived from the literature. Meeting the expectations of me was not problematic, especially as the criteria allow for the diversity of contemporary Maori life.
CHAPTER THREE

Maori Smoking

SECTION ONE: INTRODUCTION

Having established, in the previous chapter, Te Whare Tapa Wha as the theoretical framework for the thesis, the same paradigm will be used to structure this chapter which reviews the literature pertaining to Maori smoking. The next section, te ao turoa, provides insight into the history of Maori smoking and outlines the broader public health view, detailing Maori mortality and morbidity from smoking. The third section, te taha whanau, explores Maori smoking within its social context, looking at, for example, the role of smoking in the whanau. The biological aspect and physical effects of nicotine are outlined in section four, te taha tinana. Te taha hinengaro, the psychological factors influencing smoking are discussed in section five and a small section six is indicative of the attention given to te taha wairua and smoking. Having reviewed Maori smoking in terms of Te Whare Tapa Wha, section seven explores the literature for guidance on delivering and evaluating effective Maori health interventions.

SECTION TWO: TE AO TuroA

In this section the historical context for Maori smoking is introduced. The resulting mortality and morbidity is then summarised. Current Maori smoking prevalence and tobacco consumption is reviewed. Indications of smoking duration and quitting activity at the population level are then considered.

BACKGROUND

A native plant of America, tobacco use began as a highly ritualised cultural practice of American Indians (Flannery, Sisk-Franco & Glover, 1995; Goodman cited
in Powles, 1994). Spanish explorers and traders acquired the plant, commercialised its production and use, and are credited with introducing the world to the cigarette. “Smoking of any description was not part of the pre-European Maori way of life” (Broughton & Lawrence, 1993, p.10). As the title of Reid and Pouwhare’s, 1994 book (which gives a more detailed history of Maori smoking) Te-Taonga-Mai-Tawhiti says, tobacco was a “gift” from a distant place. As a key item of trade, tobacco quickly spread among Maori men and women from the mid 1700’s. Smoking by Maori was so prevalent for so long it almost attained status as “a cultural norm” (Broughton & Lawrence, 1993, p.11). Laugesen and Clements (1998) in their report Cigarette smoking mortality among Maori, 1954-2028, estimate that three-quarters of all Maori men and women (and over half of all men and half of all women in New Zealand) born since 1916 have been regular cigarette smokers at some stage. Maori tobacco consumption was higher than in any other OECD country in 1981 and by 1996, only 3 out of 23 OECD countries exceeded Maori adult tobacco consumption rates.

Smoking has decimated us as a people. In addition to the thousands of Maori who have died from smoking related illnesses (about 440 annually based on 1989-93 Maori deaths (Laugesen & Clements, 1998)), “tobacco use has dramatically affected Maori cultural, social and economic development” (Reid & Pouwhare, 1991, p.59). “Smoking desecrates the mana of our marae” (Ellis, 1995, p.1) and it brings about the early death of kaumatua which represents a vital loss (TPK, 1998) as “they are the storehouses of our culture” (Fisher cited in HRC, 1996). As Ellis (1995) said, smoking also “depletes the disposable income of Maori families” (p.1). In 1993, Reid (1993) calculated that Maori spend $250 million per annum on tobacco products.

**MORBIDITY AND MORTALITY FROM SMOKING RELATED ILLNESSES**

It is primarily tobacco’s effect on physical health, that is, te taha tinana, that has caused concern and been subject to Government monitoring and intervention. Smoking steals on average, 3 to 4 years of life from Maori people as a whole (Laugesen & Clements, 1998) and is a major contributor to inequity in life span and morbidity between Maori and Pakeha.

Maori females live on average to 71.6 years and males to 67.2 years, which is eight years and 7.1 years fewer, respectively, than their non-Maori counterparts. (MoH cited in Horwood, 2000)
Maori have the highest death rates from coronary heart disease in the OECD group of countries. Maori women have the highest rate of lung cancer in the world and suffer cervical cancer at more than twice the national rate (22.4 vs. 10.4 per 100 000 annual average 1993-95) (MoH, 1998a). The table below reproduced from Laugesen and Clements (1998) shows most tobacco related deaths recorded as circulatory, followed by cancers and respiratory deaths.

### Table 1

**Cigarette smoking average annual attributable and total deaths by main disease groups, Maori, 1989-93**

<table>
<thead>
<tr>
<th>Main disease group</th>
<th>cigarette attributable deaths</th>
<th>Total deaths</th>
<th>cigarettes as a % cause of all deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>men</td>
<td>Women</td>
<td>Men and women</td>
</tr>
<tr>
<td>Cancer of the lung, lips, mouth, throat, larynx, gullet and other sites</td>
<td>75</td>
<td>51</td>
<td>127</td>
</tr>
<tr>
<td>Circulatory diseases ICD 390-459 heart attacks, strokes, aneurysm, etc.</td>
<td>91</td>
<td>78</td>
<td>170</td>
</tr>
<tr>
<td>Respiratory deaths - mainly chronic obstructive respiratory disease</td>
<td>33</td>
<td>42</td>
<td>75</td>
</tr>
<tr>
<td>Other medical disease: Accidents, poisoning, violence, and cirrhosis</td>
<td>31</td>
<td>34</td>
<td>65</td>
</tr>
<tr>
<td>Accidents, poisoning, violence, and cirrhosis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Annual cigarette-attributable deaths</td>
<td>231</td>
<td>206</td>
<td>437</td>
</tr>
</tbody>
</table>

Note: Due to rounding errors in averaging the annual deaths, totals of columns and rows may be affected. Table from Laugesen & Clements (1998) based on projected 'sole' Maori figures thus excluding Maori identifying as 'Maori and other' or those of Maori descent. The report explains that the inclusion of all ethnic Maori is likely to add only 12 percent to the annual number of cigarette-attributable deaths estimated in Table 1.

One-third of all sole Maori deaths in 1989-93 could be attributed to tobacco smoking (Laugesen & Clements, 1998) putting middle aged Maori survival on a par with that of India and China. Predictions contained within Laugesen and Clements’ report forecast worse to come as over half of Maori smokers are still under age 35, cigarette-attributable mortality from their smoking will see smoking attributable deaths among Maori double within the next 30 years.

There are some indications that the sole Maori group are the group that suffer the disproportionately negative statistics (Reid, 1996). For example, the sole and ethnic Maori group as defined in the 1996 Census had smoking prevalence of 49 and 44 percent respectively (Laugesen & Clements, 1998).
Smoking related illnesses feature disproportionately among Maori also. From birth, Maori record proportionately higher rates of hospital admission for asthma and glue ear (Pomare et al., 1995). It is thought, that high background rates of bronchiectasis in Maori could be due to genetic factors and high rates of early childhood lower respiratory tract illness (Woodward, Newland & Kinahoi, 1994). High rates of smoking among Maori women during pregnancy (two thirds of Maori women smoke during peak child rearing age (Waa, Moewaka-Barnes, Blewden & Spinola, 1997), contributes to higher rates of miscarriage, preterm births, low birth weight babies and other difficulties during childbirth (Pomare et al., 1995). In 1996, the Maori Sudden Infant Death Syndrome rate was around five times higher than that of non-Maori (4.6 vs. 0.9 deaths per 1000 live births) (MoH, 1998a). Through adulthood Maori are undermined by disproportionately higher hospitalisation rates for smoking related chronic obstructive respiratory disease, hypertensive disease and other forms of heart disease and cancers.

**Smoking Prevalence and Consumption**

Smoking prevalence in the total New Zealand population has decreased from 36% in 1976 to 25% in 1998 with Maori smoking prevalence decreasing from 58% in 1976 to 49% in 1998 (MoH, 1999). At the 1996 Census, a higher proportion of Maori women (47%) were regular smokers than Maori men (40%) (Statistics New Zealand, 1997). Higher smoking rates are concentrated in younger people, for example, nearly 60% of Maori women aged between 15 and 44 years were smokers (MoH, 1999) while for men those aged between 25 and 39 had the highest smoking rate (46%) (Statistics New Zealand, 1997). Among women aged 15 and over, Maori had the highest smoking rates (48%) compared with Pakeha (22%), Pacific (19%) and Other women (5%) (MoH, 1999).

The number of cigarettes smoked per day per Maori smoker has also decreased by 25% from 23 in 1981 to 17 in 1996, which is four-fifths the rate of reduction in the total New Zealand population (Laugesen & Clements, 1998). Laugesen and Clements report number of cigarettes per year based on tobacco grams sold, to be 2950 for Maori in 1996 versus 1553 for the total New Zealand population of smokers. A MoH (1999) report cites total population survey results that distribute
consumption as follows: 44% smoked 10 or fewer cigarettes per day, 44% smoked 11-20 cigarettes per day and 13% smoked 21 or more cigarettes per day. Another study reported that male smokers on average smoke more cigarettes a day than female smokers, 15.7 vs. 12.9 (National Research Bureau [NRB], 1996).

The same study found an increase in the popularity of "roll your own" cigarettes which constituted 28% of the tobacco product market. Heavy smokers, that is, those smoking over 20 cigarettes a day, were more likely than lighter and medium smokers to smoke roll your owns (38% as opposed to 28% and 27% respectively) (ibid.).

Maori health studies have found varying rates of smoking prevalence and consumption among their study participants. A Maori Women’s Welfare League (MWWL) survey of 1177 Maori women (Murchie, 1984) found 62% were current smokers, though about 62% of them smoked half a packet or less per day, about 31% smoked about one packet per day and 7% smoked over one packet per day.

*Whanau Ora: Health status assessment* (Potaka, Durie & Ratima, 1993) found that just over half (53%) of the 133 participants were current smokers, and one half of them said they smoked between 10 to 20 cigarettes per day. Almost 30% of the smokers in Broughton and Lawrence’s (1993) study consumed up to half a packet of cigarettes per day, about 65% smoked from 10 to 20 cigarettes per day and about 5% smoked more than one packet a day.

An evaluation of the Healthy Lifestyle Programme (HLP), which promotes health through netball, found that HLP participants smoked 22% less than Maori women nationally (Thompson, 1995). The survey concluded that 29% of the current smokers smoked less than 10 cigarettes per day on average, 17% consumed between 10-20 per day, and only 3% indicated that they smoked more than 20 cigarettes a day. This indicates that there are sub-groups of Maori who have achieved lower smoking prevalence rates.

**SMOKING INITIATION**

Average consumption and numbers that smoke may allow estimated future Maori deaths from smoking to be calculated, but say nothing about relative risk at the
individual level. Peto’s warning “the earlier you start, the more you smoke, the longer you smoke for, the greater the risk” signals an aggravated situation for Maori (Doll, Peto, Wheatley, Gray & Sutherland, 1994).

Several local studies have indicated that Maori smokers start smoking earlier than non-Maori (Ritchie & Ritchie cited in Kotuku Partners, 1994). For example, from 10 years of age (Broughton & Lawrence, 1993). Broughton and Lawrence (1993) found smoking initiation among young Maori women on average occurred at 14.8 years. Twenty six percent of the smokers in the Rauuora study started smoking before age 15, over half (54%) started between the ages of 15 and 19, and 20% started smoking from 20 years of age (Murchie, 1984). The median age for starting to smoke was 17 years, but Murchie noted that younger women had a younger median age, which matched a trend for all New Zealand women to start earlier. The Health Sponsorship Council (1998) in research on Form 3 to 6 (about ages 13-16) school pupils, found 46% of young Maori women smoked, compared to 26% of young people as a whole.

In New Zealand, one in ten current and former smokers began smoking at 12 years or younger. The most common age for both current and former smokers to have started smoking was 15-16 years, though there has been a reported jump in the number of current smokers starting at 13-14 years (NRB, 1996). Internationally, the age of onset of tobacco use has decreased substantially over the past 20 years, especially for girls (Nicther, Nicther, Vuckovic, Quintero & Ritenbaugh, 1997).

In an evaluation of the New Zealand Why Start campaign, the Business Research Centre (BRC) and the Eru Pomare Maori Health Research Centre (1996) found a significantly higher proportion of Maori respondents (63%) reporting ever having a puff or a smoke as compared to non-Maori respondents (53%).

Not only do more Maori smoke, Maori start smoking earlier, smoke more and possibly smoke longer thereby increasing the relative risk to the individual Maori smoker. The median age of smoking duration for all women in the Rauuora study, including ex-smokers, was 17 years (Murchie, 1984).
QMNTING ACTIVITY

Before reviewing quitting activity as recorded in the literature, it is necessary to introduce Prochaska and DiClemente’s Transtheoretical Model of Change (Heather, Gold & Rollnick, 1991), more commonly referred to as the Stages of Change Model. Many of the reports reviewed categorise quitting activity according to this model.

The Stages of Change Model

The stages of change model has been extensively applied to smoking cessation interventions, resulting in an ever increasing amount of evidence that a subject’s allocated stage of change is related to outcome and dropout from treatment (Heather et al., 1991). Prochaska and DiClemente’s Transtheoretical Model of Change, assesses smokers as belonging to one of six stages of change, explained in the following table.

<table>
<thead>
<tr>
<th>Clients stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>Not ready for quitting. Genuinely unaware that their smoking is hazardous or harmful and if they are aware are denying to themselves that it constitutes a problem.</td>
</tr>
<tr>
<td>Contemplation</td>
<td>Ambivalent or in conflict about their smoking. Engaged in an implicit decisional balance exercise, in which the advantages and disadvantages of smoking are weighed against each other.</td>
</tr>
<tr>
<td>Preparation</td>
<td>A preparatory stage where the smoker decides the method for quitting and develops a quit plan.</td>
</tr>
<tr>
<td>Action</td>
<td>The smokers undertakes steps to stop smoking.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Maintains abstinence from smoking and uses strategies to prevent relapse.</td>
</tr>
<tr>
<td>Relapse</td>
<td>One or more cigarettes are smoked, tempting return to one of the above stages.</td>
</tr>
</tbody>
</table>


The stage of change can be deduced from qualitative statements about the need for change, the possibility of changes occurring, self-efficacy and stated intention to change in the future or within a specific period of time (Miller & Rollnick, 1991); or, the stage of change can be measured using the readiness to
change questionnaire (Heather et al., 1991). The simplest tool, promoted by Innovative Training Systems (cited in Budman, 1997), is a two question grid that determines that the smoker is in precontemplation if they do not seriously intend to stop smoking in the next 6 months, contemplation, if they intend to stop within the next 6 months but not within the next 30 days, and preparation if they planned to stop smoking in the next 30 days.

**Readiness to Quit**

European and American studies have concluded that many smokers would like to give up smoking. For example, American data shows up to "70% of smokers want to quit and have made at least one self-described serious attempt to quit" (Fiore et al., 1996, p.19), but for most it is difficult to quit. Fagerstrom, Tejding, Westin and Lunell (1997) suggest that only about half of smokers succeed in quitting during their lifetime. Consistent with this, in New Zealand, the MoH (1999) reports that around half of both male and female ever-smokers had stopped smoking, but for both sexes, with increasing age, increasing proportions of ever-smokers had quit smoking. Among those who identified as sole-Maori in the 1996 Census, only one quarter of ever-smokers were ex-smokers (Laugesen & Clements, 1998). Laugesen (2000) recently calculated that out of everyone who had been smokers a year previous, 90% had quit in the past year for more than 1 day, and only 10% of the triers had been successful by remaining ex-smokers.

The 1996/7 New Zealand Health Survey found more than one in five smokers (22%) were either thinking about quitting, or doing things that would help them to quit. Younger smokers were more likely than older smokers to be thinking about stopping, or doing things to help themselves stop. There were, however, differences across ethnic groups with 24% of Pakeha smokers reporting readiness to quit, 19% of Maori, and 19% of Pacific Island peoples (cited in National Advisory Committee on Health & Disability [NACHD], 1999). In a study on environmental tobacco smoke, one quarter of all smokers thought they were likely to give up smoking within the next 3 months. Twenty four percent of Maori expressed similar intent to quit. Light smokers were more likely to envisage themselves stopping within the next 3 months. Females were more likely to think they would not give up smoking within the next 3
months: 73% v. 61% of men. This was also the view of 20-24 year olds and 55 year-old and over smokers of which 77% and 76% felt it unlikely they would give up smoking within this time (NRB, 1996). The most optimism was amongst light smokers, of whom, 16% said they were doing things to help them quit, that is, they were in the preparation or action stage of change. Only 15% of Maori could be considered to be in precontemplation, with the majority (75%) in contemplation. Ten percent of Maori were in the action stage (ibid.).

**Prevalence of Quitting**

Only 20% of the Maori women in the 1984, Murchie study were ex-smokers. In Broughton and Lawrence’s study (1993), 85% of the smokers had “thought about giving up smoking” (p.39). Sixty four percent said they would like to give up smoking and 78% went on to say that they had tried, unsuccessfully, to quit smoking at some stage in their lives.

Lower quit rates have been found for older adults (Hillrice et al., 1996). Broughton and Lawrence (1993) also found that “as women get older, fewer and fewer quit smoking. Most women who quit smoking did so in their 20’s. Over the age of 45, very few Maori women quit smoking” (p.108). In a study on the health and well-being of older Maori people, only 27% of kaumatua smoked cigarettes regularly. However, 43% of kaumatua who did not smoke had smoked at sometime in the past (Durie et al., 1996)

An international study suggested that spontaneous cessation rates are reported to increase during pregnancy to approximately 40% (Gritz, Brooks & Nielsen, 1995). Locally, a small number of pregnant women surveyed by Te Ropu Rangahau Hauora a Eru Pomare (Sept, 1996), reported changing their behaviour. Forty percent had cut down smoking, 23% stopped smoking altogether and 9% stopped smoking for a while but restarted. However, 4% felt they had increased smoking during pregnancy.

There is a growing body of evidence suggesting women are less likely to quit smoking once they become addicted to nicotine. For example, Hillrice et al. (1996) found that at 1 year more men than women smokers were successful in quitting. Hillrice et al. proposed that women are more likely to smoke to reduce negative affect
and for pleasure; women are also less confident in their ability to stop, have a greater dependency on cigarettes and tend to experience less and different social support than men. Reid and Pouwhare (1991) note that Maori women have been slower to quit tobacco use than men, partly because most campaigns to quit had been designed by Pakeha men. Internationally, consensus has not been reached on whether or not gender differences affect smoking and cessation quit rates. More research is needed to determine the real contribution of gender (Gritz et al., 1995).

In the environmental tobacco study (NRB, 1996), smokers who had stopped for a week or more in the previous 12 months, had done so an average of 5.1 times suggesting a lot of unsuccessful quitting activity. It could be argued that the focus for intervention need not be the promotion of quitting, as Laugesen (2000) said, the ultimate goal of cessation interventions should not be getting people to quit but getting more people to quit and stay smokefree.

**QUITTING METHODS**

The United States smoking cessation guidelines state that a wide range of smoking cessation interventions are effective across diverse populations regardless of gender, ethnicity, age and including pregnant women (Fiore et al., 1996, p.27).

**Unaided Quitting**

It is widely believed that most people who quit smoking do so on their own, without treatment of any kind (Miller & Rollnick, 1991; Gulliver et al., 1995). In McClellan’s study (1998), most “just stopped” or described themselves as having “gone cold turkey.” Less than a third of the Maori women in Broughton and Lawrence’s (1993) study had done something specific to assist them to quit smoking, for example, participating in a smoking cessation programme. It must be remembered, however, that there have been few and infrequent programmes for New Zealand smokers to partake in.

Although smokers may not have access to or choose not to use cessation aids and programmes, some research shows they instigate or utilise other forms of support. For example, just on half (48%) of the participants in McClellan’s (1998) study made
changes to their daily or regular routines to help them maintain their ex-smoking status. Over half (52%) said they received considerable support from those close to them in their decision to quit.

Maori women in Broughton and Lawrence’s (1993) study who cited “special activities” that helped them stop smoking, substituted food or exercise or other activities for a cigarette. Out of over 100 ex-smokers, only 4 had used patches successfully and only three had attended a cessation programme. Other activities included: religious activities; looking at the reality; keeping busy and whanau support. A majority (64%) of the Maori women who had given up said they had found it easy to do so (Broughton & Lawrence, 1993). They cited “a positive mental attitude towards giving up smoking” as the most helpful thing; “the realisation that smoking was detrimental to one’s health was the next main reason that made quitting smoking easy” and the influence of family and friends (ibid., p.73).

Mainstream Smoking Cessation Support

A free phone Quitline was recently implemented nationally in New Zealand. Athena Marketing Research followed the progress of 300 people who phoned the Quitline in the early weeks of a pilot of the campaign and then again 5 months later. Whilst 83% reported that they had made a quit attempt, only 15% remained smokefree at the 5 month follow-up. Results of the first follow-up study showed little variation in quit rates for gender, age or ethnicity, though older people appeared more successful at maintaining abstinence than younger people (Young, Gibson & Simonsen, 1999). Compared to non-Maori, Maori quitters seemed less confident that they would stay smokefree. This was also the case for women as opposed to men (ibid.). Callers who tried to stop cold turkey appeared more successful than those who had cut down. “For the whole group, including those who quit smoking, overall consumption nearly halved from 18 a day to 10 a day” (Glasgow, Potter & Puketapu, personal communication, 17 May 1999.) Maori and Quitline callers over 45 years of age, were more likely to claim they were cutting down. Other research suggested that smokers who attempt to stop but only manage to reduce their tobacco consumption invariably return to their pre-quit attempt smoking level (Covey, Hughes, Glassman, Blazer & George, 1994).
Gritz et al. (1995) report that women making quit attempts are more likely than men to use cessation programmes and to prefer formal smoking cessation groups or help from health professionals. Slightly more calls put through to the New Zealand Quitline advisors are from women (59%); nearly half of all calls to advisors are from people aged under 35 (48%) and a third (33%) of callers are Maori (The Quit Group, April 1999).

The Smokescreen Programme, developed in Australia, was trailed in North Canterbury, during 1995-1996. All clients in two settings: primary care, through general practitioners; and secondary care, through hospital departments and wards, were offered treatment (Kirk, 1998). The programme consisted of cognitive and behavioural strategies combined with nicotine replacement therapy (NRT). Quit rates achieved by the primary care component of the programme, for the total sample, at 3 months were 14% point prevalence with 9% having been continuously abstinent. At 6 months the point prevalence rate was 10% with 6% continuously abstinent. In the hospital programme, point prevalence at 3 months was 16% with 13% remaining abstinent throughout and at 6 months the point prevalence rate had increased slightly to 17% with the total abstinence rate dropping to 11%. Analysis of results by gender or ethnicity is not given. Patients were, however, classified according to the stages of change model as “not ready,” “unsure” and “ready” which revealed greater quit rates were achieved for those in the “ready” group.

Maori Smoking Cessation Programmes

Studies on Maori smoking have, thus far, focused on documenting the size (prevalence) and quality (morbidity and mortality) of the problem (Reid & Pouwhare, 1991; Broughton & Lawrence, 1993). Some studies have detailed why Maori smoke and reasons they might have for stopping (Broughton & Lawrence, 1993). There has been little attention given to cessation per se, except for a self-help smoking cessation guide, Tihei Mauri Ora developed by Dr. Paparangi Reid (1993).

There have been no formal studies evaluating the effectiveness of Maori smoking cessation interventions. Stewart (no date) conducted a review of smoking cessation programmes concentrating on the comparable effectiveness of various smoking cessation methods. He found few programmes existed and of those that did
they had “been slow to address the over-representation of indigenous and ‘minorities’ peoples in the smoking statistics,” thus he suggested the problem for these minorities is one of access to appropriate facilities. Stewart concluded that there “is a serious and urgent need to develop such programmes” (p.4) and that there was a need to evaluate the few Maori smoking cessation programmes that were available. This need was reiterated in Dyall’s (1996) report on Maori health research needs, which stated:

There is a need now for research to identify what smokefree, alcohol and drug related intervention programs are successful in reaching Maori women and influencing changes in behaviour. (p.9)

The dearth of smoking cessation support reflects a lack of funding, not a lack of demand. The *Maori Smokefree: Report on the hui for Maori smokefree programme development* notes “there has been an increased demand for smoking cessation support” and training in how to run cessation programmes (PHC, 1994b). The report suggested that personal health providers, such as general practitioners, could be doing more to promote and assist smoking cessation.

An evaluation of the MWWL HLP, which has had the promotion of a smokefree lifestyle as one of its goals, found that people who had been with the programme for some time reduced rather than stopped their smoking (TPK, 1993, p.74).

The Taranaki Stop Smoking Pilot Project, trialed the use of acupuncture administered by community health workers to Maori clients through a marae based health clinic. Anecdotal reports of quit rates at the 3 month follow-up showed 20% had stopped smoking, 20% had stayed the same and the remaining 60% had cut down (D. Tipene-Leach, personal communication, 2000).

**The Noho Marae Smoking Cessation Programme**

A Noho Marae smoking cessation programme is one of the most intensive interventions available in New Zealand, as it is a residential 5-7 day commitment. Some Maori women in Taranaki who wanted to stop smoking developed the programme, Kati Te Kai Toru, in 1992. Since then at least 6 programmes have been run in Taranaki (Wano, personal communication, 1996), with several others occurring
around the country as the programme was shared with other Maori community health workers. A detailed description of the programme is included in Chapter Four.

Forster and Ratima (1997) cite anecdotal results compiled by the programme co-ordinator in Taranaki. After 15 months, 89% of programme one participants remained smokefree; after 13 months, 60% of programme 2 participants remained smokefree; after 10 months 89% of programme 3 participants remained smokefree; and, after 4 months 100% of programme 4 participants remained smokefree. The success was considered to be due to the programmes’ cultural emphasis, provision of support and holistic approach.

The greater reported success of Noho Marae Stop Smoking Programmes could in part be attributable to the intensity of the intervention. International evidence suggested that groups are better than self-help and other less intensive interventions (Stead & Lancaster, 1998). As the U.S. Department of Health and Human Services smoking cessation guideline states:

There is a strong dose-response relationship between the intensity of person-to-person contact and successful cessation outcome. Intensive interventions are more effective and should be used when resources permit. (Fiore et al., 1996, p.46)

Thus, smaller groups have been recorded as achieving greater success (Romand, 1995).

It should be noted that none of the New Zealand studies of smoking cessation interventions reviewed above used scientifically robust methods. The quit rates achieved are indicative only of the potential effectiveness of each approach.

SECTION THREE: TE TAHĀ WHANAU

The following section focuses in on the whanau as the more immediate environment within which smoking is passed on to the next generation, initiated and shared with peers. The social context of the whanau and the demographic and economic pressures are explored for their contribution to smoking.

Te taha whanau encapsulates the familial and social factors that contribute to individual smoking behaviour, such as socialisation to smoke, environmental support for or prohibition of smoking. This section reviews the literature for insight into the
composition of whanau today and the prevalence of smoking within whanau and around children. Socio-economic factors impacting on whanau, such as low income and education are considered under other determinants of health. The New Zealand tobacco control effort has impacted on smoking prevalence over the last 55 years. The likely impact of these interventions for Maori is discussed.

**THE WHANAU TODAY**

The Maori population is skewed towards the younger age groups with the median age being 22 years at the 1996 census vs. 32.3 years for the total New Zealand population (Statistics New Zealand, 1997). About 24% of the Maori population were aged 0-14 as at the 1996 census (ibid.). Pertinent to discussion of Maori smoking is that Maori women tended to start and finish their child-bearing earlier than non-Maori women (ibid.).

**LIVING WITH SMOKERS**

Whilst, 80% of Maori now live in households containing one family, Maori people were three times more likely (19%) than their non-Maori counterparts (7%) to live in households containing two or more families and half as likely as non-Maori to live on their own (ibid.). Exposure to “other family/whanau” who smoke was higher for Maori respondents (84%) as compared to 50% of non-Maori respondents in the Why Start evaluation (BRC and the Eru Pomare Maori Health Research Centre, 1996).

**PARENTAL SMOKING**

National prevalence of smoking among adults from households with children 5 years or under is 33% (NRB, 1996). The higher smoking prevalence figures for Maori adults given above suggest that it is likely that Maori children are more likely than non-Maori to be exposed to cigarette smoking.

Numerous international studies and some local research have shown a strong correlation between parental smoking and uptake of smoking by children. In a United
Kingdom study by Fidler and Durrant (1995) 850 children, aged 3-5 years, were interviewed about their attitudes to smoking. The research concluded that children from as young as 3 years old assimilate and take on board the role model of their parents’ smoking and that increasing daily contact with a parent who smokes is consistent with the child having positive attitudes about smoking (Fidler & Durrant, 1995). In Ritchie’s 1985 study of teenage smoking more of the Maori intended to smoke in the future. More of them came from families where other family members smoked, and their parents were less likely to disapprove of their smoking (cited in Kotuku Partners, 1994). McClellan (cited in Ellis, 1995) also highlighted that it is more likely for Maori rangatahi to smoke if someone in their home smokes. Broughton and Lawrence (1993) concluded that young children growing up surrounded by smokers learn that it is an acceptable part of social activity. Maori health workers readily accept that “because more Maori parents smoke than non-Maori, more Maori children are likely to become smokers themselves” (Whata, 1996, p.8). On a positive note, a major study has shown that parental smoking cessation has a preventative effect on uptake by children and of those children who have already started smoking, they are twice as likely to quit if their parents quit (Farkas, Distefan, Choi, Gilpin & Pierce, 1999).

**PEER PRESSURE**

Past research with minority youth indicates that peers and friends consistently play a major role in influencing adolescents to smoke (Epstein, Williams, Botvin, Diaz & Ifill-Williams, 1999). The term "peer pressure" is often reified and discussed as if it were a social fact exerting a constant force in the life of teenagers. Use of the term in the literature often suggests that teenagers experience direct pressure to smoke when, in fact, social influences may be subtle and are experienced in a variety of ways depending on context and the individuals involved. Several earlier studies concluded that the notion of peer pressure might be overly simplistic (Nicther et al., 1997). Nicther et al. (1997) found that when questioned about their smoking behaviour, girls insisted there was little overt pressure to initiate smoking, rather the theme of independence in smoking initiation was dominant. “Girls were more likely to explain that because their friends smoked and they were around them, they ‘just decided to try it’” (ibid., p.291). Similarly, Maori ever-smokers in Broughton and Lawrence’s
A 1993 study rejected the notion of peer pressure, with only 5% of the study citing it as a reason for starting. Far more (54%) said they began smoking because “everyone else was doing it” (p.31). Twelve percent thought smoking was cool and 7% believed they had taken up smoking because it “was just an accepted part of family life” (p.32).

**OTHER DETERMINANTS OF HEALTH**

...social, economic, political and cultural inequalities have been highlighted between Maori and non-Maori people over the past few decades as important reasons for the disproportionately high levels of sickness amongst Maori. (Pomare, 1992, p.5)

Many factors impact upon the wellbeing of the whanau and the capacity of whanau to provide the necessities for health. Socioeconomic status largely determines whanau access to resources. Educational level affects ability to access and effectively utilise resources and cultural identity may affect which resources a whanau prefers, where they might go and how they access resources for health.

**Socio-economic Status**

Lower socio-economic status has been noted as a risk factor for Maori youth smoking uptake (Waa et al., 1997). This is not specific to Maori youth, however, socioeconomic status is strongly related to rates of current smoking for both Maori and non-Maori men and women (MoH, 1999), though Maori are disproportionately represented among the lower socio-economic groups. For instance, “in 1997, the average annual income before tax for Maori households was $10,000 lower than that of non-Maori households ($47,000 compared to $37,000)” (TPK, 1998, p.1). More Maori (37%) than non-Maori (15%) received government benefits in the form of income support payments also. Data from the 1996 Census, showed that 41% of Maori children were in families that received an income of $20,000 or less.

**Level of Education**

At a PHC hui on Maori smokefree programme development (PHC, 1994b) it was stated that a key risk factor for starting smoking as a child was “being subjected to an education system that labels them as a failure” (p.5). In a 1992/93 Health Survey, smoking was associated with education (Statistics New Zealand & MoH,
1993). In 1996/97 36.4% of those without any formal qualifications were smokers compared with 17.7% of those with post-school qualifications (MoH, 1999). Maori have disproportionately lower rates of educational achievement than non-Maori do. At the 1996 Census, "school qualifications were the highest educational achievement for 29% of Maori adults, while a further 16% held post-school qualifications" (Statistics New Zealand, 1997, p.2). Only 45% of Maori aged 15 years and over held formal educational qualifications.

**Cultural Identity**

Although income is a contributor to Maori health inequalities, not all Maori health commentators accept that "the poverty theory" accounts for the problems experienced by Maori (and other indigenous people). The latest MoH report on the health of the nation, reports that "ethnic inequalities in mortality and some other health indicators are only partly due to socioeconomic status" (Johnston & Pickmere, 2000). If people have strong cultural esteem and good whanau and other community support, it is proposed, low income levels will not necessarily lead to worse outcomes (Alcohol Advisory Council of New Zealand, 1999, p.19). Thus, it is hypothesised that "loss of cultural identity contributes to ill-health. Te Hoe Nuku Roa, a study being undertaken by the Department of Maori Studies at Massey University, has developed four cultural identity profiles: a secure identity, a positive identity, a notional identity and a compromised identity. In Te Hoe Nuku Roa cultural identity is conceived as an amalgam of personal perceptions, cultural knowledge and participation in Maori society. The concept of a secure identity rests on definite self identification as Maori together with involvement in, and or knowledge of, whakapapa, marae participation, whanau, whenua tipu (ancestral land), contacts with Maori people, and Maori language. The positive identity profile implies lower levels of involvement in Maori society, te ao Maori, and in the case of the notional identity, no access notwithstanding self-identification as Maori. A compromised identity, on the other hand, reflects non-identification as Maori, often despite quite considerable access to te ao Maori (Durie, 1996). Preliminary results suggest that a secure identity may afford some protection against poor health. At the 1996 Census, 15% of people who acknowledged some Maori ancestry, nevertheless identified themselves as non-Maori (TPK, 1998) and 19% of people of Maori descent indicated that they did not know the
name of their iwi (Statistics New Zealand, 1997). It has been asserted that “when identity is restored to a person, to a people, that negative conditions are arrested and health and self esteem is restored” (cited in Kotuku Partners, 1994, p.111).

Access to Health Services

Another contributor to ill-health could be disproportionate use of, or access to, health care (Kilgour & Keefe, 1992). Pomare et al. (1995) in Hauora: Maori standards of health III outline how Maori use health services differently than non-Maori, for example, by visiting a general practitioner less often. Health services also deliver services to Maori differently, for example, “Maori have excess mortality from diseases which ought not to be fatal” (p.159). The research Pomare et al. reviewed indicated that doctors were “consciously or unconsciously, being influenced by the patients’ ethnicity” (ibid., p.164) when making decisions about treatment. The health services have predominantly been managed and staffed by non-Maori and it is their cultural values and practices that govern behaviour in these settings. Thus, cultural differences between Maori and non-Maori have also played a part in lower use of health services by Maori. In more recent years, Maori have demanded greater attention to Maori health needs and recognition of Maori cultural values (ibid.).

Tobacco Control in New Zealand Historically Overlooked Maori

The New Zealand DoH began to disseminate tobacco related health education and public information in 1945 (Thomson, 1999). By 1967, Easton suggested it was apparent to health authorities that Maori were not responding to this information delivery (cited in Waa et al., 1997). However, Maori smokefree health promotion messages were not funded until 1984 (Reid & Pouwhare, 1991). Whilst smoking is estimated to cost the New Zealand health sector $82 million per year, only $11 million is spent on tobacco control (Health Funding Authority [HFA], 1999). What proportion of this was spent on activity targeting Maori was not calculated. In 1991, Reid and Pouwhare estimated that funding for Maori programmes had not exceeded $100,000 in any 1 year, less than .001% of the amount Maori smokers paid in tobacco tax. Since 1994, a number of new Maori focused initiatives have been funded.
Differential funding aside, some generic tobacco control policies have not achieved equitable outcome for Maori either. For example, the present Smokefree Environments Act, which provides for smokefree offices, does not equally cover blue collar workplaces, where Maori tend to be employed more than Pakeha (Waa et al., 1997). In the total New Zealand population, 32% of blue collar workers smoke (NRB, 1996).

**Prevention versus Treatment**

Tobacco control in New Zealand has been focusing “on getting the young and young Maori women, in particular not to smoke and not to develop regular smoking habits” (Te Ropu Hauora Tumatanui, no date). In addition to programmes focused on preventing the uptake of smoking, New Zealand now has:

legislated restrictions on smoking in shared offices, the public parts of shops and food preparation areas, public transport and eating places, a ban on tobacco advertising and tobacco sports sponsorship, on cigarette sales or gifts to under 18s, smokefree sponsorships of sport, and cigarettes less affordable than in most industrialised countries. (Laugesen & Clements, 1998, p.36)

In the past there has been “no consistent support for those who already smoke and who seek to give up” (Te Ropu Hauora Tumatanui, no date). PHC advice to the Minister of Health, in 1994, (PHC, 1994c) acknowledged that two-thirds of smokers would like to give up smoking, but positioned smoking cessation as a personal health service. It stated that:

With more than half a million smokers addicted to nicotine, Government cannot afford to provide cessation courses except to certain special groups. Smoking cessation clinics, no matter how effective, reach only a small proportion of those quitting smoking, and cannot be recommended as a general funding priority. (ibid., p.30)

Laugesen and Clements (1998) believe the social environment now favours quitting.

In 1999 the HFA five-year plan for funding tobacco control includes as one of five objectives, the encouragement and facilitation of quitting. The plan states “this is the area in which the HFA is envisaging major enhancements on its previous approach” (HFA, 1999, p.4). Planned initiatives include:

- Subsidisation of nicotine replacement therapy (to specific groups)
- Provision of a national 0800 smoking cessation telephone helpline
- Provision of more specific smoking cessation services for Maori
- Exploring running a mass media campaign with a smoking cessation theme
- Piloting smoking cessation contests
Further work with the Ministry of Health on legislative and taxation issues. (ibid.)

Ideally, purchasing decisions are based on a thorough review of the evidence for tobacco control interventions, as stated in the plan, it is important that the funding allocated to tobacco control "is used in the most cost-effective way" (ibid., p. 9). Evidence is graded with RCTs being considered the highest quality of evidence and the poorest quality would be "opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees" (Wilson, 1998, p.12). This has presented a problem for Maori, who because of relatively recent access to funding to develop Maori health interventions and similarly new entry into the field of research, have little "evidence" to support requests for funding.

The previous two sections have outlined some of the factors impacting on smoking in the social and whanau environment. The next two sections focus on the factors influencing smoking at the individual level.

SECTION FOUR: TE TAHĀ TINANA

Te taha tinana is the physical realm, thus this section reviews the biochemical effects of nicotine and physical effects of nicotine dependency and nicotine withdrawal. Measuring the severity of nicotine dependency is discussed. Other psychiatric disorders or chemical dependencies are considered under te taha tinana because of the potential chemical interaction with nicotine.

THE BIOCHEMICAL EFFECTS OF NICOTINE

It is beyond the scope of this thesis to detail the complex pharmacokinetics of nicotine (see Moolchan, Heishman, Pickworth & Henningfield, 1996 for a more detailed account), nevertheless some basic actions are useful to understanding nicotine's biochemical contribution to nicotine dependency. In small doses nicotine stimulates the central nervous system, affecting multiple changes in the body, for example, acute cardiovascular effects include increased blood pressure and decreased skin temperature (Ciba-Geigy, 1992). Nicotine is also known to stimulate glucose
utilisation (London et al, 1990) and suppress hunger (Ciba-Geigy, 1992), hence its use by smokers as a weight control device. At higher doses nicotine can stimulate respiration and increase cilia activity, but can also trigger bronchoconstriction (ibid.), effects associated with reported negative and positive effects on asthma. Nicotine is known to stimulate gastrointestinal motility and digestive secretion, which in higher doses can lead to nausea and vomiting (ibid.).

Despite these effects, some of which are experienced as useful and related to smokers’ reasons for smoking, it is the rewarding psychoactive effects of nicotine that underlie nicotine dependency. As explained by Fagerstrom (1994), nicotine translates into acetylcholine, one of the major neurotransmitters leading to increased activity in particular areas of the brain, for example, resulting in enhanced cognition and affect modulation. Nicotine indirectly blocks the reuptake of dopamine, a neurotransmitter associated with the powerful reinforcing experience involving stress adaptation, subjective euphoria and relief from the nicotine withdrawal syndrome (Williams, Sullivan & Arneric, 1994). Nicotine also effects brain levels of β-endorphin and growth hormone; and changes electroencephalographic (EEG) activity (Moolchan et al., 1996). Constant and prolonged use of nicotine leads to neuroadaptation in the brain, for example, establishing an increased number of brain nicotine receptors (ibid.).

Whilst people may become attached to smoking via the pharmacological dependence and development of tolerance to nicotine; learning or conditioning patterns can be powerful sources of attachment and habitual aspects can be strong sources of attachment (Miller & Rollnick, 1991, p.39). Actions associated with smoking, for example, smoke inhalation and oral and hand cues become important psychologically, as they come to signal the rewarding stimulant effect received from nicotine (Williams et al., 1994). In response to this signal the tolerance mechanism is activated, that is, metabolism of nicotine is initiated. Thus, even behavioural cues (belonging to the realm of te taha hinengaro) have a physiological (te taha tinana) parallel.

Cigarettes deliver small doses of nicotine (1-3 mg) which the smoker regulates both in choice of cigarette strength and dosage obtained per cigarette, for example, by depth of inhalation, allowing them to control the exact amount of nicotine taken
throughout the day (Stolerman, 1990). Whilst half the dose of nicotine is metabolised within about 2 hours, or faster in highly dependent smokers, by-products such as cotinine take about 20 hours to be eliminated (Ciba-Geigy, 1992). People, therefore, usually smoke at regular intervals, though they can tolerate an estimated drop of one third of their regular dose. By smoking efficiently, that is, inhaling deep and holding the smoke in longer, smokers can cut down to about 5-6 cigarettes a day and maintain the same blood nicotine level they would obtain from smoking a pack normally, so pharmacologically, heavy smokers have to reduce their smoking tremendously before they go in to withdrawals (Baker, 1996). Ceasing intake of nicotine altogether would result in more rapid withdrawal symptoms, the severity of which depends on the level of dependency.

**Withdrawal Symptoms**

As blood nicotine levels drop the central nervous symptom experiences depressant effects, the opposite of the stimulant effects smokers enjoy, that is, poor concentration, depressed mood, increased anxiety, fatigue, increased appetite, a fall in blood pressure and insomnia (Baker, 1996). In response, the brain signals a desperate need for rectification, which the smoker interprets as strong cravings for a cigarette. Many other symptoms, or variations of the above symptoms, are recorded in the literature including: tension, irritability, restlessness, sweating, gastrointestinal problems, sleep disturbance (Richmond, 1996) impatience, tremor, dizziness, anger and depression (Fagerstrom et al., 1997).

Severe withdrawal symptoms are indicative of high nicotine dependence and are associated with lower cessation rates (Fiore et al., 1996).

**Nicotine Dependency**

"Tobacco smoking is no longer regarded as just a habit." For most smokers (87%), tobacco use is a "drug addiction on par with other so-called hard drugs" (Fagerstrom et al., 1996, p.52). Addiction to tobacco is characterised by a dependency on nicotine (Fagerstrom et al., 1997) and the cigarette, cigar or pipe are simply nicotine delivery devices. The tobacco dependence process interferes and undermines

**SEVERITY OF DEPENDENCE**

Measuring severity of dependency can help identify those smokers who would benefit from extra assistance to quit. A number of measures have been developed, the most commonly used has been the Fagerstrom Test for Nicotine Dependence (FTND). Other measures in use at the initiation of this project, such as the Nicotine Dependence Syndrome Scale consisting of 30 Likert-type questions (Shiffman cited in Etter, 2000), were considered too lengthy for use in this study. Whilst, the FTND has been criticised for not covering dependence as it is defined in DSM-IV or in ICD-10 (ibid.), it's simplicity and size made it the most practical to use. The wide use of FTND in other studies increased potential for comparison across studies also.

**The Fagerstrom Test for Nicotine Dependence**

The Fagerstrom Tolerance Questionnaire was developed in 1978 to provide a short self-report measure of dependency on nicotine. Originally consisting of 8 items, it was later modified and shortened to a six item test (FTND) measuring: time to the first cigarette of the day, number of cigarettes per day, difficulty refraining from smoking in places where it is forbidden, which cigarette the smoker would hate most to give up, whether or not they smoke more in the morning than the rest of the day and if they still smoke when they are so ill that they are in bed most of the day (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991). Time to first cigarette and number of cigarettes per day are highly related to physiological measures of smoking, such as exhaled carbon monoxide (CO), whereas the other questions are behavioural indices.

Each item on the FTND is quantified as a binary yes/no or 0-3 scale resulting in a score totalling 0-10. Mean FTND scores, across nationally representative population samples of smokers, can range from 3.07 to 4.30 (Fagerstrom et al., 1996).
Fagerstrom et al. (1996) found male smokers recorded a higher average score than women on the FTND. Those who sought help for cessation also had higher FTND scores ranging from 5.15 to 6.55 suggesting that treatment-seekers are more dependent (ibid.). This may be one of the reasons why smokers in cessation clinics seem to do no better than smokers who quit on their own, as “it has been found consistently that those with higher dependence do less well in cessation programmes” (ibid., p.55).

Fifty three percent of the smokers in Broughton and Lawrence’s (1993) study admitted that they were addicted to smoking, with some women identifying nicotine as the element responsible for their addiction. In the study, the term addiction and habit were used interchangeably. Public understanding of the term addiction and acceptance of its application to smoking is relatively new, as evidenced by an increase in the number of smokers who view their own smoking as a form of addiction (77% in 1991 to 84% in 1996) (NRB, 1996). This trend was mirrored for Maori with 71% in 1991 viewing their smoking as an addiction, increasing to 90% in 1996.

Fourteen percent of New Zealand adults have a cigarette “right away” upon waking and a further 29% smoke within half an hour of waking (ibid.). There was no difference between Maori and non-Maori smokers, suggesting that lower quit rates among Maori “are not due to higher nicotine dependency.

**PSYCHIATRIC COMORBIDITY**

Psychiatric disorders that impact on smoking behaviour are discussed here, rather than in the next section on te taha hinengaro, to emphasise the biochemical contribution to the disorder, that is, introduced substances that have a psychokinetic effect, or internally sourced disruptions in psychokinetic processing.

Significant associations between certain psychiatric disorders and cigarette smoking behaviour exist. (Covey et al., 1994, p.222)

Not only do people with schizophrenia, dysthymia, depression, generalised anxiety disorders, alcohol dependence and other drug addictions, smoke more, research has shown a consistently adverse relationship between these disorders and quitting (Covey et al., 1994; Dale et al., 1997; Fiore et al., 1996). People with
depression may also experience more withdrawal symptoms (Gritz et al., 1995). As well, nicotine withdrawal can exacerbate a comorbid condition (Fiore et al., 1996).

There have been suggestions that people with these disorders smoke as a form of self medication (Covey et al., 1994). Other studies have identified a genetic predisposition for addiction to nicotine. For example, a study of 1566 female twins showed “that shared genes, rather than a common environment, more convincingly explained the relationship between major depression and cigarette smoking” (cited in Covey et al., 1994, p.227).

**Depression**

Smokers who have depression have a higher risk (nearly 20-fold in heavy, depressed smokers compared with never smokers without depression) of smoking related cancer, possibly due to reduced immune function in depression (Tanskanen, Korhonen, Uutela, Viinamaki & Puska, 1996). This could be another contributor to greater risk of smoking related illness in women as the incidence of depressive and anxiety disorders in women is higher (Covey et al., 1994).

In New Zealand, about one in seven people (one in five women) will develop a depressive disorder some time in their lifetime (NACHD, 1996). There is some evidence suggesting Maori suffer higher rates of the disorders relevant to this discussion or are disproportionately admitted to psychiatric hospitals for schizophrenia, alcohol dependence or abuse and drug dependence or abuse (Pomare et al., 1995).

Even among people who may not meet the strict criteria for a clinical diagnosis of depression, depressive symptoms are related to higher rates of smoking (Tanskanen et al., 1996). Tanskanen et al. (ibid.) suggested widespread light depression rather than severe depression among lots of smokers.

Other researchers use the term “negative affect” which has been implicated as a reason for failure at smoking cessation attempts and as the most common antecedent of a smoking relapse (Covey et al., 1994). Only about 25% of relapses occur when smokers are happy, the rest occur when former smokers are anxious or sad (Romand, 1995). Looking at withdrawal symptoms, it could be argued that nicotine withdrawal
is largely a negative affective experience. Baker (1996) presents results from a study that showed the Positive and Negative Affect Scale as effective at predicting smoking cessation outcome. He further suggested, that the smoker associates negative affect with nicotine withdrawal, so that even 2 months after quitting any negative affect may be interpreted by the smoker as nicotine withdrawal, hence some smokers reporting longer term experience of withdrawals.

**Alcohol and Smoking**

Broughton and Lawrence (1993) found an "overwhelming association of smoking with the consumption of alcohol" (p.35). Most of the participants in another Maori study, focusing on cannabis use, reported concurrent use of alcohol, tobacco and cannabis (Te Runanga o Te Rarawa, 1995). In relation to multiple drug use, 45% of respondents in the *Drugs in New Zealand* survey had used alcohol only in the last year; 19% used both alcohol and tobacco; 8% used alcohol, tobacco and cannabis and a further 5% used other drugs as well (Field & Casswell, 1999).

Some researchers have proposed that people use tobacco when they drink to counteract alcohol’s depressant effects with nicotine’s stimulant effects (Shiffman & Balabanis, 1996). In addition, alcohol may release inhibitions that restrain smoking. Whilst, psycho-social cues in drinking environments may account for increased smoking, there is evidence that alcohol has a direct biochemical effect increasing tobacco consumption. In laboratory studies, smokers increased smoking in response to alcohol consumption. Single doses of alcohol resulted in either increased number of cigarettes smoked or a change in smoking method to increase nicotine uptake (ibid.).

Despite there being a significant association between alcoholism and ever smoking for both genders independent of major depression and generalised anxiety (Covey et al., 1994) having stopped drinking, male smokers with a history of alcoholism but no history of major depression were equally likely to stop smoking as non-alcoholic males.
Cannabis

The smoking of cannabis compounds the risk of smoking related disease, particularly respiratory diseases and lung cancer (MoH, June, 1996). A 1998 study found 18% of Maori (24% Maori men and 13% Maori women) considered themselves current users, though only 13% had used cannabis in the last 30 days (19% men, 8% women). About one third (32%) of Maori men and one in five (21%) Maori women reported using cannabis within the previous 12 months (Dacey & Moewaka-Barnes, 1999). In comparison, total New Zealand figures for cannabis use in the past 12 months was 20% (20% men, 10% women) stating they were current users (Field & Casswell, 1999).

Caffeine

Heavy coffee use is associated with smoking (Tanskanen et al., 1996) as the drugs in tobacco and coffee interact to increase the biochemical effect, that is, the user gets a better hit from both by having them together (Moolchan et al., 1996). Upon quitting smoking, plasma caffeine concentrations can increase 250% to toxic levels resulting in symptoms of caffeine overdose (ibid.). Caffeine toxicity symptoms can be overlooked or mistakenly attributed to nicotine withdrawals (ibid.).

SECTION FIVE: TE TAHĀ HINENGARO

This section, te taha hinengaro, reviews the psychological factors influencing quitting, such as motivation and self-efficacy. Social support for quitting is discussed here rather than under te taha whanau as it appears to function as a motivating factor. Relapse is included in this section as the literature emphasises psychological reasons for returning to smoking.

Motivation

All behaviour is motivated (Bell, 1997). In the context of smoking cessation, Miller and Rollnick (1991) define motivation as:
The probability that a person will enter into, continue and adhere to a specific change strategy. (Miller & Rollnick, 1991, p19)

It is “a state of readiness or eagerness to change,” a state Miller and Rollnick (1991) say can be influenced. Motivational interviewing is a technique developed to facilitate movement through the stages of change and is particularly suited to cessation assistance. The Transtheoretical Stages of Change Model, introduced earlier in this chapter, is the principal model to develop out of theories of motivation, and will be used throughout this thesis for analysing the quitting process.

Low motivation, that is, having few reasons to stop smoking, has been associated with lower cessation rates (Fiore et al., 1996).

**Reasons for Stopping**

International research shows that health is the most commonly cited reason driving smokers to quit (Glasgow, Bowles, Lichtenstein & Strycker, 1991). In a study by Hymowitz et al., (1997) 91% of respondents cited health as a reason for quitting. After health, reasons for quitting included expense (60%), concern about exposing others to secondary smoke (56%), and wanting to set a good example for others (55%).

In local research by McClellan (1998) the three most common reasons to quit smoking were: health, with smokers’ cough and asthma being the most frequently mentioned health-related conditions; out of deference to non-smoking significant others; and thirdly, the cost of cigarettes. Over half (53%) identified the influence and pressure from significant other/s as the most important critical trigger to their having quit smoking. Other triggers for quitting included watching relatives or friends die from smoking-related illnesses and the increasing pressure on smokers to quit resulting from improved knowledge about the effects of smoking on health, and changing societal attitudes towards smoking.

One in three Rahuora (Murchie, 1984) women who had given up smoking, gave up for health reasons. An additional 10% gave up on medical advice to do so. Other reasons for quitting included pregnancy, expense, social pressure and fitness. Broughton and Lawrence (1993) found Maori women wanted to quit smoking for health reasons (42%) and because of the expense (32%). Ex-smokers who had quit
cited health reasons (46.5%) also. About 10% said they were influenced by family and friends to quit. Durie et al.’s (1996) study of kaumatua found that those who had given up smoking in the past cited cost, poor health and medical advice as reasons for stopping smoking.

**SOCIAL SUPPORT**

Perceived social support, that is, believing others care, approve and are willing to help exerts physiological aid, for example, by reducing the strength of the adencordacoid response to stress. Psychologically support enhances coping efforts, and behaviourally social support facilitates participation in new behaviours (Hillrice et al., 1996). Social support is discussed here to emphasise its role as a psychological coping mechanism and motivating factor.

The role of support to stop smoking from family, friends, fellow smokers and work colleagues has been investigated by, among others, Goldsteine and Volozh (1995) who found the most important source of advice to stop smoking was from the family (46%). Hillrice et al., (1996) found differing effects of positive and negative support over time. For example, positive support was a significant predictor of quitting at 1 year and negative support was predictive of not quitting at follow-ups at 1, 6 and 12 months. Naturally occurring support from partners for individuals trying to quit has been found to be an effective aid to cessation. Perhaps this is why divorced, separated or single men and women sometimes record lower quit rates (ibid.). Particularly, the level of smoking specific partner support during the 8-90 days post-cessation was predictive of relapse, suggesting that factors that control relapse vary depending on the time since cessation (Gulliver et al., 1995). Smokers married to a non-smoking spouse were more successful in stopping smoking (Dale et al., 1997). Women seem to value and benefit from social support more so than men. Emphatic support (for example, encouragement and listening) has been rated as more helpful than instrumental support (for example, suggesting alternatives to smoking). Women in a smoking cessation programme which emphasised social support achieved higher quit rates than women in a self-management control group (Gritz et al., 1995).

Social support is affected by other motivating factors, for example, the presence of children or ill-health in the smoker, which may prompt others to exert
greater negative support for continued smoking (Hillrice et al., 1996). Hillrice et al. (1996) concluded that more research is needed to examine the quitting process to determine how one's social network can best be used to facilitate smoking cessation and continued abstinence.

How the whanau helps or hinders people’s efforts to stop smoking is particularly relevant for Maori. Prior to European colonisation, the whanau (extended not nuclear) was the basic unit of society, taking precedence over individualism. Whilst, “it cannot be assumed that whanau experience will be uniformly positive” (Durie et al., 1996, p.47), some Maori still enjoy close whanau relationships, typified by reciprocal involvement. Thus, in many health policy documents the whanau has been acknowledged as playing a central role in the wellbeing of Maori individually and collectively and thus being an important site of delivery for public health promotion and support (MoH, 1998).

Maori participants in McClellan’s study (1998) who attempted quitting complained of “feeling alienated,” “socially cut off” and “left out” when so many of their friends, relatives and work colleagues continued to smoke. Broughton and Lawrence’s (1993) participants also found quitting difficult around other people who smoked. Fourteen percent took up smoking again because they were always surrounded by smokers. Of the ex-smokers in the study, about 10% stopped due to the influence of family and friends and 10% cited family influence as a factor that eased the quitting process for them. Only one woman actually cited whanau support as a method for quitting smoking.

Social support plays an important role in buffering the effects of stress (Gritz et al., 1995), a frequently cited reason for continued smoking (Nicther et al., 1997) and relapse to smoking (Gulliver et al., 1995).

**SELF-EFFICACY**

Having many reasons to quit and high motivation to do so is not sufficient to bring about success however, partly because change is a process rather than a single event (Bell, 1997). It may be that the skills needed to bring about change are different from the skills and strategies required to maintain change (Miller & Rollnick, 1991).
A further important ingredient is faith or belief that change is possible and sustainable, that is, self-efficacy.

Gulliver et al. (1995) found that self-efficacy can predict success at quitting (Dale et al., 1997) and belief that cessation would be maintained was a constant predictor of relapse over time also. Miller and Rollnick (1991) define self-efficacy as “a person’s belief in their ability to carry out or succeed with a specific task” (p.34) or as Reid and Pouwhare (1991) said it is “our self confidence that we can do it” (p.60). Perceived inability to quit, that is, low self-efficacy is another factor associated with lower smoking cessation rates (Fiore et al., 1996).

Not only is the smoker’s self-efficacy important to their success at quitting, significant others’, such as the cessation therapist, belief in the smoker’s ability to change can also be a significant determinant of outcome (Miller & Rollnick, 1991).

UNDERSTANDING RELAPSE

A common sentiment expressed throughout Broughton and Lawrence’s (1993) research was that:

Giving up smoking was the easy part, staying that way was the hard part. (p.109)

Numerous studies have tried to identify factors that can predict quitting success and likelihood of relapse. Hillrice et al., (1996) found factors affecting relapse, or failure to initiate quitting in the general population, were social support, age, education, marital status, gender and exposure to others smoking inside and outside the home. In another study, Dale et al., (1997) found that starting to smoke at a younger age, a previous quit attempt of less than a year, and counsellor rating of severe nicotine dependence were factors significantly associated with continued smoking. To add to this list are: income, alcohol intake, daily cigarette consumption, time to first cigarette in the morning, type of cigarette smoked and strength of desire to stop smoking (Hymowitz et al., 1997). “Marijuana smoking and concern about weight gain have been shown to have a negative effect on ability to quit” (Gourlay, 1994). Individual studies could lead to many more factors appearing to predict quitting success. Meta-analyses, such as that conducted for the U.S. smoking cessation guidelines which based its recommendations on more than 300 published
peer reviewed RCTs, provides a stronger indication of variables associated with lower cessation rates:

- High nicotine dependence
- Psychiatric comorbidity, particularly depression, schizophrenia, alcoholism, other chemical dependency
- Low motivation
- Low readiness to change
- Low self-efficacy
- Environmental risks, for example, other smokers in the home/workplace
- High stress levels. (Fiore et al., 1996, p.41)

Rather than identifying factors predictive of quitting, local studies have leaned towards more descriptive accounts of situational triggers that lead ex-smokers to return to smoking. Nearly all (95%) of the 62 ex-smokers in McClellan’s study (1998) identified negative consequences arising from their decision to quit smoking. These were weight gain (59%), difficulty coping with stressful or difficult situations (27%) and having to avoid friends and colleagues who smoked or smoking situations (20%). Very little follow-up or practical assistance was cited as a factor undermining ex-smokers attempts to maintain abstinence (ibid.).

**Difficulty Coping with Stress**

In addition to there being factors that motivate people to stop smoking, there are psychological factors that motivate people to continue smoking, for example, having a lack of alternative coping mechanisms. When people use smoking as a means of coping it establishes a strong psychological contribution to dependence on nicotine (Miller & Rollnick, 1991).

Success at quitting partly depends on being able to decrease or cope with stress, which Reid and Pouwhare (1991) acknowledge is difficult when so many stressors are external and outside an individual’s control (p.60). Whilst, only 7% of the women in Broughton and Lawrence’s (1993) study said stress was a reason for their continuing to smoke, 13% cited stress as an occasion when they were likely to smoke more and 28% cited stress as a trigger for their relapsing to smoking. A further 4% of smokers said they continue smoking for the relaxing effect, which was distinguished from relief from stress.
The *Rapuora* study reported Maori women’s use of smoking as “an alternative to tranquillisers” (Murchie, 1984, p. 61). It has been proposed that the tobacco industry exploit imagery that supports the association of smoking with relaxation and fosters smoking as a form of self medication (Nechter et al., 1997). Stress is cited as a reason for starting smoking (Broughton & Lawrence, 1993) which supports that children learn the “benefits” of smoking long before they experience the actual physical effect of nicotine themselves. Women, more than men, are noted for using smoking in high arousal situations as a means of reducing tension, emotional discomfort or stress (Gritz et al., 1995), what Solomon and Flynn (cited in Gritz et al., 1995) call a palliative coping behaviour. That is, women tend to use coping strategies, which alter emotional arousal but leave the stressful situation intact, whereas men are more likely to use active coping strategies that remove the source of stress.

**Weight Gain**

A consistent finding in smoking cessation research is that “many smokers (especially women) are very concerned about their weight and fear that quitting will produce weight gain” (Fiore et al., 1996, p.75). The guidelines state that the majority of smokers who quit smoking will gain some weight, apparently due to both increased intake (for example, of food or alcohol) and metabolic adjustments. Women tend to gain slightly more weight than men do, and for both sexes people under 55yrs and heavy smokers tend to gain more weight. Some evidence suggested that intensive dieting might undermine the attempt to quit smoking (ibid.).

**SECTION SIX: TE TAHA WAIRUA**

This section reviews the literature for reference to the impact of smoking on wairua, that is, the spiritual realm.

Traditionally smoking was likened to food and therefore considered noa. Thus wherever it was inappropriate to have food, it was inappropriate to smoke, for instance in an urupa or wharenui (Broughton, 1996). There are recorded incidents of tobacco being used as an agent of makutu and to whakanoa (remove tapu).
Because of the interdependent enmeshed relationship between wairua, tinana, hinengaro and whanau, manifestations of dis-ease in one aspect, for instance, in the physical body, can be expected to have concurrent manifestations in the other aspects. Aetiology, that is, the cause of illness, may originate in any one or more aspect. Thus, people who have not relinquished Maori beliefs, particularly during times of illness, may turn to explanations of illness based on a possible breach of tapu (Durie cited in NACHD, 1996).

Minhinnick’s, Health Through the Marae programme, includes a smokefree component based on this Maori understanding of illness and health. His programme teaches that smoking breaches basic principles of tikanga, as smoke is consumed through the breath which is tapu, but it is a form of food (kai paipa) which is noa (TPK, 1995).

In a study on cannabis use among Maori, participants expressed beliefs that “when you are stoned your wairua vacates your body and without your wairua you are spiritually dead” a state that leaves “them vulnerable to other wairua” (Te Runanga o Te Rarawa, 1995, p.39). Presumably this consequence would result from the use of any psychoactive substance, including nicotine. One participant in the study attributed mental health symptoms experienced by cannabis users, to the use of cannabis grown on whenua tapu, sacred land.

Today at a policy level, recognition of te taha wairua translates into acknowledgement of a spiritual aspect and “the practice of tikanga Maori in general” (MoH, 1998, p.4). In this way, wairua is subsumed by the term culture and the term “culturally appropriate” is sometimes read as attending to te taha wairua.

**SECTION SEVEN: EFFECTIVE MAORI HEALTH SERVICES**

This section presents a number of overarching principles of health service delivery that can improve effectiveness for Maori. In the absence of evaluations of Maori smoking cessation programmes, information has been gleaned from studies looking at the effectiveness of Maori health promotion programmes, and reports on health and disability services. Three themes emerged from the literature:

- The centrality of culture
• The support of whanau and the wider community; and

• Access.

Some international studies suggest these themes have relevance for smoking cessation interventions. For example, one study on improving efficacy of smoking interventions among racial and ethnic minorities, concluded that recruitment, programme participation and retention difficulties can result from a failure to understand or prepare for cultural socio-health conceptions and practices; structural barriers to participation; and, community support (King et al., 1994).

THE CENTRALITY OF CULTURE

The tenacity of Maori smoking rates has been blamed on the mono-culturalism of tobacco control measures in the past (Reid & Pouwhare, 1991). That services are culturally appropriate is an often heard demand. Greater problems for Maori in particular areas, for example asthma, are explained by way of poor access to appropriate health care (Wairarapa Maori Executive et al., 1992). Broughton and Lawrence (1993) assert that “prevention and health promotion programmes about smoking must be aimed specifically at Maori people. This means they must be culturally appropriate and acceptable” (p.110).

A number of studies have identified health delivery strategies perceived to be successful by Maori. It has been suggested that programmes:

• Work from within the Maori value system, that is, by accommodating holistic Maori perspectives that recognise te taha wairua; te taha hinengaro and incorporate a whanau focus (Forster & Ratima, 1997)
• Adopt kaupapa Maori (Wairarapa Maori Executive et al., 1992)
• Recognise traditional boundaries and limitations (TPK, 1994a)
• Be delivered in accordance with tikanga Maori (Kotuku Partners, 1994, p.xvii); and
• Reflect Maori needs and aspirations (Forster & Ratima, 1997) for example, by addressing prevention and treatment (Kotuku Partners, 1994, p.xxv).
In addition to the process of service delivery, the content of programmes, for example, the messages, images, language, vehicle and role models (Forster & Ratima, 1997; Ellis, 1995), should be: identifiably Maori; relevant; with positive effects for Maori self-esteem (Ropiha cited in Ellis, 1995). Following these guidelines, programmes would automatically allow for variations in approach from marae to marae, hapu to hapu and iwi to iwi (Forster & Ratima, 1997).

**The Health Practitioner**

Whilst, there is evidence that all types of clinicians, for example, general practitioners, nurses, dentists, psychologists, pharmacists, and many others can effectively deliver smoking cessation (Fiore et al., 1996), the use of Maori practitioners when delivering to Maori is preferred. Durie (1984) stated that members of one culture are likely to be much less effective when dealing with members of another, though psychotherapeutic outcomes can be improved if the clinician acknowledges the cultural identity of the client in assessment and treatment procedures (Paewai cited in Moeke-Pickering, 1996). In another study Maori service providers were seen to be the most appropriate group to promote the smokefree kaupapa to rangatahi (Rohipa cited in Tunks, 1996).

**WHANAUNGATANGA**

The second theme arising from the literature was that programme effectiveness for Maori was improved by the support of whanau and the wider community. Whanau can be interpreted in its broadest sense here, to include the desire of Maori to have better community participation in health (DoH, 1984). Therefore, Maori smokefree strategies should use a group approach that taps into whanau support (ibid.). People and agencies with relevant expertise should be consulted, to engender support for the kaupapa (Walters, no date) and to source practical support and resources (Forster & Ratima, 1997). For example, it is believed that smokefree policies at an iwi level would reinforce the promotion of smokefree homes delivered at the whanau level (Te Pumanawa Hauora ki Te Whanganui-A-Tara, 1993). Consultation and participation needs to be extended to the target audience also (Ellis, 1995) to increase their acceptance of the service.
ACCESS

The third theme was about the more practical aspects of access to health services. Services need to be geographically accessible to the intended audience, hence one of the recommendations from Hui Whakaoranga called for the establishment of more marae based community initiated projects (DoH, 1984). The hui also recommended flexibility and choice in the range of services for Maori and the equitable allocation of resources. Recognition of Te Tiriti o Waitangi and the status of Maori as tangata whenua (Walters, no date) would be a step toward this.

The Wairarapa Maori Executive et al. (1992) acknowledged that “chronic lack of funding has been a major problem” but still “many interesting programmes have been developed, including marae-based health centres closely associated with iwi organisation and development.” “Significant Maori management” (ibid., p.17) and more Maori health workers generally would improve access to health services for Maori (Kotuku Partners, 1994). A lack of resources and leadership has been cited as preventing tobacco education campaigns from reaching Native Americans also (Hodge cited in Flannery et al., 1995).

SECTION EIGHT: CONCLUSION

This chapter has outlined the Maori smoking problem from a public health perspective. Section two presented an historical context for the consequent high death rates among Maori smokers. Smoking prevalence rates for Maori remain high despite reported readiness to quit, but then cessation assistance has been minimal. Section three reviewed the literature on the role of the whanau and social environment in the initiation and maintenance of smoking. Other determinants of health, such as low socio-economic status, highlighted some barriers that could be undermining individual attempts to quit. Section four reviewed the physiological basis for smoking and effects of quitting. Severity of nicotine dependency stood out as a primary predictor of quitting success. Further barriers to quitting were identified, such as comorbidity. Section five reviewed the psychological factors that contribute to quitting, such as motivation and self-efficacy which was indicated as a key predictor of quitting success. Psychological factors that may undermine abstinence from
smoking were poor ability to cope with stress and fear of weight gain. Section six reviewed the possible influence of te taha wairua on quitting. Finally in section seven, the literature was reviewed for guidance on the delivery of effective Maori health services. The three main themes that emerged suggested services need to be Maori-centred, recognise and facilitate whanau and community resources and above all ensure they are accessible.
CHAPTER FOUR

Method

SECTION ONE: INTRODUCTION

This chapter outlines the method used to conduct the study outlined in this thesis. In the next section the aims of the project and hypotheses derived from the review of literature on smoking are outlined. The research design is described in section three. Criteria and process for selecting and retaining participants is explained in section four. Section five outlines how the data was collected by describing the interview procedure and content of the questionnaires. The process for analysing the quantitative and qualitative data is then set out in section six. Finally, section seven discusses the plan for dissemination of the results.

SECTION TWO: AIMS

This section presents the objectives of the study, followed by an explanation of the process used to conduct the literature review. Finally, the hypotheses derived from the literature are listed.

The three main objectives of the research were to:

- Compare Maori smokers undertaking a Noh Marae smoking cessation programme with Maori smokers attempting to stop smoking without formal assistance
- Document the smoking cessation process for Maori; and
- Identify predictor variables of quitting success for Maori smokers.
**LITERATURE REVIEW**

The first task of the study was to conduct a review of local literature on indigenous research, kaupapa Maori research and Maori smoking; smoking in New Zealand and international literature on smoking cessation.

In addition to accessing the University of Auckland AUCAT reference database, my own collection of Maori health reference material was utilised. Copies of reports on Maori health research projects are particularly difficult to source, as they are rarely disseminated through academic channels and no central clearing house for Maori health research exists. Networking and sharing with other researchers at local conferences served to highlight relevant literature. Te Ropu Rangahau Hauora a Eru Pomare bookshelves and HRC files were searched for copies of relevant unpublished Maori health research.

As over 400 references were reviewed, relevant extracts from the literature were entered in to NUD*IST for sorting into categories.

**HYPOTHESES**

The review of literature on smoking (set out in Chapter Three) gave rise to the following hypotheses regarding the differences or lack thereof between the comparison groups:

1. NMSCP participants would achieve a higher cessation rate than unaided quitters.
2. Unaided quitters would relapse to smoking sooner than NMSCP participants.
3. NMSCP participants would make more positive changes to their smoking behaviour than unaided quitters.

A number of hypotheses about predictor variables were generated from the reviewed literature, as follows:

4. Participants with high self-efficacy would achieve higher cessation rates than participants with low self-efficacy.
5. Participants with a low nicotine dependency score would achieve smoking cessation at higher rates than participants with a high nicotine dependency score.
6. Participants with a low nicotine dependency score would make more positive changes to their smoking behaviour than participants with a high nicotine dependency score.

A further hypothesis was made given the emphasis on the importance of whanau for Maori detected in both the literature reviewed in Chapter Two and Three, that is, that:

7. Smoking cessation among whanau and friends of participants who achieved cessation would be higher than cessation among whanau and friends of participants who did not stop smoking.

**SECTION THREE: RESEARCH DESIGN**

This section discusses the study design. The "superiority" of RCTs is considered. The nature of NMSCPs is then described. Given that a RCT was not the preferred design, discussion turns to the issue of biased sampling and how this was minimised. The decision to follow-up at 3 months is then explained and finally the evaluation focus is clarified.

A longitudinal quasi-experimental design was chosen for evaluating the effectiveness of the NMSCP. Two groups were interviewed as part of the study. An experimental group of NMSCP participants (n = 26) and a control group of unaided quitters (n = 104). Participants were interviewed prior to their quit attempt and again on average 4 months later. Both quantitative and qualitative data was collected.

**RANDOMISED CONTROLLED TRIALS**

Reviewers of smoking cessation trials consider "that randomised controlled trials are the clearest scientific method for judging comparative efficacy" (Fiore et al., 1996, p.11). For this study, a RCT was not possible given use of naturally occurring NMSCPs. Only three providers of NMSCPs were geographically accessible to me and they ran NMSCPs sporadically, depending on demand and ability to raise funds. The pool of potential course participants would not have been large enough to randomly assign some to a NMSCP. A randomised controlled trial that allowed some
participants to receive smoking cessation assistance while others missed out would be considered unethical, especially where participants might be at serious risk of premature death from a smoking related illness (Glover, 1996). This position is shared by mainstream critics of RCTs that state that “ethical and political concerns can preclude random assignment in favour of assignment by entitlement, need, merit, or order” (Shadish, Cook & Leviton, 1991). Other criticisms of RCTs are equally applicable here, that is, that randomized experiments “are only relevant to causal forces that can be manipulated directly or through assignment of subjects” (Shadish et al., 1991). NMSCPs “evolve with considerable local discretion” (Shadish et al., 1991, p.465).

It would not be culturally appropriate to impose a RCT design on a tupuna programme such as the NMSCP described next, which is another reason for choosing a quasi-experimental design. Imposition of randomisation would have changed the NMSCP at a philosophical level, undermining the opportunity to extrapolate the results to other NMSCPs.

**NOHO MARAE SMOKING CESSATION PROGRAMMES**

The NMSCPs accessed for this study were based on Kati Te Kai Taru, a noho marae smoking cessation programme developed in Taranaki. Described as “a tupuna programme” it is “open to the wairua to do the clearing and the healing” (M. Wano, personal communication). Some essential components of the NMSCP can be described using Te Whare Tapa Wha:
| **Table 3** |
|---|---|
| _Te Whare Tapa Wha Components of Noho Marae Smoking Cessation Programme_ |

<table>
<thead>
<tr>
<th><strong>Wairua</strong></th>
<th><strong>Tinana</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marae</td>
<td>Complete withdrawal of nicotine</td>
</tr>
<tr>
<td>Karakia</td>
<td>Detoxification diet</td>
</tr>
<tr>
<td></td>
<td>Physical activity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hinengaro</strong></th>
<th><strong>Whanau</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education sessions</td>
<td>Whakawhanaungatanga</td>
</tr>
<tr>
<td></td>
<td>Support</td>
</tr>
</tbody>
</table>

**Wairua** the smokers stay on a marae. Proceedings are conducted in accordance with the tikanga of that marae. This includes, a powhiri (traditional welcome), karakia (prayers), me te poroporoake (and farewell).

**Whanau** the smokers and workers live together as whanau for the duration of the hui. Support is provided by workers and others, which may include whanau of the smokers. The smokers are encouraged to support each other.

**Tinana** a detoxification diet is a central tool of the programme. Physical activity and physical craft work is especially important in the first few days of the hui. This may include, exercise, dance, massage, visits to wahi tapu, kohatu, waiata etc.

**Hinengaro** the mind is nourished with knowledge about smoking, nicotine withdrawal and recovery symptoms, and relapse prevention skills.

Programmes offered by different providers can differ widely in terms of content. This flexibility allows for local hapu and iwi to develop the programme content to reflect their priorities and tikanga. In Taranaki, for example, the participants are taken up Taranaki maunga (Mount Taranaki). In Rotorua, participants spend more time at nga wha (the hot pools). Content is dependent on the availability and skills of the facilitators, other whanau that come in to help and guest speakers (see Appendix C for a list of potential NMSCP content). The hui are limited to no more than 15 participants. Men and women can attend. Visitors are not allowed in the first 3 days and it is advised that children do not attend the NMSCP. Sometimes there is a cost, for example, $20 per day. Support groups are established to provide ongoing support for up to 2 years post cessation (Whata, 1996).
**REduCInG BiAS In saMPliNG**

Quasi-experiments are criticised for relying “on the frequently used design requiring pretest and post-test data from groups that are initially nonequivalent” (Shadish et al., 1991). Small variations from community to community may have existed depending upon the amount of smokefree health promotion activity previously delivered there. To offset the likelihood of difference existing between those who could access a NMSCP and those without access to a NMSCP, unaided quitters were drawn from a range of communities including those where NMSCPs were held.

It would have been expedient to do as much of the data collection in Auckland (where I lived) as possible, but that would have reduced the comparability between the NMSCP group and unaided quitters. Therefore, selection was kept as heterogeneous as possible, so inferences were “not restricted to a small range of settings and persons” (Shadish et al., 1991, p.466). There is some evidence that similar results can be achieved despite different entry points for participants, for example:

Meta-analyses that involved subjects seeking out treatment ("self selected") yielded results similar to meta-analyses in which subjects received treatment without taking steps to seek it, such as when it is an integral part of a health care visit ("all-comers"). (Fiore et al., 1996, p.13)

The majority of unaided quitters self selected to take part in the research, in that they responded to an advertisement. It could be argued that approaching a stranger about smoking cessation requires greater commitment versus being encouraged and supported to attend a NMSCP by trusted programme staff. NMSCP participants, however, were making a greater commitment in terms of time away from home and sometimes work. It cannot be assumed that unaided quitters would not have made the same commitment if the option was available to them.

**TIme To Follow-up**

The Fiore et al. (1996) used the number of abstinent patients contacted at follow-up as their measure of treatment success. Five months was chosen to balance the need for a large pool of studies for meta-analyses and the desire to examine only clinically important outcomes, that is, long term cessation. New Zealand purchasers
and users of tobacco control related research, usually require a 6 month follow-up as a minimum with an additional follow-up at 12 months (for example, Young et al., 1999). For this study three follow-up interviews were originally planned: at 3 months, 6 months and 12 months. Time and resource constraints prohibited such a large study being undertaken as a Doctorate project. Only one follow-up at 3 months was realistic. A number of studies reviewed by Marmelstein et al. (1992) found that most relapse occurs within the first 3 months. DiClemente (personal communication, 1998) supported one follow-up at 3 months, as he said, most relapse occurs within that time and relapse after 6 months is often offset by repeated cessation among participants who relapsed earlier. He called this a "recycling effect."

**Evaluating Outcome Not Process**

As the focus of this study was on determining the efficacy of the NMSCP, it conforms more to the format of an outcome evaluation rather than a process evaluation which would study in more depth the practice and content of the NMSCP.

As Cronbach (cited in Shadish et al. 1991) said:

> Experiments probe causal connections between manipulanda and outcomes, but do not explain treatment effects. Causal explanation requires describing program process and identifying necessary and sufficient conditions under which causally efficacious program components influence components of outcome measures. Such full explanation specifies the factors that must be present if an intervention is to be effective when transferred elsewhere. (p.464)

Discussions with NMSCP staff, review of NMSCP material and programme observation assisted with the task of describing the intent and content of the NMSCP. This study, however, does not attempt to determine efficacy of the various NMSCP components.

**Ethical Approval**

Ethical approval for the study was given by the University of Auckland Human Ethics Committee, provided consent was obtained from all participants.
SECTION FOUR: PARTICIPANTS

In this section aspects of the research regarding the participants is presented. That is, how many participants were required, the criteria for selecting and recruiting participants and the process for keeping them committed to a second interview.

SAMPLE SIZE

Consultation with community groups led to expectations that only four NMSCPs, serving no more than 12 smokers at a time, were likely to be run within the research period. Thus, the sample of NMSCP participants was not likely to be larger than 40. A biostatistician was consulted to determine how many unaided quitters were required. Based on anecdotal reports of NMSCP quit rates, ranging upwards from 50% quit at 2 years, a quit rate of 40% for the NMSCP study group was estimated. A further assumption was that only 8% of the unaided quitters would quit. Given an experimental group size of 40, at 5% significance and 80% power, it was determined that a control group size of 80 would be sufficient to detect the expected difference between the groups. Attempts were made to over select to allow for participant attrition.

Only one of the original three community groups who had intended running NMSCPs within the timeframe of the research did so. Te Kohao Health of Hamilton ran two NMSCPs with smaller numbers of participants than expected. Te Kohao Health Noho Marae smoking cessation facilitators were also involved in the provision of the first NMSCP run by Te Korowai Hauora o Hauraki who ran two NMSCPs within the timeframe of the research, also with less than expected numbers. Thus the maximum number of NMSCP participants was recruited for the study, but at 26 fell short of the target sample of 40. The biostatistician was revisited to confirm that the changed sample size did not unduly effect the power to detect differences (A. Stewart, personal communication, 1996).

One hundred and four unaided quitters were recruited. Nineteen of the unaided quitters were lost to follow-up, leaving 85 complete data sets in the unaided quitters group. None of the NMSCP study group were lost. The final sample, therefore, consisted of 130 Maori smokers.
INCLUSION CRITERIA

To be included in the research participants needed to be aged 16 or over, self-identify as Maori and as a smoker intending to give up. Participants lived in the geographical region to be covered by the study, that is, from South Hokianga across to Whangarei, down to Paeroa across to Te Awamutu, encompassing the greater Auckland region (with a radius ranging from 131k’s to 280k’s).

RECRUITMENT PROCEDURE

The research plan was presented via seminars to prospective participating community groups, including Te Kohao Health in Hamilton, Korowai Aroha in Rotorua, Te Korowai Hauora o Hauraki in Thames and Ringa Atawhai in Northland. All Maori enrolling on a NMSCP run by them during the period of the research were invited to participate in the research. Participants in Thames were recruited at a NMSCP preparation hui preceding their enrolment on to the programme. This was an information hui delivered as part of the NMSCP and not specifically held for the purposes of this study. Participants in other areas were recruited by NMSCP staff. Some participants who decided not to proceed with the NMSCP were recruited as unaided quitters.

A range of methods was used to recruit unaided quitters (Appendix D). Advertisements were placed in the public notices section of newspapers. Feature or news articles were run in a few papers and newsletters. Notices (for example see Appendix E) were placed on notice boards around the University of Auckland City Campus and Auckland Unitech Mt. Albert campus. Opportunity to partake in the research was advertised on TV One’s Marae Maori Television Programme. Radio interviews to advertise and discuss the research were organised by NMSCP staff in Paeroa on Nga Iwi FM, Dargaville on Big River and Tainui FM in Ngaruawahia. Presentations were made to various Maori health and related groups (Appendix D) including distribution of a pamphlet (Appendix F). The national Maori auahi kore community was informed of the research via, for example, a poster display at a National Auahi Kore conference.
Widespread knowledge of the research led to requests to participate from Maori smokers outside the geographical region to be covered by the study. Most inquiries resulting from newspaper advertisements for participants led to an interview. Interviews were scheduled to occur as soon after the call as possible while smoking cessation was on the person’s agenda for action. A few times the address and phone number given was false. A few callers were not interested in participating when they found out that there was no financial remuneration for doing so. Callers who declared that they were not ready to stop but were looking for help were referred to Te Hotu Manawa Maori for a Quit pack.

Recruitment opportunities and ongoing contact with participants was maximised by the establishment of an 0800 number (0800 AUKATI) for participants phoning from outside of the Auckland free calling area, and phone divert to ensure calls would transfer through to my mobile phone.

There were times when response to recruitment activity was low, for example, in April 1998 smokers expressed feeling bombarded by news of increasing taxes on tobacco and World Smokefree Day promotions, which run through April and May. Recruitment activities were scaled down for 5 weeks over the Christmas/New Year period in anticipation of lower response rates typically experienced by specialist smoking cessation services (E. Hauwai, personal communication, 1997).

Recruitment was ongoing throughout the period of data collection dating from September 1997 to October 1998.

**PARTICIPANT RETENTION**

Persistent tracking procedures were used to ensure participants were interviewed a second time. At least one alternative contact address was collected from participants at the end of the first interview. A postal reminder (Appendix G) was sent out a few weeks prior to the due date for the second interview. If this was returned address unknown, the postal reminder was sent to the alternative address given. Participant’s were given my home phone number which resulted in calls at various times, including at 10pm at night and early on Sunday morning. If participants did not call and phone details were on file, I phoned to secure an appointment, and was
sometimes requested to phone again just prior to the interview time to remind participants. Phone calls to alternative contacts were made as a last resort, but did not involve revealing the participant's involvement in research to others.

Participants were invited to choose the venue (which was usually their home or work) and time that suited them (sometimes interviews were conducted on weekends or at night). Sometimes participants were not home as arranged, in which case, I waited half an hour before proceeding to the next appointment and returned later in the day. If the appointment was not kept, repeated call backs by phone and in person were made. Some participants had moved and were unresponsive to mail that may or may not have been forwarded to them, or to attempts to locate them through their alternative contact. An estimated 15,000 kilometres of driving was travelled to complete this research.

The average time to follow-up for the whole sample was nineteen weeks (4.4 months). Because of the smaller than expected number of NMSCP study participants, priority was given to securing a follow-up interview with them. NMSCP staff assisted with tracking and encouraging NMSCP participants to complete the second interview. The time to follow-up differed significantly between the groups, with follow-up for the NMSCP group occurring closer to 3 months (on average 108 days). Unaided quitters were followed up on average 140 days after the initial interview.

**SECTION FIVE: DATA COLLECTION**

This section describes the process for collecting the data. The primary method of data collection was pre and post interviews. First, the interview procedure is explained. The measurement tools, that is, the two questionnaires and the Smokelyser are then discussed. Finally, observation of the NMSCPs is covered.

**THE INTERVIEW PROCEDURE**

All participants were interviewed by the author.
Whakawhanaungatanga

In accordance with tikanga Maori, the process of whakawhanaungatanga (where names, whanau links and tribal origins may be shared) typically occurs at the beginning of a meeting where the parties may be strangers to each other. In this study whakawhanaungatanga was applied in a way that recognises the “diverse realities” (Durie, 1996) for the way in which Maori live in Aotearoa today. Whakawhanaungatanga occurred in an informal way prior to presentation of the Information for Participants sheet (Appendix H) or was facilitated by the presentation of the Information for Participants sheet. I gave verbal reassurance that participation was voluntary and that information collected would remain anonymous. Participants were offered a te reo Maori version of the Information for Participants sheet (Appendix I) instead of, or in addition to, the English language version.

Gaining Consent

Participants were then presented with a Consent to Participate in Research form (Appendix J), accompanied by a verbal explanation of its purpose and assurance it would be locked away separate from their questionnaire. If participants felt it unnecessary for them to sign the form for whatever reason they were not pushed into it.

Interviews were audio taped with consent. Only 3 participants did not want to be taped. Some participants displayed nervousness about being taped. This was acknowledged and most often overcome by emphasising participant choice, explaining the purpose of the taping and what would happen to the tape. It was not unusual for friends, whanau or children of the participant to be present throughout the interview. This was not a barrier to the conduct of the interview, but occasionally was detrimental to the quality of the taped version, for example, children yelling in to the microphone.

Interview Style

Interviews were conducted in a naturalistic “korero” style, within which I asked questions and recorded answers in note form on the questionnaire. The
interview style was passive but supplemented where necessary with prompting and asking for clarification of comments that could be taken different ways.

The working language of the interviews was "bilingually flexible," that is, I used Maori words where it seemed normal to do so, for example, saying "Kia ora" and participants were informed that they could use a mixture of te reo Maori and English language. My own te reo Maori language ability was intermediate, therefore, questions were delivered in English. Where Maori words were included in questions, the translation was also given and sometimes the Maori translation of some English words was given as a prompt. No Maori speech was beyond my comprehension, therefore, external translation of transcripts was not required.

**Interview Duration**

Participants varied in their depth of response, so interviews ranged in duration from 20 minutes to 2 hours. Interviews at the participant's workplace were usually restricted by time constraints. Though most participants were interviewed one on one, some couples and groups of 2 or 3 participants were interviewed together at their request. Group interviews took longer.

**Arranging Follow-up**

At the completion of the questionnaire participants were asked to provide alternative contact details and were given a letter showing the approximate date and time of the follow-up interview.

**Koha**

It is accepted kaupapa Maori health research methodology practice that research participants are appreciated in the form of a koha. The koha being a reciprocal act, recognising participants' contribution to the interview in terms of providing a venue, provision of refreshments, their time and experience. The koha (Appendix K) was given at the end of the interview. Particular items were chosen for their potential to assist participants to reduce harm from smoking.
Feedback to participants

The literature suggested that involvement in research could increase participant’s motivation to give up smoking. For example, Miller and Rollnick (1991) said:

Providing the client with a thorough summary of findings can be very helpful in building motivation and strengthening commitment for change... Personal feedback of results from objective tests and measures can be persuasive input for convincing clients that they are not where they ought to be.

To minimise bias, it was important that both groups similarly participated and were not differentially treated by me. So as not to directly influence participant’s motivation to quit at the first interview, information on quitting was held over until the end of the second interview. If participants asked direct questions, however, they were answered sufficiently to avoid appearing rude.

At the conclusion of the follow-up interview participants were presented with a printed assessment of their smoking status at first interview including, for example, estimated total years smoking, FTND score, reasons for stopping and CO reading (see Appendix O). Verbal observation of any changes in their smoking behaviour were added. Advice on quitting methods tailored to each smoker at follow-up was given if welcomed by the participant. If participants were enthusiastic about acting on the advice, they were encouraged to contact me if they had any questions. Verbal praise and encouragement to stay smokefree was delivered to those who had stopped.

Measures

The primary measures were the two questionnaires used during the first and follow-up interviews (Appendices L and M). A Bedfont Smokelyser was used to obtain readings of exhaled CO at both interviews.

Formation of questions and the choice of scales used in the interviews were derived from the hypotheses listed above and the relevant literature on smoking cessation. A few internationally derived scales were included to assess their applicability to a Maori smoking context. The questions were designed with existing baseline measures in mind to allow comparison with results from other studies, as
noted in Baillie et al., (1994) "there is a need for reports of studies of smoking cessation interventions to improve and standardise the information they provide."

The questionnaires were piloted on 3 adult Maori smokers who were found using my network of acquaintances. This led to some editorial changes to facilitate participant comprehension.

**THE QUESTIONNAIRE - INTERVIEW ONE**

The questionnaire for interview one was divided into four sections. A mix of closed and open-ended questions about participants' thoughts and behaviour, family and social relationships and environmental influences were asked. The same questionnaire was used for both groups.

**Smoking History**

To understand smoking initiation and potential bearing of past smoking experience on quitting, participants were asked questions about the history of their smoking. For instance, they were asked if parents or other whanau had smoked around them when they were young to determine if early exposure to smoking was the norm. Participants were asked to describe their initiation into smoking, distinguishing between experimental and regular daily smoking. They were prompted to describe the setting and their reasons for smoking at that time. Participants were asked if they had previously stopped smoking, and if they had, to describe each quit attempt giving the reasons for stopping, cessation methods used and causes of relapse. The total years smoking was calculated by deducting the age at which participants began regular smoking and any years off resulting from previous quit attempts, from their age at interview.

**Current Smoking**

To measure pre and post test changes in smoking behaviour, current tobacco consumption, type of tobacco smoked, brand and number of cigarettes smoked per day was recorded. Number of packets of 20 cigarettes smoked per week was recorded
as a further check on consumption, as daily consumption can vary, for example, with increased smoking occurring on weekends at social events.

Dr Murray Laugesen (personal communication, 1998) was consulted regarding the appropriate calculations to convert loose tobacco to equivalent number of manufactured cigarettes. Total grams of loose tobacco smoked per week was divided by 13.4 to equal number of packs of 20. The resulting number was divided by 7 days to give the equivalent number of manufactured cigarettes smoked per day. The appropriate option in question 13, number of cigarettes smoked per day, was then ticked, for example, 15 hand rolled cigarettes may only be equivalent to 6.37 cigarettes, but "almost half a packet" was ticked rather than "1 to 5." The number of reported hand rolled cigarettes smoked per day was recorded and checked against the calculated number of manufactured cigarettes. This calculation sometimes showed smokers were rolling the equivalent of 2 hand rolled cigarettes to 1 tailor-made cigarette, which is the formula assumed when using the FTND (Heatherton et al., 1991).

In order to measure level of nicotine dependency, participants were asked the remaining five questions of the FTND (ibid.) as discussed in Chapter Three.

Stage of Change

Whilst initial contact with participants should have selected those intending to quit smoking in the month following the first interview, this was not assumed, as DiClemente (personal communication, 1998) warned participants “are likely to respond that they are planning to stop smoking, even those who may be still thinking about it, that is, contemplators.” One of two questions from a simple item he developed for assessing stage of change was used to double check participants’ motivation.

Preparation is a recognised stage of change preceding, but sometimes considered integral to the action stage. Participants were asked to detail activity they had undertaken to prepare themselves for quitting. NMSCP staff suggested asking for information about previous addiction treatment or training participants may have done that might enable their quitting.
To look at motivation in more detail, reasons for stopping smoking were elicited. In addition, asking what participants might miss about smoking helped to further indicate level of preparedness and potential positives about smoking that might undermine or offset motivation for stopping. Concern about putting on weight was singled out as the literature suggested this was a factor in continuing to smoke and triggering relapse.

**Current Health Status**

The detrimental effects of a pregnant woman’s smoking on fetus in uteri has now been well documented and it is hoped pregnancy would be a major motivating factor for quitting, thus both female and male participants were asked if they were expecting a child or planning a pregnancy.

As health is often a motivating factor in giving up smoking, participants were prompted to give details of any smoking related illnesses they had had in the previous 6 months. This was asked in an open-ended way, as participants were not expected to be fully conversant with the numerous illnesses now attributed to or exacerbated by smoking. Standardised questionnaires, such as the SF36 or GHQ were not used because they would have altered the naturalistic korero style of interviewing and introduced a more formal interviewing style. Plus, they required answering a large number of extra questions not obviously relevant to the purpose of the study.

Some literature linked depression with smoking, particularly with failure to quit. Participants were asked if in their opinion they had experienced depression recently or in the distant past? This was an approach used by Korhonen (1997) who studied the existence of depressive symptomatology rather than diagnosable episodes of depression. Participants were asked to describe what they understood to be depression.

Existing scales, such as the CES-Depression Scale (Radloff cited NACHD, 1996) were avoided for two main reasons. There has been no research investigating Maori experience of and understanding of depression and from a kaupapa Maori perspective it cannot be assumed that foreign definitions on depression are universal.
and applicable to Maori. Further, the commonly used depression scales are lengthy and their format contrasts sharply with the interview style being used in this study.

Comorbidity and polydrug use was checked, as this could affect ability to quit. Participants were asked about weekly use of other drugs because of potential interactions between smoking and caffeine use, and smoking and alcohol. The first three questions from the alcohol audit (Saunders & Asland, 1987) were used to assess alcohol consumption. Marijuana consumption was asked about because of the possible interaction with smoking and it’s potential to undermine the quitting process. CO intake would be greater among participants who smoked both cigarettes and marijuana also. As the use and possession of marijuana is illegal in New Zealand, participants could be expected to be suspicious when asked about marijuana use. Therefore, it was necessary to reiterate that the information given was anonymous and that the police would not become aware of or be able to access any information about participants from the study. Explanation, as to why they were being asked about marijuana use was given and the question was asked in a neutral way, that is neither judgemental nor permissive.

Participants were asked if they were on any medication for anxiety or depression, or other drugs, as a further check for mental illness, for example, schizophrenia.

**Support**

Six questions investigated the participant’s home, work and social environment to assess the level of support for going smokefree. This entailed asking about household composition, regularity of contact with other smokers, designated smokefree areas in the home and existence of smokefree policies at work, and primary socialising environments.

"Smokers cite a physicians advice to quit as an important motivator for attempting to stop" (Fiore et al., 1996, p.19), therefore, participants were asked if a doctor or other health professional had ever advised them to stop smoking. Participants were asked if they believed that the advice had influenced their decision
to quit. They were asked if anybody else had influenced their decision to stop smoking, in recognition of the centrality of whanau in Maori life.

**Self-efficacy**

The literature review revealed self-efficacy to be a reliable predictor of quitting success, therefore, a seven point Likert scale was devised to quantify this aspect of participant’s motivation to quit.

Finally participants were asked if they were worried about the withdrawal symptoms from quitting which further indicated preparedness and confidence, or if they had any other comments about stopping smoking to make.

**Demographics**

Demographic information was collected last to allow for rapport to have developed between the interviewer and participant, and to minimise the chance of these questions being perceived as intrusive.

In recognition of the preference to be respectful towards elders, participants were asked, “what month and year were you born?” rather than directly asking for people’s age. Age at interview was calculated. An open ended age question was asked to allow for multiple coding options during analysis, which would allow for comparison with different data sets from other studies that used various coding.

Participants were asked to identify their tribal affiliations to assess the representativeness of the final results, especially as the study was restricted to northern tribal areas. So as not to force people to elevate in importance one of their hapu or iwi, multiple hapu or iwi were recorded.

Relationship status was asked about, as an added check on social influences to smoke or not. Having a partner who smokes could make it more difficult to stop, or for women particularly having a male partner who doesn’t smoke, depending on the power dynamics in the relationship, could be a strong motivating factor to stop smoking.
Socio-economic status was checked by asking what school year participants were in when they finished schooling and if they had pursued or obtained further educational qualifications. Current employment, including voluntary employment, further built a picture of the social and environmental influences in the participant’s life as well as investigating whether or not their role in the community might be motivating factor in quitting, for example, if a participant was a nurse or teacher. Income source, in particular, whether or not participants were on a benefit helped identify lower socio-economic participants, but this was more directly done by identifying participants eligible for a Community Services Card.

**THE QUESTIONNAIRE - INTERVIEW TWO**

The questionnaire for the follow-up interview was divided into five sections starting with current smoking status, then reflecting back on the quitting process and finally collecting follow-up data to measure changes in baseline data, such as health status. The NMSCP participants were asked extra questions about the programme.

If participants had not stopped smoking they were asked to recount what had happened since the previous interview in terms of their quit attempt and relapse. An interactive style was used to try and pinpoint the reason for relapse and the circumstances or context within which it occurred, including whether or not others had influenced the return to smoking. Participants were prompted to describe how they felt about returning to smoking and how others had reacted.

Stage of change at follow-up was determined. If participants were planning to quit again, they were asked what method they would use and why. Some participants may have tried to stop smoking again prior to the follow-up interview so this was checked for. Questions from the first interview measuring tobacco consumption, type and brand of tobacco and the FTND were repeated to allow for pre and post test comparison.

All participants were asked to pinpoint when they stopped smoking, even if only for a short time. They were asked to detail what withdrawal symptoms they experienced, what made it easy or hard to quit smoking and what helped them to stop
smoking, for instance, use of a cessation aid. A seven point Likert scale was used to quantify difficulty of quitting.

Participants who attended a NMSCP were asked to identify the most helpful and least helpful aspects of the programme. Suggestions for improving the programme were elicited.

Participants that had stopped smoking were prompted to identify factors that had helped them to stay smokefree and factors that undermined their effort. To check for a contagion effect participants were asked if any of their whanau, friends or work colleagues had stopped smoking. In order to document the quitting process and understand the factors supporting changes in smoking behaviour, participants were asked about other changes they may have made in their lives, such as dietary changes or increased exercise and making their house smokefree.

Some research has suggested that smokers who implement activities that replace smoking, rather than avoiding smoking triggers, are more successful at maintaining abstinence from smoking (Boustead, 1996). Therefore, participants were asked if they had changed where they socialised, and if they had changed their caffeine and alcohol consumption. Their use of marijuana and other drugs was checked for changes since the first interview. Participants were asked if there were things that they missed about smoking and how they coped with these perceived losses. Early interviews revealed that some participants experienced an increased incidence of remembering traumatic past events when they stopped smoking, so subsequent interviewees were asked if they had sought any form of counselling.

Because of the commonly held belief that smoking cessation is linked with weight gain, participants were asked if they thought stopping smoking had affected their weight. Health status was re-checked at the second interview to detect any change. Participants were prompted to add anything else they wanted to say about stopping smoking, before checking if their relationship status or employment status had changed since the previous interview.
**CARBON MONOXIDE READING**

A Bedfont EC50 Mini Smokelyser was used for monitoring exhaled CO for two reasons. Bio-chemical confirmation contributes to the internal validity of studies (Fiore et al., 1996) and "the validation of self-reported abstinence is a highly desirable inclusion in any study" (Baillie et al., 1994). Testing saliva for cotinine, a byproduct of nicotine ingestion, was rejected for being too expensive and intrusive. Collecting bodily fluids engenders its own set of ethical issues of particular concern to Maori, ranging from ownership, to use and disposal. Ethically, participants should be subjected to the least intrusive methods sufficient to attain the required results.

Although CO in the body varies from one individual to another and depends on residency in towns or country, smokers have much higher CO concentrations than non-smokers (an explanation of CO is included in Appendix N). CO concentration is time-related. It is higher just after smoking than 2 hours later, so participants were asked how long it had been since their last cigarette, and if they had revealed that they smoke cannabis, how long since they last smoked marijuana. Participants who were going to smoke during the interview were asked to wait until after the reading had been taken, though some participants still smoked during interviews.

The Smokelyser was set at 0 and a new cardboard disposable mouthpiece was used for each person. The participant was asked to take a deep breath, hold it for 15 seconds, and then breathe out slowly into the mouthpiece (being careful to form a tight seal with the lips), emptying the lungs as much as possible. The Smokelyser was re-calibrated half way through the research project.

Participants who displayed apprehension at the sight of the clinical-looking device, were quickly assured that it would not hurt and that the procedure is similar to breathyslers used to detect alcohol consumption. If necessary, I demonstrated by blowing into a cardboard mouthpiece kept aside for that purpose.

**PROGRAMME OBSERVATION**

Programme observation of the NMSCPs contributed to my ability to be able to prompt for feedback from NMSCP participants. I attended at least one day of each of the NMSCPs as follows:
The first day of the first Thames Hui
The second to last day and night of the second Thames Hui
The third day of the first Hamilton hui
The first day of the second Hamilton hui.

A research diary, noting daily activity, kilometres travelled, thoughts and feelings about the research process, and insights was kept throughout the term of the project.

SECTION SIX: DATA ANALYSIS

In this section the process of data analysis is detailed. Treatment of the quantitative data and qualitative data is explained, including how data was verified. The procedure used to analyse across both the quantitative and qualitative data is then outlined.

All questionnaires were assigned a unique identifying number. Personal identifying information was removed and stored separately to ensure anonymity. Only myself and appointed transcribers had access to the taped interview material and written notes.

QUANTITATIVE DATA

Where possible, questionnaire responses were quantified. Theme analysis was done manually on some open-ended questions resulting in a coding set, for example, a list of reasons for stopping smoking. A data file was set up in SPSS for Windows, Release 6.1.3. I then entered the quantitative data for each questionnaire. Rather than manually coding questionnaires, I simultaneously consulted coding lists while entering the data. This allowed for new variables and values to be added as required.

Standard frequency analysis for each variable was calculated for descriptive information. Where differences were indicated, crosstabs using the Pearson Chi-Square test for significance were performed. Mann-Whitney U tests were used to detect difference between the groups on nonparametric variables. Analysis of Variance tests were used to determine significance differences between group
averages. Paired t-tests, McNemar tests and Wilcoxon Matched-Paired Signed-Ranks tests were done to detect change in variables over time, for example, FTND at entry vs FTND at follow-up. Spearman correlation tests were done to detect relationships between variables, such as CO and number of cigarettes smoked per day. Logistic regression analysis was performed to test the ability of variables to predict outcome variables, such as not smoking at follow-up. The significance level, that is, the p value was rounded up to 3 decimal places. The results were used to prepare the data presented in Chapter Five.

Participants who were not interviewed a second time were not considered abstinent and were not included in the numerator.

**QUALITATIVE DATA**

The taped interviews were transcribed by casual workers whilst checking against the questionnaire. Transcribers were instructed to exclude speech fillers, such as "you know" and "um" statements, incomplete and meaningless sentences, repetition of speech and discussions unrelated to the topic. The completed transcript was then reformatted, by a different transcriber, for entry in to QSR NUD*IST Release V.4.0 by separating the text in to paragraphs by singular topic content. One hundred and eighteen documents (some representing 2 or 3 people) were transported in to QSR NUD*IST for coding. Documents were coded one text unit at a time into one or more of a total of 419 nodes. Using the units of analysis already defined by the literature search and development of the questionnaires, a hierarchical index system was set up as follows:

| Table 4 | Hierarchy of Data Categories |
|---|---|---|
| **Level One** | **Level Two** | **Level Three** |
| History | Parental smoking | Who |
| | Smoking Initiation | When, why & how |
| | Previous quitting | When, why, how & why relapsed |
| Current Smoking | Consumption | Type, Brand, Amount |
| | Function of smoking | Nicotine Dependency |
| Environment | Home & Whanau | Household composition & who smokes? |
| | Socialising & Friends | House smokefree? |

Where and who?
<table>
<thead>
<tr>
<th>Motivation</th>
<th>Smokefree people / place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Change</td>
<td>Who supports quitting?</td>
</tr>
<tr>
<td>Pros / Factors for quitting</td>
<td>Preparedness</td>
</tr>
<tr>
<td>Cons / Barriers to quitting</td>
<td>Proposed method</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Why quit; health status</td>
</tr>
<tr>
<td>Smoking / Relapsed</td>
<td>Function of smoking; Comorbidity</td>
</tr>
<tr>
<td>Smokefree</td>
<td>Withdrawals</td>
</tr>
<tr>
<td></td>
<td>Method used</td>
</tr>
<tr>
<td></td>
<td>Changes</td>
</tr>
<tr>
<td></td>
<td>Contagion effect</td>
</tr>
<tr>
<td></td>
<td>Slips or relapse</td>
</tr>
</tbody>
</table>

**Verification of the Data**

Every transcript was double checked, that is, each transcript was checked against the tape by either myself or a second transcriber. Concurrently the completed questionnaire was checked. I then reviewed the quantitative data entered from each questionnaire.

A colleague agreed to code a sample of data to provide a reliability check of a sample of coding, but they were unable to complete the work. Lack of funding to pay for people's time and knowing colleagues were overworked, prevented the recruitment of another coder.

NMSCP facilitators, including those from the original programme in Taranaki were sent the draft thesis content on the NMSCP for correction and feedback.

**Analysis**

Adopting a kaupapa Maori research methodology, as outlined in Chapter Two, extends to the analysis of the data. As the intent of this study was exploratory the data was approached from a non-expert, discovery focused position. In accordance with the objectives of the study and drawing on the literature, data was ordered chronologically on the assumption that the process of smoking cessation occurs over time. At this point in the process the researcher ceases to be a non-expert investigator and becomes a theoretically sensitive (Strauss & Cobin cited in Lambie, 1998) translator. The non-academic language of the participants is interpreted and matched,
if possible, with relevant theory. At a macro level data was then categorised using the preparation/action, maintenance and relapse stages of the Transtheoretical Model of Change (introduced in Chapter Three). Within these categories, data was then coded according to Te Whare Tapa Wha (described in Chapter Two).

Analysis across both the quantitative and qualitative data was then conducted to discover emerging knowledge or corroboration and extension of existing knowledge. Each of the four categories provided by Te Whare Tapa Wha were used to revisit the quantitative and qualitative results. The relevant variables within each category were used to develop an explanation of Maori smoking behaviour. Key findings were compared for consistency with findings from previous research. Where applicable, the data was read for consistency with relevant hypotheses.

Though the analytic approach was guided by the Kaupapa Maori values set out in Chapter Two, the final approach used resembles a general inductive approach. A general inductive approach allows research findings to emerge from the data, whilst assuming deductive beginnings, that is, that analysis is determined also by the research objectives (Thomas, 2000, p.3). This study was slightly more deductive than inductive in that Te Whare Tapa Wha was used as the analytic framework, rather than using a model or theory developed from the data.

SECTION SEVEN: DISSEMINATION AND UTILISATION

Individuals will not be able to be identified in the final thesis or any articles, papers or reports based on this study. Potentially identifying information will be changed. A key to smoking status at follow-up, sex and age for each participant identification number, used throughout the results chapters, is provided in Appendix P.

All participants not lost to follow-up were sent a two page summary of the results and a letter (Appendix Q) encouraging them to use the new national Quitline or pilot smoking cessation programme if available in their area.

The results will be presented to the participating organisations via hui. These “seminars” will be open to research participants and interested public. The results will be presented via papers at relevant conferences and hui also. Articles for submission
to scientific journals will be prepared. Even before the completion of the research, I was called upon to lecture on this topic and to provide training workshops for Maori community health workers (see Appendix U).
CHAPTER FIVE

Quantitative Results

SECTION ONE: INTRODUCTION

The quantitative results of this study are presented in this chapter in five sections using the categories provided by Te Whare Tapa Wha. Section two, te ao turoa, includes a description of the demographic characteristics of the participants. This includes factors such as participants' age at first interview, sex, marital status, income source and educational level, location of residence and iwi. Marital status and income source are revisited at follow-up to check for any significant changes that may have influenced changes in smoking behaviour.

Section three, te taha whanau, examines the similarity between the two groups in their socialisation to smoke, including information on parental smoking and reasons for starting. The environment for quitting, that is, how prominent smoking is in participants' home, social and work environments and among their whanau and friends is documented. Whether they have been advised or influenced to quit and by whom is also considered. The effect of whanau on quitting and the effect of quitting upon the whanau was considered at follow-up. The data is examined for evidence of a contagion effect.

Section four, te taha tinana, presents information on participants' smoking history, including smoking duration and history of quit attempts. Current smoking, that is, tobacco consumption at first interview and severity of nicotine dependency, and factors that may undermine quit attempts such as co-morbidity are also documented. Smoking status and tobacco consumption at follow-up were of primary interest. Any changes in consumption, severity of nicotine dependence and psychiatric comorbidity between the groups and over time are investigated.

Section five, te taha hinengaro, explores participants' motivation for quitting, health status, Stage of Change, preparedness, proposed quitting method and self-
efficacy. Some barriers and disincentives to quitting, such as perceived function of smoking and worries participants might have about the consequences of quitting are also presented. Data on participants' perceived experience of quitting are presented. Some data from open-ended questions is used throughout this chapter to illustrate and further explain the quantitative data. Detailed presentation of the qualitative data on quitting experience is presented in the following three chapters, however. Section five explores what other lifestyle changes they have made since the first interview.

Standard frequency analysis for each quantitative variable was calculated. A range of tests were used to determine differences between the NMSCP group and the unaided quitters, including crosstabs and Chi square analysis. Logistic regression and correlations were used for testing the properties of predictor variables. Spearman's and Mann-Whitney U tests were used for detecting change between pre and post conditions. P values were rounded up to 3 decimal places.

Participants who were not interviewed a second time were not considered abstinent and were not included in the numerator.

Factors discovered to be predictive of quitting, for example, level of addiction at the first interview and self-efficacy are highlighted under each section.

**SECTION TWO: TE AO TUROA**

Te ao turoa includes variables that define the world within which the individual smoker might be attempting smoking cessation, for example, population statistics and social determinants of health, such as socio-economic level.

This section summarises the demographic characteristics of the participants at entry and then at follow-up. Included are their sex, age, marital status, income source and educational level, location of residence and iwi.
### Table 5
Summary of Demographic Data at Entry

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>20</td>
<td>81</td>
<td>101</td>
</tr>
<tr>
<td>Men</td>
<td>6</td>
<td>23</td>
<td>29</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Age</td>
<td>38.5</td>
<td>35</td>
<td>35.5</td>
</tr>
<tr>
<td>15-24</td>
<td>2</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>25-44</td>
<td>19</td>
<td>70</td>
<td>89</td>
</tr>
<tr>
<td>45-64</td>
<td>5</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>0</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>De facto</td>
<td>5</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Partner elsewhere</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Divorced/widowed</td>
<td>7</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Single</td>
<td>11</td>
<td>25</td>
<td>36</td>
</tr>
<tr>
<td><strong>Income Source</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>14</td>
<td>71</td>
<td>85</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>16</td>
<td>49</td>
<td>65</td>
</tr>
<tr>
<td>Eligible for Comm</td>
<td>18</td>
<td>56</td>
<td>74</td>
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<tr>
<td>Services Card</td>
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</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Qualifications</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>School or post-school only</td>
<td>20</td>
<td>71</td>
<td>91</td>
</tr>
<tr>
<td>School and post-School</td>
<td>3</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auckland</td>
<td>0</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>12</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>Country Town</td>
<td>7</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Rural</td>
<td>7</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td><strong>Iwi</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Te Taitokerau</td>
<td>2</td>
<td>67</td>
<td>69</td>
</tr>
<tr>
<td>Tamaki Makaurau</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Hauraki</td>
<td>17</td>
<td>26</td>
<td>43</td>
</tr>
<tr>
<td>Waikato</td>
<td>17</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Arawa</td>
<td>4</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Mataatua</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Tairawhiti</td>
<td>7</td>
<td>5.5</td>
<td>8</td>
</tr>
<tr>
<td>Takitimu</td>
<td>7</td>
<td>5%</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

**DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS AT ENTRY**

Demographically the groups were very similar (see Table 5 Summary of Demographic Data at Entry). Chi-Square analysis showed there was one significant difference (p<.001) between the groups and that was where they lived. Over half
(61%) of the unaided quitters lived in Auckland, whereas all of the NMSCP group lived in metropolitan cities, smaller towns or rural areas.

It was left up to participants to decide how many iwi they listed, this ranged from 1 to 4 per person. Thirty eight hapu or iwi were named in all, and Pakeha, Chinese and other ethnicities were also mentioned by a few participants. Most of the NMSCP group belonged to iwi in Waikato and Hauraki. It would seem that the majority of the unaided quitters were urban Maori, that is, Maori living in a large city such as Auckland but descended from iwi outside of that area.

**DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS AT FOLLOW-UP**

Table 6 presents the data on marital status and income source at follow-up. There were small and not significant changes in reported marital status. There was a significant shift (Wilcoxon Signed Rank Test, p=.004) into employment as a source of income for the whole sample, though the number of participants on a benefit did not change (Wilcoxon Signed Rank Test, p=.11). Logistic regression on data from unaided quitters failed to show any effect of income source on success at quitting.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>1</td>
<td>4%</td>
<td>30</td>
</tr>
<tr>
<td>De facto</td>
<td>5</td>
<td>19%</td>
<td>19</td>
</tr>
<tr>
<td>Partner elsewhere</td>
<td>4</td>
<td>15%</td>
<td>5</td>
</tr>
<tr>
<td>Divorced/widowed</td>
<td>7</td>
<td>27%</td>
<td>9</td>
</tr>
<tr>
<td>Single</td>
<td>9</td>
<td>35%</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income Source</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>19</td>
<td>73%</td>
<td>65</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>14</td>
<td>54%</td>
<td>35</td>
</tr>
<tr>
<td>Eligible for Comm</td>
<td>16</td>
<td>61.5%</td>
<td>38</td>
</tr>
<tr>
<td>Services Card</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).
SECTION TWO: SUMMARY OF RESULTS

The major findings between the two groups for section two are:

- All of the NMSCP group lived outside of Auckland in metropolitan cities, smaller towns or rural areas, whereas over half of the unaided quitters lived in Auckland.

- Most of the NMSCP group were of Waikato and Hauraki iwi, whereas the majority of the unaided quitters were urban Maori.

- There was a significant shift into employment as a source of income for the whole sample at the follow-up interview, however this failed to show any effect on success at quitting.

SECTION THREE: TE TAHĀ WHANAU

This section presents data on the familial and social factors that influence uptake of smoking, smoking behaviour, quitting behaviour and success at quitting. Data collected during the first interview is presented first, followed by comparison data collected at follow-up. Any variables potentially predictive for quitting are then discussed.

SOCIALISATION TO SMOKE

The NMSCP group and unaided quitters were compared on socialisation to smoke, including whanau smoking when they were children, age at first cigarette, age when they began smoking regularly and reasons for starting. The results (Table 7) show the two groups were very similar across all variables.
Table 7

Socialisation to Smoke

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Smoking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother smoked</td>
<td>18</td>
<td>68%</td>
<td>74</td>
</tr>
<tr>
<td>Father smoked</td>
<td>18</td>
<td>68%</td>
<td>73</td>
</tr>
<tr>
<td>Other Whanau Smoking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyone smoked</td>
<td>8</td>
<td>31%</td>
<td>26</td>
</tr>
<tr>
<td>Siblings</td>
<td>6</td>
<td>23%</td>
<td>30</td>
</tr>
<tr>
<td>Cousins</td>
<td>6</td>
<td>23%</td>
<td>22</td>
</tr>
<tr>
<td>Aunts/Uncles</td>
<td>16</td>
<td>61.5%</td>
<td>46</td>
</tr>
<tr>
<td>Grandparents</td>
<td>8</td>
<td>31%</td>
<td>32</td>
</tr>
<tr>
<td>Average Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At first cigarette</td>
<td>11</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Began regular</td>
<td>17</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Why Started</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers school</td>
<td>12</td>
<td>46%</td>
<td>61</td>
</tr>
<tr>
<td>Peers work</td>
<td>6</td>
<td>23%</td>
<td>29</td>
</tr>
<tr>
<td>Whanau</td>
<td>17</td>
<td>65%</td>
<td>57</td>
</tr>
<tr>
<td>Everyone smoked</td>
<td>8</td>
<td>30%</td>
<td>26</td>
</tr>
<tr>
<td>It was cool **</td>
<td>2</td>
<td>8%</td>
<td>24</td>
</tr>
<tr>
<td>Others smoked</td>
<td>6</td>
<td>23%</td>
<td>19</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).

Parental Smoking

Participants were asked “Did your parents smoke when you were a child?” sometimes extra explanation was given, such as “when you were say, 4 or 5 years of age.” Of the total group of participants, to whom this question was applicable (that is, their father was present) 70% remember their father smoking when they were young and 71% remember their mother smoking.

The low rate of recall of whether whanau other than parents smoked or not could reflect the relative salience of these other relationships or memories.

Starting Age

Participants were prompted for age when they first tried or experimented with smoking and the age at which they began smoking regularly, that is, every day. The age at which participants first experimented with smoking ranged from 4 to 38. Twelve was the average age at which participants tried their first cigarette. Almost half of the participants had tried smoking before they turned 12. Most (91%) had tried
smoking by age 16, that is, before the end of their school years. Only 9% experimented with smoking after the age of 16.

**Age Began**

The average age for starting to smoke regularly for the whole sample was 16. Participants ranged in age for starting regular smoking from 8 years of age to 50 years of age. The most common age (that is the mode) of starting regular smoking was 15. Most (88%) had started smoking regularly before the age of 20.

There was no difference between the NMSCP group and the unaided quitters, in terms of first smoking experience or age at which they started smoking regularly.

**Reason for Starting**

Participants were asked "Why did you start to smoke in the first place?" sometimes extra prompting was given, such as "and why did you start to smoke regularly?" Responses were not mutually exclusive and were checked for either first cigarette or starting to smoke regularly. Of the 26 participants whose reasons for starting included that it was cool, more of the unaided quitters thought this. There was a significant difference (p<.001) between them.

**ENVIRONMENT FOR QUITTING**

Several questions were asked to allow assessment of the environmental context for quitting, including information on number of people in the household, if partners or others also smoked and if the house was smokefree (Table 8). The social environment was assessed by asking if friends smoked, where participants mainly socialised and if it was easy to smoke there, and smoking in the work environment (Table 9). Influence from others to stop smoking and sources of advice to stop smoking are presented in (Table 10).
The Home Environment

Only 6% of participants lived on their own. On average participants lived in households with at least three other people, including children. Ten percent of participants lived in households with 5 to 15 other people. Participants lived with a variety of other whanau, including sisters and brothers and their children; parents and flatmates or borders. Over 150 children lived with these participants. Sixty five percent of participants lived with one or more smokers.

Of those participants who had a current partner, not necessarily resident with them, 63% had a partner who smokes.

Table 8
Home Environment for Quitting

<table>
<thead>
<tr>
<th>Home Environment</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average No. People in Home</td>
<td>4.5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Live With:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>4</td>
<td>15%</td>
<td>4</td>
</tr>
<tr>
<td>Partner &amp; others</td>
<td>6</td>
<td>23%</td>
<td>61</td>
</tr>
<tr>
<td>Other adults only</td>
<td>4</td>
<td>15%</td>
<td>12</td>
</tr>
<tr>
<td>Others incl. Children</td>
<td>11</td>
<td>42%</td>
<td>27</td>
</tr>
<tr>
<td>Live with smokers</td>
<td>16</td>
<td>61.5%</td>
<td>68</td>
</tr>
<tr>
<td>Of those who have a partner - partner smokes</td>
<td>6</td>
<td>75%</td>
<td>41</td>
</tr>
<tr>
<td>Smokefree House</td>
<td>11</td>
<td>42%</td>
<td>45</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

Smokefree Whare

Forty three percent of participants said their house was totally smokefree. Over half (57%) allowed smoking inside, though many of them had made some rooms smokefree or attempted to keep smoking outside but made exceptions sometimes or for some people. For example, some participants smoked outside when the children were home or when non-smokers came to visit, as illustrated by the following quotes:

Generally the whole house except at night time when the kids have gone to bed (92).
When the children come in and I try my hardest when non-smokers are around. I really do try but I always tend to sort of sit out the back door with my dog if there’s non-smokers in the house (82).

Every so often I make the house smokefree, and then it gets too cold outside so we smoke back inside (3).

No, ‘cos I’ve got a lot of aunties and uncles that smoke and Mum would never send them outside for one (115).

**Smoking Friends**

Three quarters (75%) of participants said that the people they see most frequently, that is their close friends, smoke. Only 17% mixed with mainly non-smokers. Eleven (8.5%) participants said they mixed with an equal number of smokers and non-smokers.

<table>
<thead>
<tr>
<th>Friends smoke:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most do</td>
<td>21</td>
<td>76</td>
<td>97</td>
</tr>
<tr>
<td>50/50</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main social venue</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes</td>
<td>16</td>
<td>61.5%</td>
<td>77</td>
</tr>
<tr>
<td>Pubs / Clubs</td>
<td>6</td>
<td>23%</td>
<td>27</td>
</tr>
<tr>
<td>Marae</td>
<td>1</td>
<td>4%</td>
<td>6</td>
</tr>
<tr>
<td>Work</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Church</td>
<td>1</td>
<td>3%</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>8%</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Easy to smoke There</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Environment</td>
<td>16</td>
<td>61.5%</td>
<td>67</td>
</tr>
<tr>
<td>Colleagues smoke</td>
<td>16</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Easy to smoke at Work</td>
<td>12</td>
<td>46%</td>
<td>48</td>
</tr>
<tr>
<td>Smoke with others</td>
<td>15</td>
<td>58%</td>
<td>63</td>
</tr>
</tbody>
</table>

**Table 9**

Social Environment for Quitting

**Socialising Environments**

The home, whether their own or other people's, was the environment more than half (59%) of participants mainly socialised in. Twenty one percent did most of their socialising at clubs or hotels. Wherever they socialised, most (81%) participants said it was easy to smoke in that socialising environment.
Work Environment

About half (51.5%) of participants worked with people whom also smoked. Only 22% said nobody else at work smoked (26% of participants did not work). Of those participants who worked, they were evenly divided over how easy it was to smoke at work: 36% said it was easy to smoke at work, while 35% said it was not easy. Of those participants who worked with other smokers, nearly half (48%) smoked with others at work. The NMSCP group had higher rates on each of these statistics, but the difference between them and the unaided quitters was not significant.

Table 10
Influence to Stop

<table>
<thead>
<tr>
<th>Advised to stop by:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr / Health Prof.</td>
<td>19</td>
<td>73%</td>
<td>81</td>
</tr>
<tr>
<td>Influenced by this:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>23%</td>
<td>30</td>
</tr>
<tr>
<td>Partly</td>
<td>1</td>
<td>4%</td>
<td>5</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>61.5%</td>
<td>57</td>
</tr>
<tr>
<td>N/A</td>
<td>3</td>
<td>11.5%</td>
<td>10</td>
</tr>
</tbody>
</table>

| Influenced to stop by:       |            |                  |          |     |     |     |
| Nobody                       | 8          | 31%              | 22       | 21% | 30  | 23% |
| Partner                      | 3          | 11.5%            | 23       | 22% | 26  | 20% |
| Children                     | 6          | 23%              | 30       | 29% | 36  | 28% |
| Sibling                      | 1          | 4%               | 14       | 13.5% | 15 | 11.5% |
| Parents                      | 4          | 15%              | 14       | 13.5% | 18 | 14% |
| Grandchildren                | 3          | 11.5%            | 6        | 6%  | 9   | 7%  |
| Aunts/Uncles                 | 1          | 4%               | 8        | 8%  | 9   | 7%  |
| Friends                      | 4          | 15%              | 10       | 10% | 14  | 11% |
| Other                        | 7          | 27%              | 25       | 24% | 32  | 25% |

**indicates a statistically significant difference (p < .05).

Advised to Stop

Three quarters (77%) of participants said they had been advised to stop smoking by a Doctor or other health professional. However, a greater number (84%) cited Doctor’s advice to stop smoking at sometime during the interview. A range of other health professionals including nurses, specialists, health promotion workers and counsellors were mentioned in small numbers. Of the participants that had been advised to stop smoking by a doctor, 56% believed they were not influenced to stop smoking by this advice, therefore only 27% said they were influenced by this advice.
and a further 5% acknowledged they were “partly” influenced by the Doctor’s advice to stop smoking.

**Influenced to Stop Smoking**

Participants were asked if anyone else had influenced their decision to stop smoking. Over a quarter (28%) of all participants were influenced to stop smoking by their own, or other people’s, children and 20% said they were influenced to stop smoking by their partner. Twenty three percent claim they were not influenced by anybody.

**ENVIRONMENT AFTER QUITTING**

At follow-up participants were asked to identify changes in their whanau or social environment, for instance, if their house was now smokefree and how others had reacted to their quit attempt (Table 11).

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokefree House</td>
<td>17</td>
<td>55</td>
<td>72</td>
</tr>
<tr>
<td>Influenced back **</td>
<td>8</td>
<td>20</td>
<td>28</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

**Smokefree Whare**

There was an increase in the number of houses that were smokefree for both groups. At the first interview only 43% were smokefree, this increased to 65% at follow-up. A McNemar Test on the data from the unaided quitters only, showed this to be a statistically significant increase (p=.004).

**Influenced Back To Smoking**

A quarter (25%) of all participants believe they were influenced back to smoking by others. There was a significant difference (Chi-square, p=.03) between
the NMSCP group (31%) and the unaided quitters (23.5%), with more of the NMSCP group reporting being influenced to return to smoking.

Table 12
Contagion Effect

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others stopped:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whanau / friends</td>
<td>7</td>
<td>27%</td>
<td>13</td>
</tr>
<tr>
<td>Colleagues</td>
<td>3</td>
<td>3%</td>
<td>3</td>
</tr>
<tr>
<td>Others tried to quit:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whanau / friends</td>
<td>6</td>
<td>23%</td>
<td>21</td>
</tr>
<tr>
<td>Colleagues</td>
<td>1</td>
<td>4%</td>
<td>2</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

Others Stopped

Both groups had whanau, friends and work colleagues attempt quitting in the months between the first and second interview (Table 12). The following quote suggests that in some cases there is a relationship between other’s attempting to quit and the quit attempt of the study participants.

I wasn’t being very helpful to those that wanted to stop smoking. Because for mum she needs to... she goes, if you stop, I’ll stop and then my brother was saying, if my mum stops he’ll stop (14).

Across the whole sample, the contagion effect was statistically different for those participants that were still smokefree at the follow-up interview (Chi-square, p<.05). Significance was lost, however, if analysis was confined to the unaided quitters only.

**Potential Predictors for Quitting**

The te taha whanau data collected from unaided quitters at the first interview was examined for potential to predict quitting. As explained below, living with smokers significantly effects likelihood of quitting.
**Living with Smokers**

There was a significant difference (Wilcoxon Rank Sum Test, \( p=.02 \)) between unaided quitters who lived with other smokers and stopped and those who didn’t (Table 13). Living with other smokers was predictive of quitting success (Logistic Regression \( p=.026 \)), in that those that did not live with other smokers were more likely to quit. Having a partner that smokes was not predictive of quitting. Living with that partner did not have an effect on this relationship either.

When combined with a number of the other factors that individually are predictive of quitting, Logistic Regression showed that living with other smokers was the only variable that added anything to the model’s ability to predict quitting (\( p=.046 \)).

**Table 13**

<table>
<thead>
<tr>
<th>Potential Predictor for Quitting (N=85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t live with smokers**</td>
</tr>
<tr>
<td>Stopped Smoking</td>
</tr>
<tr>
<td><strong>8</strong></td>
</tr>
<tr>
<td>Still/Back Smoking</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>Combined</td>
</tr>
<tr>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (\( p <.05 \)).

**SECTION THREE: SUMMARY OF RESULTS**

The major findings between the groups for section three are:

- There were no significant differences between the two groups in their socialisation to smoke.
- There were no significant differences between the NMSCP group and the unaided quitters on environmental conditions for quitting.
- Significantly more of the NMSCP group reported being influenced by others to return to smoking.

Factors suggestive of effects of smoking cessation are:

- There was an increase in the number of houses that were smokefree suggesting that quit attempts can contribute to other positive changes.
There was a significant contagion effect for participants still smokefree at follow-up. Significance was lost, however, if analysis was confined to the unaided quitters only.

The factors that are potentially predictive of success at quitting are:

- Living with other smokers was predictive of quitting success, in that those that did not live with other smokers were more likely to quit.

**SECTION FOUR: TE TAHĀ TINANA**

The biological, physical aspects of smoking are included in this section on te taha tinana, including variables, such as how long participants have smoked, nicotine dependency level and psychiatric co-morbidity.

**SMOKING HISTORY**

Table 14 presents the data on the smoking history for both groups including their average estimated years of smoking, previous quitting experience, that is, number of quit attempts and average weeks off per quit attempt.

**Estimated Years Smoking**

The number of years participants had smoked was calculated by subtracting the age at which they began smoking regularly and any time off smoking due to previous quit attempts from their current age. This variable is therefore, very rough as it relies heavily on recall of smoking history. The NMSCP group had on average spent more years smoking than the unaided quitters, though this difference was not significant (t-test, p=.06).
Table 14
Smoking History

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Est. Years Smoking</td>
<td>21.5</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>s.d.</td>
<td>11.67</td>
<td>s.d.</td>
<td>9.58</td>
</tr>
<tr>
<td>Previous Quitting: Have thought About quitting</td>
<td>23</td>
<td>101</td>
<td>124</td>
</tr>
<tr>
<td>Have tried to Quit**</td>
<td>18</td>
<td>96</td>
<td>114</td>
</tr>
<tr>
<td>Average no. of Quit attempts</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Gave up</td>
<td>18</td>
<td>83</td>
<td>101</td>
</tr>
<tr>
<td>Average Weeks Off Per Quit Attempt</td>
<td>30.5</td>
<td>42</td>
<td>40</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).

**Previous Quitting Behaviour**

Most of the participants (95%) had thought about quitting previously, some many times. For 6 (5%) participants this was the first time they had thought about quitting. Most (88%) had tried to quit previously. Less of the NMSCP group than the unaided quitters had tried to quit previously (Chi-square test, p = .001).

The number of previous quit attempts ranged from 0 to 12. The average number of previous quit attempts was 2.5. Participants did not always at first recall all of their previous quit attempts. Further, some times off smoking were not considered quit attempts, for example, forced abstinence while in hospital.

**Previous Times off Smoking**

Over three quarters (78%) of participants had managed to give up smoking before. Participants had managed to stop smoking previously for anything from 1 day to 8 years. The number of weeks off smoking following previous quit attempts was recorded for 212 quit attempts, 35% of these quit attempts lasted only 1 month. Just over half (53%) of the total number of quit attempts lasted no longer than 3 months. A further 29% relapsed within 6 months. Only 20% of these quit attempts lasted longer than 1 year.

Only 8.5% of all participants had smoked continuously from the time they began smoking regularly.
TOBACCO CONSUMPTION AT ENTRY

Tobacco consumption at entry for both groups is presented in Table 15, including: type of cigarettes smoked, brand, self-perceived level of consumption, average number of cigarettes smoked per day and average CO reading.

Table 15
Tobacco Consumption at Entry

<table>
<thead>
<tr>
<th>Type of Cigarette</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roll-your-own</td>
<td>6</td>
<td>23%</td>
<td>30</td>
</tr>
<tr>
<td>Tailormades</td>
<td>15</td>
<td>58%</td>
<td>50</td>
</tr>
<tr>
<td>Both</td>
<td>5</td>
<td>19%</td>
<td>24</td>
</tr>
<tr>
<td>Brand 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holiday</td>
<td>6</td>
<td>23%</td>
<td>23</td>
</tr>
<tr>
<td>Park Drive</td>
<td>4</td>
<td>15%</td>
<td>18</td>
</tr>
<tr>
<td>Horizon</td>
<td>6</td>
<td>23%</td>
<td>13</td>
</tr>
<tr>
<td>Port Royal</td>
<td>2</td>
<td>8%</td>
<td>10</td>
</tr>
<tr>
<td>Pall Mall</td>
<td>4</td>
<td>15%</td>
<td>8</td>
</tr>
<tr>
<td>Drum</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rothmans</td>
<td>3</td>
<td>11%</td>
<td>4</td>
</tr>
<tr>
<td>Peter Jackson</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Benson &amp; Hedges</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Winfield</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4%</td>
<td>9</td>
</tr>
<tr>
<td>Average stated no. per day</td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Self-perceived Consumption</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light</td>
<td>3</td>
<td>11.5%</td>
<td>13</td>
</tr>
<tr>
<td>Light-Medium</td>
<td>1</td>
<td>4%</td>
<td>5</td>
</tr>
<tr>
<td>Medium</td>
<td>6</td>
<td>23%</td>
<td>43</td>
</tr>
<tr>
<td>Medium-Heavy</td>
<td>6</td>
<td>6%</td>
<td>6</td>
</tr>
<tr>
<td>Heavy</td>
<td>16</td>
<td>61.5%</td>
<td>37</td>
</tr>
<tr>
<td>Average CO Reading</td>
<td>14.9</td>
<td>s.d.= 7.17</td>
<td>16.6</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

Type of Cigarette

There was no difference between the two groups in type of tobacco product used. Across the whole sample, smoking roll-your-owns was significantly associated with the FTND scores obtained (Chi-square, p<.05). The tailormade smokers scored mainly light (68%) or medium (25%), whereas roll-your-own smokers tended to be more nicotine dependent. A third of roll-your-own only smokers were highly dependent and 38% who smoked both rollies and manufactured were highly dependent.
Brand

Twenty one participants smoked two different brands regularly. Of the first brand name mentioned 22% of participants smoked Holiday. The next most popular brand was Park Drive (17%) then Horizon (15%). Of the second brand names mentioned, Park Drive and Horizon were the most common. These are the three cheapest brands on the New Zealand market.

Actual Number of Cigarettes Smoked per Day

The stated number of cigarettes smoked per day ranged from 0 to 100. The average number of cigarettes smoked per day was 16. Fourteen percent smoked 10 cigarettes per day; 10% smoked 15 cigarettes per day and 10% smoked 20 cigarettes per day. That these were the most often quoted numbers is a function of digit preference (Ramstrom, 2000).

Self Perceived Consumption

Participants perceived themselves to be heavier smokers than indicated by other measures of consumption, such as their CO reading and FTND score (Table 16). Their own rating of whether they were a light, medium or heavy smoker was the inverse of consumption as represented here by their FTND score collapsed in to three categories: light, medium and heavy.

<table>
<thead>
<tr>
<th></th>
<th>Self-Perceived Consumption</th>
<th>FTND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>18%</td>
<td>48.5%</td>
</tr>
<tr>
<td>Medium</td>
<td>43%</td>
<td>30%</td>
</tr>
<tr>
<td>Heavy</td>
<td>41%</td>
<td>21.5%</td>
</tr>
</tbody>
</table>

Participants varied in their understanding of how much they would have to smoke to be considered a light, medium or heavy smoker. Many participants said they didn’t know how to rate themselves or they said it depended on where they were, their mood, whether they were socialising or at work. Responses from those who did try to put a figure to each category resulted in a range for each as follows:
Light 0 to 15 (no more than 20)
Medium 5 – 20 (no more than 29)
Heavy 10 – 30 plus (no less than 9).

Thus, even participants who only smoked 10 cigarettes a day sometimes perceived themselves to smoke heavily in relation to their desired consumption level, which was 0, for example, one participant said: “I think I was a heavy one, but even to me I think 10 is still heavy, like I know people who just smoke when they go out” (118).

As in this quote, some participants referred to other smokers they observed who smoked more or less than themselves, or they measured their current consumption against greater amounts they used to smoke in the past, for example: “I used to be heavy, so it would be medium” (119).

**CARBON MONOXIDE READING**

There was no significant difference between the 2 groups on their CO readings at the first interview. Neither was there any significant difference for CO readings among Auckland residents compared to non-Auckland residents.

CO readings were correlated with participants’ stated actual number of cigarettes smoked per day (Spearman Correlation r=.47, p<.001) and their FTND scores (Spearman Correlation r=.43, p<.001). A dummy variable representing expected CO reading was entered to explore the degree of accuracy of reported number of cigarettes smoked per day. There was a correlation (Spearman Correlation r=.37, p<.001) between stated number of cigarettes per day and expected CO reading, suggesting that about one third of readings corroborated participant’s reports of consumption. About one third of CO readings were too low for reported consumption levels and about one third of CO readings were higher than expected for reported number of cigarettes smoked per day. Rather than indicating truthfulness or not of participant’s reports, the variation of CO readings from expected levels could be due to the different times of day measurements were taken. Participant’s whose reading seemed low for the number of cigarettes they said they smoked per day, could have
been interviewed in the morning while their CO levels were still quite low. Several of the participant’s, whose CO reading seemed excessive for reported number of cigarettes smoked per day, smoked marijuana as well.

**THE FAGERSTROM TEST FOR NICOTINE DEPENDENCY**

Participants were asked five questions from the FTND (see Appendix L) the results of which are presented in Table 17. Number of cigarettes smoked per day was calculated from the actual stated number smoked per day. There was no difference between the two groups on any of the FTND factors at entry.

**Number Smoked per Day**

On the FTND, developed to measure the extent of a smoker’s nicotine dependence, smoking 10 or less per day is equal to a score of 0. A 10 a day smoker could, therefore obtain a total FTND score of 0 suggesting a very low to non-existent level of addiction. Thirty nine percent of all participants fell in this group. Slightly more participants (43%) smoked between 11 and 20 cigarettes per day, scoring a 1 on this FTND item and a much smaller number (12%) smoked 21 to 30 cigarettes per day scoring 2 and only 7 participants (5%) were considered heavy smokers, smoking 31 or more cigarettes per day scoring 3.

**Time to First Smoke - at First Interview**

In contrast, 32% of all participants at first interview smoked their first cigarette within 5 minutes of waking scoring a 3 on this FTND item indicating a higher level of nicotine dependence. A further 26% smoked their first cigarette 6 to 30 minutes after waking scoring 2 on the FTND; 18.5% smoked their first cigarette from 31 to 60 minutes after waking scoring a 1 and 23% did not smoke their first cigarette until after 1 hour after waking which does not rate as indicative of nicotine dependence on the FTND.
Table 17
FTND at Entry

<table>
<thead>
<tr>
<th>FTND</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average score</td>
<td>4.4</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Light</td>
<td>8</td>
<td>31%</td>
<td>55</td>
</tr>
<tr>
<td>Medium**)</td>
<td>13</td>
<td>50%</td>
<td>26</td>
</tr>
<tr>
<td>High</td>
<td>5</td>
<td>19%</td>
<td>23</td>
</tr>
<tr>
<td>No. per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 or less</td>
<td>7</td>
<td>27%</td>
<td>44</td>
</tr>
<tr>
<td>11 to 20</td>
<td>14</td>
<td>54%</td>
<td>42</td>
</tr>
<tr>
<td>21 to 30</td>
<td>4</td>
<td>15%</td>
<td>12</td>
</tr>
<tr>
<td>31 or more</td>
<td>1</td>
<td>4%</td>
<td>6</td>
</tr>
<tr>
<td>Time to 1st smoke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 5 mins</td>
<td>10</td>
<td>38%</td>
<td>32</td>
</tr>
<tr>
<td>6-30 mins</td>
<td>8</td>
<td>31%</td>
<td>26</td>
</tr>
<tr>
<td>31-60 mins</td>
<td>3</td>
<td>11.5%</td>
<td>21</td>
</tr>
<tr>
<td>After 60 mins</td>
<td>5</td>
<td>19%</td>
<td>25</td>
</tr>
<tr>
<td>Hard to refrain</td>
<td>4</td>
<td>15%</td>
<td>17</td>
</tr>
<tr>
<td>Hate to give up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first smoke of day</td>
<td>13</td>
<td>50%</td>
<td>38</td>
</tr>
<tr>
<td>Smoke more in AM</td>
<td>12</td>
<td>46%</td>
<td>35</td>
</tr>
<tr>
<td>Smoke when ill</td>
<td>13</td>
<td>50%</td>
<td>33</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

Nine participants that scored a 3 on time to first smoke but 0 on number of cigarettes smoked per day expressed a similar sense of urgency to smoke upon waking as participants who were heavier smokers. For example, they said:

It’s the first thing I do when I wake up, within 5 minutes, as soon as I open my eyes (95).

As soon as I get up. Soon as I open my eyes I’m sitting there waiting for a cigarette (89).

Minutes, oh heavens, it’s the first act of the morning and it’s my last act at night. It’s not a whole cigarette it’s just a puff... When I wake up to go to the toilet I walk straight outside and have a couple of puffs and then put it out and leave it for after breakfast (18).

There were no participants who scored highly (3 or 2) on number smoked per day and only 0 on time to first smoke.

The qualitative data indicated that a few participants had to sometimes delay their time to first smoke because of family responsibilities, for example:

The first thing I do is baby when I get up, so after I do him (121)

...half an hour, by the time I get up, feed him, make a coffee (48).

...probably about 10, 15 minutes, I’ll get up and feed the kids, sit down have a cuppa and have a smoke (57).
About 10 participants said if they get up during the night, for example, to go to the toilet, feed the baby, or to answer the phone, they would have a smoke. One participant was aware of waking up specifically to have a cigarette.

**Difficulty Refraining**

Only 16% of all participants at first interview said they found it difficult to refrain from smoking in places where it is forbidden. The qualitative data, however reveals that this is not necessarily because the other 88% all had a low nicotine dependency as suggested by a 0 score on this factor. For example, the following quotes show how some participants were thankful smokefree areas gave them an opportunity to refrain:

...it helps, if you go to a restaurant and you can’t smoke (93).
I’ve been doing a lot of meetings and been in a lot of places where you can’t smoke so it’s really what’s created this being able to go without for quite a while and I like being in places where I can’t smoke (23).

Some participants did not mind refraining out of respect for non-smokers, for example they said:
...when I visit their home, their house is smokefree and I respect that (27).
I’ve got no problems with that. Like if there’s non-smokers around me, then I’m aware that they don’t smoke, if I want a smoke I’ll just go away from them around the corner somewhere, but no I just won’t smoke in their company (122).
No, I don’t mind. I’m usually pretty considerate when it comes to other people around me like if I go into people’s homes or cars or public area (88).
I don’t smoke at playcentre... hate kids seeing the smoke (76).
I don’t smoke in my house. I haven’t done that ever since my kids were born because my kids are prone to bronchial diseases as well. I don’t do it because of that. So when I go out in public I don’t like doing it with other people around because I don’t like people smoking around kids (35).

Others were supportive of there being smokefree areas, for example:
With regard to cafeterias and all that I’m all for that. I’m all for it because I know as soon as I get out I can have one. It’s just like going to the bank etc. (85).
I really think it’s a good idea how you’re not allowed to smoke in, around people... even in shopping malls... Never used to, I mean I always used to think that anyone was free to do anything (47).
I don’t like going in public smoking. I’ll only do it at home, when I’m outside (39).

Some participants just worked around restrictions as the following quotes suggest.
I'll go out and find a place where I'm allowed to (1).

...restaurants and that, I knew that you don't smoke in restaurants because they're no smoking... It wasn't hard. If I was working and it was a smokefree place, well then I wouldn't smoke until morning smoke. Whereas if I was in a secluded area, you're not allowed to smoke. I'd only have morning, lunch and afternoon but then when I get home, I'll make it up (56).

Attitudes towards smoking in New Zealand have changed as evidenced by the following quote: “I don’t smoke at homes, it’s not as easy anymore” (72).

**Hate Most to Give up - At First Interview**

Of all participants at first interview, 39% thought the first cigarette in the morning would be the one they would hate most to give up. This percentage is similar to the number of participants scoring high on time to first smoke. Spearman Correlation analysis confirms a high correlation between these two variables, suggesting that this question may not be adding anything extra.

Some participants found the phrasing of this question “Which cigarette would you hate most to give up: The first one in the morning or all the others?” difficult to comprehend. For example, one participant said: “I don’t know, probably, that’s more like saying what time of the day do I most enjoy having a cigarette” (57). Often the question had to be rephrased or explained, for example, “Is there a favourite one? One you would hate most to give up, the hardest one to give up would be…” Therefore, responses to this question were not standard. Many participants identified their favorite cigarette which by implication was the one they believed would be hardest to give up.

Of the 59% of participants that said they would hate most to give up all other cigarettes or one of the other cigarettes, over 18% thought “the kai one,” the cigarette after food would be the hardest to give up. Particularly they said “after dinner” which would be the main meal of the day.

About 10% of participants favored the evening cigarettes, particularly “the last one at night” (74) “before I go to bed” (68). A further 5% thought the hardest cigarette to give up would be the ones had “in the afternoon just after I get home” (15). This is when they have “finished all your work” (104) and they can “sit down, feet up, smoke” (72).
The qualitative responses revealed a common dosage pattern, which may be culturally moderated. The first cigarette of the morning is required to increase blood nicotine levels that have dropped during sleep. Depending on people’s severity of dependence the next top up is required by, or taken given the opportunity, at morning tea, lunch and afternoon tea. Once home from work participants could smoke at their leisure, though this was commonly delayed until after dinner, when, for example, children had gone to bed and all the daily chores had been completed. They can put their feet up and relax and dose up, both to catch up on nicotine missed throughout the day due to smokefree restrictions at work and to stock up in preparation for the evening drought while asleep.

**Smoke More in the Morning**

The question: “Do you smoke more frequently during the first hours after waking than during the rest of the day?” was similarly difficult for some participants to follow. Therefore, I may have added, “Do you smoke more during the first hours of the day than during the rest of the day, or would you be more into smoking at night?” or “When do you do most of your smoking?”

Consistent with the above, only 36% said that they did smoke more frequently during the first hours after waking than during the rest of the day. Most of the participants (63%), thought they smoked more frequently at night or their smoking was evenly paced throughout the day. Participants sometimes responded with “it depends.” As this participant did:

It was more or less spread out. It depends on the day... if I was working like out in the garden, I’d smoke more. Seven smokes from the time I get out there to the time I get home (56).

If she had been restricted in her smoking during the day she spoke of making up for it at night, as did the following participants:

I’m not smoking during the 6 hours during the day, but then I’m making up for it at night (107).

The later in the day it gets the more cigarettes I’m smoking... sitting down at night time working at home, taking the stuff from here home and I think that’s why I smoke more at night times because I can’t smoke at work. I think that if this was a smoking place I’d probably smoke more (3).
More in the evening, after I’ve cooked tea. I’m a solo-parent and I manage to keep busy cooking and looking after the kids. When they go to bed then I just sit down, I might chain smoke. I might smoke 10 cigarettes during the day and I smoke another 10 in that last 3 to 3 and a half hours (23).

This question assumes a freedom to smoke that some New Zealanders, particularly those who work in smokefree environments, don’t enjoy anymore. They are forced to alter their pattern to fit smoking in. Thus, this question may not be appropriate to the New Zealand setting.

**Still Smoke When Ill**

The question: “Do you smoke if you are so ill that you are in bed most of the day?” was also hard for some participants to understand on first hearing and needed to be repeated and reworded to achieve comprehension. Those that were more highly addicted as indicated by number smoked per day and time to first smoke answered this question in the affirmative, that is, 35% said they would still smoke even if they were so ill they were in bed most of the day.

**Fagerstrom Test for Nicotine Dependency Score**

The final FTND score represents the sum of scores on each of the FTND questions. Participants’ FTND scores ranged from 0 to 10 with the average FTND score being 3.8. Nearly 50% scored less than 4 indicating light addiction, with 12% scoring 0 suggesting they were not chemically addicted according to this scale. Only 10% were highly addicted. There was no difference between the groups on the FTND at first interview.

When looking for factors predictive of quitting success, the FTND was categorised into three categories: light (0-3), medium (4-6) and heavy (7-10) and analysed using Logistic Regression with no significant result. On this measure, however, the groups were significantly different (Chi-Square, p=.04). Whilst over half (53%) of the unaided quitters were light smokers, only 31% of the NMSCP group were light smokers.
PSYCHIATRIC CO-MORBIDITY

Table 18 summarises the data on a number of variables that measured the existence of other psychiatric conditions at entry, for example, depression.

Table 18
Psychiatric Co-morbidity at Entry

<table>
<thead>
<tr>
<th></th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recently</td>
<td>6</td>
<td>23%</td>
<td>26</td>
</tr>
<tr>
<td>In Past</td>
<td>9</td>
<td>35%</td>
<td>33</td>
</tr>
<tr>
<td>In Past</td>
<td>32</td>
<td>25%</td>
<td>42</td>
</tr>
<tr>
<td>In Past</td>
<td>32</td>
<td>25%</td>
<td>42</td>
</tr>
<tr>
<td>Other drug use:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caffeine</td>
<td>24</td>
<td>92%</td>
<td>96</td>
</tr>
<tr>
<td>Cannabis</td>
<td>4</td>
<td>15%</td>
<td>15</td>
</tr>
<tr>
<td>Medication</td>
<td>3</td>
<td>11.5%</td>
<td>7</td>
</tr>
<tr>
<td>Alcohol use:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>10</td>
<td>38%</td>
<td>22</td>
</tr>
<tr>
<td>Monthly or less</td>
<td>8</td>
<td>31%</td>
<td>37</td>
</tr>
<tr>
<td>2-4 x a month</td>
<td>6</td>
<td>23%</td>
<td>37</td>
</tr>
<tr>
<td>At least weekly</td>
<td>5</td>
<td>19%</td>
<td>30</td>
</tr>
<tr>
<td>2-3 x a week</td>
<td>1</td>
<td>4%</td>
<td>7</td>
</tr>
<tr>
<td>4+ per week</td>
<td>1</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>No of drinks:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
<td>4%</td>
<td>2</td>
</tr>
<tr>
<td>1 or 2</td>
<td>4</td>
<td>15%</td>
<td>21</td>
</tr>
<tr>
<td>3-4</td>
<td>2</td>
<td>8%</td>
<td>15</td>
</tr>
<tr>
<td>5 or 6</td>
<td>3</td>
<td>11.5%</td>
<td>18</td>
</tr>
<tr>
<td>7-9</td>
<td>4</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>10 or more</td>
<td>7</td>
<td>27%</td>
<td>24</td>
</tr>
<tr>
<td>Drink 6+ a time:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>4</td>
<td>15%</td>
<td>27</td>
</tr>
<tr>
<td>&lt; Monthly</td>
<td>10</td>
<td>38%</td>
<td>28</td>
</tr>
<tr>
<td>Monthly</td>
<td>3</td>
<td>11.5%</td>
<td>25</td>
</tr>
<tr>
<td>Weekly</td>
<td>2</td>
<td>8%</td>
<td>12</td>
</tr>
<tr>
<td>Daily or almost</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Daily or almost</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

Depression

Participants were asked if they had had depression recently or in the distant past. Depending on the response they were then asked to describe what they meant by depression, for instance, what did they go through? Presentation of the qualitative responses to this question are included as Appendix R. There was no difference between the two groups on previous or current experience of depression. One quarter (25%) of participants believed they had experienced depression recently that is, within
the last 6 months. A third (32%) believed they had experienced depression in the more distant past, that is more than 6 months ago.

**Other Drug Use**

There was no significant difference between the groups on other drug use. Most of the participants (92%) drank caffeine drinks, particularly coffee, though some said they had cut down their coffee consumption because of the strong association with smoking. Fifteen percent used cannabis on a weekly basis. A few participants who smoked marijuana regularly were planning to give that up as well. For one participant smoking cannabis and cigarettes went together, as she said “the cigarette to me is the enhancer to the beer and the drugs because I feel I’m really satisfied, the best satisfying part of it to me is the cigarette after it, really just makes it” (114). Just over a quarter of participants (27%) drank alcohol at least weekly. One woman, quoted previously, wanted to give up drinking and thought giving up smoking would help her with that goal. A few participants were taking medication for depression, schizophrenia or other mental disorders.

**SMOKING STATUS AT FOLLOW-UP**

Table 19 summarises the information collected at follow-up on: smoking status, average number of days stopped, average difficulty score and withdrawal symptoms.

All of the NMSCP group were interviewed a second time whereas 19 of the unaided quitters had moved or were uncontactable. Vigorous follow-up procedures were used and priority was given to locating all of the NMSCP group, therefore they were interviewed on average 1 month earlier than the unaided quitters (Chi-square, p=.006). If the unaided quitters had been interviewed earlier the final point prevalence rate for the unaided quitters would have dropped by one participant who had stopped again the week preceding her interview.

Significantly more of the NMSCP group (35%) were smokefree at the follow-up interview (Chi-square p=.03). Only 14% of the unaided quitters were smokefree at the follow-up interview.
Table 19
Smoking Status at Follow-up

<table>
<thead>
<tr>
<th>Interviewed at follow-up</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average no. days to follow-up **</td>
<td>108</td>
<td>140</td>
<td>133</td>
</tr>
<tr>
<td>i.e. weeks to follow-up</td>
<td>15.4</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>i.e. in months</td>
<td>3.5</td>
<td>4.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Not smoking at follow-up **</td>
<td>9</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>- point prevalence</td>
<td>35%</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Average No. days stopped:</td>
<td>58</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>All **</td>
<td>96</td>
<td>110</td>
<td>104</td>
</tr>
<tr>
<td>Quitters</td>
<td>37</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Smokers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawal symptoms:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Moodiness</td>
<td>11</td>
<td>33</td>
<td>44</td>
</tr>
<tr>
<td>Agitation</td>
<td>6</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td>Eating</td>
<td>10</td>
<td>38</td>
<td>48</td>
</tr>
<tr>
<td>Sleepy/Insomnia</td>
<td>12</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>Cravings</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>N/A</td>
<td>12</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Relapsed:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full on smoking</td>
<td>17</td>
<td>42</td>
<td>59</td>
</tr>
<tr>
<td>Reduced smoking</td>
<td>0</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Occasional only</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Have had slips</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Continuous abstention</td>
<td>6</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>Gradually increased</td>
<td>12</td>
<td>40</td>
<td>52</td>
</tr>
</tbody>
</table>

** indicates a statistically significant difference (p < .05).

Participants were asked how long they had managed to stop for, even if they had relapsed. On average the NMSCP participants had managed to stay smokefree for 37 days before relapsing, whereas the unaided quitters had only managed to stay smokefree on average for a fortnight before relapsing (MWU Wilcoxon, p < .001).

The NMSCP participants who returned to smoking believed they returned to previous levels of consumption, where as 22% of the unaided quitters believe they had returned to smoking at a reduced level. Over half (58%) of all participants found that when they did return to smoking their consumption levels gradually increased.
TOBACCO CONSUMPTION AT FOLLOW-UP

Table 20 summarises the information collected at follow-up on current tobacco consumption, type of cigarette smoked now, brand and average CO reading. FTND scores are presented in Table 21.

Type and Brand

A decreased proportion of participants were smoking both tailormades and loose tobacco (down from 22% to 10%). Instead they were either rolling their own (up from 28% to 34%) or buying manufactured cigarettes (up from 50% to 54%). Holiday had become slightly more popular since the first interview (up from 22% to 33%). These changes could be due to participants’ response to a tax increase on tobacco and the equalisation of tax on loose tobacco resulting in price rises during the period of the research.

Table 20

<table>
<thead>
<tr>
<th>Tobacco Consumption at Follow-up</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Cigarette</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll-your-own</td>
<td>9</td>
<td>53%</td>
<td>22</td>
</tr>
<tr>
<td>Tailormades</td>
<td>8</td>
<td>47%</td>
<td>41</td>
</tr>
<tr>
<td>Both</td>
<td>9</td>
<td>12%</td>
<td>9</td>
</tr>
<tr>
<td>Tailors / cigars</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Brand 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holiday</td>
<td>3</td>
<td>18%</td>
<td>27</td>
</tr>
<tr>
<td>Park Drive</td>
<td>3</td>
<td>18%</td>
<td>10</td>
</tr>
<tr>
<td>Horizon</td>
<td>5</td>
<td>29%</td>
<td>8</td>
</tr>
<tr>
<td>Port Royal</td>
<td>2</td>
<td>12%</td>
<td>4</td>
</tr>
<tr>
<td>Pall Mall</td>
<td>1</td>
<td>6%</td>
<td>3</td>
</tr>
<tr>
<td>Drum</td>
<td>2</td>
<td>3%</td>
<td>2</td>
</tr>
<tr>
<td>Rothmans</td>
<td>1</td>
<td>6%</td>
<td>2</td>
</tr>
<tr>
<td>Peter Jackson</td>
<td>2</td>
<td>3%</td>
<td>2</td>
</tr>
<tr>
<td>Benson &amp; Hedges</td>
<td>2</td>
<td>3%</td>
<td>2</td>
</tr>
<tr>
<td>Winfield</td>
<td>4</td>
<td>5.5%</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>12%</td>
<td>9</td>
</tr>
<tr>
<td>Average CO Reading</td>
<td>11.4</td>
<td>s.d. = 7.35</td>
<td>14.5</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).
Carbon Monoxide Reading

There was no statistically significant difference between the groups on their average CO readings at the follow-up interview (Analysis of Variance, p<.001). CO readings at follow-up were still highly correlated with participants’ FTND score (Spearman Correlation r=.49, p<.001) and number smoked per day (Spearman Correlation r=.48, p<.001).

Average CO readings for all participants had dropped from 16.3 at the first interview to 13.7 at follow-up. There was a statistically significant difference between CO readings at the first interview and CO readings at follow-up (paired t-test, p=.005) which corroborates the above findings that number of cigarettes smoked per day and FTND scores had fallen.

The Fagerstrom Test for Nicotine Dependence

There was a statistically significant difference (paired t-test, p<.001) between FTND score at entry and FTND at follow-up (based on the 90 smoking complete data sets). Even among unaided quitters only who had not stopped smoking there was a significant (paired t-test, p<.001) difference in their FTND score. The average FTND score for all participants followed up that were smoking was 2.6 (down from 3.8). Thirty percent of smoking participants followed up now had a FTND score of 0 (up from 12%).

Number Smoked Per Day - At Follow-up

Only 2% of participants who were smoking at follow-up said they smoked 31 or more cigarettes per day (down from 5%); only 3% smoked 21 to 30 cigarettes per day (down from 12%); and 41% smoked 11 to 20 cigarettes (down slightly from 43%). Over half (53%) smoked 10 or less cigarettes a day (up from 39%). The NMSCP group smokers were heavier smokers than the unaided quitters.
Table 21
FTND at Follow-up

<table>
<thead>
<tr>
<th>FTND</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average score</td>
<td>2.0</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>s.d.</td>
<td>1.72</td>
<td>2.51</td>
<td></td>
</tr>
<tr>
<td>No. per day **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 or less</td>
<td>7</td>
<td>41%</td>
<td>48</td>
</tr>
<tr>
<td>11 to 20</td>
<td>10</td>
<td>59%</td>
<td>37</td>
</tr>
<tr>
<td>21 to 30</td>
<td>3</td>
<td>4%</td>
<td>3</td>
</tr>
<tr>
<td>31 or more</td>
<td>2</td>
<td>3%</td>
<td>2</td>
</tr>
<tr>
<td>Time to 1st smoke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 5 mins</td>
<td>1</td>
<td>6%</td>
<td>14</td>
</tr>
<tr>
<td>6-30 mins</td>
<td>3</td>
<td>18%</td>
<td>21</td>
</tr>
<tr>
<td>31-60 mins</td>
<td>4</td>
<td>23.5%</td>
<td>17</td>
</tr>
<tr>
<td>After 60 mins</td>
<td>9</td>
<td>42%</td>
<td>38</td>
</tr>
<tr>
<td>Hard to refrain</td>
<td>1</td>
<td>6%</td>
<td>9</td>
</tr>
<tr>
<td>Hate to give up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>first smoke of day</td>
<td>7</td>
<td>41%</td>
<td>33</td>
</tr>
<tr>
<td>Smoke more in AM</td>
<td>3</td>
<td>18%</td>
<td>23</td>
</tr>
<tr>
<td>Smoke when ill **</td>
<td>1</td>
<td>6%</td>
<td>22</td>
</tr>
<tr>
<td>s.d.</td>
<td>2.5</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>s.d.</td>
<td>1.72</td>
<td>2.51</td>
<td></td>
</tr>
</tbody>
</table>
| **indicates a statistically significant difference (p <0.05).**

Time to First Smoke - at Follow-up Interview

Of participants followed up and still smoking (90), 16% (down from 32%) still smoked their first cigarette within the first 5 minutes of waking, 23% (down from 26%) smoked their first cigarette within 6 to 30 minutes after waking and 19% (up slightly from 18.5%) smoked their first cigarette between 31 to 60 minutes. Forty two percent (up from 23%) did not smoke their first cigarette until some time after 1 hour after waking.

Difficulty Refraining - At Follow-up

Of the participants followed up and still smoking, 10% (down from 16%) still found it difficult to refrain from smoking in places where it is forbidden.

Hate Most to Give up - At Follow-up

Of the participants followed up and still smoking, 37% (down from 39%) thought their first cigarette in the morning would be the one they would hate most to...
give up. Sixty three percent said the cigarette they would hate most to give up would be all the others or another cigarette.

**Smoke More in the Morning - At Follow-up**

Of participants followed up and still smoking 26% (down from 36%) smoked more frequently during the first hours after waking than during the rest of the day.

**Still Smoke When Ill - At Follow-up**

Of participants followed up and still smoking 24% (down from 35%) said they would still smoke even if they were so ill they were in bed most of the day. There was a difference between the two groups that just reached significance (Chi-square, p=.048).

**CHANGES IN OTHER DRUG USE**

Table 22 summarises the information collected at follow-up on changes in consumption of other drugs and alcohol.

**Caffeine**

There was no difference between the groups on caffeine use at entry. More of the NMSCP group had given up caffeine at follow-up (30.8% v. 11.1% shift). Analysing the unaided quitters data only using a McNemar Test showed a statistically significant drop in caffeine (p=.013).

**Cannabis**

There was no difference between the groups on cannabis use at entry (see Table 18). There was possibly no difference between the groups on cannabis use at follow-up either, as 6 users of cannabis were lost to follow-up. Two unaided quitters and one NMSCP participant had stopped using cannabis at follow-up.
Table 22

<table>
<thead>
<tr>
<th>Other drug use:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caffeine</td>
<td>16</td>
<td>61.5%</td>
<td>85</td>
</tr>
<tr>
<td>Cannabis</td>
<td>3</td>
<td>11.5%</td>
<td>7</td>
</tr>
<tr>
<td>Medication</td>
<td>3</td>
<td>11.5%</td>
<td>3</td>
</tr>
<tr>
<td>Alcohol use:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>8</td>
<td>31%</td>
<td>23</td>
</tr>
<tr>
<td>Monthly or less</td>
<td>13</td>
<td>50%</td>
<td>39</td>
</tr>
<tr>
<td>2-4 x a month</td>
<td>4</td>
<td>15%</td>
<td>15</td>
</tr>
<tr>
<td>At least weekly</td>
<td>5</td>
<td>19%</td>
<td>17</td>
</tr>
<tr>
<td>2-3 x a week</td>
<td>7</td>
<td>8%</td>
<td>7</td>
</tr>
<tr>
<td>4+ per week</td>
<td>1</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>No of drinks:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 or 2</td>
<td>8</td>
<td>31%</td>
<td>21</td>
</tr>
<tr>
<td>3-4</td>
<td>3</td>
<td>11.5%</td>
<td>13</td>
</tr>
<tr>
<td>5 or 6</td>
<td>1</td>
<td>4%</td>
<td>14</td>
</tr>
<tr>
<td>7-9</td>
<td>2</td>
<td>8%</td>
<td>8</td>
</tr>
<tr>
<td>10 or more</td>
<td>4</td>
<td>15%</td>
<td>7</td>
</tr>
<tr>
<td>Drink 6+ a time:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
<td>8%</td>
<td>21</td>
</tr>
<tr>
<td>&lt; Monthly</td>
<td>10</td>
<td>38.5%</td>
<td>26</td>
</tr>
<tr>
<td>Monthly</td>
<td>3</td>
<td>15%</td>
<td>18</td>
</tr>
<tr>
<td>Weekly</td>
<td>3</td>
<td>11.5%</td>
<td>9</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).

Alcohol Use

Analysing the unaided quitters data only, a McNemar Test (p=.21) failed to show a statistically significant drop in use of alcohol at least weekly. A trend towards decreased use was evident as 11 unaided quitters reported stopping or decreasing weekly use of alcohol, whereas 5 increased to at least weekly use. With a larger sample size this trend may have reached significance.

A statistically significant drop in frequency of alcohol use was detected among the unaided quitters only using a Wilcoxon Matched-Paired Signed-Ranks Test (p=.048). More unaided quitters reduced from drinking weekly to drinking only fortnightly, monthly or less than monthly than those who increased. The same trend was not detectable using similar statistical analysis for the number of drinks per drinking session or occurrence of bingeing.
Logistic regression analysis (p=.39) showed at least weekly alcohol use was unrelated to success at quitting.

**POTENTIAL PREDICTORS OF QUITTING**

The factors that are potentially predictive of success at quitting, for example, level of addiction at the first interview are summarised in Table 23. The analysis is restricted to data collected from the unaided quitters as the NMSCP group were exposed to an intervention.

**Actual Number Smoked Per Day**

There was a significant difference (Wilcoxon Rank Sum Test, p=.02) on stated number of cigarettes smoked per day at first interview for unaided quitters who stopped smoking versus those who didn’t. Looking at the unaided group only, logistic regression showed that the actual number of cigarettes smoked per day at the first interview was predictive of success at quitting (p=.036). The less participants said they smoked the more likely they were to stop smoking.

Actual number smoked per day was correlated with CO readings (Spearman Correlation r=.47, p<.001).

<table>
<thead>
<tr>
<th></th>
<th>Stopped Smoking</th>
<th>Still/Back Smoking</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Actual No. Smoked Per Day</strong></td>
<td>9.1 s.d.= 8.47</td>
<td>17.3 s.d.= 14.7</td>
<td>16.1 s.d.= 13.1</td>
</tr>
<tr>
<td><strong>Average CO Reading</strong></td>
<td>11.2 s.d.= 9.43</td>
<td>17.5 s.d.= 9.15</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Time to First Smoke</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After 30 mins</td>
<td>8 67%</td>
<td>32 44%</td>
<td>40 47%</td>
</tr>
<tr>
<td>Within 30 mins</td>
<td>4 33%</td>
<td>41 56%</td>
<td>45 53%</td>
</tr>
</tbody>
</table>

** indicates a statistically significant difference (p <.05).
Carbon Monoxide Reading

There was a significant difference (Wilcoxon Rank Sum Test, p=.04) on CO reading at first interview for unaided quitters who stopped smoking versus those who didn’t. Logistic regression showed that CO readings, for unaided quitters only, at the first interview were predictive of quitting (p=.036). The lower participants’ CO reading the more likely they were to stop smoking.

CO readings were also correlated with the FTND score (Spearman Correlation, r=.43, p<.001), though the FTND Score failed to reach significance with Logistic Regression analysis of its ability to predict quitting.

Time to First Smoke

The FTND variable recording time to first smoke was collapsed into 2 categories: smoked within 30 minutes of waking and after 30 minutes of waking. Though there was no significant difference (Chi-square, p=.21) between unaided quitters who stopped and those who didn’t on even this new variable, a trend was evident. Logistic Regression confirmed that this more crude binary value was predictive of quitting (p=.028).

Logistic Regression analysing the FTND’s 6 items but using this new collapsed version of time to first smoke and actual number of cigarettes smoked per day rather than the FTND’s categorised variable, showed that actual number of cigarettes was the only variable that added anything (p=.031), though whether participants smoked more in the morning than the rest of the day came close to accounting for some of the variance (p=.076).

This new time to first smoke variable was correlated with participants’ CO reading (Spearman Correlation Coefficients, r=.41, p<.001), and reported number of actual cigarettes smoked per day (Spearman Correlation Coefficients, r=.48, p<.001), suggesting its utility for measuring severity of dependence. Time to first smoke was also correlated with the year participant’s finished school (Spearman Correlation Coefficients, r=-.32, p=.001) in that lower school education was associated with higher addiction levels.
Co-morbidity

None of the participants who were on medication for a mental disorder stopped smoking, though this did not reach statistical significance.

Age Predictive of Quitting

Analysis of ages grouped 16-24, 25-34, 35-44 and 45 plus, failed to reach significance as a predictor of quitting once the NMSCP group were excluded. Logistic regression on the grouped ages of all participants was related to smoking status at follow-up (p<.05). The youngest (36%) and oldest (30%) groups were more likely to stay stopped than the 35-44 years old group (22%). Only 5% of participants aged 25-34 stayed smokefree.

SECTION FOUR: SUMMARY OF RESULTS

The major findings between the groups for section four are:

❖ More of the unaided quitters had tried to quit before.

❖ The groups were significantly different on a modified FTND score at entry. Whilst over half (53%) of the unaided quitters were light smokers, only 31% of the NMSCP group were light smokers. There was, however, no difference in CO readings.

❖ Significantly more of the NMSCP group (35% vs 14%) were smokefree at the follow-up interview.

The major findings indicating changes between the first interview and the second are:

❖ There was a statistically significant difference between FTND score at entry and FTND at follow-up in that dependency level was lowered.

❖ There was a statistically significant difference between CO readings at the first interview and CO readings at follow-up consistent with a drop in tobacco consumption.

❖ There was a statistically significant drop in caffeine consumption over time across the whole sample.
A drop in frequency of alcohol use was detected among unaided quitters.

The factors that are potentially predictive of success at quitting are:

- Actual number of cigarettes smoked per day - the less participants said they smoked the more likely they were to stop smoking.
- Actual number smoked per day was correlated with CO readings and the lower participants’ CO reading the more likely they were to stop smoking.

**SECTION FIVE: TE TAHĀ HINENGARO**

Te taha hinengaro covers the factors considered to be in the mental realm. Thus, this section presents the data on psychological factors, such as reasons for previous quit attempts, choice of quitting method and reasons for all previous relapses (Table 24). Motivation for quitting in the present, Stage of Change and self-efficacy are presented in Table 25.

**REASONS FOR QUITTING PREVIOUSLY**

Eleven percent (11%) of all participants had 4 or more reasons for quitting previously. Of the first reason for quitting previously listed, 33% of participants who had previously attempted to quit did so for health reasons. Although participants claim to have attempted to quit previously 329 times, only 241 reasons for previous quit attempts were obtained. Health was the number one reason cited accounting for 31% of these reasons. Pregnancy (16%) was the second most mentioned reason for previously attempting to quit.
Table 24

<table>
<thead>
<tr>
<th>Reasons for All Previous Quit Attempts</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>17</td>
<td>38%</td>
<td>57</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>5</td>
<td>11%</td>
<td>34</td>
</tr>
<tr>
<td>Hoha</td>
<td>3</td>
<td>7%</td>
<td>26</td>
</tr>
<tr>
<td>Cost</td>
<td>4</td>
<td>9%</td>
<td>19</td>
</tr>
<tr>
<td>Fitness</td>
<td>6</td>
<td>13%</td>
<td>8</td>
</tr>
<tr>
<td>Children</td>
<td>2</td>
<td>4%</td>
<td>10</td>
</tr>
<tr>
<td>Others influence</td>
<td>4</td>
<td>9%</td>
<td>12</td>
</tr>
<tr>
<td>Walk Talk</td>
<td>3</td>
<td>7%</td>
<td>6</td>
</tr>
<tr>
<td>Someone Died</td>
<td>2</td>
<td>2%</td>
<td>4</td>
</tr>
<tr>
<td>Other reasons</td>
<td>1</td>
<td>2%</td>
<td>13</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>3</td>
<td>2%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

| Quitting Method:                       |            |                  |          |          |    |       |
|----------------------------------------|------------|------------------|----------|
| Cold Turkey                            | 21         | 58%              | 126      | 63%       | 147 | 63%  |
| NRT                                     | 4          | 11%              | 22       | 11%       | 26  | 11%   |
| Cut down                               | 1          | 3%               | 13       | 6.5%      | 14  | 6%    |
| Acupuncture                            | 2          | 5.5%             | 6        | 3%        | 8   | 3%    |
| Hypnosis                               | 2          | 5.5%             | 8        | 4%        | 10  | 4%    |
| Herbal                                  | 2          | 5.5%             | 9        | 4.5%      | 9   | 4%    |
| Course                                 | 4          | 11%              | 4        | 2%        | 8   | 3%    |
| Other                                   | 2          | 5.5%             | 11       | 5.5%      | 13  | 5.5%  |

| Reasons for All Previous Relapses:     |            |                  |          |          |    |       |
|----------------------------------------|------------|------------------|----------|
| Withdrawals                            | 9          | 24%              | 35       | 18%       | 44  | 19%   |
| Shock                                  | 6          | 16%              | 13       | 7%        | 19  | 8%    |
| Domestic                               | 4          | 11%              | 14       | 7%        | 18  | 8%    |
| Boredom                                | 1          | 3%               | 14       | 7%        | 15  | 6.5%  |
| Stress                                 | 4          | 11%              | 16       | 19%       | 40  | 17%   |
| Socialising                            | 4          | 11%              | 21       | 11%       | 25  | 11%   |
| Others Smoking                         | 4          | 11%              | 27       | 14%       | 31  | 13%   |
| Reason Gone                            | 2          | 5%               | 17       | 9%        | 19  | 8%    |
| Other                                  | 4          | 11%              | 15       | 8%        | 19  | 8%    |

**indicates a statistically significant difference (p < .05).

**PREVIOUS METHODS OF QUITTING**

Quitting methods were cited for 239 previous quit attempts. Cold turkey (63%) was the most frequently cited method used. Eleven percent of participants said they had tried nicotine replacement products.

**PREVIOUS REASONS FOR RELAPSE**

Several reasons for relapsing were given. Of all the 234 relapses for which a reason was given, withdrawal symptoms (19%) were the most common reason for
relapse, closely followed by stress (17%). Others’ smoking was 13% and socialising was 11%.

**Reasons for Stopping**

Table 25 summarises the data on motivation for quitting including reasons for stopping, whether pregnancy is a factor, current illness and stage of change.

Participants cited multiple reasons motivating them to quit smoking. Health was cited most often, followed by cost and the consideration of children.

**Health**

Most (85%) participants wanted to stop smoking for “health” reasons. Analysis of the qualitative data revealed that about half of these participants were concerned about their declining physical health. Their complaints ranged across poor “stamina” “shortness of breath” to “stroke” “diabetes” and “emphysema.” One quarter had decided “it’s time” because of how long they had been smoking and how old they were. A typical comment was “I’m getting older... somewhere along the line I’m going to have to stop doing all these things to my body and start looking after it” (79). “…eleven years is long enough for smoking” (53). Similarly, about a quarter spoke of their hope for a long good quality life. They wanted to be “around as long as I can” (73); “to stay young” (84); “to enjoy life with my children and hopefully when they’re my age I’ll be able to do things with them” (22) “and not to be dependent on other people or on any medication” (88). Some of them were sure “it’s going to end up killing me” (110) and as one woman said, “I don’t want to die” (25).

About a quarter of participants who cited health as their main reason for stopping, expressed beliefs that they should stop because smoking is “bad for you” (43). Even though they weren’t yet experiencing obvious physical ill-effects they believed smoking was “doing harm to my body” (19); it “robs your body of so many important vitamins” (93) and there would be “implications” (120).
Table 25

Motivation for Quitting

<table>
<thead>
<tr>
<th>Why Stop Now:</th>
<th>Noho Marae</th>
<th>Unaidedopters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>23</td>
<td>88%</td>
<td>85%</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>4</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Sick of It</td>
<td>6</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Cost</td>
<td>15</td>
<td>58%</td>
<td>54%</td>
</tr>
<tr>
<td>Fitness / sports</td>
<td>3</td>
<td>11.5%</td>
<td>22%</td>
</tr>
<tr>
<td>Children</td>
<td>13</td>
<td>50%</td>
<td>54%</td>
</tr>
<tr>
<td>Others don’t like it</td>
<td>1</td>
<td>4%</td>
<td>13%</td>
</tr>
<tr>
<td>Walk the Talk</td>
<td>11</td>
<td>42%</td>
<td>22%</td>
</tr>
<tr>
<td>Death of others</td>
<td>1</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>35%</td>
<td>32%</td>
</tr>
<tr>
<td>Don’t Know</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant or planning a pregnancy</td>
<td>1</td>
<td>4%</td>
<td>13%</td>
</tr>
</tbody>
</table>

| Unwell Now:                   |            |               |          |           |          |
| No problems                   | 4          | 15%           | 31%      | 35        | 27%      |
| Breathing worries             | 10         | 38.5%         | 20%      | 30        | 23%      |
| Bronchitis                    | 3          | 11.5%         | 15%      | 18        | 14%      |
| Asthma                        | 4          | 15%           | 26%      | 30        | 23%      |
| Circulation                   | 5          | 19%           | 18%      | 23        | 18%      |
| High bp                       | 4          | 15%           | 12%      | 16        | 12%      |
| Heart problems                | 3          | 11.5%         | 12%      | 15        | 11.5%    |
| Cancer                        | 1          | 4%            | 8%       | 9         | 7%       |
| Other                         | 8          | 31%           | 29%      | 37        | 28.5%    |

| Stage of Change:              |            |               |          |           |          |
| Contemplation                 | 0          | 0%            | 22%      | 22        | 17%      |
| Action                        | 26         | 100%          | 82%      | 108       | 83%      |

**indicates a statistically significant difference (p < .05).

Two participants were concerned that they might be prejudiced against if they ever needed hospital treatment, for example, one woman said, “I’ll lose points to get on the waiting list if I’m smoking. Also the insurance company won’t be paying anything if I’m smoking, if I need an operation” (70). The other participant said:

I thought what a terrible thing it would be if I had a crisis and got to hospital and there were 2 people waiting - and they say we won’t do him because he smokes. And I think they’re quite right, to be perfectly honest. I’m not against it at all because if you’ve been warned, if you’ve got a heart problem and you’ve been warned that smoking is dangerous and it’s bad for your condition and you have the condition, and they say sorry you’ve smoked for too long – it’s your fault (24).

Cost

Just over half (53%) of participants listed cost as a factor in their quitting. Only 19 of these specifically stated that this was because they couldn’t afford the cost as they were on minimal incomes. About 15 participants acknowledged that smoking was “expensive” as one participant worked out “it cost me about $1300 something a
year" but it was not a major motivating factor because as she said, "I've got everything I need. I've got my own car, my own house" (25). Cost was "a lower priority" for another participant, as she reasoned, "because if you're going to smoke or if you're gonna do something, drugs or booze and that, cost doesn't really enter into it, you'll pay any price, really cost is not a factor, for myself, if you want a cigarette you'll just keep paying the dollars" (93).

Cost was a factor in stopping for 12 participants because as they explained "there'll be more money" (95); "imagine having that in your wallet, every second night having $6.60 there or when it's off pay week and you think I have to get some money or will those smokes last me over... If you're not smoking you don't have to worry about that" (31). They could see how the money could be put to better use and some expressed resentment about the way they had been wasting it on smoking, as the following quotes illustrate.

I would rather that money goes somewhere where I can see the benefits coming back to me than going up in a puff of smoke. I was just thinking about that money, see between us we can be saving $100-120 a month, which is about $1000-1200 a year. That's a lot of money to go up in smoke (9).

I can afford it but it's stupid. I resent spending it on that (24).

Two participants expressed resentment particularly about "the tax you pay on it" (87) and "the government profiting from this addictive industry" (64).

Some of the participants said cost was not a factor because they could afford it, for example, one person said, "expense is not a consideration. Like most people you learn to budget for the good things that you want" (18). Another participant said. "No. I'll just find something else to spend the money on, just as unhealthy" (26).

Not In Front of The Children

About half (51.5%) of participants wanted to stop smoking for the children's sake. About 30 participants wanted to be smokefree role models for their own or other people's children. Some of them believed that their children would learn from their example and follow them into smoking as illustrated by the following quotes:

I really wasn't much of a role model for my daughter and that's why I reckon half of it is why she's taken up smoking (36).
They see me do it enough times, they think it's alright, it's not a bad thing to do, and she was already picking up a smoke before she was one and putting it in her mouth 'cause she saw me... That's just yuck (23).

What I've picked up on with my kids, with one I never smoked and she just doesn't like it at all, whereas my son I did, I was then and I can see him when he sees a cigarette he wants to drag it and smoke it. I can see the difference with the two (25).

I don't want my boys to smoke. When you see something all your life it's something that's easy to get into. It's not okay and I don't want them to think it is (57).

I suppose because my little sister, she's only 12, and she sees me smoking, she thinks it's all right for her. She starts picking up butts (18).

One participant wanted to provide a positive experience of herself as a grandmother to her mokopuna, as she said:

I could still smoke with my kids but now I have my mokopunas I don't want to smoke. I've got three at the moment and every time they come here man I don't smoke. And I hide all the ashtrays.... I just realised recently that what my training has been all my life is to be the greatest grandma... the most knowledgeable, the most creative, most full of stories, full of tikanga, full of waiata, full of good things about how to live well, rongoa.... I want this image that my mokopunas should have of me and so therefore I've got to do it now while my mokopunas are only babies, because they're gonna grow up soon. And I don't want to have to say moko don't smoke and here's your kuia smoking (8).

A few people rejected the potential benefit of being a smokefree role model for their children, for example, one woman said “I'd rather put my role modelling into different things - law-abiding, sun hat” (36). Three others thought the choice should be left to their children, that is, as one participant said, “it doesn’t matter what you do, they’ve got to make their own choices when they grow up” (29). Another said, “I was brought up and it was okay for me to smoke and so it’s okay for her” (36). An aunty was “really conscious of reeking of cigarettes” when she was around her many nieces and nephews.

Twenty participants didn’t want to smoke around children because “it’s not very good for the kids” (36) or because they had poor health, such as asthma. In saying they want to stop for the children, 17 participants explained that it was because the children didn’t like them smoking. One participant said, “I've got two, one's 11, one's 10. They're the one's that keep telling me that they don't want me to go early” (121). Eleven participants were concerned about being around long-term for their children and mokopuna. One participant had lost his wife to cancer from smoking and he didn’t want his kids to think that he was also going to die from cancer. He said, “they still get this big fear of cancer, what happened to their mother” (23). Another
participant had lost her husband to a smoking related illness. She was concerned “because of my kids. I’m the only parent... I’m scared if anything happens to me, what will happen to them?” (35).

One woman did not like how her smoking effected her relationship with her daughter “because it’s like I take that 10 or 15 minutes to go outside and I tell her that she has to go away because I’m going outside to get away... I think it quite isolates her in a sense and me. It’s quite sad actually” (78).

**Walk The Talk**

Thirty three participants (25%) wanted to stop smoking so they could be a better role model and or to be more consistent with their own image of themselves or their job, for example, because they were a nurse, teacher, drug and alcohol counsellor or youth worker. They spoke of feeling “hypocritical” and needing to “walk the talk.” For example, a volunteer worker in a mental health institute said, “recently a girl was clean for 3 months, then she went back to heroin and hey what can I say? I can’t give up smokes and I’m telling her to give up heroin. It don’t work, so I don’t get into those issues” (63).

Two participants were trying to get into the police force and they believed being smokefree would improve their chances of recruitment. They were preparing to work in smokefree environments. Another young woman was in the Territorials and she said it “pays to be fit.” She also played for a couple of smokefree sports teams which “motivated a lot of us to give up ‘cause we never smoked when we were in our shirts... that motivated a lot of us to think about giving up” (15).

There was a political aspect to becoming a smokefree role model for 16 of the participants. They expressed a desire to decrease the high Maori ill-health statistics, for example one woman said, “I really don’t want to be a statistic and I don’t want my kids to be either” (26). Stopping smoking was part of a decolonisation process for a few participants, as one explained:

If we’re looking at colonisation or oppression or suppression or however we want to look at it and then realise that there’s a colonisation process that goes over here coming in with the coloniser and the cigarette is one of the things that they brought with them. As Maori people, we were the only indigenous people that never took a mind altering drug. Over here we have another process that comes with how we colonise ourselves.
and I think we do this really well with cigarettes and how that is damaging whanau, hapu and iwi (1).

On the same decolonisation theme, another woman said:

As a Maori woman I know how much I’m violating my own tapu... if I look at my value base, back to that 12 year old, that 15 year old and look back at what actually happened and somehow my values actually got pushed down. That would be one of the reasons for smoking today, my values as a Maori back then... so now there’s actually been a re-embracing of that. They’re damn good values and what am I doing with a cigarette? (42).

Even a younger person in training said, “I want to tautoko other rangatahi too in understanding what tino rangatiratanga is, but I can’t do that if I’m not 100% committed to the kaupapa” (68). In terms of tino rangatiratanga, another participant said, “I associate smoking with lack of discipline and lack of control and it’s an obvious sign that I’m portraying when I’m doing it - lack of discipline” (12).

Six participants rejected the importance of being a smokefree role model in their work. Two said they were stopping “for me and not for everybody else” (71). One participant said. “No. We’ve got enough of those around” (83) and another said “to be a nonsmoker is not a valuable role model. To be someone who has integrity, is honest, is kind to someone is a value” (92).

Other

Twenty eight participants (21.5%) said they wanted to stop smoking because they were sick of it. Twenty five participants (19%) wanted to be fitter or wanted to improve their performance in sports. Fourteen participants (11%) were stopping because other people didn’t like their smoking.

Among the 41 (31.5%) reasons for stopping listed as other, 10 participants were stopping for religious or spiritual reasons, because they had joined or were returning to a church, for example, the Mormon church. Eight participants were trying to change their lives, for example one participant said, “I’m trying to start a whole new beginning... cleaning out everything, all the cobwebs, trying to put myself back on track. I’m trying to get back in control again” (60). Another had “stopped smoking marijuana about 2 months ago. I just want to top it off by knocking nicotine on the head. I don’t drink” (23), and another wanted to give up drinking. She thought “if I give up smoking I’ll more than likely give up drinking, which at the end of the day
that is the one that I’m gearing for. It’s the drink that’s really getting me, the things that I do when I’m drinking” (44). Six participants were concerned about wrinkles, having stained teeth or a clear complexion. Five participants found smoking had ruined their singing voice making it husky and harder to hold their notes.

**Pregnancy**

Though 14 (11%) participants were pregnant or planning a pregnancy sometime in the future, only 4 cited this as a reason for stopping smoking now and one was a male whose partner was pregnant. The other 3 were planning ahead for later pregnancies, as one woman said, “giving up is a major concern, because of my age, I want to go on the pill so that when we do decide to have children, it can be planned and I want to be smokefree before both of those things come into effect” (63). Another woman wanted to be smokefree for her next pregnancy because “I’ve been pregnant twice and I’ve had an ectopic and a miscarriage” (95).

**Ill-Health**

Participants ranged from being very fit and physically healthy to terminally ill. One participant thought she had 10 years left to live. She died just 21 months after her first interview.

Only 35 (27%) participants had no ill-health that they were aware of. Thirty nine (30%) reported a single illness; 27 (21%) had 2 illnesses and 29 (22%) had 3 or more separate illnesses. Pulmonary complaints, that is, shortness of breath, bronchitis and other chest infections and asthma accounted for about 44% of all the illnesses reported. Circulatory illnesses, that is, poor circulation, high blood pressure and heart complaints accounted for about 33%, and about 6% of illnesses were a cancer of some type. Illnesses categorised as other included for example, diabetes, kidney and liver infections.

Of the 30 participants recorded as having breathing problems and the 30 listed as having asthma, only 6 participants are included in both figures. All 15 participants recorded in Table 25 as having heart problems, had multiple illnesses.
STAGE OF CHANGE AT ENTRY

Most (83%) of the participants were in the action stage of change. The other 17% were in the contemplation or precontemplation stage of change. The qualitative data confirms that 3 participants did not want to stop smoking altogether but were interested in cutting down. Others were planning to stop but not within the next 30 days. For example, some participants planned to stop by their next birthday which may have been over a month away. For others it was going to be their New Year’s Resolution which was also over a month away from the time of the interview.

It’s a bad time for us at the moment and I know if I try and give up now - I thought about it when I rang you I thought I should give up but something’s happened with our family... I want to do it straight after Christmas. My New Year’s resolution is to give up (31).

Stopping within the next 30 days was “too drastic” for others, for example, one woman said: “In the next year, not in the next 30 days” (74).

PREPARED FOR QUITTING

Table 26 summarises the data on quitting preparedness, proposed quitting method and self-efficacy.

Nearly half (46%) of the NMSCP group attended preparation sessions held especially for them. Despite the absence of assistance, 66% of the unaided quitters undertook some form of preparation for quitting. Three had attended the NMSCP preparation sessions but did not end up going on the programme.

Twenty three percent of all participants had some training that may have armed them with knowledge or skills useful for attempting smoking cessation, for example nursing, drug and alcohol counselling or previous attendance at a drug and alcohol programme for treatment of another drug addiction. Fourteen percent had read material about smoking and quitting smoking. Several participants had started making other lifestyle changes, such as increasing physical activity, drinking more water, cutting out habitual cigarettes, throwing out the ashtrays and planning to find a new interest. Other things people did included mental preparation, as some participants said: “got myself-psyched out” (44); “psychologically I tell myself I hate the smell of the cigarette” (77); “I’ve been having little chats with myself every night” (9). One
woman “did a functional analysis on my smoking, which helped me a lot” (4). Telling people was something some people did in preparation for quitting and one woman changed to a stronger brand of cigarettes.

Twenty nine percent of all participants had done nothing to prepare themselves for quitting.

**Table 26**

**Prepared for Quitting**

<table>
<thead>
<tr>
<th>Preparation:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>3</td>
<td>35</td>
<td>38</td>
</tr>
<tr>
<td>Prep sessions</td>
<td>12</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Reading / Research</td>
<td>4</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Lifestyle change</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Training</td>
<td>3</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>20</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quit Method:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Turkey</td>
<td>39</td>
<td>37.5%</td>
<td>39</td>
</tr>
<tr>
<td>NRT</td>
<td>7</td>
<td>7%</td>
<td>7</td>
</tr>
<tr>
<td>Gradual Reduction</td>
<td>37</td>
<td>35.5%</td>
<td>37</td>
</tr>
<tr>
<td>Natural product Programme</td>
<td>4</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3%</td>
<td>3</td>
</tr>
<tr>
<td>Don't Know</td>
<td>6</td>
<td>6%</td>
<td>6</td>
</tr>
</tbody>
</table>

**Average Self-efficacy** (1-7)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1-7)</td>
<td>5.2</td>
<td>4.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).**

**Proposed Method of Quitting**

The unaided quitters were planning to stop smoking using a range of methods. Thirty percent were planning to stop “cold turkey, just not buy smokes” (99) using “probably sheer will power” (60). Many participants said they had previously tried to stop cold turkey but found it too hard so they would need to try a different method this time.

Almost the same number of participants (28.5%) were going to slowly wean themselves off smoking, as one participant said, “I’ll keep cutting down until I gradually forget about it” (89). They had various ways of cutting down, for example, some participants lengthened the time between cigarettes: “the method I used for weaning myself down was lengthening the timeframe from when you have your first one to when you have your next one” (93). They would try and make a packet of tobacco or cigarettes last longer. “Instead of a packet of twenty, a packet of tens and
going through like that” (17). Sometimes they would try to go without a cigarette for as long as possible, for example, “there was a couple of days last week where I didn’t smoke at all” (38).

Others would only smoke half a cigarette at a time. “Instead of having a smoke we’ll each have a half” (19 & 21).

Well yesterday I had 2, that was sort of having a puff, butting it out and then putting it away... I was still getting the nicotine fix without cutting the whole thing off (60).

Some participants changed to a stronger or milder or filtered tailor-made cigarette, or switched to loose tobacco, for example, “generally I’ve gone more to rollies now to cut down” (16).

A few of the unaided quitters were planning to attend a smoking cessation programme, for example, ISIS or a 7th Day Adventist programme. Several more said they would like to attend some kind of programme if they were available. Seven of the unaided quitters were planning to use NRT and 6% of the unaided quitters did not know how they were going to stop. A few participants were thinking about trying herbal cigarettes, homoeopathic remedies, Nicobrevin if they could afford it, or Chinese medicine.

SELF-EFFICACY

Most of the participants in both groups were reasonably confident that they would succeed at stopping smoking this time. On a scale from 1 to 7, the average score was 4.8.

POTENTIAL BARRIERS AND DISINCENTIVES TO CESSATION

Table 27 summarises the information collected on potential barriers and disincentives to smoking cessation, including participants’ reasons for smoking, what they would miss about smoking and whether they were worried about putting on weight. Information collected at follow-up about relapse including reasons for relapse, stage of change at follow-up and intended next method of quitting are summarised in Table 28.
Table 27
Potential Barriers and Disincentives to Smoking Cessation

<table>
<thead>
<tr>
<th>Strongest Reason for Smoking</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habit</td>
<td>8</td>
<td>31%</td>
<td>36</td>
</tr>
<tr>
<td>Addiction</td>
<td>4</td>
<td>15%</td>
<td>29</td>
</tr>
<tr>
<td>Stress</td>
<td>2</td>
<td>8%</td>
<td>15</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>4</td>
<td>15%</td>
<td>10</td>
</tr>
<tr>
<td>Boredom</td>
<td>2</td>
<td>8%</td>
<td>4</td>
</tr>
<tr>
<td>Social</td>
<td>1</td>
<td>4%</td>
<td>2</td>
</tr>
<tr>
<td>Emotions</td>
<td>4</td>
<td>15%</td>
<td>6</td>
</tr>
<tr>
<td>Its Normal</td>
<td>1</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Weight Control</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why Smoke All Reasons</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habit</td>
<td>20</td>
<td>77%</td>
<td>75</td>
</tr>
<tr>
<td>Addiction</td>
<td>9</td>
<td>35%</td>
<td>42</td>
</tr>
<tr>
<td>Stress</td>
<td>7</td>
<td>27%</td>
<td>56</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>6</td>
<td>23%</td>
<td>27</td>
</tr>
<tr>
<td>Boredom</td>
<td>7</td>
<td>27%</td>
<td>31</td>
</tr>
<tr>
<td>Social</td>
<td>8</td>
<td>31%</td>
<td>36</td>
</tr>
<tr>
<td>Time out</td>
<td>5</td>
<td>19%</td>
<td>17</td>
</tr>
<tr>
<td>Emotions</td>
<td>9</td>
<td>35%</td>
<td>21</td>
</tr>
<tr>
<td>Its Normal</td>
<td>8</td>
<td>31%</td>
<td>7</td>
</tr>
<tr>
<td>Weight Control</td>
<td>2</td>
<td>8%</td>
<td>4</td>
</tr>
<tr>
<td>Stimulant</td>
<td>1</td>
<td>4%</td>
<td>5</td>
</tr>
<tr>
<td>Availability</td>
<td>2</td>
<td>8%</td>
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</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4%</td>
<td>2</td>
</tr>
<tr>
<td>Don’t Know</td>
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<td>4%</td>
<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>Will miss most:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
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<tr>
<td>Habit</td>
<td>3</td>
<td>11.5%</td>
<td>17</td>
</tr>
<tr>
<td>Addiction</td>
<td></td>
<td>8%</td>
<td>8</td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td>10%</td>
<td>10</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>6</td>
<td>23%</td>
<td>19</td>
</tr>
<tr>
<td>Boredom</td>
<td>1</td>
<td>4%</td>
<td>11</td>
</tr>
<tr>
<td>Social</td>
<td>5</td>
<td>19%</td>
<td>20</td>
</tr>
<tr>
<td>Time out</td>
<td>1</td>
<td>4%</td>
<td>8</td>
</tr>
<tr>
<td>Emotions</td>
<td>1</td>
<td>4%</td>
<td>3</td>
</tr>
<tr>
<td>Stimulant</td>
<td></td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Nothing / Don’t Know</td>
<td>12</td>
<td>44%</td>
<td>30</td>
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</table>

<table>
<thead>
<tr>
<th>Worried about putting on weight</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>42%</td>
<td>53</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worried about withdrawals</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>54%</td>
<td>66</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).

**Reasons for Smoking**

Participants could list as many reasons for smoking as they wished. They were also asked what was the strongest reason for their smoking. Of the strongest reasons
mentioned, habit (34%) was the most common explanation, followed by addiction (25%).

Of all the reasons given for smoking 73% of participants said they smoked because it was a habit. The following quotes illustrate what was meant by this:

Habit, just a routine with my day. It’s not so much that I crave really it’s just, say if you go to a café for a coffee it’s just an automatic thing (50).

At certain times of the day - if the telephone rings, have a smoke, can’t talk on the telephone without a smoke, cup of tea, cup of coffee - I smoke, got to have a smoke with them. I’m not a big drinker, but certainly in the summertime, I might have a gin and soda or gin and water, just a couple but I have a smoke with it and that’s habit, nothing more than that (24).

It’s like getting up in the morning and washing your face. I means it’s just become something that’s part of my day, it’s normal (114).

Forty eight percent said they smoked because of stress. Some participants had very stressful lives, for example, trying to make ends meet on the benefit, getting evicted, trying to escape from violent male partners, children getting into trouble, having stressful jobs, having no job, stressful relationships and bullying at work. The following quotes are typical examples of how participants saw smoking in relation to stress.

I find that’s why I smoke a lot during the summer because I play lawn bowls... there are certain games where there’s pressure involved and I’ll find that smoke relieves the anxiety (58).

Worry. I do smoke when I start having a lot of things on my mind (32).

Sometimes when I get stressed out, I smoke ‘cos it relaxes me, calms me down (43).

I find that I smoke more when I’ve got problems... and I find it relaxes me quite a lot after an argument or if I’m having a confrontation with one of my whanau... If I sit there and I puff away it helps to release the anger and stress (30).

It’s relaxing. That’s it really (9).

One participant expressly stated that smoking was “not a calming sensation. I actually smoke less when I’m stressed. I’m opposite to everyone” (26) and another participant said:

If I got terribly upset, let’s say and there was an accident, I wouldn’t be going straight for a smoke - it wouldn’t soothe me. I would probably go straight for a drink because I know I can get that feeling of euphoria from a drink rather than a cigarette (79).

Thirty nine percent said they smoked because they were addicted and for 25% of participants this was the strongest reason for their smoking. The following quotes elaborate on participants’ understanding of the addictive nature of smoking.
I think it is an addiction, because there are times when I don’t enjoy it, so I’d smoke half the darn thing and throw the other half out (11).

I think I’m mentally addicted to it because I can’t taste it. I get no euphoria and no nothing but I still do it (83).

I just can’t help it and I know in my mind to stop. I try to keep myself busy and all that but I’m really hooked... I still smoke because I really need it... I get mood swings if I don’t have it. It’s like a necessity. I would have a smoke over food (85).

Because it’s something I feel I have to... it’s a part of myself that I feel I need to feed my body (117).

I do have incredible cravings to want to (8).

I think my system’s gotten so used to it. I don’t even need to crave or need to have a smoke before it just... (67).

Well, firstly I’m addicted. I know that I can’t go without it. I appreciate how druggies feel, you know? Can’t go without (58).

I can go without a cigarette for about 5 hours and that would be it. Then you know I’m going to have to have a fix. I call a cigarette a fix (6).

If I don’t have it I’ll go nutty because I do honestly... I know it’s in my mind and if I just not think about it I’m going to be just fine but the other whatever you call it seems to take control (82).

When you’re spending $9 on a packet and smoking it in 2 days and ya know you can’t really afford to spend money on something else, but you’re racking your brain looking for a few extra dollars for a packet of cigarettes, yeah, well that’s an addiction (115).

Thirty four percent said they smoked when they were socialising or drinking and for 3 participants, this was the strongest reason for their smoking. For some participants companionship and socialising with whanau and friends who smoke triggered them to smoke, as illustrated by the following quotes:

Just going around seeing friends and they smoke as well and it’s automatic you know you’re having a conversation and it just goes with it (32).

I guess when I’m with friends that are smokers then I’ll smoke (77).

Probably because my flatmate she smokes it’s just a habit when she comes home from work. We make a cup of tea and go straight outside and sit there and talk (35).

Many participants spoke of increasing their smoking particularly when they were drinking alcohol, which was usually in a social environment.

Sometimes I’d do 3-4 a day, but then come Friday, Saturday, and after I’d had a couple of beers with the lads, after tag or touch and sort of just light one after another for no particular reason (73).

Mainly after work I’d have a few beers and a smoke (123).

I know it’s going to happen and I know, like I prepare for it by getting, having ready another packet of smokes, you check how many cigarettes you’ve got before you go out. So it’s preplanned. You know you’re going to drink (11).

I only really heavily smoke when I’m drinking (80).
When I drink I could smoke anything between 2-3 yeah quite bad (22). If I went out drinking I’d smoke a whole packet, maybe half a packet, depending on the mood I was in (56). I’m a proper little chain smoker when I’m drinking alcohol (82). In the night when you’re drinking, I tend to smoke a lot, and then I don’t smoke for 3 days after. I’ll be sick for those 3 days and then I’ll smoke again (91).

Some participants felt that smoking and drinking go hand in hand, as they said:

Of course social mainly with the drink, you’ve got to have a wine or beer or something like that, the two seem to go well together (93).

Depending if I was socialising I could go through 2 not a problem, if I was drinking alcohol... so if I give up smoking I’ll automatically, ‘cos they always go hand in hand for me... it’s the alcohol one that I have a problem with but to get to the alcohol one I have to give up the smoking, because if I give up smoking then I won’t drink. I know it might seem silly to some people but that works for me (44).

I smoke when I drink... a drinking smoker. I love having a cigarette when I have a drink and I just can’t seem to shake it off, that’s the crux... I don’t care what anyone says the wine and the cigarette just go hand in hand (51).

One participant said she smoked less when she was drinking.

I know I can’t smoke when I’m drinking alcohol. I really cut down. I know a lot of people smoke more when they drink but I’m sort of backwards. I think just the fact of having to roll it. Even when I ask for a puff, I just have a puff and then give it back (89).

Twenty nine percent of participants smoked when they were bored or had “nothing else to do” (42). For 6 participants they thought this was the strongest reason for their smoking. As they explained, “it’s a thing where you need to do something when you’re doing nothing” (39); “it’s a novelty” (59); “I think it’s just like living on my own and at night time just something to do with my cup of tea” (7). Some participants had no job, no friends because they were new to the area, lived in a rural area geographically isolated from others or couldn’t do things because of physical ailments, for example, one woman said: “nothing else to do, that’s only because, being crippled I can’t do very much” (94).

Twenty five percent of participants said they smoked because they enjoyed it and for 14 participants the enjoyment was the strongest reason for their smoking. As the following quotes show some participants expressed very strong positive feelings about smoking:

The truth is I actually enjoy smoking. I don’t know whether it’s actual smoke I enjoy, it’s the whole feeling. I enjoy the feeling (71).
I quite like inhaling (86). I like the taste. I love the smell (114).

Twenty three percent of participants thought smoking helped them to cope with particular emotions. For 8% this was the strongest reason for their smoking. For example, they used smoking for coping with the following feelings: “if I get upset” (71); “when angry” (44); “and lack of confidence in certain things” (40); “and depression” (44). “It’s just a blackout really. It’s just a way to block out, is how I supposed I’ve used it, if I’m having a bad time with my partner” (98). “It keeps me balanced... I guess it’s about me being in control of my own whakaaro” (27).

Cigarettes were sometimes imbued with human ability to comfort and provide companionship, for example:

I felt like I gagged myself with a cigarette... I suppose the cigarette has been my greatest love affair. I put my feelings into a cigarette. I put my love into a cigarette. I put everything into a cigarette... If you’ve abandoned yourself or rejected yourself in some way your cigarette is not going to reject you (1).

It feels like I’ve been in this vulnerable place for a long time and so sometimes it feels like smoking is filling out a kind of a barrier for my safety around other people (78).

Several participants linked their smoking with some historic trauma that they had not been able to fully face and resolve, for example:

I was saying like feeling threatened and like that’s how I feel every time I think of giving up smoking... maybe it’s just some stuff that I haven’t dealt with, my childhood was a very violent childhood (4).

One woman had identified that smoking helped block out painful sexual abuse memories, in particular smoking helped dull her sense of smell and thus memories of smell, as she said:

At the base of it all, was I had an enormous memory, painful memory still of smell and how I still have it to this day. How do you heal a smell? You can heal the physical, you can heal everything but this was one thing I could not... With the physical you can repeat and repeat and go over and over and face it little by little, inch by inch, but smell, am I to get a whole heap of semen so I can smell semen just to help me heal that ugliness of it. And I couldn’t do it. Straight back into the stress, straight back... (8).

Seventeen percent used smoking as a reward or for time out. The following quotes show how smoking was used in this way.

I think it’s because I have a real hectic schedule, ‘cause I’ve got nine kids living here, four of them are mine and I’m looking after everyone else’s because they work. Then I’ve got paperwork galore ... and I think just having a smoke is time out where I can relax (90).
Every break I'd have a smoke, complete a job and have a smoke, and that was satisfying... that's what it's for, I reward myself. Well done girl, have a cigarette (70).

Sometimes I think it sort of helps me to get through the day, it's like maybe a reward sort of thing, after you've mowed the lawns or something, you've done some chores and stuff, you sit down and have a smoke (118).

Fifteen (11.5%) participants said they smoked because it was the norm, "because everyone else smokes" (121). "And you know when you go to the pub people offer you a smoke all the time. Most of my friends are all smokers and we share our cigarettes" (42). "And all of the guys I work with smoke" (31). "It's an in thing, you've just got to fit in" (111).

Six participants (5%) said they smoked to control their weight, for example one woman said:

I smoke sometimes so I won't eat because I was 20 stone before. Lot of my friends at work they smoke but they're really heavy smokers and they reckon that when they get hungry they grab a cup of coffee and a smoke and it sort of puts them off the eating (34).

Several others expressed a belief in smoking's use as a diet suppressant, for example:

If I'm in a bad mood with someone and I don't want to eat and if I'm in a really, really bad mood, I can't eat because I get nauseous if I try to eat, but you're still hungry, so you have a cigarette and that suppresses it, and you can go all day without a feed if you smoke plenty of cigarettes (115).

Six participants said they used smoking as a stimulant, for example, they said it helped them study or concentrate as illustrated by the following quotes:

I used to think I needed it to be a problem solver for me particularly when I'm working on something technical, like ... with a car or working on a programme, doing a balance sheet, I need a smoke to help me solve this problem... if I need a solution, grab a smoke (11).

Whenever something serious comes up in your work, this happens to me... Something serious and you've really got to concentrate, so you take a cigarette, it's part of the ritual of getting down to the mahi (70).

A few participants said smoking helps them stay awake, for example:

Sometimes when you do night shift you sort of do it to stay awake. I mean if you start falling asleep, you get up and do something and the first thing you do is get up and grab a cigarette (60).

Two participants thought smoking helped improve their sporting performance. They said: "I play better bowls for it. Well, that's what I find for myself" (58); and, "I play netball and I have to have one before I play. I don't know why... I think it just boosts me up for a while" (89).
Five participants said they smoke “because it’s there” (128); because it’s available. Two participants said they smoke “to make me look good or better” (126). “My girlfriend thinks it’s sexy, but she doesn’t like the rest of it.” When this participant was asked if smoking did make her feel sexy, she replied: “Staunch sometimes” (91). Five participants did not know why they smoke.

**WOULD MISS SMOKING**

Participants were asked what they would miss most about smoking. Forty two participants (32%) did not know what they would miss about smoking or they thought there was nothing they would miss about it. This could have indicated their lack of preparedness, but 5 of these participants still managed to stop smoking.

Twenty five (19%) participants said they would miss the enjoyment of it, that is, “the taste” (42); “that first hit you get in the morning” (93); “that feeling... you take it down and it goes tinkle tinkle tinkle... like that sherbet” (1); “probably the smell” (114). One participant said, “if there’s anything I will miss it will be the nicotine” (110). A further twenty five (19%) said they would miss:

...the sociableness about it. My whole family on my mum’s side, like my dad doesn’t, but my sister, my brother, aunties, uncles, all my cousins, all of my mates, it’s just like the thing we do when we see each other, it’s just like we’ll all go out and have a smoke, if we haven’t seen each other for a while for a visit, that’s what we’re gonna do together is have a smoke (98).

I won’t miss anything about the smoking habit itself but the socialising. Well I don’t think I could handle sitting there while everyone else is smoking. I need to separate myself from that you know, to give it a good go (10). Having something to do with your hands especially when you go out and have a few drinks (33).

Twenty participants (15%) thought they would miss “just the habit thing, something to do, something to put in my mouth” (61); “the routine” (72). “It’s kind of a ritual almost. I quite like that ritual of the rolling. I mean that’s as much of a buzz for me sometimes as the actual smoking” (78). Several participants said, “I’ll miss putting something in my hand” (65).

Some participants said they would miss the relaxing effect and the break that smoking gave them an excuse to take, for example, one participant said, “What I’ll
probably miss is the time for myself" (117). Others said they would miss the cigarette they had with coffee or tea.

**WORRIED ABOUT PUTTING ON WEIGHT**

Nearly half (49%) of all participants were concerned about putting on weight when they stopped smoking. This was more of a concern for women than men. Some participants had put on smoking following a previous quit attempt and they expected the same thing to occur this time, for example, one participant said. "Yes. Because I have before and I know it will happen again" (79). Some participants had previously weighed more than they wanted to and they were concerned about returning to their former weight, for example, "I was really fat before and then as soon as I started smoking I didn’t eat. That’s the thing that worries me about not smoking I’ll put the weight on again" (48).

Some participants believed they were already overweight and for the sake of their health they couldn’t put on any more, as illustrated by the following quotes:

Very very scared. ‘Cos I’m already extremely overweight now (71).

I don’t want to be treading more kilos - hell I’ll never be able to walk. That’s what will kill me in the end it’ll be nothing to do with cigarettes (1).

Some participants had been trying to reduce their weight or were currently on programmes such as Jenny Craig or Weight Watchers. As one participant said:

I’ve been working hard for the last 2 years to lose the weight I’ve been carrying for many years. I mean I was 33 stone 2 years ago. I’m probably down to 16 right now. And I’m 113 kilos and I feared giving up cigarettes would see me put on weight but I knew that because I know several people that I’ve checked out, several people that just don’t smoke any more, and boy did they got fatter. Oh shit man that’s going to stop me from giving up smoking (8).

As mentioned by the above participant, it was seeing others give up smoking and put on weight, for example, “I’ve seen a lot of people who have finished and they put on weight and they look gross” (42).

Not all participants were concerned about putting on weight because they now felt prepared to prevent that from happening by changing their diet or by increasing their exercise or both, for example, one participant said, “I don’t think so, ‘cos I
know what to eat nutrition-wise. I know how to stop that from occurring. I don’t have a sweet tooth anyway” (120).

It was a big worry - eating, thinking that I would need something to shove in my mouth. So trying now to find things that I can counteract it with (26).

Others were not concerned about putting on weight because they did not believe it would happen, or their weight was not a concern or as one woman said, “I have but I mean, I’d rather be able to breath than worry about whether I’m putting on weight or not” (110).

**Worried About Withdrawals**

Over half (61.5%) of participants were concerned about withdrawal symptoms, some because they had experienced them following a previous quit attempt: “the three times I did try I had a lot of withdrawal symptoms” (42). “I’ve been through it so I’m not looking forward to it” (119); “that’s one of the reasons we’re not trying to give up cold turkey because I think it would be very difficult” (87). Many participants were trying to prepare for the different withdrawal symptoms they were expecting, as one woman said, “I guess I’m a bit more realistic this time. And I see that to make an effective change, I will need to recognise the withdrawal symptoms and manage them” (12).

Some participants, without previous quitting experience still expressed concern based upon other people’s tales of quitting. “Yes, I’m worried about suffering. I’m still waiting for it to happen, you hear horror stories, I expected to crack” (72). Others had no idea of what to expect, but were still worried. “I’ve never really done it before wholly so I’m not sure on how I’m going to feel yet” (49).

Some participants did not know what to expect and were not concerned, for example one, participant said, “I’ve heard about them. I’d be quite interested to see if I did, but no, I’m pretty confident the way I’m hoping it will go there won’t be any” (65). Another participant said, “I’m confident that I’ll cope – I’m too cocky to not” (54).
THE QUITTING EXPERIENCE

Table 28 summarises data collected at follow-up detailing quitting experience, such as perceived difficulty, reasons for relapse, Stage of Change at follow-up, aftermath and preferred method of quitting for the next attempt. A presentation of the qualitative data detailing participants’ experience of quitting is presented in the following three chapters. Chapter Six describes the lead up to and experience of the quit day. Chapter Seven describes the experience from that point onward for participants who stay smokefree and Chapter Eight describes what happens for participants who relapse. Participants’ experience of the NMSCP is presented in Appendix S.

Table 28

<table>
<thead>
<tr>
<th>Quitting Experience</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
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<td>5.2</td>
<td>5</td>
</tr>
<tr>
<td>Reason for relapse:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawals</td>
<td>2</td>
<td>12%</td>
<td>10</td>
</tr>
<tr>
<td>Shock</td>
<td>3</td>
<td>18%</td>
<td>7</td>
</tr>
<tr>
<td>Domestic</td>
<td>5</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>Boredom</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Stress</td>
<td>4</td>
<td>23.5%</td>
<td>13</td>
</tr>
<tr>
<td>Socialising</td>
<td>1</td>
<td>6%</td>
<td>6</td>
</tr>
<tr>
<td>Others Smoking</td>
<td>2</td>
<td>12%</td>
<td>15</td>
</tr>
<tr>
<td>Reason Gone</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>18%</td>
<td>7</td>
</tr>
<tr>
<td>When resting</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Still miss things about smoking</td>
<td>7</td>
<td>27%</td>
<td>11</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

PERCEIVED DIFFICULTY

The NMSCP group on average perceived their quitting experience to be less difficult (4.5) than the unaided quitters (5.2) though this difference did not reach significance (MWU Wilcoxon, p=.17).

REASON FOR RELAPSE

Few participants who managed to stop at all reported experiencing no withdrawal symptoms. Stress and other people smoking were the most commonly
cited reasons for relapse, followed by withdrawal symptoms and upsetting relationships at home, that is, "domestics."

**Stage of Change at Follow-up**

Table 29 summarises data indicating Stage of Change at follow-up.

The same amount in both groups, that is 31%, had tried to quit again in the months preceding the follow-up interview.

Six percent no longer wanted to stop smoking and therefore could be considered to be in the precontemplation stage. Seventy four and a half percent (74.5%) still wanted to stop smoking. Of these participants, 49.5% were now in the contemplation stage of change and 25% were in the action stage of change. Most of those who had quit who were still smokefree at the follow-up interview said they still missed things about smoking.

When asked what quit method participants would use next time, 10 of the NMSCP group said they would do the programme again and 7 of the NMSCP group thought they would be able to stop cold turkey. The unaided quitters still favoured a range of methods with cutting down and cold turkey still being the most popular.

<table>
<thead>
<tr>
<th>Have tried to quit again</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>26</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage of change:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Contemplation</td>
<td>6</td>
<td>49</td>
<td>55</td>
</tr>
<tr>
<td>Action</td>
<td>8</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Maintenance</td>
<td>9</td>
<td>12</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quit method next time:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Turkey</td>
<td>7</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>NRT</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Cut down</td>
<td>4</td>
<td>23.5%</td>
<td>20</td>
</tr>
<tr>
<td>Hypnosis</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Herbal</td>
<td>6</td>
<td>7%</td>
<td>6</td>
</tr>
<tr>
<td>Course</td>
<td>10</td>
<td>6%</td>
<td>15</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>12%</td>
<td>13</td>
</tr>
<tr>
<td>Don't Know</td>
<td>9</td>
<td>11%</td>
<td>9</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).
OTHER CHANGES

Table 30 summarises the information collected at follow-up on changes to other psychologically motivating factors, such as health status, weight, pregnancy and other lifestyle changes.

Table 30

<table>
<thead>
<tr>
<th>Health Status:</th>
<th>Noho Marae</th>
<th>Unaided quitters</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>9</td>
<td>35%</td>
<td>28</td>
</tr>
<tr>
<td>Worse</td>
<td>6</td>
<td>23%</td>
<td>20</td>
</tr>
<tr>
<td>Improved</td>
<td>11</td>
<td>42%</td>
<td>37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>11</td>
<td>42%</td>
<td>52</td>
</tr>
<tr>
<td>Increased</td>
<td>11</td>
<td>42%</td>
<td>18</td>
</tr>
<tr>
<td>Lost Weight</td>
<td>3</td>
<td>11.5%</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pregnant/planning a Pregnancy</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>0</td>
<td>0%</td>
<td>7</td>
</tr>
<tr>
<td>Increased</td>
<td>15</td>
<td>58%</td>
<td>39</td>
</tr>
<tr>
<td>Dietary</td>
<td>13</td>
<td>50%</td>
<td>33</td>
</tr>
<tr>
<td>Where socialise</td>
<td>5</td>
<td>19%</td>
<td>17</td>
</tr>
<tr>
<td>Counselling</td>
<td>1</td>
<td>4%</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4%</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>23%</td>
<td>23</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p < .05).

SELF REPORTED HEALTH STATUS

Of the participants followed up, 43% reported improved health; 33% thought their health was the same and 23% said they were worse. Most (76%) of those participants that stopped smoking reported improved health, whereas only a third (35%) of participants who did not stop smoking reported improved health; 24% reported worsened health and 40% reported no change in their health status.

WEIGHT

At follow-up 57% of all participants had experienced no change in their weight. Twenty six percent had put on weight and 12% had lost weight. Of those participants that had stopped smoking 9 had experienced no change in their weight, 8 had increased in weight, 3 had lost weight and one didn't know.
**PREGNANCY**

At follow-up, participants were asked again if they were pregnant or planning a pregnancy. Only 5% were either pregnant or planning a pregnancy. None of the 21 participants who quit smoking had been planning a pregnancy.

**POTENTIAL PREDICTORS OF QUITTING**

There was a significant difference (Wilcoxon Rank Sum Test, p=.02) on self-efficacy at first interview for unaided quitters who stopped smoking versus those who didn’t (Table 31). Most of the participants who stopped smoking, had been very confident that they would stop this time. Among unaided quitters only, logistic regression showed that self-efficacy was predictive of quitting (p=0.034).

<table>
<thead>
<tr>
<th>Table 31</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential Predictors for Quitting (N=85)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Stopped Smoking</th>
<th>Still/Back Smoking</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy**</td>
<td>5.8 s.d.=1.5</td>
<td>4.7 s.d.=1.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Difficulty score**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>3.3 s.d.=2.1</td>
<td>5.5 s.d.=1.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Mode</td>
<td>1 s.d.=2.1</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

**indicates a statistically significant difference (p <.05).

There was a significant difference (Wilcoxon Rank Sum Test, p<.001) on perceived difficulty of stopping for unaided quitters who stopped smoking versus those who didn’t, with those who stopped seeing the experience as less difficult than those who didn’t (Table 31). Perceived difficulty of stopping was correlated with smoking status at follow-up (Spearman Correlation, r=-.37, p=.001). This correlation, however, does not indicate whether those that managed to stop in retrospect are less negative about their quitting experience than those who were unable to quit or relapsed, or whether perceived difficulty of stopping is a reflection of self-efficacy as suggested by a statistically significant correlation between self-efficacy and perceived difficulty (Spearman Correlation, r=-.26, p=.015).
SECTION FIVE: SUMMARY OF RESULTS

The major findings between the groups for section five are:

- Habit (34%) was the most commonly cited strongest reason for current smoking among all participants.
- Health was the most commonly cited reason for quitting for all participants.
- The unaided quitters used a variety of quitting methods.
- Twenty one percent of the unaided quitters were only in the contemplation stage change whereas all of the NMSCP group were in the action stage.
- Nearly half (49%) of all participants were concerned about putting on weight when they stopped smoking. This was more of a concern for women than men.
- Over half (61.5%) of all participants were concerned about withdrawal symptoms.

The major findings indicating changes between the first interview and the second are:

- Unaided quitters who stopped smoking perceived the quitting experience as less difficult than those who did not stop smoking.

The factors that are potentially predictive of success at quitting are:

- Self-efficacy – greater confidence of stopping indicates likelihood of stopping smoking.

SECTION SIX: CONCLUSION

There were few differences between the NMSCP group and the unaided quitters at entry. Several differences, however, were evident at follow-up indicating effectiveness of the NMSCP. Some significant differences were found when comparing the successful quitters with participants who were smoking at follow-up. These variables have potential for predicting smoking cessation in action stage smokers. Analysis across both the quantitative and qualitative data is presented in Chapter Nine.

The quantitative data has been presented in this chapter in four sections. The demographic data was presented under te ao turoa. The third section, te taha whanau, provided for exploration of the familial and social factors effecting smoking.
behaviour and quitting. The physical aspects of smoking were presented under te taha tinana, the realm of the body. Finally, the psychological factors motivating quitting behaviour were discussed under te taha hinengaro, the realm of thought and understanding.