An exploration of the effect of a tobacco-related harm reduction strategy on parents in the hard-to-reach population

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This thesis is presented for the degree of Doctor of Philosophy of The University of Western Australia, School of Social Work.

2012
Abstract

The World Health Organisation has described tobacco smoking as a global epidemic responsible for the majority of preventable drug deaths. The effects of parental smoking on children are also irrefutably adverse, long reaching and include an increased likelihood of daily smoking during adulthood. The Australian response to smoking has been largely within the control and prevention modalities and have been successful in significantly reducing the incidence of smoking in the general population. These approaches have been less effective with people with factors that contribute to poverty and marginalisation such as Aboriginality, adverse childhood experiences and the experience of institutional care, mental illness or homelessness, factors that make them a ‘hard to reach’ cohort in terms of health promotion messages.

This study developed a smoking related intervention that attended to the particular exigencies of people in the hard to reach cohort and could be applied opportunistically when they were in contact with services, in this case services that were delivered by social workers and aimed to enhance parenting. The study designed the 4S strategy creatively synergising best-practice principles from harm reduction and service delivery to parents in the hard-to-reach cohort. The 4S Strategy is a staged process that requires at least four in-depth contacts. This strategy was implemented with twenty parents involved in Responsible Parenting Services, run by the Department for Child Protection in Western Australia. Mixed methodology was used: Qualitative methods were used to garner insights into factors that support continued, cessation or reduction in smoking in the home. Quantitative methods were used to measure change and to determine whether this was a result of the strategy. The Severity of Dependence Scale (SDS) was applied prior to the delivery of the strategy. Questions regarding smoking frequency and the Orientation to Life Questionnaire (OTL) were also applied prior to the strategy, and again six months later.

Seventeen participants completed the strategy. Results of the SDS indicate that all participants were beyond the cut-off point for addiction to tobacco. Almost one third of participants stopped smoking, and all others reduced their daily consumption of
tobacco. The overall mean number of cigarettes smoked pre-test was 28.1. Post-test this was reduced to 5.9, a difference of 22.2 ($t = 8.6123$, $p = <0.0001$). The mean pre-test for frequency of smoking in the home was 28.57; post-test it was 1.9. This represents a difference of 26.7 ($t = 5.3001$, $p = 0.0001$).

The mean pre- and post-test OTL scores were 3.91 and 4.22—a difference of 0.51 ($t = -3.9154$, $p = 0.0092$) representing an overall improvement in the participant’s orientation to health. The number of children exposed to environmental tobacco smoke in the home reduced from 36 to five. Qualitative data generated by the study affirmed existing hypotheses about the link between smoking and a number of mental health conditions, particularly complex trauma.

This study does not introduce a new method of smoking cessation rather it enabled participants from the hard to reach cohort to reconsider their smoking behaviour and when change was considered possible to access methods that were readily available. The strategy shows promise and is suitable for use within government child protections services and with government and non-government family support services.
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Acknowledgments

Thanks, firstly, to Hilary MacWilliam, who instructed me to sort this thing (parental smoking) out, and who was instrumental in hosting the research at what was then Responsible Parenting Services in the Department for Community Development. Secondly, thanks to Professor Maria Harries for suggesting that this was best sorted by undertaking a PhD by research, and for introducing me to Professor Mark Sachmann—the most grounded and supportive academic, who became my chief supervisor. Thank you, also, to Adjunct Professor Anne Bartu, who, as secondary supervisor, patiently and insistently improved my academic writing skills. I would also like to acknowledge Laura from the Post Graduate Statistical Support Service at the Department of Mathematics, The University of Western Australia, for her help with statistical analysis.

A tribute to the Department for Community Development—which, during the research, became the Department for Child Protection—for hosting the research, and to the many people from Responsible Parenting Services who supported the project. Special thanks to Claire Heptinstall, Rosie Bell, Jeff Moss, Roberta Lumbus, Emma Ferguson and Annabel Hayes.

Thank you to my husband, Doug, for his love, encouragement and enduring support; to my children, Peter and Cate, who are so pleased for me; and to my stepchildren and grandchildren for the glorious interludes between bouts of study. Thank you to my dear friends, Monique, Pat, Marg, Lesley and Judith, for their support and encouragement.

In memory of my mother and her sisters, whose dedication to cigarettes was only stopped by their untimely, smoking-related deaths. They contributed to my uptake and eventual rejection of smoking and thus helped ground this research in reality.

No tobacco company or manufacturer, or purveyor of tobacco or nicotine-related products made any contribution to this project.
Statement of candidate contribution

Having completed my course of study and research towards the degree of Doctor of Philosophy by research, I hereby submit my thesis for examination in accordance with regulations and declare that:

This thesis is my own composition, all sources have been acknowledged and my contribution is clearly identified in the thesis.

Research for the thesis was undertaken entirely during the course of enrolment for the degree of Doctor of Philosophy at The University of Western Australia, School of Social Work, 2008–2012, and has not been previously submitted or accepted for a degree at this or another institution.

This thesis does not contain work that I have published, nor work under review for publication.

Signature......Francesca Robertson........

Date..........................October 31st 2013

..........................................................
Key words

[Smoking, tobacco, maternal, children, environmental tobacco smoke, harm reduction, hard-to-reach cohort]

Acronym and word use

The following acronyms are used in this project:

- **AASW**: Australian Association of Social Workers
- **AIHW**: Australian Institute for Health and Welfare
- **COPMI**: Children of parents with a mental illness
- **NTS**: National Tobacco Strategy
- **SIDS**: Sudden infant death syndrome
- **UK**: United Kingdom
- **USA**: United States of America
- **USDHHS**: United States Department of Health and Human Services
- **WA**: Western Australia

The use of the following words and phrases are explained:

- The word 'Aboriginal' is used throughout this document, except in quotations that use the term 'Indigenous';
- Harm reduction is used, rather than harm minimisation;
- The term ‘environmental tobacco smoke’ is used, rather than the terms ‘passive smoking’ or ‘second-hand smoke’.
- Where the word stress by its self is used it should be understood to reflect how a participant in the study may use it – to describe a situation or feeling which provokes distress. Where it is used to refer to a diagnosis appropriate adjectives are used; such as post-traumatic stress.
Part One

Introduction to the thesis

This project firstly seeks to develop a tobacco-related strategy specifically designed to reduce smoking by parents in the hard-to-reach population cohort, and to reduce the exposure of their children to environmental tobacco smoke from smoking in the home. The project then seeks to implement the strategy and to measure its effect on smoking frequency and smoking in the home. It is thought that the application of the strategy may illuminate factors that support changes in smoking behaviour. Therefore, data representing this is collected and presented.

The target group—parents in the hard-to-reach cohort—were chosen because of high smoking rates observed by the researcher throughout her social work career, and the dearth of effective smoking related strategies targeted towards this group.

To support the research, a literature search is conducted, covering all the elements of the project, including:

- Tobacco, patterns of tobacco use and recent policy concerning tobacco use;
- The pharmacology and effects of nicotine;
- Addiction;
- Harm reduction;
- The hard-to-reach population cohort and sub populations with risk factors for smoking;
- Maternal smoking;
- Efforts to improve smoking and non-smoking-related parenting behaviour.

An analysis of this literature and the relationships between subjects is used to construct the strategy, and this process and strategy are later presented.

The research question is:

To what extent does a tobacco-related harm reduction strategy change the smoking behaviour of parents in a hard-to-reach population cohort?
A series of hypotheses are constructed,

a) Participants will be found to have existing (or unrecognised) physiological, and/or psychological relationships to nicotine and to smoking, which makes their dependence on tobacco smoking more complex;

b) Participants’ smoking is intrinsic to relationships in which mutual smoking, or the provision of cigarettes, are markers of loyalty, intimacy or control. The extrication of smoking from these relationships may be complicated, conflicted and distressing;

c) The majority would prefer to have greater control over their smoking; and

d) A strategy that responds to exigencies of the previous hypotheses and which is delivered in accordance with the elements of best practice for this cohort will be successful in reducing exposure to harm from tobacco smoke.

These hypotheses indicate a multi-model method of exploration is appropriate: Quantitative data is collected to measure the effect of the strategy on smoking frequency and smoking in the home, by participants and others. Qualitative data is collected and analysed, as this provides insights into the factors that support continued smoking and support a reduction or cessation of smoking generally and in the home. The final section presents the data, an analysis of the data and a discussion of the implications of this study’s findings for social work and further research.

The thesis is divided into four parts: the literature search, study strategy and the method used to explore the strategy’s effect, and the results. Each part has chapters that focus on a particular subject. At the end of each section, where appropriate, key findings are noted.
An analysis of the literature pertaining to the research

Overview

This part of the thesis draws from an analysis of the literature from eight distinct discourses; tobacco and its history in Australia, nicotine, addiction, harm reduction, population cohorts at risk of smoking, maternal smoking and services that enhance parenting behaviour.

Each chapter begins with an introduction that explains the relevance of the subject to the project. Each chapter then explores the incidence and/or key concepts relating to the topic, then offers an analysis of the findings of other researchers before considering how the subjects relates to this project. These key findings are distilled and provided at the end of each section. Part 3 presents an exploration of how these key findings are used to construct the strategy and how they informed the research method.

The main method used in this section of the thesis is the content analysis of books, journals, conference papers, service reports and histories. These were recommended by supervisors or found from literature searches using appropriate terms in combination with both nicotine and smoking. Databases included Blackwell Synergy, JSTOR, ProQuest 5000 Information, ScienceDirect, APA-Ft, Periodicals Online, Academic Search Primer and SocInDEX hard AMED, APAIS Health, CINAHL, EMBASE, Medline, Web of Science, Science Direct and the British Medical Journal databases.
Chapter 1: Tobacco

1.1 Introduction

The central concern of this project is tobacco therefore this thesis begins with brief description of the plant, its properties and the harm it causes by ingestion through smoking.

1.2 The tobacco plant

The tobacco plant is part of the Solanaceae (nightshade) family, which includes other plants with psychoactive properties such as datura, mandrake and belladonna. This family also includes edible plants such as potato, eggplant, tomato, chilli and capsicum. The ingredient in tobacco that makes it so useful to humans is an alkaloid called nicotine, which is a naturally occurring pesticide. Nicotine has psychoactive properties, particularly when ingested by smoking.

Tobacco has historically been used in a number of ways. Native Americans used fresh leaves packed against a wound as an antiseptic agent and pulped leaves rubbed on the skin as an antifungal agent. They used the smoke from burning leaves to protect crops from pests and the shaman may have drunk tobacco juice was to induce hallucinations during ceremonies.

Tobacco is prepared for ingestion in a number of ways. The leaves are dried, cured and chewed (as for plug and spit tobacco); burnt so that the smoke can be inhaled (as for cigars, cigarettes and pipes); or pulverised and sniffed or snorted (as for
snuff). More recently, tobacco has been processed to extract nicotine for use in nicotine replacement therapies, such as nicotine patches, inhalants and lozenges. Therefore, the nicotine from tobacco can be ingested orally, transdermally, through the mucus membranes, or smoked.

1.3 Composition of cigarette smoke

Cigarette smoke is a combination of:

- Mainstream smoke—smoke inhaled by a smoker;
- Side-stream smoke—smoke from the end of a lit cigarette;
- Second-hand smoke—smoke exhaled by a smoker, plus side-stream smoke.

Each component has the same composition, but in slightly different quantities. This is because mainstream smoke has been subjected to higher temperatures, and exhaled smoke has been filtered by the smoker’s lungs. Side-stream smoke contains higher concentrations of many of the toxins found in mainstream smoke. It comprises about 90% of the mix, since smokers generally inhale from a cigarette that may burn for some minutes (US DHHS 2006).

Of the more than 4000 chemicals present in cigarette smoke, over 60 have been identified as carcinogenic. Eleven of these are known to cause cancer in humans, and eight probably cause cancer in humans (Hoffmann et al. 2001). These chemicals have serious health effects on the human body. For example, hydrogen cyanide, carbon monoxide and tar either cause or are associated with cardiovascular disease and chronic obstructive lung disease. Ammonia and formaldehyde cause eye, nose and throat irritations and other breathing problems (Hoffmann et al. 2001).

Additionally most particulate matter in environmental smoke is in the submicron range. Exposure to fine particulate matter is known to contribute to asthma and other respiratory diseases; to cause problems in the central nervous system; or to cause eye and skin problems.

1.4 Nicotine

Nicotine is a powerful psychoactive drug that provides sought-after effects that are typically attained by smoking tobacco. An understanding of the effect of nicotine on the human system is crucial to the development of the strategy.
Nicotine, in its purest form, is a highly toxic and volatile liquid alkaloid that turns yellow/brown and exudes the distinctive odour of tobacco when exposed to light. Approximately one drop (40 milligrams) is fatal to humans. Its toxicity is enhanced by rapid absorption, within approximately two hours, through the mucus membranes or the skin. There is no known antidote. (Katzung 2000). Nicotine constitutes about 95% of the total alkaloid content of commercial cigarette tobacco. One drop of nicotine is the same quantity found in two cigarettes; nicotine in the tobacco typically used in cigarettes is readily absorbed through the lungs (Metz et al. 2004; Hukkanen & Benowitz 2005).

The action of nicotine on the human system is wide, varied and not completely understood. Nicotine reacts to the acetylcholine receptor of the post-synaptic membrane, resulting in depolarisation of the membrane. It causes central electroencephalographic activation and euphoriant effects, and releases catecholamines from peripheral adrenergic nerves (Katzung 2000). Nicotine acetylcholine receptors are found throughout the brain, with the greatest numbers in the cortex, thalamus and interdependent nuclei and locus cerulus. Nicotine also reacts to different nicotinic cholinergic receptors found in different areas of the brain, has different chemical conductances for sodium and calcium, and has different sensitivity to nicotinic agonists, resulting in correspondingly different actions (Benowitz 1996, 2010), as such nicotine prompts multipharmacological actions.

Nicotine effects the gastrointestinal tract through activation of the parasympathetic ganglia. This stimulates the basal metabolic rate by increasing tone and contractibility. Smoking is associated with insulin resistance and elevated leptin levels, both of which are associated with weight loss. It is understood that nicotine reduces appetite and smoking cessation is associated with some weight gain however it does not present a risk to cardiovascular health nor diminish the health benefits of cessation (NIH 2013).

When tobacco is smoked, nicotine enters the arterial circulation and is rapidly distributed to body tissues. It takes 10 to 19 seconds for nicotine to pass through the brain. Thus there is a rapid onset of an intense pharmacological response before there is adequate time for a tolerance to develop. It is this that smokers find pleasant. Nicotine levels decline between cigarettes, which allows for resensitisation of receptors. Half-life elimination of the accumulation of nicotine through regular use of
tobacco products averages at two to three hours. However, terminal half-life is 20 hours, reflecting a slow release from body tissues (Benowitz 1996, 2010).

One of the six metabolites in nicotine is cotinine; 70% to 80% of nicotine is metabolised to cotinine. Cotinine is pharmacologically active and has:

1) Neuro and/or cell protective effects in cell culture models;
2) Attention-enhancing effects;
3) Anti-psychotic effects (in prepulse inhibition paradigm);
4) Dopamine-releasing effects in striatal tissue samples (Buccafuso 2004; Terry et al. 2005a; Riveles et al. 2008; as cited in Dome et al. 2010, p. 298).

Measuring nicotine excretion as cotinine in saliva or urine is the usual method to test exposure to nicotine. Nicotine has a profound effect on the mesocorticollimbic system. This is often referred to as the ‘reward system’, and is strongly associated with other drugs of addiction (Dome et al. 2010). Nicotine is classed as a drug of addiction and underpins tobacco smoking, this is discussed later in this project.

Nicotine acts on the central nervous system, affecting the synaptic gap. It prompts a cascade of neurotransmitters: acetylcholine, norepinephrine, dopamine, serotonin, B-endorphin and glutamate (Benowitz 1996). Nicotine also releases growth hormone (Coghlan et al. 2001). These neurotransmitters have multiple functions. For example, dopamine is implicated in mood modulation and in movement. Thus, nicotine has implications for the treatment of a number of conditions associated with brain function and mood disturbances. Even in non-smokers, a single dose of nicotine has been found to enhance reward responsiveness for up to one week. This strongly suggests that nicotine increases the salience of rewarding stimuli in the environment (Barr et al. 2008). Thus tobacco, particularly when smoked, delivers nicotine to the brain, where it facilitates a cascade of powerful ‘feel good’ chemicals. The effects of nicotine last for about two hours, although this varies according to the method of ingestion, and individual tolerance.

There are racial differences in the metabolism of nicotine, with slower rates reported in African American people and some Asian people than in Caucasians (Stratton et al. 2001). Stratton also noted that there are some small and poorly understood differences between men and women. Stratton stated that this was probably due to the effect of nicotine on hormones, and the slowing of metabolism with age (Stratton et al. 2001). It has been observed in both animal and human studies that nicotine, after first use, is more rapidly absorbed in females. Females are more likely to
relapse and have more pronounced anxiolytic effects (Dome et al. 2010, p. 299). Nicotine crosses the placental barrier and has an effect on foetal development (this is discussed in detail later in the literature review). However, there is no apparent conversion to cotinine by placental tissues or microsomal fractions (Pastrakuljic et al. 1998).

1.5 Death and diseases associated with smoking

Daily tobacco smoking can be catastrophic, not just for smokers, but also for those around them who are exposed to environmental tobacco smoke. The number of people who smoke has declined in the last 50 years; however, disease and death rates from smoking are still significant enough to describe smoking as a national catastrophe. In 2003, tobacco caused more than one in every 10 deaths in Australia, and caused more disease and injury than any other single risk factor (Begg et al. 2006). It has been conservatively estimated that smoking kills about one half of all persistent users (Doll et al. 2004). Pervasive and systemic harm is caused by the properties of tobacco smoke, many of which are toxic to humans and/or carcinogenic. Many metabolised products from tobacco smoke have the potential to alter the DNA of the cells lining the organs and structures that the smoke contacts; for example, the urine of smokers shows increased mutagenic activity (US DHHS 2006).

There is a dose-response relationship—the greater the frequency and the longer the duration of smoking, the greater the likelihood of contracting and dying from a tobacco-related disease. Adverse outcomes can occur from as few as four cigarettes per day—there is no safe level of smoking. The risk of contracting the majority of smoking-related diseases begins to drop upon cessation and continues to fall throughout abstinence. For example, the risk for oesophageal cancer halves after five years of abstinence, and subsequent reductions occur more gradually (US DHHS 2006).

Diseases of the lungs

The risk of developing lung cancer is dose-related. It is estimated that active smoking is responsible for 88% of all lung cancer deaths in men aged over 35, and 75% of women of the same age (Collins & Lapsley 2008).
Chronic obstructive pulmonary diseases (COPD) is sometimes caused by air pollution or genetic factors, but most cases are caused by smoking. In 2004 to 2005, it is estimated that of all deaths in people aged over 35 caused by COPD, 77% of cases in males and 71% of cases in females were attributable to smoking (Collins & Lapsley 2008).

Smoking damages the lungs’ defences and impairs the lungs' immune response to infection, thus reducing the capacity to resist and heal from bacterial or viral illnesses, including bronchitis, bronchiolitis, pharyngitis, influenza and pneumonia. Smoking can cause acute respiratory illnesses, including pneumonia, in smokers without underlying smoking-related chronic obstructive lung disease (US DHHS 2006). In 2004 to 2005, it was estimated that 15% of all deaths due to lower respiratory tract infections in men aged over 35, and 12% in women of the same age were caused by smoking (Collins & Lapsley 2008).

**Diseases of the heart**

Smoking, along with elevated blood fat levels, excessive alcohol intake, diabetes and lack of exercise, increases the risk of cardiovascular heart disease. Depression and social isolation can also influence the development of cardiovascular heart disease. All these factors are more common in population subsets suffering poverty and social disadvantage—also known as the hard-to-reach population subset. This subset includes Aboriginal and Torres Strait Islander people, who have the highest rates of cardiovascular heart disease in Australia (AIHW 2004; Page et al. 2006). The types of cardiovascular heart disease are listed below.

- In 2004 to 2005, 40% of all deaths due to coronary heart disease occurring in males between the ages of 35 and 39 were due to smoking. Among women aged 40 to 44, smoking caused about 34% of all deaths due to coronary heart disease (Collins & Lapsley 2008).
- Smokers are two to four times more likely to have a stroke than non-smokers. In 2004 to 2005, 40% of all deaths due to stroke in men aged between 35 and 39, and 35% of all deaths due to stroke in women aged 40 to 44 were caused by smoking (Collins & Lapsley 2008).
- In 2004 to 2005, about 37% of all deaths due to peripheral vascular disease in males aged over 35, and 30% in women aged over 35 were attributable to smoking (Collins & Lapsley 2008).
- The risk of suffering an abdominal aortic aneurysm rises with increased
exposure to tobacco smoke. Smoking is one of the few currently modifiable risk factors for this disease.

- Smokers have a two to threefold greater risk of suffering sudden cardiac death than non-smokers. It is estimated that smoking causes between 30% to 40% of all deaths due to cardiac dysrhythmias in men aged between 35 to 59, and about one third of all deaths in women aged between 35 and 44 (Collins & Lapsley 2008).

- Smoking is an independent risk factor and a contributing factor to the disease processes that primarily lead to congestive heart failure. It is estimated that smoking causes between 30% to 40% of all deaths due to congestive heart failure in men aged between 44 and 59, and about one third in women aged between 35 and 44 (Collins & Lapsley 2008).

**Cancers**

Heavy smokers have up to 20 times the risk of developing laryngeal cancer compared with non-smokers (US DHHS 2008). Alcohol use is also an independent risk factor for development of cancer of the larynx, and heavy use of alcohol and tobacco often coincide (Hurt et al. 1996). The effect of this on the risk of disease is synergistic. In 2004 to 2005, of all deaths from laryngeal cancer in people aged over 35, 71% in men and 65% in women were caused by tobacco use (Collins & Lapsley 2008).

In 2004 to 2005, about 58% of all deaths from oropharyngeal cancers in men aged 35 and over, and 50% in women in the same age group were due to tobacco use (Collins & Lapsley 2008).

Smoking causes cancer of the oesophagus and smokers have up to seven or eight times higher risk of developing oesophageal cancer than non-smokers. As with cancers of the larynx, oral cavity and pharynx, alcohol consumption is an independent risk factor, and, used in conjunction with tobacco, the risk increases synergistically (US DHHS 2006). In 2004 to 2005, about 54% of all deaths from oesophageal cancer in men aged 35 and over, and 46% in women in the same age group were due to tobacco use (Collins & Lapsley 2008).

Heavy smokers have three to five times higher risk of developing pancreatic cancer compared to non-smokers (US DHHS 2006). In 2004 to 2005, about 25% of all deaths from pancreatic cancer in men aged 35 and over, and 20% in women of the
same age group were caused by smoking (Collins & Lapsley 2008).

The immediate effects of nicotine and other chemicals in tobacco smoke include duodenal reflux and altered production of gastric secretions that are important to stomach function (US DHHS 2006). In 2004 to 2005, 14% of all deaths from stomach cancer in men aged 35 and over were caused by tobacco use. In women, the corresponding figure was 10% (Collins & Lapsley 2008). Smoking may also be related to the development of cancers in other sites within the stomach, possibly by interaction with the helicobacter pylori infection (US DHHS 2006).

Heavy smoking (more than 40 cigarettes per day) doubles the risk of developing kidney and bladder cancers (US DHHS). In 2004 to 2005, 53% of all deaths from kidney cancer in men aged 35, and 46% in women were caused by smoking. The corresponding statistics for bladder cancer show that 40% of all deaths from this cause in men aged 35 and over were attributable to smoking, compared to 33% in women (Collins & Lapsley 2008).

In 2004 to 2005, 17% of deaths from cancer of the cervix in women aged 35 and over could be attributed to tobacco use (Collins & Lapsley 2008).

**Other illnesses**

The risk for acute myeloid leukaemia increases with the number of cigarettes smoked and with the duration of smoking. Smokers and former smokers have a 30% to 50% higher risk of developing acute myeloid leukaemia than people who have never smoked, and heavy smokers have double the risk of developing this cancer (US DHHS 2006).

Smoking is implicated in some forms of blindness, dementia and cognitive decline, and smokers generally have more complications during and after surgery.

**Burns and fires**

Lit cigarettes are a leading cause of fires and fatalities from fires. It is estimated that in 2004 to 2005, 24 people died due to fires caused by cigarettes, and nearly one quarter (23%) of all deaths caused by fire were due to cigarette use (Collins & Lapsley 2008).
1.6  Adverse effects on pregnancy and birth

**Impaired fertility**

Women who smoke experience a reduced rate of fertility and are almost twice as likely to be infertile as non-smokers (US DHHS 2006). Smokers are more likely to have shorter menstrual cycles and are at higher risk of not ovulating regularly, which may also reduce fertility and may make them less likely to respond to infertility treatments, such as *in vitro* fertilisation. Smoking may also cause erectile dysfunction (US DHHS 2008).

**Pre and anti-natal exposure to environmental tobacco smoke**

It is irrefutable that smoking during pregnancy can only lessen the chances of a positive outcome for the pregnancy, the birth and the child. The epidemiological research presents a great deal of information on the adverse effect of smoking on the health of the infant. Some significant studies have been able to add specificity to the nature of the harm. This research is relatively new, and a great deal more work needs to be done.


- 20% of non-Indigenous mothers smoked during pregnancy;
- In 29% of non-Indigenous infant deaths, the mother smoked during pregnancy;
- The risk of infant mortality among smoking mothers was significantly higher than those who did not smoke;
- There was a sixfold increase in the risk of SIDS among children of smoking non-Indigenous mothers;
- 51% of Indigenous mothers smoked during pregnancy;
- In 60% of Indigenous infant deaths, the mothers smoked during pregnancy;
- There was a threefold increase in the risk of SIDS among children of smoking Indigenous mothers (Fremantle et al. 2002, p. xxviii).

This report concluded:

*If smoking is causal, 46% of Indigenous and 50% of non-Indigenous infant deaths due to Sudden Infant Death Syndrome and 38% of Indigenous and*
8% of non-Indigenous infant deaths could be prevented if mothers did not smoke in pregnancy (Fremantle et al. 2002, p. xxviii).

A rather old but not yet repeated Australia study attempted to define more specifically the problems incurred by prenatal cigarette smoking. This examined the proportions of mothers who smoked for each of the following complications in pregnancy:

- Ectopic pregnancy (15%);
- Spontaneous abortion (9%);
- Antepartum haemorrhage (15%);
- Premature rupture of the membranes (21%);
- Low birth weight (23%);
- Stillbirth (9%) (English et al. 1995).

Both pre- and postnatal cigarette smoking is implicated in SIDS. In the 1980s, there was a rise in the number of sudden infant deaths, and a number of contributory factors were identified—particularly the practice of placing babies on their stomachs to sleep. Campaigns to change this behaviour were successful in significantly reducing the number of deaths. This eclipsed maternal smoking as the primary preventable risk factor (Sundell 2004; Shah et al. 2006).

There is a lack of clarity about the precise link between maternal smoking and SIDS. Most theories conclude that it is a combination of nicotine and smoking that affects lung growth, subsequently impairing the development of lung capacity and the hypoxic response in utero, as well as the effects of cigarette smoke in the postnatal environment (Bulterys et al. 1990; Cutz & Perrin 1996, Mitchel et al. 2006). These studies note a dose-response, with the more a mother smokes, the greater the risk.

A review of the literature on the effects of children exposed to environmental tobacco smoke (both pre- and postnatal) strongly correlates smoking in the home with:

- Increased rates of illness—particularly, middle ear disease, asthma, wheeze, cough, phlegm, impaired pulmonary function, snoring, adenoid hypertrophy and tonsillitis, which incur greater rates of hospitalisation;
- Adverse behavioural outcomes—attention deficit–like disorders, hypertonicity and tremor in newborns, negativity in two-year-olds and antisocial behaviour in adolescent boys;

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1 The hypoxic response is the ‘wake up’ trigger that is activated when oxygen levels fall.
• Cognitive impairment—delays in reading, maths and general abilities; decreased rates of auditory habituation; and delayed language development (DiFranza et al. 2004). Many of the above studies noted a dose-response relationship, with effects being most noted in children of mothers who smoked more than 10 cigarettes per day.

The adverse behavioural and cognitive outcomes have a compounding effect on educational outcomes. These children have more time off school due to illness (Kum-Nji et al. 2006), more hospital admissions, and less capacity to recuperate from surgery (O’Rouke et al. 2006). All studies confirmed the links between parental smoking and specific adverse health outcomes for children. A review of global clinical studies on parental smoking on lung function and the development of children during infancy found:

‘While there is, as yet, no convincing evidence from studies in human infants that smoking during pregnancy is associated with increased airway responsiveness at birth, many studies have demonstrated a reduction in forced expiratory flows on (average 20) in infants exposed to parental smoking’ (Stocks & Dezateux 2003, p. 266).

2.7 Key findings

• Tobacco is a plant grown on a commercial scale, primarily for the production of cigarettes.
• Cigarettes are smoked primarily to ingest nicotine.
• Nicotine is very poisonous, and in small doses is a powerful psychoactive drug with multiple effects on the central nervous system.
• Cigarette smoking can be catastrophic for smokers and those ingesting environmental tobacco smoke.
• Exposure to environmental tobacco smoke has particular and life long adverse effects on infants.
Chapter 2: An overview of nicotine and tobacco consumption in Australia

2.1 Introduction

This study is concerned with modern tobacco use, and explores the personal and social meanings of tobacco smoking. Therefore, this study is better informed with a brief description of the place of smoking in the lives of people from previous generations. The focus is on consumption patterns.

This history is presented as a narrative derived from the few works on the history of smoking in Australia (Walker 1984; Tyrell 2001; Ratsch, Steadman & Bogossian 2010), with some reference to global histories of tobacco (Gately 2001; Brandt 2007). The information in these works was not contested in broader historical texts about drug use or medicine. Except where stated or where a quotation is used, it is to be assumed that a unified view, synthesised from these texts, is presented.

Smoking statistics are derived from three sources. Those before 1948 are drawn from historical sources quoted by Walker in his book ‘Under Fire A History of Smoking In Australia’. Those prior 1977 are estimates produced by the Cancer Council, Victoria; those between 1977 and 1990 are from national census surveys undertaken by the Australian Bureau of Statistics; and those after 1990 were taken from the National Drug Household Surveys which are presented in www.tobaccinaustralia.org.au—a website presented by the Cancer Council of Victoria. The history presented in this section, except where stated, is Australian.

2.2 Use of nicotine and tobacco by Aboriginal people

Australian Aboriginal people were observed by early settlers shortly after 1788 to use a variety of nicotine yielding plants (including *Nicotiana excelsior*, *Nicotiana suaveolens*, and *Dubossi hopwoodii*). They were not observed to smoke rather chewing prepared leaves and later placing the chewed wad behind the ear to further extract nicotine. The preparation of leaves was complex and supported the highest level of nicotine transmission with the least harm. Leaves were dried in the sun or hot sand, rolled into balls and mixed with the ash of highly alkaline wood and leaves which ‘free-bases’ the alkaloid nicotine (Ratsch, Steadman & Bogossian 2010). In Western Australia nicotine preparation was men’s business and restricted to those
with grey in their hair. Pituri was as highly valued as boomerangs, spears, shields and ochre and was traded over long distances. (Watson 1983).

Pituri was valued for its capacity to support ventures in difficult terrain and for its ability to dull pain. As a valued commodity it also had a role in social interaction and bartering within and between tribal groups. There are observations that bush tobacco was so desired that people would refer to themselves as starving for it (Peterson 1997) and that it was chewed with enthusiasm by young and old (Brady 2002). There is no indication in records that pituri was used by settlers in anything other than in the dire situation of having no tobacco; there are for examples stories of convicts in chain gangs preparing and using native tobacco (Walker 1984).

There were two distinctly different influences on Aboriginal Australians concerning tobacco, the Macassans and the British. The Macassans (from what is now Sulawesi) visited northern Australia from the Kimberley to the Gulf of Carpentaria from around 1700 until the early 20th century to fish for trepang. They brought a number of items, which were distributed as a tribute or payment to Aboriginal people each season, these included dugout canoes, shovel nosed spears, arrack and brandy, betel nut and tobacco and pipes. The long Macassan pipe (see figure 2) used for tobacco smoking was incorporated into Aboriginal social and ceremonial life and is still in use today (Macknight 1976; Poignant 1996).

![Figure 2: Pipe smoking](image)

Example of smoking a Macassan pipe, Liverpool River Region, Northern Territory, ca. 1952 [picture] / Axel Poignant

Example of a clay pipe

In southern Australia the British, predominantly male, arriving from the late 1700s
onwards, were inveterate tobacco users and introduced it to Aboriginal people for a variety of reasons. Early settlers made gifts of tobacco to conciliate with local people. Squatters gave Aboriginal people tobacco freely at first and then only when they had complied with a request. (Walker 1984 p16). Expeditions carried tobacco and pipes to trade with Aboriginal people. Collectors and researchers gave tobacco in exchange for items of material culture, for witnessing ceremonies, as payment for taking photographs, as tokens of esteem and as restitution for wrongdoing (Brady 2002).

Observations of settler interaction with Aboriginal people from the early days until well into the twentieth century indicate tobacco was used by individuals and institutions extensively and deliberately to seduce and bind Aboriginal people to a European economic and social system (Brady 2002). Tobacco, provided by state governments, was included in rations given to Aboriginal people in ration depots and towns. There are records indicating that a number of state governments provided tobacco to missionaries to dispense to Aboriginal people, for example Benedictines in 1830 in Western Australia gave tobacco to people who attended services however ‘one Aborigine bluntly told the Trappists at Beagle Bay that if there were to be no more tobacco then there would be no more hallelujah’ (Walker 1984 p17). It was not until 1948 that a church mission at Oenpelli in the Northern Territory successfully lobbied against their role in the distribution of tobacco, however the Northern Territory Administration instructed the mission to resume distribution or forfeit their licence to conduct missions (Brady 2002).

There are numerous accounts from cattle-station managers and missionary groups indicating that groups of Aboriginal people voluntarily undertook long journeys into settlements and stations and endured considerable hardship in order to obtain tobacco. The exploitation of Aboriginal labour is well documented, many cattle station owners believed Aboriginal people were driven to work for them by a desire for the tobacco they were given along with other rations, Aboriginal pastoral workers were not paid in cash until 1947 (Brady 2002).

Several historians have wondered why Aboriginal people, in spite of having their own supply of nicotine, became so enamoured of tobacco; suggestions that it was because it was more available (pituri is seasonally available) and that it saved labour when the actual cost was compliance, are unsatisfactory. The most significant difference between the use of pituri and tobacco is the method of ingestion. Nicotine
extracted from pituri is absorbed slowly through the mucus membranes or the skin, as such it relieves the longer-term ache and discomfort of hunger and journeying. As will be discussed later in this work smoked tobacco delivers nicotine in a way that briefly enhances cognitive functioning, elevates mood, reduces appetite and anxiety, and improves sensory processing. Smoked tobacco seems to enable people to cope with situations of high stress for longer periods, in many senses it supported the toleration of prolonged oppression. Thus nicotine, as the addictive compound of tobacco was both a cause and a solution to the process of colonisation; ‘Aboriginal people were ‘tamed’ by being attracted into ration depots with the lure of tea, tobacco, jam and flour, the depots and towns serving as administrative centres, labour centres and military bases. The narrative constructed by the white man out of these events presents the Aborigine as living a fantasy of wanting to become like the white man, but unable to do so’ (Langton 1993 p217).

2.3 Tobacco use by early settlers

For settlers the acquisition and quality of tobacco and how it was smoked was, like almost every other cultural facet, indicative of place in a social hierarchy. Before cigarette use, which began in Australia in 1890, tobacco consumption patterns in the United Kingdom and the settler community in Australia remained stable: Smoking was a normal behaviour for men for example it is estimated that in 1897, 75% of the adult male population smoked and 90% of the New South Wales parliament smoked (Walker 1984 p7). Wealthy men and their sons smoked cigars, which were constructed from a quantity of good quality leaf. Working men smoked poorer quality leaf and tobacco scraps in fragile\(^2\) clay pipes (see figure 2). Smoking among women was restricted to the ‘rougher classes’ or women who did men’s work. Among the very poor and among Aboriginal people there were fewer social distinctions and men, women and children were observed to smoke (Walker 1984 p14).

The Australian tobacco industry, which began within a few years of settlement, indirectly helped to mark the place Aboriginal people were expected to occupy on the economic and social ladder of the new Australia. Producing tobacco is, even in the best of circumstances, complex (British settlers had no knowledge of tobacco production which was prohibited in Britain), lengthy (fifteen months from seed to

\(^2\) The fragility of the pipe and absence of matches meant that most pipe smoking was done in the evening after manual labour was complete where as perhaps cigar smoking was achieved in an office.
product), extremely labour intensive (American tobacco producers relied on slave labour, in Queensland Chinese labour was used) and unpredictable in terms of output. The bright piedmont tobaccos grown in America were delicate and sweet, Australian tobacco was course and rough. Despite a great deal of support and advice from various governments during the nineteenth and twentieth centuries Australian tobacco remained inferior to American imports. Attempts were made to produce a cigarette made entirely of Australian tobacco but it was so bad by 1907 approximately 10% of the product weight was additives needed to disguise the smell and taste. Leaf that could not be used was turned into sheep wash (Walker 1984 p21). At that time the one brand of cigarette on the market made entirely of Australian tobacco survived only because it was provided to prisoners of war. Thus until the 1990s when the Australian tobacco industry died the ratio of American to Australian tobacco in one’s pipe or cigarette was indicative not only of the level of import tariffs but also one’s economic status.

Throughout the nineteenth and the first half of the twentieth century groups of farmworkers travelled the country relying on seasonal work, they expected a ration of tobacco as part of their wages, many would not work without it (Walker 1984 p21), Aboriginal labourers worked only for rations and tobacco. Thus people of one social class purchased tobacco for what they perceived to be a lower social class. Dixon’s and other Australia tobacco producers marketed to those who purchased for others using messages signalling the tobacco was cheap (Australian) and ‘best’ - for that class of people (see figure 3). Advertisements directed at people who smoked what they purchased tended to use American themes in advertising to indicate a higher proportion of American origin tobacco (see figure 4).
2.4 Tobacco use in the nineteenth and twentieth centuries

The manufactured cigarette\(^3\) arrived in Australia in the late 1880s but it was not taken up as widely as it had been in USA and UK. Those countries had economies that were increasingly based on manufacturing which required people to undertake long hours of repetitive work with short breaks. Manufactured cigarettes were a good fit, they were quick, cheap mild, easy to smoke, curbed hunger and increased the perceived salience of their activity. Australia relied on a resource and farming based economy, the switch to manufactured cigarettes was delayed by a preference for hand rolled cigarettes. This may have been because the introduction of manufactured cigarettes coincided with a major economic depression (1890-1900) in Australia, which swelled the ranks of the very poor and increased the numbers of itinerant workers. It is possible to make thirty cigarettes from an ounce of cut tobacco, which was then half the price of thirty manufactured cigarettes. Hand rolling tobacco could be extended with Australian tobacco, home grown leaves and with

\(^3\) The British invented a reliable match in 1827 and in 1884 the Americans refined a machine that could roll 12,000 cigarettes an hour.
chop chop (black market Australian tobacco that has been grown, distributed and sold outside the government-regulated and taxed system) and possibly with bush tobacco thus the ratio of American to Australian tobacco could be adjusted in each cigarette.

The transmission to manufactured cigarettes did eventually happen, between 1860 and 1913 over 90% of all tobacco in Australia was consumed in pipes and between 4-7% was consumed in cigars⁴. Manufactured cigarettes appeared in 1890 immediately taking 3% of the tobacco market and by 1913 comprised of over 20% of the market (Walker 1984 p. 28). The manufactured cigarette may have gained greater popularity during the First World War (1914–1918) - assembling a cigarette in the trenches may have been difficult, there the cigarette developed its own symbolism.

‘Cigarettes were shared between friends and enemies alike ... The offer of a cigarette was a token of humanity—one of the few available to men in such wretched conditions. The shared cigarette provided the last example of civility before savagery, calm before the storm, kindness before brutality ... In so many ways, a cigarette was a representation of their own existence—a short-lived, expendable item’ (Gately 2001, p. 233).

Australia tobacco producers, particularly in the wake of the Great War, advertised tobacco smoking as something that confirmed and preserved masculine space, this was reflected in many novels of the time. Induction into smoking was connected with other rites of passage into manhood. Smoking was not socially acceptable for white women, some newspapers editorialised against women smoking along with other perceived icons of liberation such as cocktail drinking (Tyrell 2000 p. 10). Smoking by women gradually spread to all social classed but it was not until the 1930s that advertising was directed at white middle class women. It is estimated that before the war 10% of smokers were women but during the war this rose to 26% (tobaccoinaustralia accessed 14th December 2010).

Hand rolled cigarettes remained popular among the very poor and the tobacco continued to be extended with cheaper tobacco in times of hardship for example in 1925, 54% of tobacco was consumed in hand-rolled cigarettes, five years later, just after the start of the Great Depression it had increased to 66%. By 1957, 0.2% of

⁴ In 1860 snuff comprised 1% of tobacco market but by the 1890s it was no longer produced in a recordable amount.
tobacco was consumed in the form of cigars, 3.2% in pipes, 34.3% in hand rolled cigarettes and 61.6% in manufactured cigarettes (Walker 1984 p. 72).

During the Second World War tobacco was considered essential to the war effort, British soldiers received a ration of seven a day and could purchase more, the Americans considered it so important it was delivered with medical supplies (Gately 2001), Australian’s soldiers and munitions workers were provided with duty free tobacco via canteens.

Figure 5: Australian post war smoking trends

In 1983, the year before the Quit campaigns began, 34.5% of the population smoked. A reduction of 14.5% since 1945—remarkable considering the backdrop of unfettered tobacco marketing and unrestricted smoking. The gender ratio had changed, with only 40% being men (a drop of 32% from immediate post-war levels) and 29% being women (an increase of 2%) (see figure 5). The reason for this free fall in the incidence of smoking by men was possibly because the stressful context of war and the provision of duty free tobacco were over; the connection between smoking and lung cancer and other diseases was beginning to be publicised. The increase in women’s smoking was possibly due to targeted advertising and women’s increasing involvement in the paid work force, which gave them greater personal spending power.
The plummeting smoking rate was probably responsible for the saturation of tobacco advertising in the media by both American cigarette manufacturers and by Australian tobacco producers. Smoking, as portrayed in advertising, was the ubiquitous social prop; an icon of masculinity and an icon of both femininity and liberation, it was increased sexual attraction as well as being the cornerstone of companionship and an aid to parenting during the baby boom. In American and British movies watched across Australia smoking was equally portrayed in every facet of life (see figure 6).
Between 1950 and 1976 cigarettes were advertised as:

Icons of masculinity
One of the many variants of Marlboro man, from 1954 to the 1990s

Icons of femininity and liberation
1951, 1972
Source: [http://tobacco.stanford.edu](http://tobacco.stanford.edu) (15th February 2013)

Tokens of companionship (1952) and of sexual allure (1972)

Essential parenting aids—targeted to parents during the post-war baby boom (1951)
Source: Google images (2 August 2011)

Figure 6: Collage of tobacco marketing images 1945 - 1984
Until the 1980s Aboriginal people were largely invisible to the white population because they were excluded from mainstream social and economic life. After the Second World War, in which many Aboriginal men took part, a rising crescendo of protest led to the referendum of 1968 and eventually to reconciliation. It is very difficult to ascertain the numbers of Aboriginal people who smoked during this period, tobacco consumption was not included on the census until the 1980s and reliable data on Indigenous tobacco consumption is not available until 1994.

From the early 1980s onwards the efforts of the anti-tobacco lobby and the establishment of the Quit campaign within federal and state health policy changed the smoking landscape in Australia. The incidence of smoking in the general population continued to fall, it was noted from the early and continuing statistics on smoking generated by the Australian Bureau of Statistics that the rate of reduction in the incidence of smoking was not evenly spread across the social spectrum, some people, particularly those within the lowest economic quintile of the population seemed slower to respond to strategies introduced to reduce the incidence of smoking in the general population (see figure 7).
By 2000 the gap between the incidence of smoking in the highest and lowest economic quintiles had become marked inverse proportion, the gap is still evident today (see table 1).

<table>
<thead>
<tr>
<th>Quintile</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>1st (lowest)</td>
<td>24.6</td>
</tr>
<tr>
<td>2nd</td>
<td>20.7</td>
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<tr>
<td>3rd</td>
<td>17.7</td>
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<tr>
<td>4th</td>
<td>16.3</td>
</tr>
<tr>
<td>5th</td>
<td>12.5</td>
</tr>
<tr>
<td>Incidence in the general population</td>
<td>18.1</td>
</tr>
</tbody>
</table>

Within the lowest quintile are small cohorts of people where the incidence of smoking is even higher, double or triple the incidence in the general population and for whom the decline is slower. These include Aboriginal people, lone mothers, people who had adverse childhood experiences, people with a mental illness, people who have problems associated with alcohol or drug use or problem gambling, were born overseas or who are homeless or in prison.

2.5 Directions of the quit campaign

The establishment of the Quit campaign meant that the federal government had made a lasting commitment to support an antismoking position. National Tobacco policies and strategies from the 1984 until 2011 reflected specific contributions which included highlighting the number of deaths and illnesses caused by tobacco smoking, increasing taxation, curtailing the amount and content of advertising, banning smoking in public places and work places, and encouraging smokers to quit. Each of these factors made a specific contribution to the smoking landscape in Australia.

Tobacco smoking is estimated to kill about one half of persistent users. This stark reality was plastered across the country at the point of sale during the 1980s (see Figure 8).

Figure 8: Smoking Kills Source: Google images (4 August 2011)

Chronic illness was also a strong feature of the Quit campaigns. Perhaps the most disturbing images were those printed on cigarette packs from the 1980s onwards (see Figure 9). Throughout this period, anti-smoking advertisements in the cinema and on television were relentless.
Steep rises in the price of cigarettes has significantly changed smoking habits across the social spectrum—a 10% increase in the price of cigarettes leads to a 4% decrease in total consumption (Stratton et al. 2000).

In 1996, the last traces of advertising disappeared when tobacco brands were banned at sports events—except for international events held in Australia, which would be taken elsewhere if the bans applied. The role of smoking in movies had also changed significantly. In a survey of blockbuster movies of the 1990s, all of which were popular in Australia, 24% of characters still smoked, but these were the poor and villainous characters, rather than the rich heroes (Omidvari et al. 2007).

By 2000, most workplaces were operating a smoke-free policy. This had a significant and positive effect on the community by reducing exposure of both smokers and non-smokers to environmental tobacco smoke. In 2000, smoking was banned in all buildings and grounds operated by the Health Department of WA. In 2001, smoking was banned in public places, including public houses, casinos and other areas in which smokers had traditionally congregated.

Stopping smoking was the only goal—the word ‘quit’ is unequivocal. Those who found it impossible to stop could call the Quitline—a national telephone service responded to on a state basis and staffed by counsellors.
As a result of the quit campaigns, in the space of twenty years smoking had gone from being a ubiquitous social prop enjoyed by many in many places to the activity of a few who were marginalised to the edges of mainstream activity.

In 2010 the government rolled all previous alcohol, tobacco and illicit drug strategies into one and confirmed a ‘three pillar approach of supply reduction (control), demand reduction (prevention) and harm reduction (treatment) however another National Tobacco Strategy 2012-2018 was produced in which the commitment to control and prevention was reiterated but there was very little focus on harm reduction.

2.6 Controversy

Until very recently policy approaches to tobacco were limited compared to approaches to other drugs of addiction. Although there has been no doubt about the effectiveness of tobacco control and prevention approaches there has been a growing controversy about the lack of alternatives especially for people who have not responded to control and prevention strategies.

Unlike the National Tobacco Strategies, the National Illicit Drug and the National Alcohol Strategies throughout the last two decades had a three-pronged approach involving prevention, control and treatment. These strategies included numerous evidence-based harm reduction strategies. Their multi-pronged approach was informed by the International Covenant on Economic, Social and Cultural Rights (UN 1966), in which Article 12 placed the right to health as an autonomy-enhancing right. Signatory countries were committed to prioritise health interventions to promote those treatments most likely to increase autonomy among those least able to control their own behaviours. One of these interventions was the confidential provision of information about how people could protect themselves.

It was for this reason that, in 1986, national Alcohol and Drug Information Services were provided so that drug users, even users of illegal drugs, could access information about safer use and treatment options, without fear of prosecution. If Article 12 were applied to tobacco, information about how to reduce the harm associated with smoking would at least be available through the Quitline, if not on or within the packaging of tobacco products. One commentator claimed:
‘Avoiding, or objecting to, the fair presentation of information on effective harm reduction products to smokers to allow them to make an informed choice to reduce the health risk can represent a violation of a human right—the right to information’ (Kozlowski 2002, pp. 55–60).

In 2003, the World Health Organization (WHO) constructed a binding international treaty: the Framework Convention on Tobacco Control (FCTC) (WHO 2003). This encouraged both treatment and harm reduction approaches but it was criticised for not making these a part of treaty obligations. ‘Although the core text of the treaty recognises the importance of cessation and product regulation, the FCTC fails to place affirmative obligation on countries vis-a-vis harm reduction’ (Mason, Meier & Shelley 2006, p. 121). In Australia, the National Tobacco Strategy (NTS) 2004–2009 was derived from FCTC confirmed all the existing control measures and prevention efforts and recognised the correlation between persistent smoking and social disadvantage. However, it was limited in its offering of indicators as to how this may be addressed mentioning only the introduction of smoke-free policies and education in places where the disadvantage may congregate such a day centres for the homeless. While the strategy bemoaned the lack of research about at risk people, in the section entitled, ‘Research, evaluation and monitoring and surveillance’, they were not mentioned.

Significantly reduced smoking among the general population seemed to eclipse the persistence of smoking among some cohorts. Some professionals providing services to people with one or more risk factors for smoking began to call for more targeted interventions. This is one of many examples: In 2007, Professor Cherrie Galletly of the Discipline of Psychiatry in the School of Medicine at The University of Adelaide made a plea in the national press. This was reported as ‘Mentally ill smoke more and quit less’ in The Weekend Australian, 9–10 June 2007:

The mentally ill, especially those with schizophrenia, clearly need a lot more help to overcome nicotine addiction. Many experts agree that interventions tailored to their specific needs and circumstances should be developed and evaluated, with successful programs becoming widely available. If the enthusiasm, determination and resources that were applied to the task of reduced smoking in the rest of the community can be applied, much better outcomes should be possible (Galletly 2007).
Respected researchers echoed this call for alternatives; for example in 2009 Hall and Gartner discussed the possibility of transposing the Swedish experience of the use of harm reduction strategies with low nitrosamine smokeless tobacco (LNST) in Australia. They cited the work of Kozlowski et al. who determined that even if the entire population used snus, there would still be a net health gain (Kozlowski et al. 2001). Hall and Gartner (2009) developed suggestions for its application in Australia, but were so aware of the controversy of their suggestions that they entitled their paper; ‘Supping with the Devil?’

Alternatives to greater control measures include harm reduction strategies and the treatment of nicotine addiction although these are considered in greater detail later in this project the reason for their late entrance into the tobacco discourse needs some explanation.

The delay in the use of treatment methods for nicotine addiction was largely because tobacco was not classed as a drug of addiction until the 1990s For example in the United States Surgeon General’s report of 1964, it was classed as a drug of habituation. The classification as a drug of addiction would have led to international controls, classification as a drug of habituation meant that tobacco was subject only to national controls and warnings. Some commentators of the period have argued that this choice of classification was due to influence by the tobacco companies however tobacco did not fit the criteria for addiction that was used at the time. Then the concept of an addict was based on the disease model (this is dealt with later in this thesis) and half the population (who were smokers) could not be considered to match the classification of the addict.

It was not until the 1990s that the term ‘addiction’ became connected with tobacco. Although the term is now commonly used to describe all manner of over-indulgences, at the time, the concept of a drug addict was still that of someone using illegal drugs. It was perhaps more acceptable to call a smoker an addict in the 1990s because ‘in a culture prone to stigmatise its poor and disfavoured, changing perceptions about the average smoker eased the growing attribution of addiction’ (Brandt 2007, p. 495).

Alternative and safer methods of ingesting nicotine were considered a solution. There are less deadly forms of ingesting nicotine however products, such as snuff, chewing tobacco and snus—a Swedish tobacco that is held in the mouth were
adding these to a list of banned products in 1991 under Section 65C(1)(c) of The Trade Practices Act 1974.

Nicotine replacement therapies became available in 1986, but only under pharmacy advice. While these were known to be effective in supporting a quit attempt, until recently the retail cost was similar to that of a smoking habit. In 2000, the drug, bupropion (Zyban), was placed on the Pharmaceutical Benefits Scheme, which provided a significant subsidy; however, the drug is contraindicated for use by people with most mental health conditions. In 2008, Varenicline (Champix) was made available via prescription, and was subsidised by the Australian government. In 2009, the material distributed by the Quit campaign was amended, though it still only advocated quitting and still saw quitting as an event. It also still discussed the 4D Strategy, but included nicotine replacement therapies and the two drugs, Bupropion and Varenicline, as tools to support quitting.

In 2009, the federal government committed to closing the gap between Aboriginal and other Australian’s standard of living, including the gap of 17 years in life expectancy. The higher rate at which Aboriginal people were smoking was a major contributor to that gap, and $14.5 million was dedicated to an Indigenous tobacco control programme. The first criteria for funded projects was that they must use prevention modalities.

As with addiction to other drugs the author understands that a range of treatment modalities needs to be available. For some quitting, abrupt abstinence, does work but for many who are still smoking cessation needs can only be achieved through a supported process of accumulating steps.

2.7 Key findings

- Tobacco, like other psychoactive drugs, has served medicinal, spiritual, social and economic human needs.
- In Australia tobacco became a cultural icon, with individual and collective tobacco use defining individuals’ status and identity.
- Nicotine use and tobacco smoking has been endemic at all levels of society throughout Australian history with multiple access pathways for all income levels.
• Recent efforts to reduce the effect of smoking in the community—through control measures that aim to reduce the incidence of smoking in the population have been more effective with smokers in higher economic quintiles.

• It has been suggested by a number of experts that a different approach, involving harm reduction strategies targeted at individual smokers, may be effective.
Chapter 3: Factors that may contribute to persistent smoking in the lower economic quintiles

3.1 Introduction

Tobacco smoking in the hard to reach population is the subject of this project therefore the relevance of this section in very high. There are a number of different factors that may contribute to persistent smoking in the lowest economic quintile:

- There may be an epidemiological explanation; that the persistence is temporary and may be resolved in time provided the strategies that have been successful with the higher economic quintiles are continued;
- There may be problem with the reach of control and prevention strategies, while they have been successful in other quintiles they may have failed to reach those in the lowest quintile; and
- There may be problem with a proportion of those in the lowest economic quintile for whom smoking may have greater meaning and whose addiction may be more complex – people that may have a greater range of risk factors for smoking.

The purpose of looking at these factors is not to determine which is correct, they are probably all contributing factors to some degree, but to identify those amenable to intervention.

3.2 An epidemiological explanation

The epidemiological explanation is based on the typical epidemic curve, for example if people in the highest economic quintile started smoking earlier and gave up earlier over time they establish a curve which people in other quintiles echo - if they started to smoke and cease smoking later. As the previous section indicates from the time of settlement to the 1990s there were four sources of smoked nicotine, pituri, chop chop, Australia grown and imported and American tobacco. This gave people of all economic status access to pipe tobacco, manufactured or hand rolled cigarettes at a similar time. As indicated earlier in this work people in the highest economic quintile ceased smoking earlier and in greater numbers, those in the lower economic quintiles also began to stop although more gradually. That the incidence of smoking is falling across all economic bands leads some to consider that all the lines on the
graph will inevitably continue to decline without any change anti-tobacco strategies for example: ‘Male and female Indigenous smoking prevalence’s in non-remote Australia fell in parallel with those in the total Australian population. The different Indigenous smoking prevalence trends in remote and non-remote Australia can be plausibly explained by the typical characteristics of national tobacco epidemic curves, with remote Indigenous Australia just at an earlier point in the epidemic’ (Thomas 2009 p.116). Waiting for catch up has not been acceptable in Australia hence the ‘Closing the Gap’ strategy which is developing strategies to fast track improvements in Aboriginal health, education, housing and other well-being initiatives including reducing smoking. While the epidemic curve is of relevance to the study of smoking as an epidemic it has little relevance to this project.

3.3 A problem with the reach of control and prevention strategies

The issue of reach is very important to this project because it indicates the provision of strategies to people in the hard to reach population cohort needs to work outside mainstream methods to engage people on a different level to that of current strategies. Access methods need to be based on the ways already known to be effective even if they are not concerned with tobacco.

There is not a problem with control and prevention strategies per se they have been extraordinarily successful in convincing many smokers in mainstream Australia to stop. The problem concerns their reach; people who are not in mainstream life are less susceptible to their impact. This is a well-known facet of campaigns - the term ‘hard-to-reach’ is used within the health promotion discourse to describe people who persist with behaviours that prevention campaigns warn them against. Consequently, they are more likely to experience adverse life trajectories relating to:

- Health—more disability, disease and a lower life expectancy;
- Education—more likely to remain unskilled;
- Welfare—more likely to become homeless and/or end up in the justice system.

The term hard-to-reach is synonymous with other terms, including social disadvantage, social exclusion, poverty and marginalisation, people described as such are likely to have any of the at risk factors discussed in the next section. Children from disadvantaged households are twice as likely to be stillborn (Dummer
2003) and less likely to gain a qualification a skilled job (Buxton et al. 2005) than those in advantaged households. When they do survive, they will not live as long and are more likely to suffer deprivation in old age (Breeze 2005). Of smokers with no educational qualification 34% state that they do not allow smoking inside their home, compared to 40% of smokers with a trade certificate, and 49% with an undergraduate diploma or university degree (NTS 2004–2009) hence children from disadvantaged households are more likely to be exposed to tobacco smoke at home.

The term ‘hard-to-reach’ is used in the USA, particularly in the early years discourse, where it is loosely applied to describe parents who are less likely to access children’s health services, such as inoculation programs and infant health clinics. The University of Florida defined the hard-to-reach as having the characteristics of teenage and/or unwed mothers—early quitting of high school; unemployment; poor, single parents; and language barriers. They also describe a subcategory of the hard-to-reach as the ‘reluctant to engage’, and define them as apprehensive about judgments from outsiders (Mullis et al. 2002).

Anti-smoking campaigns in Australia perhaps had less impact on such people.

Campaigns
Campaigns highlighting the number of deaths and chronic illness attributed to smoking have been based on the idea that if people are informed that cigarettes harm their health and will shorten their lives, they will quit smoking. Perhaps the hope of a longer life is less significant for a population cohort that does not invest in the long-term future (people with very low incomes rarely have mortgages, life insurance or superannuation), has a higher than average suicide rate, and for whom old age confers greater vulnerability and deprivation (Breeze 2005, pp. 276–283).

Campaigns contribute to a decline the numbers of young people smoking but it has been suggested that this may be at the expense of a proportion of young people whose identity is based on resistance to mainstream norms. For example a discourse analysis of a recent series of television anti-smoking campaigns in New South Wales, explored the knowledges and techniques used to construct and disseminate an anti-smoking message found that medical knowledge, imagery, and language was predominantly used to create a dichotomy of healthy (non-smoker) versus unhealthy (smoker) and that individuals chose the path they take. The author suggests that this may be counterproductive for young people ‘it is likely that anti-
smoking campaigns that promote smoking as negative, 'deviant' and unhealthy, position smoking as a legitimate way to resist the authoritative claims of experts, and may, in fact, incite the behaviour… In other words, it is difficult to dissuade young people form smoking by emphasizing its dangerousness, when it is precisely this danger that is part of the appeal.' (Gilbert 2008 p.116).

This was confirmed in another study that compared differences in the incidence of smoking among young people living in Quebec (where 17% of people aged between 15-19 years are daily smokers) with British Colombia (9% of same) by interviewing tobacco control practitioners and analysing campaign materials. The study found that the discourses distinguished youth who engaged in self-governance from those who did not and the separation matched social class lines. Youth who smoked tended to be constructed as susceptible to a range of deviant practices, unable to self-manage in all sectors of their lives and set apart from what is considered appropriate and responsible behaviour. In internalizing their status; ‘These youth often use terms such as loser, slacker and bad in relation to their ‘smoker’ status in ways that privileged youth who smoked did not. By adopting such discourses tobacco control practitioners may, inadvertently, be reinforcing and creating the very phenomena they wish to remedy’ (Frohlich et al 2012 p.993).

**Increased taxation**

Steep rises in the price of cigarettes, along with other control and prevention strategies is moving Australia towards a de facto prohibition and, as with the prohibition of other drugs, it has made smuggling tobacco more profitable. Geographically Australia is not far from countries where tobacco taxation is far lower, which makes smuggling to Australia very profitable. Purveyors of black market tobacco target smokers with low incomes and these buyers often pay less than half the retail price for smuggled cigarettes and the packets do not have the nasty health warnings. The World Bank estimates that ‘between 6% and 8.5% of global tobacco cigarette consumption is smuggled’ (Merriman 2009).

Price rises may have other unintended consequences: For example an analysis of 2001-2006 Behavioural Risk Factor Surveillance System surveys in USA found changes in smoking and drinking patterns in response to tobacco price rises. Rises in the price of cigarettes were associated with reductions in smoking among persons aged 30-64, drinking among those aged 18-20, and binge drinking among those aged 65 and older however there were increases in current drinking among persons
aged 65 and older, and binge and heavy drinking among persons aged 21-29 (McLellan et al, 2012).

**Banning smoking in the workplace**
The banning of smoking in the workplace has no impact on those who are unemployed. The banning of smoking across the entire grounds of any health campus in WA has caused some problems for in and out patients in psychiatric institutions.

**The word quit**
The quit campaign is focused on one unequivocal word – quit - stopping smoking is the only goal. Those who found it impossible to stop could call the Quitline—a national telephone service responded to on a state basis and staffed by counsellors. The word ‘counsellor’ suggests professional drug counsellors; however, this is not the case. Such counsellors are unqualified staff who receive training in the ‘4D Strategy’ in which: A quit day is selected and some preliminary activities are undertaken, such as clearing the home of smoking paraphernalia; On the chosen date, the smoker is supposed to wake up as a non-smoker and cope with the suggested 11 days of mild withdrawal discomforts; Coping mechanisms offered by the strategy include deep breathing, drinking water, doing something different, and delaying\(^5\).

This may be the experience for some but it contradicts the lived experience of many other smokers who have attempted to quit. These people have reported significant symptoms associated with withdrawal, including irritability, aggression, anxiety, restlessness, poor concentration, increased appetite, urges to smoke, disturbed sleep, decreased heart rate, and decreased levels of adrenaline and cortisol, with symptoms reducing over time (Royal College of Physicians 2000). The literature does not contain health warnings about quitting for people with mental health conditions, yet abrupt cessation of smoking and nicotine can precipitate or exacerbate psychiatric symptoms. Smokers with a history of major depression who stopped smoking were seven times more likely to have a recurrence of major depression than people who continued to smoke (Forchuck et al. 2001). Thus it may be that many people with mental illnesses and mental health conditions have made

\(^5\) Derived from material supplied to the Quitline by the Quit campaign between 2000 and 2005.
numerous efforts to quit only to be defeated by the fact of it being an abrupt cessation of nicotine.

3.4 Risk factors for smoking

There may be a proportion of people in the lower economic quintiles for whom smoking may have more meaning and whose addiction may be more complex. They have to face the greater challenges in life that place them in the hard to reach cohort. Many of these challenges are also attributes that make a person at higher risk of becoming a smoker. For some however the risk factors, about which they may be unaware, accumulate as they grow until the constellation of risk factors makes it unlikely they will be a non-smoker, for example:

<table>
<thead>
<tr>
<th>Pre-birth</th>
<th>Infancy</th>
<th>Childhood</th>
<th>Adolescence</th>
<th>Adulthood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having a genetic predisposition to addiction and/or depression or other mental health conditions. Mother smokes in pregnancy.</td>
<td>Growing up in a poor family. Being the child of a single or divorced parent. Having parents who smoke. Exposure to environmental tobacco smoke in the home. Being sexually abused. Being physically and emotionally abused or neglected.</td>
<td>Having siblings who smoke. Having disengaged parents. Being sexually abused. Being physically and emotionally abused or neglected. Growing up in family or community in which smoking is normal</td>
<td>Having a personality trait (or developing such as a result of adverse childhood experiences) such as rebelliousness, sensation seeking or anxiousness and low self esteem. Gravitating to peers who smoke. Experiencing institutional care</td>
<td>Being poor. Living in a context where smoking is normal. Using alcohol or other drugs. Being homeless or institutional or custodial care. Having a mental illness or health condition.</td>
</tr>
</tbody>
</table>

Table 2 Accumulating risk factors for smoking

The influence of genes

Genetics is a relatively new science and the influence of genes on addiction is by no means clear. The most recent studies indicates some may have a genetic predisposition to addiction (Goldman, Oroszi & Ducci 2005), a predisposition to tobacco use and to other factors that in increase the risk of smoking such as a
mental health condition. However this is not the single causal factor in smoking, having a genetic influence makes smoking more likely as well as contributing to quit failure (Bierut, 2007). The continued study of genetic influences is very important to research on tobacco use but is not of particular relevance to this project because, unless they have been genetically profiled, which is rare, participants who smoke have no certainty they have a genetic predisposition to addiction or smoking. They may infer this from the rate of addiction or smoking in their families. They may use this assumption as a way of guarding against addiction or of rationalizing an addiction.

**Lifetime exposure to environmental tobacco smoke**

It is clear from the material presented earlier in this project that the effects of parental smoking and poverty are compounding factors that together and synergistically enhance the possibility of an adverse life trajectory. There is a growing body of research that strongly suggests that children of parents who smoke are more likely to take up regular smoking during adulthood. An American 30-year prospective study found that children born to mothers who smoked during pregnancy were twice as likely to become smokers during adulthood. The significant differences between adult children of non-smoking and smoking mothers remained after adjustments were made to account for participants’ age, gender and maternal socio-economic status. The study also looked at marijuana smoking; however, the findings were specific to tobacco—there were no corresponding elevations for parents who smoked marijuana (Buka et al. 2003). A meta analysis of 58 studies conducted in Britain found the relative odds of uptake of smoking in children were increased significantly if at least one parent smoked, by slightly more if that parent was by the mother, odds were increased again if both parents smoked and even more if a sibling smoked. (Leonardi-Bee, & Jere Britton 2011)

An Australia study found that any childhood experimentation with smoking increased the risk of smoking 20 years later, and that exposure to parental smoking predicted current smoking (Paul et al. 2008). Similarly, a longitudinal study from the USA found an association between maternal smoking during pregnancy and an increased risk of smoking later in life among female children, but not male children (Roberts et al. 2005).

These studies indicate that it is not merely the modelling of smoking which influences the onset of smoking in later life. The regular absorption of nicotine from pre- and
postnatal tobacco smoke has a role in establishing a capacity to accept and respond to nicotine during childhood, if not before birth. Two recent studies confirm this. A Canadian study examined the predictors of smoking in adolescence, using two surveys of children: one at five to 12 years, and a follow-up at later adolescence. The first survey collected data on the concentration of environmental tobacco smoke in the children’s home and children’s salivary cotinine levels. The second survey collected data on indicators of adolescence and current smoking. This study found conclusively that the proportion of nicotine absorbed from that available in environmental tobacco smoke during childhood is associated with subsequent smoking in adolescence (Becklake et al. 2005).

A large randomised control study was conducted in Washington, involving 3,962 children. This compared parent’s self-reported smoking habits when the child was in third grade, with children’s smoking habits nine years later, when they had reached twelfth grade. This study found conclusively that parental smoking directly influences children’s behaviour: Each smoking parent increased the likelihood by:

- 32% that their child would try smoking;
- 15% that their child would smoke regularly;
- 28% that their child would become a daily smoker (Bricker et al. 2007).

The same researcher, in an earlier, similar, but much smaller study, found that when both parents ceased smoking, their children’s odds of daily smoking at 17/18 years were reduced by 19%—compared with a reduction of odds of 71% for children whose parents had never smoked (Bricker et al. 2006).

This information is highly relevant to this project as it is anticipated that many participants will have been exposed to environmental tobacco smoke in childhood and may currently be exposing their own children. Reducing the exposure of children and providing expectations about not smoking are two behaviours that can be easily established and may have a profound influence on both current smoking and on smoking uptake in subsequent generations.

**Disengaged parenting**

This information is highly relevant to this project as parents are referred to Responsible Parenting Services because their children are exhibiting behaviours associated with disengaged parenting.
Disengaged parenting typically concerns parents who are lax about setting behavioural boundaries and are not fully engaged in the supervision of their young people. For some this is a conscious, embraced parenting style but more typically, it is accompanied by low levels of intimacy, loyalty, connectedness and poor communication (Olsen & Gorrell 2003). Within that lack of parental strength is a failure to express expectations about smoking. Children raised in such a way are more likely to engage in experimentation and risk taking behaviour such as smoking (Kalesan, Stine & Alberg 2006; Sargent & DiFranza 2003).

**Childhood experience and its influence on personality**
This information is highly relevant to this project, many of the parents referred to Responsible Parenting Services have parenting and other relationship problems because of adverse childhood experiences. History cannot be changed but the legacy of such experiences can.

Little research has been conducted in this area but what has been done makes a strong link between sexual, physical and emotional child abuse and neglect, other adverse experiences and subsequent smoking in adulthood. For example a retrospective cohort survey involving 9215 adults found smoking was strongly associated with adverse childhood experiences⁶ (Anda et al 1999; Vanda 2011). Another retrospective cohort study involving 722 women found those who experienced physical and sexual abuse as children were 40% more likely to begin smoking than women with no history of abuse even in the absence of depression. The joint effect of experiencing both physical and sexual abuse as a child led to a 3.5-fold increase in the likelihood of becoming a smoker compared with women who did not experience any childhood abuse after adjustment for religion, social class, and poverty (Nichols & Harlow 2004).

A cohort study also done in USA found that Individuals with documented histories of child abuse and/or neglect were significantly more likely to have smoked at least 100 cigarettes compared with the control group. Those experiencing neglect were at significantly increased risk for having smoked at least 100 cigarettes in their lifetime compared with controls (Ghirmay & Widom 2011). A very recent meta analysis of

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⁶ In this study defined as emotional, physical, sexual abuse, battered mother, parental separation and divorce, growing up with a substance abusing, mentally ill or incarcerated household member.
studies found a causal relationship between non-sexual child maltreatment and a range of mental disorders, drug use, suicide attempts, sexually transmitted infections, and risky sexual behaviour (Norman et al 2012).

A study that explored the possible pathways from adverse childhood experiences to smoking by looking at LONGSCAN data (a prospective, longitudinal study of child abuse and neglect in USA) found that maltreatment history was associated with internalizing problems at the age of 14, and internalizing problems were associated with smoking. The study concluded that internalizing behaviours partially mediated the link between childhood maltreatment by the age of 12 years and adolescent smoking at 16. Internalizing problems were defined as behaviour indicative of anxiety, depression, somatic symptoms, or social withdrawal (Lewis et al 2010).

**Gravitating to peers who smoke /living in a context where smoking is normal**

This information is highly relevant to this project because smokers tend to gravitate to peers who smoke, eventually smokers can inhabit a world where smoking is normalised. This is may be particularly so for two disadvantaged groups; people who experienced adversity in childhood and Aboriginal people.

As previously indicated young people who perceive themselves to be outside the mainstream often because of the impact of adverse childhood experiences or because of low socio-economic status form friendship groups. Smoking may be one of the shared activities that both binds them and reinforces their identity to others as outsiders (Gilbert 2008; Frohlich et al 2012).

It is possible some Aboriginal people may be participants in this study. Their history of oppression, as discussed earlier in this part of the thesis, may be a contributing factor in the high incidence of smoking in the Aboriginal population. In the Aboriginal community the incidence of smoking is approximately double that of the general population. In 2008, nearly half (47%) of Aboriginal Australians over the age of 15 smoked cigarettes daily—a slight reduction from the 51% previously recorded. Smoking rates are context-dependent, with people living in remote areas more likely to be smokers (53%), compared to those living in cities (42%) (ABS 2008). Aboriginal smokers smoke more than other Australians, smoking an average of 115 cigarettes per week, compared with 97 for other Australians (AIHW 2008).
Smoking rates among Aboriginal mothers, particularly those living in remote communities, is extraordinarily high, with 69% of mothers smoking prior to pregnancy, and 67% continuing to smoke during pregnancy (Gilchrist et al. 2004). Most Aboriginal children are exposed to environmental tobacco smoke, with 62% of households with Aboriginal residents having at least one regular smoker. By the age of 13, 10% of Aboriginal people are daily smokers, compared with 5% for other Australians. Fifty-four per cent of Aboriginal people are smoking on a daily basis by the age of 18 (AIHW 2008). These high rates of smoking result in high rates of smoking-related illness, which accounts for 20% of all Indigenous adult deaths, and is responsible for more ill health and deaths than alcohol and all other illicit drugs combined (Vos et al. 2007).

**Experiencing homeless or institutional or custodial care**

There is little specific data concerning the smoking rates of adults who are homeless, who were once in institutional care, or adults currently in institutional care. Surveys in the UK indicate that the incidence of smoking in homeless people is 94% (Buxton et al. 2005). In the UK and USA, the incidence of smoking was estimated to be 80% in the last decade (Buxton et al. 2005; Daly et al. 2000). A review of the literature in 2001 indicated that if a person with a mental illness was a resident in a psychiatric institution, hostel or night shelter, the rate was over 70%, regardless of the type of illness suffered (McNeil 2001). This data is old because most institutions have introduced smoke free policies in the last decade. The rates of smoking among people in prison are similar to those in other institutions. A survey of 23 prisons in NSW conducted in 2001 found that 75% of prisoners (71% male and 81% female) were smoking, compared with 23% in the general population (Awofeso et al. 2004).

The researcher found only one study that explored ideas about smoking held by homeless people. The researchers of this study accessed participants in a support facility in a large city in the USA where most participants were African American males in their early forties. Most participants stated that they wanted to stop smoking, and reported that barriers to this included the pervasive acceptance of smoking by homeless people and by those who provided services to them, the frequent use of tobacco in combination with alcohol or illicit drugs or to achieve a high, and high levels of boredom and stress. This paper also noted ‘alternative’ smoking behaviours, such as smoking cigarette butts and participants making their own cigarettes (Kolawole et al. 2004).
The majority of people in custodial care are from the hard-to-reach population cohort, in WA, they comprise 43% of the prison population (Calma 2010). Many enter prison as smokers, and some may be inducted into smoking while in prison. A survey of inmates’ reasons as to why they do not stop smoking while in prison indicated three major concerns: boredom, stress and the fact that everyone else was smoking (Awofeso et al. 2004).

The researcher worked in non-government organisations prior to the widespread introduction of smoke-free areas. In this work the researcher provided services to chronically homeless people who refused accommodation. Observations were similar to those found by Kolawole other observations include the provision of cigarettes by staff to avert bad behaviour and the sharing of cigarettes being important in mediating social relations. For example when a small group might gathered for the night—a safer option than sleeping alone—it was typically established through the sharing of cigarettes, or the pooling of scrounged butts and papers to construct cigarettes. A latecomer may gain admission to the group by providing cigarettes or alcohol. The giving and receiving of a cigarette denoted the establishment of a friendship and served equally well to call a truce following an argument.

**Concurrent other drug use**

There are no truly reliable statistics for the incidence of smoking among people with previous or concurrent other drug use. Estimates are old because they tend to be derived from treatment facilities, which are now smoke free. Estimates from a variety of treatment settings placed the incidence of smoking in that population at around 85% (Koutrulis 1996). In one unit for alcohol dependent people, 77% smoked, and of those who smoked, 80% smoked more than one packet of cigarettes per day (Joseph 1993).

There are many contributing factors to persistent smoking in this cohort. Nicotine may be used to adjust the effects of other drugs of addiction, nicotine is known to potentiate the stimulant effect of caffeine, and to reduce the drowsy effect of benzodiazepines (Benowitz 1996). It is possible that nicotine can potentiate other stimulants, such as cocaine and amphetamine, and that it can reduce the drowsiness of other depressants, such as alcohol and opiates (Goldsmith et al. 1999). Drug users, particularly illicit drugs users, tend to form small social groups and support each other in the obtaining and using of their drug of choice. As in any social group, they begin to share other aspects of identity—they already share a language around
drug use, and this may extend to listening to the same music and dressing in similar ways. Smoking tobacco in this context is yet another drug that identifies the group as living beyond social norms.

**Having a mental illness or mental health condition**

The National Mental Health Policy 2008 states that 3% of the Australian population experience severe or recurrent illness, and up to 45% are affected at some point in their life. The policy identifies two types of mental health problems:

- **Mental health problem**: Diminished cognitive, emotional or social abilities but not to the extent that the criteria for a mental illness are met;
- **Mental illness**: A clinically diagnosable disorder that significantly interferes with an individual’s cognitive, emotional or social abilities.

A diagnosis of mental illness is generally made according to the classification systems of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association 2000) or the *International Classification of Diseases* (WHO 2000; National Mental Health Policy 2008, p. 290).

A mental health problem may include anxiety and somatoform disorders, such as panic attacks and post-traumatic stress disorder, mental illnesses include schizophrenic, affective and schizoaffective disorders. The degree of severity of any condition may vary from person to person and from time to time. Some illnesses, even with the most effective treatment and management, are as persistently disabling as quadriplegia, while others are not so disabling, or are only this disabling at times.

It is estimated that the incidence of tobacco smoking among people with a mental illness is over twice as high as the general population (Commonwealth Department of Health and Ageing 2003). The 1997/98 Survey of Mental Health and Wellbeing found that 43% of Western Australians with a diagnosed mental illness were current smokers, compared with 24% of the general population (Daly, Saunders & Roberts 2000). In WA, over the last two decades, there has been a downward trend in mortality rates from heart disease in the general population. This decline has not been mirrored in people with mental illness, for whom mortality rates have increased in women and remained steady in men (Coghlan et al. 2001). Despite very high rates of smoking by people with mental illness, their cancer rate was found to be about the same as the general population. However, once diagnosed, there was a 30% higher death rate than the general population (Williams & Ziedonis 2004).
Schizophrenic disorders are characterised by hallucinations, delusions, thought disturbances and disordered thinking, apathy and withdrawal. Nicotine appears to have a beneficial effect on some symptoms of schizophrenic disorders:

- Nicotine improves central processing in medicated schizophrenic patients (Lyon 1999);
- Nicotine normalises certain sensory deficits, including the capacity to regulate perception of sensory stimuli, particularly auditory gating, in 80% of people with schizophrenia, and in 50% of their first-degree relatives (Lyon 1999);
- The release of dopamine caused by nicotine relieves some of the negative symptoms of schizophrenia, notably apathy and withdrawal (Forchuck et al. 2002; Silver et al. 2002).

There is evidence to support continued nicotine use other than for the need to avoid withdrawal:

- Post-mortem studies indicate that schizophrenia may be correlated with decreased expression of both high and low affinity nicotinic receptors. This could mean that upon quitting, the displeasure of acute nicotine withdrawal may never cease (Leonard et al. 2001);
- The nicotinic receptor up-regulation, seen in human tobacco use studies, may not be present in some people with bipolar disorder and schizophrenia (Leonard et al. 2001). This suggests that for some, a nicotine saturation level is never reached.

Affective disorders are characterised by disturbances in mood, such as depression or elation. Major depression is a common diagnosis worldwide, with lifetime prevalence of 5% to 17% (Campion 2008). A major review of the literature relating to tobacco initiation, maintenance and cessation, and depression and anxiety indicated that estimates of comorbidity (depression or depressed mood, and smoking) range between 20% to 65%, with nicotine dependence being a stronger correlate of depression or depressed mood, than smoking status (Holly et al. 2007).

Despite the clarity expressed by the above study, in much of the literature the link between smoking and depression is confusing. Some studies suggest a link between smoking and reduced rates of depression, and some suggest a link between smoking and increased rates of depression (Holly et al. 2007; Dome et al. 2010). Issues that contribute to this confusion may concern the differing effect of nicotine in
the acute phase and in the long term, and that it is possible that people with depression are more likely to smoke because nicotine elevates mood in the acute phase. A causal link, either way, certainly cannot be posited.

There are a number of theories exploring the link between depression and smoking. Clearly, the first and most significant is that of affect regulation because nicotine has an anti-depressive effect. Nicotine ‘facilitates the release of neurotransmitters, including acetylcholine, norepinephrine, dopamine, serotonin B-endorphin and others. Nicotine also growth hormone, prolactin and, ACTH’ (Benowitz 1996, p. 599). The effect of this cascade of ‘feel good’ emotions cannot be disassociated from the experience of depression. Smokers with a history of major depression who stopped smoking were found to be seven times more likely to have a recurrence of major depression than people who continued to smoke. This risk remains high for at least six months post-cessation. Unlike withdrawal symptoms, these depressive episodes did not subside within one to two weeks, and sometimes did not start for several weeks after cessation. The period of vulnerability to a new depressive episode appears to vary from a few weeks to a few months after cessation (Forchuck et al. 2001). Typically, smokers who are nicotine-deprived report symptoms of depression, and the presence of depressive symptoms during tobacco abstinence is associated with failed attempts to stop smoking (Williams & Ziedonis 2004).

Some researchers have concluded that this bidirectional relationship between smoking and major depression indicates that smoking is a risk factor for depression (Lasser et al. 2000; Campion 2008). Holly, Morrell and Cohen summarise four ways in which this relationship is interpreted in the literature:

- ‘Premorbid MDD (depression/depressed mood) or depressive symptomatology predisposes individuals to initiate smoking;
- Smoking status or nicotine dependence is a precursor to the development of MDD or depressive symptoms;
- There is a reciprocal relationship between depression and smoking;
- There is a non-causal relationship between smoking and depression, such that common factors (e.g. genetics or shared environment) influence the development of both conditions’ (Holly, Morrell and Cohen 2007, p. 289).

Holly, Morrell and Cohen also point out that these:

‘plausible rival hypotheses can be conceptualized as a correlate of the affect regulation theory of smoking, which states that individuals smoke to
regulate affective state. Support for a model of bidirectional influence between smoking behaviour and depression does not negate the possibility that common factors may affect both outcomes’ (Holly, Morrell and Cohen 2007, p. 283).

Although Bupropion Hydrochloride (Zyban), an atypical antidepressant, has been successfully used in the treatment of nicotine dependence, it has been found to be equally effective in smokers with or without a history of depression (Forchuck 2001; Williams & Ziedonis 2004). Unfortunately, Bupropion is contraindicated with many neuroleptic medications.

Schizoaffective disorders have characteristics of both schizophrenic and affective disorders. An example is bipolar disorder, which may have some psychotic features in some people, and always has the affective characteristics of depression or elation. Epidemiological studies showed some time ago that the incidence of smoking in bipolar patients is two and a half times higher than a control population (Hughes et al. 1986; Lasser et al. 2000). Little specific research has been conducted on the link between nicotine and schizoaffective disorders. Occasionally, the literature places the manic phase of bipolar disorder in the same category as schizophrenia (Leonard et al. 2001). The mood enhancing aspects of nicotine may play a role in the mediation of the depressive aspects of bipolar disorder.

Anxiety disorders are generally referred to as mental health conditions, rather than mental illness (WHO 2000). Anxiety may include clinical anxiety; anxious moods; or a specific anxiety disorder, such as panic attacks or post-traumatic stress disorder. Anxiety is listed as a symptom of nicotine withdrawal in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association 2000).

A major review of the literature relating to tobacco initiation, maintenance and cessation, and depression and anxiety indicated that estimates of comorbidity (anxiety and smoking) demonstrated that the lifetime prevalence for any anxiety disorder among smokers with mild nicotine dependence was 36.8% and 62.3% for those with moderate nicotine dependence, the study concluded: ‘Logistic regression analyses indicated that moderately dependent smokers were four times more likely to have an anxiety disorder than non-smokers, even after statistically controlling for age and other drug dependencies’ (Holly et al. 2007, p. 285).
As with depression, the studies on smoking and anxiety produce confusing results. People with an anxiety disorder are more likely to smoke and frequently report an amelioration of symptoms when smoking. However, smoking has been found to be a risk factor for the onset of panic disorders (West & Jarvis 2004). Some studies suggest that when smokers stop smoking, their anxiety levels decrease (West & Jarvis 2004), and some studies indicate that anxiety disorders worsen upon smoking cessation (Leonard et al. 2001).

Epidemiological studies indicate that heavy smoking in adolescents is associated with a high risk of generalised anxiety disorder. The correlation is so strong that smoking during adolescence is a predictor of anxiety disorders, such as panic disorder in later adulthood (Williams & Ziedonis 2004). This suggests that people with anxiety disorders smoke in an attempt to self-medicate to relieve symptoms of anxiety (West & Jarvis 2004). It is possible that, under certain conditions, nicotine acts as an anxiolytic. However, after chronic use, anxiety is increased (Williams & Ziedonis 2004). No definition of chronic has been offered.

Anxiety is often a feature of post-traumatic stress, of which there are two noted disorders. The first is in response to a single critical incident, and the second is also known as complex post-traumatic stress disorder (PTSD), which is not listed in the Diagnostic and Statistical Manual of Mental Disorders. This results from prolonged exposure to trauma, such as that experienced by prisoners of war or victims of domestic violence, especially children (Tedeschi et al. 1998). The symptoms may include alteration in regulation of affect (emotion) and impulses, alterations in attention or consciousness, somatisation, alterations in self-perception and in perceptions of the perpetrator, and alterations in relations with others and in systems of meaning (Herman 1992). It is noted across the literature that people with PTSD are more likely to have problems associated with alcohol or other drug use.

A review of neurobiological studies of smoking and post-traumatic stress disorders identified, across a number of studies, higher rates of smoking among people with diagnosed post-traumatic stress disorders. Many of the studies were conducted on male war veterans; however, similarly enhanced rates were found in studies on woman with diagnosed post-traumatic stress disorders, with participants having 1.3 to 1.8 times that of the controls (Rasmssson, Piciotto & Krishnan-Sarin 2006). One research team found that trauma exposure that resulted in post-traumatic stress disorder conferred a twofold greater risk for the development of smoking
dependence, compared to trauma exposure not resulting in traumatic stress disorder, which conferred a twofold greater risk of smoking, compared with no trauma exposure (Breslau et al. 2003; 2004).

All of the aforementioned studies relating to specific conditions were conducted on people who had received a medical diagnosis. Many people in the hard-to-reach population have undiagnosed mental health conditions or have mental health conditions that are at a sub-clinical level for much of the time. They may not use terms such as ‘anxiety’ and ‘depression’ to describe their experiences, but may instead refer to such things as ‘stress’, ‘doing my head in’ and being ‘down on myself’. They may not use the term ‘complex trauma’, but may instead use the words ‘crap childhood’.

Attention deficit hyperactivity disorder (ADHD) is a recent diagnostic category. Features of ADHD include inattention, impulsivity and hyperactivity. This affects approximately 5% to 10% of children, with 5% to 70% prevalence in adulthood. Many people with this condition will develop anxiety, mood disorders and antisocial disorders. It is also associated with substance misuse (Kalbag & Levin 2005). ADHD is a risk factor for smoking; even when all other variables are taken into account, people with ADHD are less likely to stop smoking than people without ADHD (Dome et al. 2010).

Of the many explanations for a connection between smoking and ADHD, the most probable is the mechanism of nicotine in reducing some of the symptoms of ADHD. Nicotine enhances the dopaminergic and noradrenergic systems. This is the same mechanism as psycho-stimulants prescribed for ADHD (Dome et al. 2010).

Neuroleptic medications are drugs used in the treatment of mental illness and mental health conditions. Smoking increases the level of carbon monoxide in the blood, which inhibits the absorption of a wide range of drugs. The relationship between nicotine, the chemicals in cigarette smoke, the act of smoking, and neuroleptic medication is complex and must be considered for each different drug and patient.

Hydrocarbons of tar in cigarettes induce liver enzymes, which increases the metabolism of some antipsychotics. This results in higher doses of antipsychotics being required to achieve clinical results in people who smoke, and adjustment of these doses following reduction and cessation of smoking (Sane 2001). Fluctuations
in smoking levels may precipitate or exacerbate psychiatric symptoms. Smoking increases the metabolism of neuroleptic medications; therefore, forced smoking cessation may alter the blood concentrations of psychiatric medication and may result in dangerously high drug concentrations (Leonard et al. 2001; El-Guebaly et al. 2002).

The absorption of modern (SSRI) antidepressants, some anxiolytic medications and many antipsychotic medications are affected by smoking because of the stimulant effect of nicotine and because smoking increases carbon monoxide levels in the blood. Clozapine toxicity has been observed during early tobacco abstinence, and patients treated with clozapine need to be closely monitored when attempting to cease smoking (WHO 2000). Therefore, medication blood levels may be altered during changes to smoking patterns, and medication doses need to be adjusted accordingly.

This information is highly relevant to this project and has major implications for the delivery of any strategy that may involve a reduction or cessation of smoking. Any participant with a mental illness who is being treated with a neuroleptic medication will need to be observed both for recurrence of symptoms of mental illness, and for medication levels, throughout the process of quitting (McNeil 2004).

3.5 Key findings

- There are many complex and often concurrent factors that may contribute to persistent smoking.
- Some factors concern access to people who can be described as hard to reach because they tend to live outside the mainstream and do not seem to heed prevention messages.
- The term hard to reach is also used in family services and child protection discourses to people who are in most need of yet do not access universal services.
- Some factors concern individuals with one or more risk factors for smoking.
- Where those factors concern a reality and/or perception that smoking enhances the capacity to cope, other coping mechanisms will need to be developed.
Chapter 4: Treatment of addiction

4.1 Introduction

Although, as indicated earlier in the literature review, the word habituation was typically used to describe daily cigarette smoking, it is now widely understood that smoking is underpinned by an addiction to nicotine. Thus the addiction discourse is predominantly concerned with addiction to alcohol and other drugs however the concepts and treatment modalities also apply to addiction to nicotine. This section is very relevant to this project, it is understood those who participate will be, and will understand themselves to be, addicted to nicotine and will have various ideas about the meaning of addiction.

4.2 The addiction process

Incurring an addiction to nicotine is, as with other drugs, a process. It does not occur overnight - it takes time, dedication and tenacity to develop a physical dependency. It is perhaps best described as a process underpinned by three key concepts: tolerance, adaptation and withdrawal.

The effects of nicotine at first use are often experienced as both pleasant and unpleasant. Pleasure is derived from nicotine, which, as previously mentioned, prompts a cascade of ‘feel good’ chemical neurotransmitters: acetylcholine, norepinephrine, dopamine, serotonin, B-endorphin and glutamate (Benowitz 1996, 2010; Coghlan et al. 2001). Displeasure is derived from the effects of nicotine, which is fundamentally poisonous to the human system and incurs transient tachycardia, cutaneous vasoconstriction and a rise in blood pressure. This may be compounded by the unpleasant taste associated with smoking a cigarette for the first time.

The word ‘tolerance’ is used widely in the alcohol and drug discourse to describe both the physical and psychological responses of reducing the real and perceived negative effects, in favour of the experience of the positive effects. In this context it is perhaps more commonly understood in terms of nicotine receptors. When nicotine is ingested, it fills the available nicotine receptors in the body—a bit too much is thought to be pleasurable, but far too much nicotine for the available receptors means that the body experiences nicotine as a poison and produces unwanted effects. However,
when flooded with nicotine, up-regulation occurs as the body attempts to grow more nicotine receptors to cope.

As previously mentioned, when nicotine is smoked, there is a rapid onset of an intense pharmacological response before there is adequate time for tolerance to develop, and it is this that smokers find pleasant. With persistent, regular ingestion of nicotine, the levels decline between cigarettes, allowing for resensitisation of receptors. Half-life elimination of the accumulation of nicotine through regular use of tobacco products averages at two to three hours (Benowitz 2010). Regular smokers are understood to control their nicotine levels through the frequency and intensity of their smoking.

In this process the body has adapted to the regular ingestion of nicotine and no longer produces unwanted effects—if the next dose occurs within the half-life. The longer the time between doses, the greater the experience of unwanted effects. As previously mentioned, terminal half-life is 20 hours (Benowitz 2010). Therefore, a daily smoker can tolerate a nicotine dose after a night’s sleep or a long flight without too much discomfort.

When someone who is adapted to frequent doses of nicotine is deprived of nicotine, a ‘de-adaption’ process takes place as the brain gradually returns to its normal expression of neurotransmitters. Known as withdrawal, this process is manifest by a set of characteristic symptoms, some very similar to symptoms of depression: mood changes, including irritability; aggression; anxiety and restlessness; poor concentration; increased appetite; urges to smoke; disturbed sleep; decreased heart rate; and decreased levels of adrenaline and cortisol. Symptoms reduce over time and most are gone within four weeks (Royal College of Physicians 2000). Most regular cigarette smokers report symptoms associated with withdrawal when ceasing smoking. Therefore, self-administration of nicotine also has a negative reinforcing effect in the relief of withdrawal symptoms in the context of physical dependence.

In the process of establishing a physical addiction there is typically a corresponding suite of behaviours concerning the getting, using and recovering from using. The drug, the perceived place of users in society and the user’s belief about what the drug can achieve are all variables, which can influence subsequent use.
4.3 Concepts of Addiction

There is no single, fixed and agreed view regarding addiction. There are hundreds, perhaps thousands, of drug and addiction-related theories. These all seem to be attempting to resolve three issues:

- A definition of addiction (also referred to as dependency or problematic drug use);
- A cause of or risk factors for problematic drug use (depending on the age of the research); and
- Patterns of drug-related behaviour, including addiction and recovery.

There are significant overlaps between the three. The way in which these issues are perceived to be resolved generally underpins the rationale for particular types of social policy concerning drug control, intervention and treatment. Therefore, drug-related law and social policy relate to culture and context and are often drug-specific. The following models are described because their legacy is still current in the treatment of nicotine addiction.

The moral/legal perspective

The words ‘moral’ and ‘legal’ are not interchangeable in this context. ‘Moral’ refers to attitudes to drugs, users and behaviours associated with use prior to their codification in law. Morally based positions, which may or may not compliment existing law are still held by people today. Central elements of the moral-legal perspective include:

- The notion that some alcohol or other drug use is acceptable, and some is not;
- That pervading moral perspectives and/or laws are the arbiters of the acceptability, or otherwise, of drug use;
- The idea that alcohol or other drug use is a choice and that there is nothing inherent either in the individual or in a given substance that prevents moderation or abstinence; and
- That moral and/or legal strictures may apply to the drug, the user, the quantity used, the frequency of use, the timing of use or the behaviour incurred through use (Moss 2009).

Although the word moral tends not to be used in this context for a rationale for legal strictures it has been replaced by the notion of ‘costs to the community’. There can
be no doubt of the cost to the community incurred by tobacco or that the strictures concerning, for example, alcohol reduce costs to the community.

The pharmacological model
The pharmacological model arose in response to extensive morphine, heroin and cocaine use in the late nineteenth century, and amphetamine in the early twentieth century—a period known as ‘The Great Binge’. Typically, opiates (opium, morphine and heroin) were dissolved in alcohol and called ‘laudanum’, and cocaine was dissolved in syrup and called ‘cola’. Use of these drugs occurred across the social spectrum; however, towards the end of the nineteenth century the hypodermic syringe was developed and used to administer these drugs more typically to the middle and upper classes. Injecting meant that the margin between intoxication and overdose was very narrow and doubtless many promising young people were found dead with a needle still in their veins.

Observers of such drug users would seen have behaviours indicative of users being overwhelmed by the desire to use the drug and subsequently being prepared to forsake family, friends, conscience and life, itself. In this model, the drug is invested with the power—it is described as inherently addictive. Addiction was only understood to occur in relation to a ‘narcotic’ drug—a habitual drunk was still a habitual drunk (Moss 2009).

Treatment for an addiction in this model involves pharmacotherapies. Morphine and cocaine were first advertised as cures for opium addiction, and heroin was advertised as a cure for morphine addiction (Booth 1996). Modern pharmacotherapies include agonists, such as methadone, and antagonists, such as naltrexone.

The disease model
The defining feature of the disease model is the belief that addicts have no capacity to control their substance use behaviour. This was first mooted by the US Surgeon General of the Continental Army in the late seventeenth century, following observations of habitual drinkers (Moss 2009). It was a realistic conclusion to reach—loss of control during alcohol intoxication is very obvious. Alcohol is a drug that disinhibits—it enables users to say and do things they would never do when sober. It is also something that enables users to continue drinking, even when they know it is not advisable to do so, and even when they have previously decided not to
drink more than a specific amount. The Surgeon General particularly noticed that some men returned to drinking and to getting drunk at every opportunity.

Unlike the classic model, the disease model of addiction is not focused on the drug, but on the user; and not just any user—only specific people. These people, in later descriptions, were called addicts before they had found their drug of choice, and after they had stopped using it. In the disease model, ‘It is hypothesised that once an addict has consumed a small amount of a drug, intense cravings are triggered via unknown psychological mechanisms, and these cravings lead to compulsive overuse. This mechanism is beyond the personal control of the addict’ (Thombs 2006, p. 21).

The disease model became the dominant explanation, and by the early twentieth century, an industry was established for treatment. Medical practitioners and hospital staff witnessed the degradation and death associated with unfettered chronic addiction. A second underpinning principle of the disease model denoted addiction as a progressive and terminal illness. Pharmaceutical companies developed none, or less intoxicating, drug variants to be used as substitutes under medical supervision. Powerlessness over alcohol is the first admission of the Twelve Steps—a self-help programme devised by Alcoholics Anonymous in the 1930s. This was echoed by the vast array of rehabilitation efforts in the private and not-for-profit sectors.

The disease model suggests that there are two redemptive opportunities from which recovery can commence. The first of these is reaching ‘rock bottom’—a personal absolute low in health, welfare or morality, from which the only possibility is to improve. The second of these is an ‘intervention’—an event in which family members, friends and/or colleagues confront the drug user and discuss with them the ways in which their drug use is adversely affecting those around the user, and how they will support the user to access treatment. Typically, treatment consists of a supportive, sometimes clinically-based, detoxification, during which the user is supported through withdrawal. Then, or concurrently, psychological and emotional support is provided to help users regain control over their lives. This is often provided in a residential setting and is known as ‘rehabilitation’. Central to this treatment model is the acceptance of the user’s addiction as a primary disease (rather than a response to other issues) for which the only management plan is total abstinence.
Economic theories applied to addiction

Economist, Gary Becker (1988), applied rational economic theory to addictions in the 1980s. Rational economic theory concerns the ‘rules’ that govern the relationships between people, goods, utility and price. Fundamental to addictions theory based on economic theory is the idea that individuals make a choice based on extrinsic factors, such as cost and utility. Rational economic theory, as applied to addictions—using explanatory formulae and graphs—has generated the idea that people make decisions concerning drug use by undertaking a cost-benefit analyses. For example, people may ask whether it is best to smoke a cigarette, enjoy the nicotine, and delay the onset of withdrawal, but risk shortening their life by 10 minutes. (Becker & Murphy 1988). Pearson points out the flaw in this arrangement through using the work of research psychiatrist, George Ainslie, who introduced the notion of hyperbolic discounting:

*There are times when a larger but future reward is more attractive than a smaller sooner reward; there is a point in time when both rewards are equally attractive; and there is a time—just before you can get the smaller reward—when a smaller sooner reward is more attractive* (Pearson 2011).

Implicit in Pearson’s remarks is the fact that some Aboriginal people may believe that rewards will never come, and that it is subsequently better to take something that is currently real and certain, rather than hope for something better in the future.

The view that each episode of drug use is preceded by a cost-benefit analysis underpins an addiction-counselling model called ‘motivational interviewing’. In this model, the user is prompted to consider all the benefits of drug use against the costs.

The theories of addiction examined thus far are intuitive explanations derived from a particular sets of observations. These explanations become flawed when they are used to explain and understand everything related to addiction. The legal moral theory has been misused to target particular groups of people, and the disease model cannot explain the many who decide and succeed in reducing or relinquishing their drug use. Economic theory cannot accommodate those who do not link consequences to their own actions, or who have no investment in longevity because it confers greater vulnerability and deprivation.

Bio-psycho-social-emotional models

More recent bio-psycho-social-emotional models are perhaps a response to the flaws in the previous theories. As aforementioned, in describing the disease model,
Thombs refers to ‘unknown psychological mechanisms’ that lead to addictions. These mechanisms have been the subject of libraries of theorising and of research exploring the biological, psychosocial, social learning and socio-cultural systems, as well as, lately, the neurological contributions to addiction.

The key feature of these approaches is that addiction is complex and is comprised of a number of aspects. The use of alcohol or other drugs can be:

- An unconscious or conscious solution behaviour that satisfies many problems, such as symptoms of complex trauma stemming from childhood abuse or neglect; physical pain from injury or illness; or self-perceived personality deficits, such as shyness or boredom;
- A way of self-medicating attention deficit disorder, or some other form of abnormal brain structure or mood disorder stemming from an unfortunate formation of chemicals in the brain;
- A faulty decision-making mechanism;
- An unfortunate genetic inheritance.

The context of alcohol or other drug use may be:

- Highly functional—providing an entry into a small social group with a shared purpose and identity, with the sense of belonging enhanced by the frequent sharing of the ritual of drug acquisition and use;
- A normal behaviour for people raised or living among users.

The drug may be:

- Given status by some cohorts; for example, the status of heroin as a prohibited drug of addiction, for some people, increases its mystique, making its use seem like extreme sports—a trip into the wild. This can make the drug preferable to alcohol, which is widely available;
- Normal in its use and availability, making it seem attractive.

### 4.4 Current working definitions of addiction

In the past 20 years, two definitions of addiction have come to dominate the field—that of WHO and that of the American Psychiatric Association, both of which are very similar. In these definitions, addiction remains a disease, as they are listed a Diagnostic and Statistical Manual and an International Classification of Diseases and Related Health Problems. However, they incorporate features of the other models discussed. In 1995 and 2000, the American Psychiatric Association Diagnostic and
The Statistical Manual described addiction as, ‘A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifest by three (or more) of the following, occurring any time in the same 12-month period’:

1) Substance is often taken in larger amounts or over a longer period than intended.
2) Persistent desire or unsuccessful efforts to cut down or control substance use.
3) A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.
4) Important social, occupational or recreational activities given up or reduced because of substance abuse.
5) Continued use despite knowledge of having a persistent or recurrent psychological problem, or physical problem that is caused or exacerbated by use of the substance.
6) Tolerance, as defined by either; need for greater amounts of the substance in order to achieve intoxication or desired effect; markedly diminished effect with continued use of the same amount.
7) Withdrawal, as manifest by either; characteristic withdrawal syndrome for the substance; or the same (or closely related) substance is taken to relieve or avoid symptoms’ (American Psychiatric Association 2000, p. 181–183).

The majority of these statements could be applied to daily tobacco smokers. However, the first point is not relevant, as most smokers maintain a daily level of smoking that is comfortable for them.

4.5 Addictive properties of Nicotine

Not all psychoactive drugs are capable of incurring addiction. Of the small range of drugs that can, nicotine is considered one of the most addictive. Numerous factors reinforce this view:

- The capacity to addict has been measured by comparing whether a person has ‘ever used’ a drug with whether they partake in ‘addictive use’ of that drug (terms defined by The Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association 2000)). In the USA, a national comorbidity survey demonstrated that tobacco had by far the highest addictive potential, with 32% of participants who had ‘ever used’ tobacco
being dependent, compared with 23% of participants who had ‘ever used’ heroin being dependent (Warner et al. 1995);

- Nicotine addiction is not limited to humans. Given the opportunity, many other mammals will self-administer nicotine at dose levels comparative to cigarette smoking in humans (Benowitz 2010). This reinforces the idea that self-administering of nicotine is the primary reason for smoking;

- As well as fulfilling some of the personal and social needs associated with smoking, self-administration of nicotine has positive reinforcing effects, including relaxation, reduced stress, enhanced vigilance, improved cognitive function, mood modulation and lowered body weight (Benowitz 2010);

- There are cravings, emotional lability and weight gain associated with withdrawal;

- Nicotine self-administration behaviour is diminished by either surgical or chemical ablation of dopaminergic pathways, or by treatment with dopaminergic antagonists (Kameda et al. 2000).

It has been understood for some time that repeated exposure to a drug of addiction is likely to incur physical dependency. The physical response underpins the behavioural responses, but these are two distinct actions. In the broader alcohol and other drug treatment discourse they are typically dealt with conjointly, a person with an addiction to opiates may be treated with methadone to manage the underlying physical addiction and with counselling to support behavioural changes. As with all alcohol or other drug use cessations some smokers manage both the physical and behavioural process of cessation without any chemical or professional support and some struggle and fail with both types of treatment.

### 4.6 Pharmacological treatments for nicotine addiction

There are two types of pharmacological treatments for nicotine addiction: agonist, which binds to the nicotine receptor to bring about an effect, and antagonist, which binds to a receptor to prevent an effect. Agonist treatments are limited to nicotine replacement therapies, and it is thought that the other drugs prescribed for nicotine addiction have some antagonist effects, although these are poorly understood.
Nicotine replacement products

Nicotine replacement therapies (NRTs) contain a measured dose of nicotine, which provides an alternative method of delivering nicotine, most are contraindicated in pregnancy, lactation and with some health conditions. The forms of nicotine replacement therapies include:

- **Patch**: This is placed on the skin, leading to transdermal absorption. When nicotine is administered transdermally, most of the reinforcing effects associated with smoking are absent (Benowitz 2010). Therefore, a nicotine replacement patch will only prevent withdrawal symptoms; it will not replace the pleasure associated with smoking;
- **Inhaler**: This is sucked like a cigarette, and nicotine is delivered to the mucus membranes and, to some extent, the lungs. It is the most expensive and has the fastest absorption rate of all the nicotine replacement therapies;
- **Gum and lozenges**: These are chewed or sucked, delivering nicotine through the mucus membranes.

<table>
<thead>
<tr>
<th>Product</th>
<th>Time to peak bio-availability of nicotine</th>
<th>Most frequent side effects</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patch</strong></td>
<td>4–9 hours</td>
<td>Local skin reaction; Sleep disruption; ‘Abuse’—use beyond recommended period for cessation support.</td>
<td>Skin disorder; Pregnancy.</td>
</tr>
<tr>
<td><strong>Gum</strong></td>
<td>30 mins</td>
<td>Jaw ache, local irritation, dyspepsia, hiccups; ‘Abuse’—use beyond recommended period for cessation support.</td>
<td>Dentures.</td>
</tr>
<tr>
<td><strong>Inhaler</strong></td>
<td>20–30 mins</td>
<td>Local irritation; Rhinitis; ‘Abuse’—use beyond recommended period for cessation support.</td>
<td>Allergy to menthol.</td>
</tr>
</tbody>
</table>

Table 3: Absorption rates, side effects and contraindications of NRTs

A number of substantial studies have been conducted since the 1960s that explore the effect on smoking rates of transdermally or intravenously administered nicotine. A double blind, crossover designed study (Benowitz et al. 1998); several crossover studies (Fagerström et al. 1997; Rennard et al. 1990); and a double blind, placebo-controlled four-month trial with two-year follow-up (Bolliger et al. 2000) produced much the same results. When an effective nicotine replacement was used, enabling a smoker to maintain a similar level of cotinine as smoking, there was a natural attrition of smoking. Typically, smoking was reduced by 50%, with 5% stopping
completely. This was sustained over two years. This was so even when smokers had expressed no desire to stop.

Nicotine delivered via NRTs is not entirely safe as it does increase the heart rate and blood pressure but it is far safer than smoking nicotine. It is typically used in the first few months after cessation to reduce cravings while a non-smoking persona and lifestyle are developed. As previously indicated it is the ingestion of nicotine by smoking that provides the sought after ‘hit’ within seconds. It can take over 30 minutes for peak blood nicotine levels to be reached with oral forms of NRT and four to nine hours with patches (Henningfield et al. 2005). NRTs relieve the pains of withdrawal rather than continuing addiction. Some people continue to use NRTs for a year or more.

**Medications**

Two drugs used for the treatment of nicotine addiction in Australia are Zyban (bupropion) and Champix (varenicline as tartrate). Bupropion was originally developed as an antidepressant but in clinical trials was found to have an effect on smoking. Both drugs are only available with a doctor’s prescription and are listed on the Pharmaceutical Benefits Scheme, so their cost is subsidised. Both drugs act as a partial agonist—they bind to the nicotine receptor site and have a dual effect, alleviating craving and withdrawal, and, if more nicotine is absorbed from other sources, they prevent some of the nicotine being absorbed. Both are dispensed in the form of pill, which is taken twice each day for six weeks, with a second course sometimes being made available.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Effect</th>
<th>Most frequent side effects</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropian (Zyban)</td>
<td>Thought to offer a compensatory increase in dopamine levels and a weak blockage of neural reuptake of noradrenaline; Possibly blocks acute nicotine stimulation; May act as non-competitive antagonist of nicotine acetylcholine receptors.</td>
<td>Insomnia; Dry mouth.</td>
<td>Seizures; Concurrent use of monoamine oxidase (MAO) inhibitors; History of eating disorders; Pregnancy.</td>
</tr>
<tr>
<td>Champix (varenicline as tartrate).</td>
<td>Binds with high affinity and selectivity to neuronal nicotinic acetylcholine receptors. This helps create agonist</td>
<td>Nausea stomach pain, indigestion, constipation, gas; weakness, tired feeling; dry mouth,</td>
<td>Pregnancy; Lactation; and depression</td>
</tr>
</tbody>
</table>
Table 4: Effects of other medications used to treat nicotine addiction

<table>
<thead>
<tr>
<th>medication</th>
<th>effect in the mouth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nortriptyline</td>
<td>unpleasant taste</td>
</tr>
<tr>
<td>Clonidine</td>
<td>persistent headaches; insomnia, unusual dreams, other sleep disorders.</td>
</tr>
</tbody>
</table>

Nortriptyline and Clonidine are not used in Australia for the treatment of addiction to nicotine although they are used to treat psychiatric illnesses. They are used predominantly in the USA in a psychiatric setting. Nortriptyline is used as a second line of defence—it is only used when other medications have failed.

4.7 Behavioural contributions to addiction

In the tobacco smoking–related literature, any smoking that is undertaken not purely for the purpose of preventing withdrawal symptoms is stimulated by what is referred to as the ‘cue-elicited urge’ to smoke. There is very little literature on this and what there is only discusses external cues, such as social situations. One study examined the context cues that predicted smoking and the context cues that did not; the context cues that typically predicted smoking raised the greatest level of craving (Thewissen et al. 2005).

Nicotine may be the driving force of an addiction to tobacco; however, as with all addictions, drug use serves other functions. The researcher has spent many years developing and providing services to people with addictions, and has always found that layers of meaning and multiple functions exist in the relationship between addict and drug. These can be understood in terms of conditioned responses, unconscious internal cues, situational cues, communication cues and contextual cues.

**Conditioned responses**

As previously indicated parental smoking directly influences children’s behaviour, each parent smoking increases the likelihood by 32% that their child will try smoking, and by 28% that they will become regular smokers (Bricker et al. 2007). This is not just because these children establish a tolerance for nicotine extracted from environmental tobacco smoke, it is also because they copy parental behaviours and absorb their parents’ attitudes and beliefs about smoking. Smoking can thus be a conditioned response—an activity that mimics the parental example and, when the
child is an adult, mutual smoking can reinforce the child's relationship with his or her parents.

**Unconscious internal cues**

In the researcher's experience, internal cues only arise in the emotional morass that emerges when a drug is forsaken. These cues relate to troubling feelings that the drug has helped to ameliorate. They often relate to complex trauma, particularly resulting from physical or sexual abuse in childhood. This does not just stem from the event of abuse; all sexual, physical and emotional abuse occurs in a context of emotional neglect. Children are not provided with a language with which to articulate feelings, which makes it difficult for them to recognise and soothe these feelings as they arise, or to express them verbally. Typically, in adolescence, when the emotional volume is loudest, people discover that a drug can make intrusive memories vanish, soothe troubling feelings and give the perception of being in control of emotions. In this context, the cigarette can be very helpful in providing a controlled dose of nicotine every time there is memory trigger, a variation in feeling or a greater intensity of feeling beyond what the smoker feels is normal. Unlike most other drugs, tobacco use does not incur high levels of intoxication or involvement in crime.

**Situational cues**

For smokers in the hard-to-reach population, difficult situations are referred to generically as stress. Typically, these are situations that cause distress and/or anger, and that create a sense of powerlessness. This may include perennial stresses from not having enough money, or from raising children in a neighbourhood with a high crime rate. It may include specific personal stresses, such as a needy and critical parent or partner. Few researchers discuss this because it does not fit neatly into the category of anxiety, and because some literature claims that nicotine exacerbates anxiety and some claims that it reduces anxiety. The confusion about the relationship between nicotine and anxiety is echoed in the relationship between nicotine and stress. In a radio broadcast, West stated:

“The stress relief is a very strange thing because smokers report this very very strongly as something which smoking does. But whenever you look at the literature, or you try to look at experimentally you don’t find that. You find that actually cigarettes make stress worse” (West 2008).
West went on to explain the idea that the activity of smoking and the belief that smoking reduces stress is sufficient to perpetuate the notion that smoking does reduce stress.

In the researcher’s view, the relationship between smoking and stress is far more complex. Nicotine reduces anxiety in the short term, and increases it in the long term. However, there is no definition for the lapse between short and long term—smokers derive a reduction in feelings of stress and may continue to smoke in search of that reduction. They may not perceive a reduction in effectiveness over time, and if they do, they may relate it to increases in stress, rather than a reduction in the effectiveness of the cigarette.

Nicotine both reduces anxiety and stimulates alertness. There are situations in which this is useful, such as during war. Anxiety is reduced so that prolonged exposure to stress is tolerated, but vigilance is preserved – an action that may unconsciously be used by vulnerable people in contexts of family violence.

The act of smoking, as with other drug ingestions, has ritualistic features, particularly when hand-rolling tobacco is involved. Smoking allows for a short period of reflection, which can prompt effective cognitive responses to stress. It is possible that a person who feels overwhelmed by emotion will use both the act of smoking and the nicotine it produces to anchor themselves and to enhance their capacity to deal with the situation and modify their mood.

**Communication cues**

The act of smoking can be used as a communication. Perhaps most commonly, the act of smoking is used to articulate difference; for example, when an adolescent comes home smelling of cigarette smoke to annoy their non-smoking or anti-smoking parent. Conversely, it can articulate a willingness to join or belong, such as the non-smoker or chipper who smokes with a smoker.

People who lack the capacity to express emotions verbally tend to use actions and unconscious gestures. For example, slamming a door typically represents exiting a room in anger or frustration. As exemplified in the film noir genre the way in which a cigarette is reached for, taken from the packet, lit, drawn on and extinguished can provide more nuanced expressions.
For couples, the provision of cigarettes can be used as a mechanism of power and control. The sharing of cigarettes can also be a bonding activity, which has implications for the relationship if one party ceases to smoke. Smoking also has a role in more intimate, but dysfunctional relationships. It may be the only genuinely shared activity—the only binding agent in a relationship that should be comprised of much more. As nicotine increases the salience of reward, a shared cigarette enhances the perception, rather than the real value, of the relationship. The extrication of smoking means facing the reality of the paucity of the relationship, and relinquishing the hope that it could ever improve.

In social situations, smoking is a shared activity conducted in an excluded environment. Therefore, smoking reinforces marginalisation by providing a potent symbol of togetherness in the sharing of the pleasure of nicotine.

**Contextual cues**

For some groups, smoking has cultural significance. Some people with mental illnesses live in institutional settings in which cigarettes are used as a form of behaviour modification, or in custodial settings in which cigarettes are a currency. For both groups, smoking can be a major part of the daily routine and can provide structure to the day. Smoking enhances mood and punctuates the long hours of empty time imposed by mental illness (Van Dongen 1999; Luckstead et al. 2000). Many people with mental illnesses perceive smoking to be one the few aspects of life over which they have control. This is not ironic, given the interaction between nicotine and symptoms of mental illness, and nicotine and medication.

4.8 Key findings

- Nicotine addiction, like other addictions is underpinned by both the drug and associated behaviours that give drug use meaning;
- When smoked, nicotine stimulates the reward centre of the brain—this is associated with addiction;
- Stimulation of the reward centre is far less when the route of administration is much slower. Therefore, nicotine replacement that is administered transdermally or through the mucus membranes is likely to be effective in relieving symptoms of withdrawal, and has less capacity to be addictive; and
- Some will need extra support to deconstruct the perceived values of smoking.
Chapter 5: Harm Reduction

5.1 Introduction

As with addiction, there is a vast amount of literature on harm reduction strategies applied to issues posed by alcohol and prohibited drugs. However, there is very little on harm reduction as a response to tobacco smoking—of the literature that does exist, most is from Scandinavia. Harm reduction typically means strategies that reduce the harm from activities because it is undesirable or perceived to be impossible to stop those activities.

5.2 Development of the concept of harm reduction

The term ‘harm reduction’ is now almost exclusively used to describe strategies that reduce the harms associated with psychoactive drug use; however, the discourse known as the risk of harm reduction developed in the post–World War Two period in response to the increasing injury and death associated with the use of motorcars. Harm reduction in the context of psychoactive drug use has borrowed much from this early research.

In the road-safety discourse, harm is measured through the equation; total harm = harmfulness (per use) x intensity (per user) x prevalence of use (MacCoun & Reuter 2001). Therefore, harm reduction concerns a strategy that is effective in reducing harm in one or more of these elements: risk of harm for each use episode, the elevation of this risk because of repeated use, and the risk from and to others who may or may not be doing the same thing.

In the road-safety discourse, it was found that human behaviour is never entirely predictable in response to harm reduction strategies. When some harm reduction strategies are employed and there is a perceived reduction in risk, there can be a compensatory elevation in risk-taking behaviour. This is known as ‘risk-homeostasis’ (Evans 1991). For example, some cohorts in the population, particularly young men, when perceiving an improvement in the braking or handling characteristics of a car, tend to drive at greater speeds. When air bags were installed, automobile fatalities were reduced by between 13.8% and 26.1%. However, there was a shift in the composition of fatalities—non-occupant fatalities (pedestrians and other road users) increased, while occupant fatalities decreased (Cherinko & Harper 1993). This effect
of elevated risk taking is unlikely to occur when safety measures are largely invisible to the user. For example, when lights and guardrails are installed at accident black spots, this does not change the frequency of the accident rate, but it does reduce the level of mortality in the accidents (Evans 1991).

The risk-homeostasis has been observed in the tobacco context. For example a number of decades ago tobacco producers introduced cigarettes with low and very low tar and nicotine levels, this was achieved by the placement of small holes near the filter which allowed a greater ratio of air per puff. Smokers compensated by intuitively placing their fingers over the holes-others just snapped the filter off. It also observed that some smokers increased the number of puffs and sucked harder to extract an equivalent amount of nicotine. One of the reasons why abrupt quitting is advocated is because a number of studies have reported that reducing the frequency of smoking prior to making a cessation attempt is less effective than abrupt cessation. It is understood that reducing prior to quitting makes the remaining cigarettes more rewarding and thus harder to stop (West, McEwen, Boiling & Owen 2001; Cheong, Yong & Borland 2007). Others have suggested the reason why those who opted to reduce smoking before making a cessation attempt were less motivated to stop smoking. The introduction of a rapid decline in smoking supported by NRTs as part of a program has been found to be as effective as abrupt cessation (Cincipripini et al 2006; Lindson, Aveyard & Hughes 2010).

5.3 Harm reduction in the alcohol and other drug discourse

Harm reduction strategies have been used extensively in response to the legal drug, alcohol. These have included:

- Licensing of places of sale and ingestion, thus preventing purchase by children, and making the vendor responsible to some degree for the behaviour of patrons;
- Penalties for misbehaviour while intoxicated, such as driving and public urination;
- Quality control in the production of alcoholic beverages, so that the alcohol content is predictable;
- Displaying the alcohol content on the drink label, thereby allowing the drinker to predict the effects of the alcohol.
These strategies are generic, affecting all drinkers. However, some strategies have targeted specific cohorts of drinkers, or drinkers in particular venues:

- The use of plastic or glass that shatters, rather than breaks, in order to prevent the worst effects of alcohol-fuelled violence; and
- Early opening hours of bars frequented by homeless alcoholics, so that they do not instead purchase more dangerous forms of alcohol, such as methylated spirits.

These strategies reduce the harm to individual users and to the people around them who may or may not be using the drug. They also reduce the medical and policing costs to the community.

Harm reduction for illegal drugs however cannot concern manufacture, taxation, distribution or sale. Prior to the 1980s there was war on illegal drugs and harm reduction was considered to condoning of their use. In 1987, the Australian Federal Government introduced a similar policy, called the Drug Offensive (Blewett 1987). This retained a commitment to prohibition of certain drugs, but made distinctions between recreational users and addicts, and between purchasers and suppliers. It advocated different responses for these different groups. It was recognised at a policy level that addicts required help, rather than punishment, and their treatment became the concern of health departments, rather than the police.

A harm reduction approach was felt by many to be encouraging, or at least condoning, illegal drug use. Underlying the controversy were fundamental differences in the understanding of the purpose of health policy:

'Is the purpose of an intervention to make people healthier or safer? Or is it to create better moral souls to make people less ‘bad’? The availability of ‘risk reduction’ among accepted interventions can be seen as a key distinguishing feature between scientific public health interventions whose aims are pragmatic, and moralistic ones whose aims are impossible to measure’ (Sweanor 2006).

In policy responses to people who used prohibited drugs, the rational, scientific approach won out over the moralistic approach, although tension still exists. The idea that harm reduction strategies sends the wrong message about illegal drugs to the community has been powerful however it has not affected the alcohol discourse. The police and local authorities who typically apply alcohol-related harm reduction
strategies targeting specific cohorts of drinkers are not accused of encouraging or condoning alcohol use. These strategies are accepted as a pragmatic response to particular behaviours by a small number of drinkers—a response that is humane and that reduces the cost to the community. It is understood that both the existence of these cohorts and their behaviour is sadly intractable.

By the mid-1990s, harm reduction was well established in the alcohol and other drug fields, and was permeating into other arenas, particularly education and brief interventions concerning sexual behaviour. Recently, two Finnish researchers studied the foundational texts concerning harm reduction and, from this, collated four central tenets that encapsulate the basis of harm reduction:

1) “Drug use as such should be viewed neutrally, not moralistically;
2) A drug user is a sovereign citizen and a member of a community, not a deviant individual or only an object of measures;
3) Drug policy should be based on practice and science, not on ideologies and dogmatism;
4) Drug policy should respect human rights and support justice, not trample on them in the name of a ‘war on drugs’ or the goal of a drug-free society” (Tuukka & Toivo 2007, p. 85).

In 2010, The National Drug Strategy included alcohol and tobacco, meaning they were also subject to the same three-pillar policy of:

• “Demand reduction: To ‘prevent the uptake and/or delay the onset of use of alcohol, tobacco and other drugs; reduce the misuse of alcohol and the use of tobacco and other drugs in the community; and support people to recover from dependence and reintegrate within the community’;
• Supply reduction: To ‘prevent, stop, disrupt or otherwise reduce the production and supply of illegal drugs; and control, manage and/or regulate the availability of legal drugs’;
• Harm reduction: To ‘reduce the adverse health, social and economic consequences’ of the use of alcohol, tobacco and other drugs’” (The National Drug Strategy 2010–2011, p. 8).
5.4 Range of harm reduction methods

Today, a wide range of harm reduction strategies are applied across all psychoactive drug usages, these include:

Drug substitution and changing the method of ingestion, which concerns the provision of different distillations or mimics of the drug of addiction with safer and/or supervised ingestion. Drug substitution can reduce the harms associated with overdose, injecting and ‘cutting’ substances. If the drug of addiction is prohibited, there are often harms to the user—and to the community—associated with acquiring the money to purchase drugs or to service debts to drug suppliers. Substitute drugs do not incur such harms. For example, the distribution of opiates, such as methadone and buprenorphine (Australian Drug Foundation 2011), to opiate-dependent people has been successful in many countries in reducing opiate-related deaths, and in reducing crime and disease (Rettig & Yarmolinsky 1995). Drug substitution, which also changes the method of ingestion, is used for tobacco, but not for alcohol.

Changing the body’s response to the drug can be achieved through the use of agonist or antagonist medications. Encouraging different contexts of use has occurred in a variety of contexts for example in some cities in the USA, safe zones (safe from arrest) have been created to quarantine the sale and use of illegal drugs. This has enabled neighbourhoods that were previously affected by high crime rates and gang violence relating to the illegal drug trade to become safe again.

In 2009, the New South Wales (NSW) government caused a great controversy when it permitted a safe injecting room to be opened in Kings Cross, Sydney. This enabled injecting drug users access to clean needles and immediate help in case of overdose. A recent survey of this and other supervised drug consumption rooms in Europe and Canada indicated that these rooms were meeting their goals. These goals were to reduce heroin-related overdoses (both fatal and non-fatal); reduce public nuisance (inappropriately discarded injecting equipment, public injecting and intoxication, and visible drug dealing); reduce the risk of blood-borne viral transmission; and improve access to health care, particularly drug treatment (Kimber

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7 Black market opiates are not subject to any form of quality control and are often ‘cut’—mixed with other white powders—to extend the quantity of the drug.
Changing patterns of use has been effective in a number of contexts. Most harm reduction strategies require some form of change in behaviour by the user. One of the most common strategies is that of a reducing regime—a planned process of reduction in use over time in order to reach a goal that may or may not be abstinence. This is the only method for treating addiction to benzodiazepines (Australian Drug Foundation 2011). It is not effective for alcohol because alcohol tends to disinhibit making it difficult to stick to pre imposed limits. A reducing regime is not useful with illegal drugs because it requires measured doses; however, most methadone programmes are delivered on a reducing basis.

A number of small, specifically targeted projects have been applied to specific circumstances. For example, in Perth, between 1995 and 2001, a project called Opiate Overdose Prevention was run in response to high levels of opiate use and, consequently, high levels of fatal overdose. The project trained volunteer opiate users to provide peer education to other users about safer injecting behaviours and about recognising and responding to overdose.

Many of these strategies have been employed long enough for a significant body of evidence to affirm their effectiveness in reducing harms.

5.5 Harm reduction and tobacco

There is a similar range of harm reduction strategies that could be used to reduce the health risks associated with continued tobacco use, these include:

- Changing to from smoking to smokeless tobacco;
- Long-term complete substitution with nicotine as replacement therapy (Gray & Henningfield, 2006);
- Reducing toxins in tobacco smoke; and
- Reduced tobacco use—with or without conjoint use of pharmacotherapy (Fiore et al., 2000; West, 2006).

Changing to from smoking to smokeless tobacco, or complete substitution with nicotine as replacement therapy are two different facets.
Smokeless tobacco

Smokeless tobacco products were prohibited for sale in Australia and most European countries, except Sweden and Norway, which both have a cultural history of use. They are available through the internet and it is feasible some participants may have experience with them therefore they are included in this project. Smokeless tobacco is moist snuff that is placed in the mouth. Nicotine is transferred via the mucus membrane and, once the tobacco is depleted of nicotine, the tobacco is discarded, not swallowed. In the USA, smokeless tobacco is also called ‘dipping tobacco’ and ‘spit tobacco’.

In Sweden, it is referred to as ‘snus’ and is more typically used by men, both to assist in the cessation of tobacco smoking and for long-term use. Sweden still has a high incidence of snus use, but a comparably low incidence of smoking—with 19% of men and 4% of women using snus, and 12% of men and 16% of women smoking tobacco (National Institute of Public Health Sweden 2007). The use of snus has probably been responsible for the discrepancies between genders in the decline in daily smoking. The proportion of males smoking changed from 40% in 1976 to 15% in 2002, and females changed from 34% in 1976 to 20% in 2002. There have been corresponding faster declines in rates of lung cancer and myocardial infarction in men, whereas rates for women remain similar to that of other countries without access to smokeless tobacco products (Fouleds et al. 2003).

A major prospective study on the evolving patterns of tobacco use in northern Sweden concluded that, ‘The use of snus played a major role in the decline of smoking rates amongst men in northern Sweden’. The study also stated that, ‘The evolution from smoking to snus use occurred in the absence of a specific public health policy encouraging such a transition and probably resulted from historical and societal influences’ (Rodu et al. 2003). Smokeless tobacco is largely discouraged by many health professionals and by WHO, possibly for two reasons—it is perceived to have risks and is typically described as a safer, rather than a safe, option to smoking tobacco. It may also act as a ‘gateway drug’ and initiate tobacco smoking.

The risk incurred from using smokeless tobacco products is very small, particularly when compared to the risk of smoking: A number of reviews of epidemiological literature on the health effects of smokeless tobacco have been conducted. The most

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8 In Australia, it is legal to import snus for personal use.
recent review found a slightly elevated risk for all mortality, but could find little
evidence to support a causal relationship between smokeless tobacco use and risk
of oral, pancreatic or lung cancer, and could find no association with cardiovascular
disease or stroke (Colilla 2010). In fact, a number of modelling studies have been
conducted that indicate positive health benefits over time. For example, one USA
study indicated that if smokeless tobacco were marketed with a warning about health
risks and addiction, but with a statement that it is substantially less harmful than
cigarettes, the prevalence of smoking would be reduced by an estimated additional
1.3% to 3.1% over five years (Levy et al. 2006). Modelling on the Australian
population indicated that even if the entire population used snus, there would still be
a net health gain (Kozlowski et al. 2001). The gateway effect is also limited. Some
progression from smokeless tobacco use to tobacco smoking has been noted, but it
is very small compared with the progression from tobacco smoking to smokeless
tobacco use (Britton & Edwards 2008).

Substitution with nicotine as replacement therapy
This has been dealt with in treatments for nicotine addiction. The use of nicotine
replacement products is effective in promoting cessation, it is not entirely safe but it
can be used in the long term.

Reducing toxins in tobacco smoke.
This is not relevant to this study, there are no reduced toxin cigarettes available in
Australia and the notion of e-cigarettes does not yet seem to be considered by the
majority of smokers in Australia. Reduced toxin cigarettes would not prevent harm to
children exposed to environmental tobacco smoke and would suggest to them that
smoking is acceptable.

Reduced tobacco use—with or without conjoint use of pharmacotherapy
A criterion for reduced smoking used in many studies is a daily reduction of 50%
(Tønnesen, 2002). Reduced tobacco use has the same problems as reduced toxin
cigarettes, it involves some smoking therefore it cannot prevent harm to children
exposed to environmental tobacco smoke and would suggest to them that smoking is
acceptable. There are circumstances when reduced smoking can be said to be an
improvement on no reduction is smoking: When this is a planned or potential
gateway to cessation; and when the reduction is supported by changes in the
location of smoking to avoid exposure of others to environmental tobacco smoke
such as in the home or car.
This behavioural harm reduction strategies involving reductions in smoking over time have consistently been found to be at least as effective as abrupt cessation strategies, whether supported by nicotine replacement therapies or not. Most studies were conducted prior to 1985, lately there has been a resurgence of interest.

In the late 1970s and early 1980s, a number of behavioural harm reduction strategies were tried. These included group and individual programmes in which cessation or reduction was condoned. All focused on a slow reduction of nicotine dependency through:

- Reducing the daily intake of cigarettes;
- Taking fewer puffs per cigarette;
- Reducing the depth of inhalation;
- Smoking at timed intervals; and
- Only smoking in response to certain cues.

The outcomes of these strategies were promising. In one study of such programmes, there was a 75% reduction in smoking, compared with a 2% reduction in a comparison group that went onto a waiting list (Glasgow et al. 1983). Another study of a programme that involved a sequential reduction in machine-measured tar and nicotine in cigarettes led to a 56% reduction in smoking, and a 28% reduction in nicotine (McGovern & Lano 1991).

These outcomes compared favourably with a similar longitudinal study of participants on a smoking cessation programme in which reduced smoking was not condoned. About one third of smokers were unable to achieve abstinence, but smoked less than or equal to 50% of the baseline smoking rate post-treatment, and had maintained this for the one-year follow-up. The maintenance rate was about 13% to 18% at the three- to four-year follow-up. Therefore, about 33% to 36% were able to cease or maintain reduced smoking until the three- to four-year follow-up (Colletti et al. 1982).

Maintenance of reductions in smoking was also found in a longitudinal observational study undertaken in the USA, involving 1,410 participants who smoked. Half of the participants were provided with strategies to prompt cessation. At the two-year follow-up, 60% had either not changed or had increased their smoking; 17% had decreased their smoking by 5% to 25%; 15% had decreased their smoking by 24% to 49%; and 8% had decreased their smoking by more than 50%. Among the 40%
who had reduced by more than 5% at the two-year follow-up, 52% reported maintaining that reduction at the four-year follow-up. Reduction in smoking by the second year did not prospectively predict an increase or decrease in the probability of making a quit attempt, nor did it predict eventual quitting by the fourth year. The study concluded that a substantial minority of smokers from the USA were able to reduce their smoking and maintain this for long periods (Hughes et al. 1999).

More recent harm reduction approaches include a computerised program. The Lifesign Computer Assisted Smoking Program involves a scheduled time-interval reduction (Cinciripini et al. 1995; 1997). This compares favourably with abrupt cessation approaches. This was considered the most promising of the behavioural treatment methods, as it systematically reduced the level of nicotine exposure, disrupted habitual smoking patterns, and gave smokers the opportunity to develop new behaviours or skills in response to cues associated with smoking (Stratton et al. 2001).

More recently, a major longitudinal adult twin cohort study undertaken in Finland provided evidence that smoking reduction predicts cessation: The study involved 2,443 smokers and examined whether smoking reduction over a six-year period (1975–1981) predicted smoking cessation nine years later—by 1990. The model among twin pairs discordant for cessation indicated that the association of smoking reduction with increased likelihood of cessation was independent of genetic or early shared family influences on smoking behaviour. The study concluded that smokers who were able to decrease the number of cigarettes smoked per day by at least 25% were more likely to quit later (Broms et al. 2008).

The efficacy of a harm reduction approach to smoking was also found in later studies. A Swiss study compared the cut down and quit method with quitting abruptly. Both groups had access to nicotine replacement therapies, and, after one year, both strategies had equal efficacy (Etter et al. 2009).

5.6 Elements of harm reduction
As can be seen by the examples provided, harm reduction approaches that lead to a reduction in daily smoking, even when the reduction is sustained by nicotine replacement therapies, are at least as effective as cessation programmes, and have no adverse effect on future cessation attempts. The added possible benefit of a harm reduction strategy is that it is more likely to be undertaken by smokers who are too daunted to attempt to quit. Estimates of the percentage of smokers willing to change are not optimistic. One estimate concluded that at any one time, only 10% of smokers are prepared to take action towards quitting (for example, they intend to quit in the next 30 days) (Prochaska & Goldstein 1991). Another study concluded that only 20% are willing to quit in the next six months (Etter et al. 2009).

As previously mentioned, a harm reduction strategy needs to effect a reduction of harm in one or more of these elements: risk of harm for each use episode, the elevation of this risk because of repeated use, and the risk from and to others who may or may not be undertaking the same harmful activity. The committee considered the following six points as necessary elements that should be taken into consideration when developing harm reduction strategies for smoking:

1) Theory of how the strategy may reduce harm (presumed mechanism);
2) Effect on prevalence of the undesirable behaviour;
3) Effect on intensity of use;
4) Effect on others;
5) Whether aspects of the intervention or the intervention, itself, conveys symbolic approval of the undesired behaviour; and
6) Potential threats—why it may fail to reduce harm.

All of these elements were used to support the development of the harm reduction strategy that was the subject of this research; this is described in Part 3.

5.7 Key findings

- Harm reduction strategies concern the reduction of risk of harm in behaviours when it is not desirable, or is too difficult, to cease;
- Harm reduction strategies have been effective and used without controversy in road safety and alcohol and other drug use;
- Pharmaceutical and behavioural harm reduction strategies applied singularly or as a mixed modality have been effective when applied to tobacco smoking; and
• Elements of harm reduction have been clearly defined, and include a response to the controversy that the strategy may incur.
Chapter 6: Parental smoking in the hard to reach population cohort

6.1 Introduction

As already indicated pre and post-natal exposure to tobacco smoke is well known to have an adverse impact on the pregnancy, the birth and the child throughout their life. Tobacco related studies indicate that poverty and parental smoking are compounding factors that together and synergistically enhance the possibility of an adverse life trajectory. Other studies confirm this for example the Canadian longitudinal study that identified the age/crime curve found that maternal smoking was a factor (along with the other indicators such as poverty, family dysfunction and low education levels) common to children at kindergarten who became involved in violent crime in adulthood (Tremblay 1999). This exploration is crucial to this project.

6.2 Children, levels of exposure to environmental to tobacco smoke

Studies on mothers who smoke are almost exclusively conducted on women who attend public maternity hospitals where the incidence of smoking by presenting mothers is slightly higher than in the general population, but for Aboriginal women is much higher.

In Australia in 2009, 70% of babies were delivered in the public health sector however in WA only half were (AIHW 2011 p53). In the same year 14.5% of women smoked during pregnancy, 49.6% of Aboriginal women smoked compared with 13.1% of non-Aboriginal women (AIHW 2011 p. 24) it is likely that smoking is under reported. (Allen et al. 2008). The following studies are reported because they are on local populations and they offer some considerations about the links between smoking and social status.

The second Perth (WA) Infant Feeding Study explored smoking and breastfeeding among 580 women who gave birth at two public hospitals in Perth between mid-September 2002 and mid-July 2003. This longitudinal study followed women for one year postpartum. Of the women who participated, 39% were smoking prior to pregnancy and 25% continued smoking throughout pregnancy. Stopping smoking was associated with primiparous (having a first child). A woman was less likely to stop smoking if she had a partner who also smoked, had less than 12 years of education and smoked more than 10 cigarettes per day (Giglia, Binns & Alfonso
2006a). A subsequent study found that women who stopped smoking were more than four times more likely to breastfeed for longer than six months. One of the reasons posited was that women who smoke may have problems with breastfeeding, and may not seek professional help. Instead they may cease breastfeeding because of fear of being stigmatised for being a smoker (Giglia, Binns & Alfonso 2006b).

A similar longitudinal study conducted on 556 Aboriginal women giving birth at six Perth public hospitals between May 2000 and July 2001 had different results: 69% of mothers smoked prior to pregnancy and 67% continued to smoke during pregnancy. However, smoking had no effect on the duration of breast-feeding—six months later, 56% were still breastfeeding (Gilchrist et al. 2004). The incidence of smoking among Aboriginal women was four times higher than that of non-Aboriginal women. Two percent of Aboriginal women and 14% of non-Aboriginal women stopped smoking because of pregnancy. The authors noted that Aboriginal people comprise the lowest quintile of socio-economic disadvantage in the Australian population.

Data from the National Tobacco Campaign Tobacco Survey (n = 13742) not only confirmed the link between social disadvantage and smoking in Australia, but also found that children from disadvantaged households are much more likely to be exposed to tobacco smoke at home. For example, 34% of smokers with no educational qualification stated that they do not allow smoking inside their home. This figure for people with trade certificates or undergraduate diplomas and other university degrees is 40% and 49%, respectively (National Tobacco Campaign 2000).

A landmark study conducted in the UK in 2004—which became known as the ‘Ten Towns Study’—provides more detail on the effect of poverty, particularly overcrowding, on smoking patterns, and the resulting exposure of children to environmental tobacco smoke. This study measured the salivary cotinine levels (considered to indicate the level of exposure to tobacco smoke) of 4,043 children aged between five and seven years, and compared this with their parents’ self-reported smoking habits and social status. The children were residents of 10 towns. Five of these were selected because residents had high adult cardiovascular and respiratory disease mortality, and the other towns were selected because the residents had low adult cardiovascular and respiratory disease mortality. Typically, in the high mortality towns, there resided a greater proportion of people in the hard-to-
reach subset than those in the low mortality towns. Some of the key findings were not surprising, particularly given the ages of the children participating:

- The more smokers in the household, the higher the salivary cotinine levels in children;
- The more the parent or parents smoked, the higher the salivary cotinine levels in children; and
- Although fewer mothers smoked than fathers, children exposed to maternal cigarette smoke had higher salivary cotinine levels than those only exposed to paternal tobacco smoke.

Other key findings were quite startling:

- 53% of children were exposed to tobacco smoke at home or by an outside caregiver;
- Even when the child was not exposed to parental tobacco smoke, if they lived in a town with a high mortality rate, they had low salivary cotinine levels—the level depending on the prevalence of smoking in the community; and
- Children living in high mortality towns had double the exposure rate of those in the low mortality towns (Cook et al. 2002).

The exposure of children to environmental tobacco smoke at traceable levels was shown to be far greater than previously considered. This study concluded that exposure should be viewed as a community exposure, rather than simply an aspect of family lifestyle. It paved the way for the banning of smoking in public parks and open spaces. The researcher resided for 30 years in high mortality towns in the UK (Sheffield, Birmingham and London), and considers that 'community exposure' among children of the hard-to-reach probably does not occur in parks and open spaces, but in the stairwells and balconies of residential tower blocks, and in the narrow pathways outside public bars, hospitals and other places where smokers congregate now that specified smoking zones have disappeared. In the researcher's opinion, this study could have been better used to support the retention of segregated smoking areas in public access venues.

The effect of environmental tobacco smoke on children is not just measurable in terms of nicotine loading, as indicated by salivary cotinine levels. A small study conducted in Greece measured exhaled carbon monoxide levels of children of mothers who smoked with those who did not. The children of smoking mothers had double the level of the other children (Gourgoulianis et al. 2001).
6.3 Attempts to change smoking behaviour during pregnancy

There was a significant problem in attempting to search for strategies, interventions or programmes specifically targeting smoking behaviour in parents in the hard-to-reach population subset. Searches of both social science and medical journals using combinations of the words ‘smoking/parents’, ‘smoking/perinatal’ and ‘smoking/mothers’ found, as expected, thousands of items. However, the addition of the words ‘poverty’, ‘social disadvantage’ and ‘social class’ to any of the aforementioned words resulted in very few articles. This is indicative of the lack of targeted activity towards this group. However, efforts to change smoking behaviour in all pregnant women cannot be discounted.

There are several opportunities to reach mothers who smoke: at confirmation of pregnancy, which is usually in the first 16 weeks; at booking into maternity services, which is typically after 28 weeks; at birth; and during the child’s infancy.

Confirmation of pregnancy

Earlier studies indicated that for between 20% and 35% of smokers, confirmation of pregnancy is sufficient motivation to stop smoking, and over half reduce their smoking (Fingerhut et al. 1990; Severson et al. 1995; Bennett & Clatworthy 1999). As previously mentioned, more recent studies indicate that only 2% of Aboriginal women and 14% of non-Aboriginal women stopped smoking because of pregnancy (Gilchrist et al. 2004). The difference in study results is perhaps due to the time lapse between them, during which the incidence of smoking in the total population dropped considerably.

Mothers booking in at public maternity services

Booking in is typically the time when most efforts are made to assist mothers to stop smoking. These efforts are almost exclusively prevention strategies, consisting of educational materials that inform parents that smoking is bad for their baby. There are perhaps thousands globally, which all look similar and have simple messages, such as ‘Car and Home—Smoke Free Zone’ and ‘Clear my air’. There is almost no effort to tailor the attempt to meet the needs of the hard-to-reach. Even the very few Aboriginal strategies are identical, except that Aboriginal people and characteristic artwork is used. The researcher looked at one evaluation in depth (Neonate Asthma Prevention Project 2007) and found that:
1) Follow-ups were conducted by phone, yet many in the hard-to-reach do not have access to the same phone number for over six months;

2) Success was claimed if the mother remembered the message and acted upon it. Questions did not concern whether the message was relevant to her (for example, that she would not have allowed smoking around the child anyway); and

3) Results on changes in smoking behaviour were based on a comparison between smoking rates at conception and at birth, and included all those who stopped at confirmation of pregnancy, without any intervention at all.

**Strategies and research targeted at mothers in the hard-to-reach cohort**

Researchers have attempted to reduce the incidence of smoking in pregnant women in the hard-to-reach cohort, with disappointing results. Older studies are included because they are part of the accumulation of insights. In the USA in 1985, the Department of Health and Human Services set a target to reduce the incidence of cigarette smoking among pregnant women from 25% to 10% by 2000. However, by 2006, it was still at 16.5% (Substance Use and Mental Health Services Administration 2007). A Cochrane review of trials of various interventions between 1975 and 2003 found that differences at the end of pregnancy between non-smoking and smoking mothers was between 6.6% and 9.2%, depending on the intensity of the intervention (Lumley et al. 2009).

A British study set out to assess the power of three sets of variables to discriminate between two groups of pregnant women, of whom 44 had quit in the early stages of pregnancy and 21 had continued to smoke. The three sets of variables concerned socio-demographic status (education, socio-economic status and partner’s smoking habits); nicotine dependence (number of cigarettes smoked and degree of craving prior to first cigarette in the morning); and constructs of planned behaviour (social norms, attitudes towards smoking and perceived behavioural control). This study found that there was only one difference between the quitters and the non-quitters—the level of nicotine dependency at the beginning of pregnancy. Those who quit smoked an average of 14 cigarettes per day, and those who did not quit smoked an average of 18 cigarettes per day. The study found that those who continued smoking at 14.5 weeks had reduced to an average of 11 cigarettes per day (Bennett & Clatworthy 1999). The researchers made a number of significant observations concerning the relationship between beliefs and behaviours about smoking. They felt that anti-smoking material often encouraged misguided beliefs that influenced
smoking behaviour. For example, the fact that smoking results in a smaller baby is considered a positive, not a negative, and this information is possibly used as a post hoc rationalisation to support behaviour, led by a physiological, rather than a cognitive, imperative (Bennett & Clatworthy 1999).

One study examined the Stages of Change Model conducted on women in Birmingham, USA, who were receiving Medicaid. This study indicated that a self-identified stage of change had little bearing on whether a woman stopped smoking—much more pragmatic factors were involved. These factors included the amount a woman smoked prior to pregnancy, the duration of her smoking habit, her capacity to cease smoking on previous occasions, and the amount of people she associated with who also smoked. They found that exposure to education about smoking had the least effect on a woman's smoking habits (Woodby et al. 1999).

A project conducted in Vermont, USA, had very small positive results. In this study, women who were on their first visit to an antenatal clinic (28 weeks) were provided either with typical health promotion material, or with dedicated advice and referral to individual behaviour change counselling. At 36 weeks, 10% of the intervention group smoked, compared with 14% in the comparison group (Roger et al. 2002).

A cluster of randomised controlled trials of smoking cessation in pregnant women that also compared interventions based on transtheoretical model to standard care was conducted in Birmingham, UK. This study noted only a small borderline increase in quitting in the combined intervention, compared with the controls (Lawrence et al. 2003).

In 2005, a randomised controlled trial was conducted in Glasgow, Scotland, of home-based motivational interviewing by midwives to help pregnant smokers quit or reduce smoking. It was noted by the researchers that, in local conditions, one third of pregnant women smoked, with one quarter quitting while pregnant. Most had stopped before maternity booking (less than 24 weeks gestation) and a further 7.5% intended to stop before giving birth. The researchers recruited 930 women, of whom 310 were in an intervention group and 620 were in control groups. One group was provided with standard health promotion information, and the intervention group was offered two to five additional home visits of 30 minutes duration, with home-based motivational interviewing provided by the same midwife. Of the women in the intervention group, 4.8% stopped smoking, compared with 4.6% in the control group.
Of the women in the intervention group, 4.2% reduced smoking (less than half cotinine levels than when booking in), compared with 6.3% in the control group. The research results were marginally consoled by the results concerning increased smoking, with fewer women in the intervention group (5.1%) smoking more than 10.7% in the control groups. Birth weights were not affected. This project was no more effective than the health promotion activity (Tappin et al. 2005).

The difficulties of cessation during pregnancy are compounded by the fact that neither nicotine replacement therapies nor other smoking-related pharmacotherapies are recommended during pregnancy. A Danish epidemiological study identified no increase in congenital malformations in the children of mothers who smoked during pregnancy, and an increase in malformation risk in non-smokers using nicotine substitutes (Morales-Suarez-Varela et al. 2006). Nicotine is implicated in the aetiology of SIDS, and can cause cognitive, affective and behavioural disorders in children born to mothers exposed to nicotine during pregnancy (Ginzel 2007). Others argue that nicotine replacement products may not be completely without risk. However, the risk is certainly much less than that of cigarette smoke. Therefore, the use of nicotine replacement therapies in pregnant women who cannot stop smoking with behavioural treatment alone should be considered (Benowitz et al. 2004). The use of nicotine replacement therapies during pregnancy in Australia is a decision made by the treating physician and the patient.

Postpartum reuptake
The studies included here focused almost entirely on smoking during pregnancy. Many did not consider reuptake postpartum or later. However, most indicated that many mothers return to smoking after delivery (Fingerhut et al. 1990; Severson et al. 1995; Bennett & Clatworthy 1999). The Neonate Asthma Prevention Project estimated that approximately 70% of pregnant women who quit because of pregnancy relapsed within six months of giving birth (Neonate Asthma Prevention Project Evaluation 2007).

6.4 Attempts to change smoking behaviour in parents

Neither tobacco control measures nor prevention strategies have the power or the persuasive ability to stop people from smoking at home. It can be speculated that the less places there are available to smoke, the greater the likelihood that smoking will occur at home. In the researcher’s opinion, the home is now possibly the most
common site for induction into smoking. Material placed on anti-tobacco websites suggests that young people are inducted into smoking through sneaky advertising or by peer pressure. These may be the reasons why young people experiment with smoking, but it is unlikely to be the reason that they persist and become daily smokers. This is possibly more likely due to a pre-existing adaptation to nicotine, a discovery of the functionality of nicotine or smoking, and a sense of normality relating to smoking.

The researcher could find no specific smoking cessation strategies targeted towards parents in the hard-to-reach population subset. However, one targeted programme, which did not specifically provide a tobacco intervention, claimed a reduction in parental smoking as an outcome. The Olds model implemented in Elvira, USA (see Chapter 9), which is provided from the third trimester until the infant’s second birthday, claims a reduction in maternal smoking. However, the researcher was unable to access the data to confirm this. Best Beginnings, a WA programme targeted at women with significant hard-to-reach factors (see Chapter 9), which is based on the Olds model, found that 37% of mothers were still smoking at first review (shortly after the birth of the baby). No data was available from subsequent reviews. At first review, 84% of mothers stated that they ensured their home was smoke-free. The programme includes a SIDS prevention intervention, in which the baby’s sleeping position and the quality of the infant’s air is discussed. This intervention uses a harm reduction approach. Only 35% of participants continued with the programme until the infant’s second birthday, and, at that time, 78% of mothers were still ensuring a smoke-free home (Clark 2008). No further data was available.

Although there are some strategies targeted at parents who smoke when their children are hospitalised, there are no strategies targeted at parents of children over five years, who are then the subject of targeted prevention messages through school.

6.5 Key Findings

- The reality is that if a mother does not stop smoking in response to confirmation of pregnancy, she is unlikely to do so at any time during the pregnancy (Orleans et al. 2000; Lumley et al. 2009; Tappin et al. 2005);
- Factors that are common to women who do not stop smoking during pregnancy concern:
• The frequency of daily smoking (18 cigarettes or more);
  • Having a partner who continues to smoke greater and
  • Increasing constellations of at risk factors.

• For some women brief (5–15 minutes) quitting advice from health professionals and counselling, combined with pregnancy tailored self-help material provided in the course of routine prenatal care, is effective (Lumley et al 2009) - the proviso is that she attends prenatal appointments, can read and is motivated;

• Reasons for the lack of success with behavioural strategies concern:
  • Barriers of access, transport to cessation services; lack of time and lack of childcare (Baxter et al 2009); and
  • Problems with model of intervention - the intervention itself cannot change the risk factors that contribute to smoking nor overturn behaviours ingrained over generations. (Lumley et al 2009).

• The response suggested concerns flexible home visits and intensive multisession treatment delivered by well-trained staff (Lee 2006).
Chapter 7: Attempts to enhance parenting behaviour in the hard-to-reach population cohort

7.1 Introduction

As was shown in the previous chapter, there have been few successful attempts to change the smoking behaviour of parents. Therefore, the project needs to draw from the literature describing attempts to enhance generic parenting behaviour. The range of service delivery is wide; different cohorts of the population are perceived to respond better to different types of interventions. This is a complex arena that overlaps with the child protection discourse.

7.2 Range of services

The public health model perhaps best encapsulates the range of services that needs to be available within a population. This is a UN concept, typically portrayed in a pyramid indicating cost per person reached by the service type. Three distinct service types are described as universal, secondary and tertiary. With smoking for example the service range might look like this:

Table 5 Example of the range of smoking related service types

<table>
<thead>
<tr>
<th>Public Health Model definition</th>
<th>Smoking related example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal</td>
<td>Prevention such as anti-smoking campaigns</td>
</tr>
<tr>
<td></td>
<td>NRTs now available in supermarkets</td>
</tr>
<tr>
<td>Secondary</td>
<td>Brief intervention such as the quitline</td>
</tr>
<tr>
<td></td>
<td>Medications prescribed by a GP</td>
</tr>
<tr>
<td>Tertiary</td>
<td>Surgery for lung cancer or other smoking related disease</td>
</tr>
<tr>
<td></td>
<td>Palliative care</td>
</tr>
</tbody>
</table>

This model is also applied to the range of services that need to be available to families (Hunter 2011).

Table 6 Example of the range of parenting service

<table>
<thead>
<tr>
<th>Public Health Model definition</th>
<th>Parenting services example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal</td>
<td>Pre and post natal care</td>
</tr>
<tr>
<td></td>
<td>Brief intervention (parent help line)</td>
</tr>
<tr>
<td></td>
<td>Parent education group</td>
</tr>
<tr>
<td>Secondary</td>
<td>Specialist support such as family therapy</td>
</tr>
<tr>
<td></td>
<td>Casework services</td>
</tr>
<tr>
<td></td>
<td>Coerced or mandated last resort service</td>
</tr>
</tbody>
</table>
Universal services are the equivalent of prevention services in the health arena. They typically concern media campaigns (such as SIDS prevention and warnings about leaving infants in cars), brief intervention (advice and/or referral) and parenting groups. Groups are typically structured to provide some information and skill development, and are delivered in a community-based setting. To benefit from a structured group in a universal service, a parent must be able to:

- Anticipate or recognise that there is a problem for which the service is sought as a solution;
- Attend the course—this requires planning and may have costs;
- Speak or learn the language of the presenter—this requires knowledge and familiarity of the jargon, ideas and concepts underpinning the programme;
- Take the information in the manner in which it is given and extrapolate it at home; and
- Feel comfortable with people who are not in the hard-to-reach cohort.

Secondary services recognise that some parents are unable to do at least one of the above, and respond with tailored content and method of delivery. Typically, these are casework-based and are targeted to a particular type or level of need. Within secondary services, the literature identifies four opportunities for intervention:

<table>
<thead>
<tr>
<th>Service type</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early intervention in the life of the child</td>
<td>There is no problem because there is no child (yet). Predictions of adverse life trajectory based on number and severity of risk factors in the mother.</td>
</tr>
<tr>
<td>Early intervention in the development of the problem</td>
<td>There is a child, there is a problem, and it is early in the development of the problem.</td>
</tr>
<tr>
<td>Late intervention</td>
<td>There is a problem, it is long-standing and/or previous efforts have not produced a lasting outcome. Failure to attend to the problem is very likely to result in harm to child</td>
</tr>
<tr>
<td>Last resort intervention</td>
<td>Last resort effort to prevent placement of child in out-of-home care (child abuse or neglect has recently been substantiated), psychiatric facility (recent diagnosis), or detention (criminal behaviour)</td>
</tr>
</tbody>
</table>

Tertiary services respond to the consequences of the failure to heed prevention messages or to benefit from secondary services. In the parenting arena, the focus is no longer on parenting, but on child protection.
7.3 Efficacy of services

In 2008 the researcher conducted a literature review of secondary services, looking for key elements of success. The following matrices (Tables 8 and 9) collate information garnered from that review.

Table 8: Early Intervention programmes collation matrix

<table>
<thead>
<tr>
<th>Window of intervention</th>
<th>Early intervention in the life of the child</th>
<th>Early intervention in the development of the problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units of comparisons</td>
<td>There is no problem because there is no child. Predictions of adverse life trajectory based on number and severity of risk factors in the mother.</td>
<td>There is a child, there is a problem, and it is early in the development of the problem.</td>
</tr>
<tr>
<td>Proven successes</td>
<td>Olds model, Elmira, USA; Best Beginnings, WA; Enhanced Healthy Families, USA; Early Head Start, New Zealand.</td>
<td>Child-only interventions: high quality childcare; Perry pre-school programme, USA; Duel intervention (child and parenting programme); Early Head Start, UK; Incredible Years, USA; Exploring Together pre-school programme, Australia; Casework—Parent Support, WA.</td>
</tr>
<tr>
<td>Engagement rates</td>
<td>75%–90% in successful services, lower in others.</td>
<td>Very high in high-quality childcare and pre-school, much lower in parenting programmes. Typically, the former is contingent on the latter.</td>
</tr>
<tr>
<td>Retention rates</td>
<td>38%–48% in successful services, lower in others.</td>
<td>Ditto.</td>
</tr>
<tr>
<td>Key elements of service delivery</td>
<td>Home visiting; Use of nurses; Operationalised programme containing relational and educational components; Time limited.</td>
<td>Child-only interventions: day care and pre-school programmes meet specifications of high quality; Casework is: • Collaborative; • Operationalised, containing relational, educational and some tailored components; • Time limited.</td>
</tr>
<tr>
<td>Level of evidence</td>
<td>Multiple randomised control test; Long-term follow-up (15 years).</td>
<td>Improvements on a range of tests and scales; Long-term follow-up; External evaluation.</td>
</tr>
<tr>
<td>Also rans and failures</td>
<td>Comprehensive Child Development, USA; Hawaii Healthy Start, USA; Healthy Families, USA; Parents as teachers, USA.</td>
<td>Parent-only interventions have little effect; Issue-specific groups/programmes targeted at parents with specific issues were small, rare and unmeasured.</td>
</tr>
<tr>
<td>Reasons for failure</td>
<td>Not adhering to programme; Dilution.</td>
<td>Lack of theoretical grounding; Lack of definition of outcomes; Lack of measurements.</td>
</tr>
</tbody>
</table>
### Table 9: Late and last resort programmes collation matrix

<table>
<thead>
<tr>
<th>Window of intervention</th>
<th>Late intervention</th>
<th>Last resort</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Units of comparisons</strong></td>
<td>There is a problem, it is long-standing and/or previous efforts have not produced a lasting outcome. Failure to attend to the problem is very likely to result in harm to child.</td>
<td>Last resort effort to prevent placement of child in out-of-home care (child abuse or neglect has recently been substantiated), psychiatric facility (recent diagnosis), or detention (criminal behaviour).</td>
</tr>
<tr>
<td><strong>Proven successes</strong></td>
<td>Child-only interventions: high quality childcare: Perry Pre-school, USA; Intensive casework delivering multi-component intervention; Casework: Parent Support, WA; Chicago Child-Parent Centre.</td>
<td>Child-only interventions: high quality childcare; Very intensive multi-component interventions; Family Preservation, California, USA; Home Builders, Washington, USA; Multi-systemic therapy, USA; Intensive Supervision Therapy, USA.</td>
</tr>
<tr>
<td><strong>Engagement rates</strong></td>
<td>30%–50%.</td>
<td>Mandated.</td>
</tr>
<tr>
<td><strong>Retention rates</strong></td>
<td>Upwards of 50%.</td>
<td>Mandated.</td>
</tr>
<tr>
<td><strong>Key elements of service delivery</strong></td>
<td>Child interventions: day care and pre-school programmes meet specifications of high quality; Multi-intervention through casework:  - Home visiting;  - Operationalised programme containing relational, educational, therapeutic and some tailored components;  - Attention to problems experienced by the parent that are not directly related to parenting, but have an effect on the capacity to parent;  - Time limited;  - At least 20 hours direct contact.</td>
<td>Child interventions: day care and pre-school programmes meet specifications of high quality; Multi-intervention through casework:  - Home visiting;  - Operationalised programme containing relational, educational, therapeutic and some tailored components;  - Attention to problems experienced by the parent that are not directly related to parenting, but have an effect on the capacity to parent;  - Time limited (one year);  - At least 50 minutes direct contact daily for at least one month.</td>
</tr>
<tr>
<td><strong>Level of evidence</strong></td>
<td>Improvements on a range of tests and scales; Long-term follow-up; Evaluation.</td>
<td>Improvements on a range of tests and scales; Follow-up; Evaluation.</td>
</tr>
<tr>
<td><strong>Also rans and failures</strong></td>
<td>Comprehensive Child Development, USA; First Five, USA; Sure Start, UK; Government child protection services across most western nations.</td>
<td>Single component intervention cognitive behavioural; Family therapy.</td>
</tr>
<tr>
<td><strong>Reasons for failure</strong></td>
<td>Lack of grounding; Lack of definition of outcomes; Lack of measurements;</td>
<td>Lack of grounding; Lack of definition of outcomes; Lack of measurements;</td>
</tr>
</tbody>
</table>
The literature presented a greater number of marginally successful and failed interventions than successful interventions. Some had intervention groups with worse outcomes than control groups. Some failed to measure outcomes against their stated intentions. Some stated that their intention was to protect children from abuse and neglect, yet failed to achieve any outcomes on that score, while achieving other outcomes. Some began with a clear intention, ran a ‘proven’ intervention and still failed to achieve successful outcomes. The researcher observes that, given the large number of programme approaches and interventions, and the small number returning positive outcomes, success is the exception and failure is the norm.

Problematic areas concerned differences in what research describes as best practice and what is typically practiced.

**Targeting**
A definition derived from research posits targeting as delivering the right intervention to the right client at the right time. The service literature shows confusion concerning the distinction between early intervention in the life of the child and life of the problem, and between late and last resort intervention.

**Assessment**
Services typically commence with an assessment that, depending on the nature of the assessment, indicates the level of risk of harm to the child, the needs of the child, and the capacity of the parents or child’s system to meet those needs. The literature indicates this approach is profoundly flawed. In reality, assessments initiated by protection concerns are queued on the basis of risk. The focus of child protection becomes one of risk management—instead of making the right decision for the child, it is about making a defensible decision about the case (Department of Health UK 1995; 2000). If an assessment is made in order to refer the family to a service, the assessment is typically weighted to find the criteria for available services (Department of Health UK 1995; 2000). This approach involves conducting a lengthy and intrusive assessment and, regardless of what the assessment indicates, providing a standard set of referrals to address specific issues, such as anger management, drug and alcohol counselling, and ubiquitous and usually non-existent parenting classes. Berry et al. (2000) describe this approach as typical of most child protection and welfare agencies. Berry et al.’s conclusion, following a meta-analysis
of such interventions, was that this approach has led to worse outcomes for children than no intervention at all.

Berry was not alone in her conclusions. Others also found that the idea of referring a concerning parent to a service to deal with the specific issue that is perceived to compromise their capacity to parent (for example, drug use or a mental illness) would, by itself, have no beneficial effect on parenting (Craig 2004; Olds et al. 2007). Indeed, the researcher could find no evidence that a single intervention, such as a parenting group or an issue-specific intervention, had any beneficial effect on parenting.

The idea that assessment is intervention has been around for some time (Robinson & Camins 2001). It underpinned the early collaborative assessment tools, such as the Hearth Assessment of Children’s Safety in a Drug Use Environment Tool, which were essentially maps for locating the client in a particular context. These were done with the client, rather than on the client, and first involved the development of a mutual understanding of the meaning of words used in the assessment. Some were snapshot assessments, which asked, for example, whether the child was safe now. Others, such as the Family Functioning Profile, were more complex, and initiated a collaborative process that acted as the precursor of a therapeutic relationship, and the next step was typically the development of shared goals (Robertson et al. 2010). The Family Functioning Profile enabled progressive entry into family complexity. Some tools used the same collaborative processes to measure and evaluate the progress of the client (and thus the efficacy of the intervention) and the quality of the child’s environment (Kiresuk et al. 1994; King et al. 1995; Robinson & Camins 2001; Robertson & MacWilliam 2008). The success of these tools fostered and depended on a collaborative relationship.

**Collaboration**

Collaboration describes the ideal relationship between service deliverer and client. It concerns honesty about the power differential between the two, shared goals, shared measurements of progress and transparency of process.

In the late 1990s, the word ‘collaboration’, with no working definition, began to appear in service documentation as a principle, a mission statement and a service descriptor. It was used interchangeably to describe the relationship between agencies or services and the relationship between the service deliverer and recipient.
Collaborative approaches were used in late and last resort interventions, and even infiltrated child protection assessment, such as in the Signs of Safety approach (Edwards & Turnell 1995). This led to a practice schism: detractors from the collaborative approach to child protection cited the well-noted problem of an ‘over optimistic alliance’ (in which the abusing or neglectful parent manipulates the ‘soft’ approach to continue abusing or neglecting the child). Supporters of the collaborative approach could equally point to forensic and risk management approaches that often lead to ‘an over pessimistic standoff’ (in which the parents and the department war over the child). Unfortunately, the researcher could find no studies that compared collaborative outcomes with forensic outcomes.

Collaborative assessment has proven effective in both types of early intervention programmes, particularly in the areas of child health, maternal health and parenting. Typically, this concerns the measurement of child progress conducted by the parent and the professional, together. This has been successful in engaging the hard-to-reach parent in the child’s development and in the services that support them. This has included bringing mothers and fathers to ultra-sound clinics, and getting mothers to weigh and measure infants and implement development checks (Glascoe 2004; Edgar 2006). When these tools are part of a broader framework of collaborative evaluation, they have been effective in establishing engagement, improving retention rates and producing outcomes. Evaluations of tools and programmes, such as the Family Functioning Profile and the Ages and Stages Questionnaires, indicate that parents and children engaged with such tools respond in measurably better ways during interventions (Royal Children’s Hospital Melbourne 2002; Landy 2006; Synovate 2007).

**Outcomes**

The literature from research is very clear about what an outcome is—a change in the recipient derived from the intervention:

‘An intervention can only be deemed effective when all stakeholders can see a positive outcome (policy makers, agency, service deliverer and service recipient) and this can only happen when the client has participated fully, when the intervention has helped to create changes in lifestyle not just behaviour, the intervention includes practical and relevant elements and strives for long term change’ (Carr et al. 1999, p. 6).
There are three types of outcomes: those derived by the child, those that concern parenting, and those derived by parents (see the tables below).

Table 10: Outcomes derived by children

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td>Physical and developmental milestones;</td>
</tr>
<tr>
<td></td>
<td>Increased use of inoculation and health services;</td>
</tr>
<tr>
<td></td>
<td>Reduction in illness and reduced hospital admissions.</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Improved access to, and performance during, school;</td>
</tr>
<tr>
<td></td>
<td>Readiness for school (social competence, emotional adjustment, language and cognitive skills, and attendance);</td>
</tr>
<tr>
<td></td>
<td>Achievement of educational milestones (cognition, literacy and numeracy).</td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td>Measuring antisocial versus pro-social behaviours in a variety of contexts.</td>
</tr>
<tr>
<td><strong>Life trajectory</strong></td>
<td>Improved by measuring levels of welfare dependency, drug use or involvement in criminal behaviour during adulthood.</td>
</tr>
<tr>
<td><strong>Child abuse and neglect</strong></td>
<td>Reduced incidence of abuse and neglect.</td>
</tr>
</tbody>
</table>

Table 11: Parenting outcomes

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relationship with child</strong></td>
<td>Attachment with infants; Frequency and intensity of positive contact with older children.</td>
</tr>
<tr>
<td><strong>Capacity to parent</strong></td>
<td>Changes in knowledge about child development and childcare; Perceptiveness, responsiveness and flexibility; Levels of sibling conflict.</td>
</tr>
<tr>
<td><strong>Parenting confidence</strong></td>
<td>Beliefs about child development and parenting; Self-efficacy (feelings about skills and capacity to manage typical parenting problems).</td>
</tr>
<tr>
<td><strong>Self esteem</strong></td>
<td>Inner strength—by considering feelings about personal competency when facing adversity.</td>
</tr>
</tbody>
</table>

Table 12: Parent outcomes

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measured by:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td>Reduced smoking; Reduced alcohol and other drug use; Increased access to health services; Reduction in illness and hospital admissions.</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Increased access to education and employment.</td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td>Increased use of contraception, as measured by birth spacing; Improvements in mental health.</td>
</tr>
<tr>
<td><strong>Life trajectory</strong></td>
<td>Improved by measuring levels of welfare dependency, drug use or involvement in criminal behaviour during adulthood.</td>
</tr>
<tr>
<td><strong>Child abuse and neglect</strong></td>
<td>Reduced welfare dependency, drug use and criminal involvement.</td>
</tr>
</tbody>
</table>

The service literature, particularly agency reporting, is confused about outcomes. An analysis of how the word was used in five years of reports from a government child protection agency between 1997 and 2002, found that it was used variously to
describe aims, outputs, strategies, output measures and case events. There are some inherent dangers in this confusion, not least of which is that in the five years of reports, there was no evidence regarding a real outcome for the original objective of protecting children from maltreatment. As with many other such reports from across the service literature, there were assumptions made that if there were outputs and case events, then outcomes were being achieved (Tilbury 2002; Devaney 2004). When this is the case, an agency can claim the system is successful, even if the children who were being protected by the system died.

A recent outcomes-based model advocates a five-step process:

1) Identify the outcomes sought;
2) Translate outcomes into specific objectives;
3) Select strategies for achieving those objectives;
4) Translate objectives into specific activities or programmes; and
5) Identify indicators to measure the progress made (Moore 2007).

Under this model, outcomes are desired conditions of well-being, and common outcomes include specifics, such as healthy children, economically self-sufficient families, and children who are able and willing to learn. However, in the annual reports just described, outcomes are no more than adventures in aspirational thinking.

7.4 Key elements of success

The literature tended to reach a consensus on the following areas:

- Early intervention, whether in the life of the child or in the formation of the problem, is a very different focus of intervention, and can be effective across a range of outcome measures;
- The later the intervention, the greater the intensity, length and range required to achieve outcomes similar to that of early intervention;
- With certain provisos regarding capacity and willingness, the worse the problem, the fewer the family resources; the more intensive the intervention, the better the outcome (Elkan et al. 2000);

---

9 The agency is not identified in order to protect the researcher.
Interventions provided to coerced clients and contingent interventions, including those involving financial incentives, can be effective across a range of outcome measures;

None of the effective interventions were found to have much effect when delivered to families where there was current domestic violence;

Assessment and referral as an initial activity to determine intervention type or to predict events can be detrimental;

To whom the intervention is delivered, and when it is done so are as important as the reasons for delivering the intervention: ‘One-off interventions at a particular developmental stage are never going to be sufficiently robust to protect high risk individuals for all time’ (Olds et al. 2007, p. 357); and

Interventions having all of the following elements are more likely achieve effectiveness across a range of outcome measures: grounded in theory, targeted and tailored to context, operationalised and flexible, coherent programme and measurable outcomes.

The literature indicates that interventions that have all of the following elements are more likely achieve effectiveness across a range of outcome measures.

**An operationalised and flexible programme**

Only Olds uses the term ‘operationalised’ to describe a process of intervention that is organised in accordance with the underpinning theories. Elsewhere, words such as ‘programme’, ‘service’ and ‘intervention’ are used instead, but these terms are also used to describe services that are not operationalised. The researcher understands ‘operationalised’, in this context, to mean a programme that operates under a clinical framework that has an overarching method. It informs:

- What: The intention of the project;
- How: The way in which the project is delivered;
- To whom: The target group the project is designed to serve;
- What for: The outcomes that are measured by the project;
- How long: The window of intervention;
- What with: The resources the project will use.

The key elements of success identified in the literature are the same across all the windows of opportunity. The earliest programme using all the successful elements that the researcher identified was the Family Support Centre Pennsylvania in 1980.
The clinical framework (although not described in these words) was located in theory from many relevant discourses. It used multi-component interventions (home-based, family-school and family-neighbourhood peer support groups), and measured outcomes using a number of measures relating to abuse and neglect, reduction in family stress, parent-child interactions, child development and family goal achievement (Armstrong 1981).

A more recent example is Parent Support in WA. This programme uses a clinical framework that has been developed in situ and located in theory from many relevant discourses and in accordance with all the key elements of success. It also uses similar multi-component interventions that are introduced if and when required. Parent Support acknowledges the two sets of goals—those demanded by the referrer and those developed by the family. It uses a collaborative process—the Family Functioning Profile—to establish and measure progress towards goals. The Family Functioning Profile consists of a series of matrices that are used collaboratively with parents when needed. The first matrix concerns the problem for which the family was referred, the second matrix concerns the quality of the child’s environment (see Figures 21 and 22), and the third matrix concerns issues personal to the parent that may compromise their capacity to parent. It has also undergone external evaluation (Robertson & MacWilliam 2008).

Other successful programmes include Family Pathways, WA (Landy 2006), and Family Connections, USA (DePanfilis 2004). In these, the operational system is not a one-size-fits-all event, but a process of service delivery that allows for progressive entry into family complexity. This flexibility allows the programme to follow the flow of the caseworker and family relationship. Disclosure of significant issues that compromise the capacity to parent is more likely to occur when the parent believes these issues will be dealt with effectively and not simply during the first meeting. When issues requiring specialist attention are disclosed, a cooperative relationship with a specialist service is developed, rather than this signalling the end of the relationship, followed by a referral to a specialist service.

An operationalised system of service delivery should mean an intervention can be replicated elsewhere; however, the literature indicates that this does not always happen. Schorr questions why social services cannot replicate the same model around the world, considering that franchises, such as McDonald’s, can do so very competently. The conclusions she puts forward concern dilution:
Citizens who will support providing intensive, high-quality services to a few dozen poor and minority families as a part of a demonstration balk at investments to make such services widely available. Thus, the proven effectiveness of intensive individualised services is routinely diluted—and destroyed—by the pressure to reach large numbers with inadequate resources (Schorr 1998, p. 24).

In exploring examples of successful replication, when not diluted, Schorr concludes that the key element of successful replication is to ‘combine the replication of the essence of a successful intervention with the adaptation of many of its components to a new setting or a new population’ (Schorr 1998, p. 27). Schorr cites a number of scenarios in which the principles and processes of a successful intervention have been taken to new communities or cohorts, and used to help develop the service to suit these individual groups. This encourages ownership and investment at a local level.

One example of this is Parent Support, which was developed in a metropolitan area, then expanded to service Aboriginal parents in regional towns and remote communities in the Kimberley region of WA. Parent Support has an underlying set of principles with operational definitions, which must be evident at every stage in the process of intervention (Robertson et al. 2010). These principles were taken to each regional centre and workshopped with local populations, and a service was developed from the wisdom derived. Matrix 2 of the Family Function Profile, which is based on the needs of children, was not found to be significantly changed in content. This was perhaps because the needs of children are universal, but the expression of these needs was significantly different, reflecting great diversity in the culture of family life (see Figures 10 and 11).

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10 There are other Indigenous and non-Indigenous versions specific to infants under two years of age.
Programme coherence

Programme coherence ensures that the theories (often summarised as operational principles) of the programme are visible in every aspect of the programme:

**Figure 10:** Matrix 2 of the Family Functioning Profile, version for metro area

**Figure 11:** Matrix 2 of the Family Functioning Profile, version for Kimberley region

(Robertson et al. 2010)
The theories that ground the intervention are understood and valued by all service deliverers and can be observed to underpin the activities of service delivery;

- The target group and the window of opportunity are well understood, and the programme, from referral to outcome measures, is designed to suit the target group’s needs;
- The programme is operationalised—supported by manuals, policy and quality-assurance framework; and
- The service deliverers are supported by appropriate leadership, supervision, training and support (Schorr 1998; Dawson & Berry 2002; DePanfilis 2004; Robertson et al. 2010).

**Grounded in theory**

Grounding the intervention in a theoretical or clinical framework means the paradigms underpinning the nature of the work have been considered for trustworthiness. For example, the idea of attachment was first written about early in the twentieth century by Melanie Klein and Anna Freud. It was later studied and elaborated by Winnicott and Bowlby in the 1970s. It became part of the discourse around infant mental health, and has been further studied by scholars, such as Ainsworth and Stern. Attachment is a trusted theory framework.

However, there is no theory that addresses everything; neither can a programme hang on one theory alone. A programme needs to be grounded in theory throughout the process. For example, a programme also needs to be grounded in theory relating to behaviour change, child abuse and neglect, and the value of family. How services are targeted and delivered needs to be grounded in epidemiology. How outcomes are measured needs to be grounded in theory about the collection, collation and interpretation of data generated by evaluation and research processes.

**Targeting and tailoring to context**

Getting the right intervention to the right client at the right time can be difficult because these are all shifting dimensions. Either the service can make all the decisions, or these decisions can be negotiated in a collaborative relationship engendered by a casework and home visiting approach. Non-casework attempts have very limited efficacy. Casework is discussed later in this chapter.
A review by Corcoran of a large number of American interventions using a variety of non-casework approaches (cognitive behavioural, family therapy and family preservation) with families in a number of treatment contexts (child abuse and neglect, psychiatric and juvenile offending) found that none of the approaches were able to demonstrate significant outcomes. This was largely because services had either failed to indicate what outcomes they were seeking or failed to indicate if they had achieved them. Many used specific measurement tools that focused on one element, such as a child’s depression or conduct, and could report some statistically significant movement on that measurement (Corcoran 2000). Most notable about this study was that the focus of intervention was often the use of the model or approach—not the family or the parents, and often not even the behaviours that were considered problematic. Therefore, many were clinic-based; had very poor engagement and retention rates; and some reported that the poverty, domestic violence and poor social functioning of their target group hindered the success of the intervention.

**Measurable outcomes**

As stated in the introduction, the following is included because it is the main vehicle through which the research project was delivered. It also demonstrates the effectiveness of all the key elements of success described in the literature.

Parent Support is an operationalised programme targeted towards parents in the hard-to-reach cohort. It has the capacity to respond to various windows of opportunity: early intervention in the life of the problem, intervention late in the development of the problem, and last resort intervention. However, the expectations of this agency are that each worker supports 18 cases. In 2009, the programme operated in nine metropolitan sites and one regional site, and, during the year, opened five remote sites across the Kimberley region. Although there was an existing caseload, the following data pertains to all new referrals in 2009 (n = 937). It takes one year to process a typical case, six months of casework and a six-month follow-up. The report from which this data was extracted was constructed in December 2010 (Robertson 2010).

Parents of children were referred with their signed consent from various sources, including the Department for Child Protection concerning supervisory neglect or antisocial behaviour (44%), schools or specialist education services concerning non-
attendance (36%), services provided by the Department of Health concerning child
development or parental drug use or mental illness (11%), and other sources (9%).

Of all referrals:

- 13% were redirected because the site was full;
- 4% could not be contacted;
- 7.5%, on first contact, rejected the service;
- In 14.4% of cases, the caseworker could not establish a working relationship;
- In 3% of cases, the family moved away during the service;
- In 4.5% of cases, the child left the family;
- 9.5% of cases were not complete at the time the report was constructed due
to waiting times for service delivery or travel distances for remote clients; and
- 36% had completed the programme.

Matrix One is used with all families and specifically concerns the behaviour or
problem on the referral. Of the 36% of parents who completed the programme:

- 38% made significant gains—the problem was gone or the behaviour ceased,
  along with all underlying preconditions for that behaviour;
- 54% made gains—the problem was gone or the behaviour ceased; and
- 9% made no gains.

Matrix Two concerns the quality of the child’s environment, and is used where there
are concerns about the general level of care. In 2009, it was used in approximately
one third of cases. All domains showed an improvement (see Figure 12). The most
significant improvements were in home making and supervision (moving from
dangerous to enriching) and behavioural boundaries (moving from inconsistent to
clear and consistent).
Matrix Three is used when the parent nominates an issue that may compromise their capacity to parent. All issues showed significant improvement. For example, self-esteem went from three (lack of recognition of own needs) to five/six (developing growing capacity to love and care for self, and honouring own needs for safety, security, health and emotional enrichment).

Six months after the casework, the parents and the referrers were contacted and asked about the status of the problem for which the referral was made. They were asked whether it was better, the same or worse than at the conclusion of the casework. Responses indicated that the majority of parents built on the gains made during casework (53%), while 26% sustained the gains, 15% were slipping back from gains, and 5% had returned to their previous ways.

7.5 Casework

Casework, as an intervention in itself, has a long history, stretching back over 100 years (Woodrooffe 1974), and has been influenced by a number of ideologies (Fook 1993; Howe 1996). Casework may include home visiting; a relationship with the family; and concrete, educative, advocacy, brokerage and therapeutic components. Much has been written about how this loose ‘family support’ approach should be undertaken; however, there have been few attempts to measure outcomes. Efforts to evaluate casework mainly concerns client opinions about the service or the caseworker, rather than whether the presenting problem was resolved.
A systematic review of international studies concluded that there were not enough studies of sufficient quality and appropriate research design to determine what made effective home visiting programmes successful (Elkan et al. 2000). However, it did go on to state that home visiting programmes should address the needs of both children and parents, be flexible in intensity and duration, and be sensitive to the unique characteristics and circumstances of their clients (Elkan et al. 2000).

Later studies have shown intensive casework/support and family preservation interventions to be effective when using a multi-component intervention delivered through a casework relationship. The caseworker:

- Establishes a relationship with the family;
- Provides brokerage for concrete services (relating to physical and environmental needs);
- Advocates for effective relationships in the community (establishes parent communication with teachers, health services and other relevant professionals);
- Attends to the needs of the parent (involving therapeutic or specialist services);
- Attends to the needs of the child (involving therapeutic or specialist services); and
- Attends to parenting (the relationship between the parent and child) (Dawson & Berry 2002).

These elements are echoed in other preconditions for successful service delivery to marginalised families:

- A quality relationship between the parent and the service provider;
- Establishing shared decision-making;
- Cultural awareness and sensitivity;
- Non-stigmatising interventions;
- Minimising the practical or structural barriers; and
- Providing crisis help prior to other intervention aims (Barnes 2006).

The role of the caseworker is not that of gatekeeper—sending the family to a range of specialist services. Their role is to act as a lynchpin—helping the parents to integrate educational and therapeutic elements into the practice of their daily lives.
and parenting. Dawson and Berry identified the following key elements of success for such intensive casework support services:

- Home visiting;
- Fast response to referral (two days or less);
- Skill building over theoretical insight;
- Cooperative relationship between caseworker and client (caseworker willing to spend time with and help the family, supportive and non-punitive, listened and encouraged);
- Choices for parents (parents remained in control); and
- Contracts (committing the service delivery to deliver) (Dawson & Berry 2002).

A consistent theme in the literature is the need for this type of service to be time limited and delivered with the express purpose of changing, for the better, the functioning of the family. If, despite the intervention, the child’s environment is not improved, then alternative care must be considered. Therefore, caseworkers require collaborative evaluative tools that can measure process (changes in behaviour) and outcomes (effect of behaviour change on health and quality of life) over a number of domains, such as the home, community relationships, supervision and parenting.

The relationship between provider and recipient as an element of casework is rarely mentioned in the literature, possibly because of the problems of measuring its attributes. However, it is a significant topic in counselling and psychology literature. There are assumptions made about its occurrence—Olds talks about trust and the use of nurses because they are perceived to be most trustworthy (Olds 1992; Olds et al. 2002). Stewart-Brown (2008) comments that visitor skills are as important as programme content. Schorr is clear about the role of the caseworker in making interventions successful:

“They do so by going around the system, getting their people first in line in overcrowded clinics, developing personal relationships with professional colleagues to avoid lack of responsiveness of other institutions, and by sending advocates along to make systems respond in ways it does not do in ordinary circumstances. They take advantage of whatever opportunities they find to manoeuvre between and around existing barriers Schorr” (1998, p. 11)
In the literature, the quality of the relationship is implied in the use of words such as ‘engagement’, ‘strengths-based’, ‘partnership’ and ‘collaboration’. However, in the service literature, these words are rarely offered a working definition. Four levels of social support have been identified:

- Emotional—supports the intrinsic value of the recipient;
- Informational—defines, understands and helps cope with problems;
- Companionship—improves mood; and

The absence of a positive working relationship is noted as a major component of intervention failure. Caseworker attrition, in some instances, was worse than client attrition rates (Dawson & Berry 2002). Much of the service literature uses the word ‘support’, or the phrase ‘a supportive relationship’, instead of casework. As with casework, support is not an intervention in itself. Despite this, support is often a subject of evaluation (To what extent did service recipients feel supported?), which is meaningless because it does not reflect change in behaviour. This is unfortunate because casework and support can lead to behaviour and attitude change that is measurable.

### 7.6 Therapeutic relationships

There is a large amount of literature from psychology, psychoanalysis and counselling, including drug and alcohol counselling, about the therapeutic relationship between service provider and client. There are insight-based approaches involving introspection and interpretation that tend to perceive the clients’ experience of the therapeutic relationship as an echo of their original attachment experience (Smith et al. 2010; Hughes and Kerr 2000). In these therapeutic relationships, it is assumed that insight will lead to changes in thinking, which will subsequently lead to changes in feeling, and then behaviour. There are alliances between—for example—the social worker and client, with the express purpose of improving parenting behaviour. Some small qualitative studies indicated that the key elements of the relationship concern sensitivity, honesty, straightforwardness, listening and accurate understanding (Platt 2008). In these therapeutic relationships, it is assumed that changes in feeling will lead to changes in thinking, then in behaviour.

Brief strategic therapy—the first of the constructivist therapies that includes solution-focused and narrative therapy—has a new take on the therapeutic relationship. It
places the client as the expert and the person with the solutions. In brief strategic therapy, the counsellor facilitates a four-part process by which the client’s goals can be realised. This process follows these steps:

1) Define the problem—define who, what, where, how and how often (but not why) to find the interactional patterns that support the problem;

2) Explore potential solutions—explore previous solutions and any exceptions, and visualise life without the problem;

3) Try something new—how will the interactional pattern change if the problem is gone? What will we do instead?

4) Measure the outcome (Watzlawick et al. 1974; Szapocznik & Williams 2000).

Brief strategic therapy seeks to change behaviour, which is assumed to lead to a change in feeling. Insight is considered irrelevant. Both Parent Support and the strategy described in the next section of this thesis use the change processes described in brief strategic therapy.

Some studies have explored the significance of the therapeutic relationship. A meta-analysis of 24 studies characterised by high design standards, experienced clinicians, and clinically valid settings found that the working alliance was a relatively robust variable linking therapy process to outcomes. The relationship and outcomes did not appear to be a function of the type of therapy practiced, or the length of treatment (Horvath & Symonds 1991). A larger meta-analysis considered over 100 studies concerning the therapeutic relationship and psychotherapy outcome. This focused on four areas that influenced client outcome, and attributed percentages of the contribution to outcomes:

• 40% was located in the client and extra-therapeutic factors (such as ego strength and social support);

• 30% was located in the therapeutic relationship (such as empathy, warmth and encouragement of risk-taking);

• 15% came from expectancy and placebo effects; and

• 15% came from techniques unique to specific therapies (Lambert & Barley 2001).

It is worth noting that these studies were conducted on therapeutic relationships in contexts that were office-based and on clients who paid fees. People in the hard-to-reach cohort tend not to attend appointments at private clinics, and have limited ego strength and social support. The use of a clinical framework—particularly if it
demands a level of competency and accountability from the caseworker—may have greater significance for this cohort.

7.7 Programmes targeted towards Aboriginal parents

In 2007, the WA Aboriginal Child Health Survey concluded that child development programmes tended to start too late in a child’s development, and were too light to have a sustainable effect (WAACH Survey 2007). Since then, several Indigenous-specific parenting programmes have been developed, including two in WA: the Indigenous Parenting and Children’s Program, run by Ngala; and Too Solid, developed by the Institute for Child Health. Parent Support has developed Aboriginal-specific elements and sites, in which 95% of staff and clients are Aboriginal. These are delivering outcomes that compare favourably with those from non-Indigenous sites.

7.8 Key findings

- Interventions targeted towards the hard-to-reach can be effective in generating measurable positive change across a number of measures.
- Key elements of success include the following:
  - An operationalised and flexible programme;
  - Programme coherence;
  - A grounding in theory;
  - A context that is targeted and tailored;
  - Measurable outcomes;
  - Real outcomes.
- These elements have been demonstrably effective in the programmes delivering the research strategy, particularly in Parent Support.
Part Two

The strategy design, implementation and how its effect will be explored

Introduction

The previous section of the thesis was an analysis of the literature concerning the concepts and the people in the title of the project. In this section, that analysis is used to design an appropriate strategy and implement this under research conditions. The first section considers how the literature analysis informed the need for the strategy, and the construction and application of the strategy. From this, rationales and practice principles are devolved. The second section describes each stage of the strategy, with accompanying rationales. A copy of the strategy is included. The third chapter shows how the strategy was explored and gives a detailed account of the methods used and the reasons for their use. It also shows how the methods were challenged, and how they evolved to meet the exigencies of the findings in the literature analysis. A combination of qualitative and quantitative methods is used.
Chapter 1: How the literature analysis informed the strategy

1.1 Introduction

This chapter provides an overview of how each topic in the literature analysis contributes to the need for, construction and application of the strategy. The theories are then distilled into a series of rationales that are used as guidelines for the construction of the strategy.

1.2 Access pathways in the hard to reach cohort

Regardless of what words are used to describe people in this cohort; hard to reach, socially excluded, the poor and marginalised, as the literature review indicated, one defining feature is that they do not heed health messages, they do not attend universal services and consequently persist in behaviours that incur adverse health and welfare outcomes. The literature review also indicated there are two issues faced by health and family service deliverers seeking to change parenting (including smoking) behaviour in this cohort - access and engagement. For example smoking interventions specifically targeted to mothers in this cohort cite reasons for the lack of success as:

- Barriers of access, transport to cessation services; lack of time and lack of childcare (Baxter et al 2009); and
- Problems with model of intervention – the intervention itself cannot change the risk factors that contribute to smoking nor overturn behaviours ingrained over generations. (Lumley et al 2009).

What this seems to be saying is: You can run a smoking program but you can’t make smokers come; You cannot rid them of the factors that keep them out of the population cohorts that are responsive to smoking interventions. The response suggested concerns flexible home visits and intensive multisession treatment delivered by well-trained staff, which is above and beyond the scope of tobacco educationalists (Orleans et al. 2000; Lee 2006; Lumley et al. 2009; Tappin et al. 2005).

Child protection legislation at gives related service deliverers greater opportunities of access to people in the hard to reach cohort. Parents can be mandated and legitimately coerced into attending services that are designed to improve their
parenting. This is not something that is available to those delivering smoking related interventions. As the section concerning efforts to enhance parenting behaviour indicates the provision of services as they overlap with child protection becomes fraught with dilemmas concerning the appropriateness of collaborative or forensic approaches. As discussed in Chapter One the key elements of successful access and engagement interventions are identified in the literature are summarised as:

- Operationalized and flexible;
- Having program coherence;
- Grounded in theory;
- Targeted and tailored to context; and
- Having embedded mechanisms for measuring outcomes.

These elements underpin the programs under Responsible Parenting Services from which the participants are recruited.

Access to these programs can be mandated by a court under a Responsible parenting Order, coerced by Departments of Education, Justice or Child Protection under a Responsible Parenting Agreement under the auspices of (WA state legislation) The Parental Support and Responsibility Act 2008 or by a referral from such or other nominated organisations because the parent agrees to attend. The literature indicates no smoking intervention has been delivered to this cohort using pathways established by child protection services.

As the outcomes for Parent Support indicate such pathways are not always successful however a substantial proportion enter into a relationship with a service deliverer that leads to positive outcomes for the child, the parents and for the quality of parenting.

1.3 Engagement

The literature identifies key elements of successful programs that do enable parents to change the risk factors that contribute to behaviours that incur adverse health and welfare outcomes and do enable parents to overturn behaviours ingrained over generations. This best achieved through:
• A time limited, multi-layered intervention containing relational, educational, therapeutic and some tailored components;
• Delivered in a trusted relationship via casework which involves home visiting in the context of a tailored programme; and
• Paying attention to the needs of the child, the quality of the child’s environment and problems experienced by the parent that are not directly related to parenting, but have an effect on the capacity to parent.

The clinical frameworks developed for Responsible Parenting Services uses these elements.

As the literature indicates progressive entry into family complexity and the integration of specialist support are ways in which the problems of intrusive assessments and scattergun referrals are overcome. Thus in Parent Support a number of parents with addictions and/or with significant mental health problems including those with a legacy of adverse childhood experiences were enabled to, often for the first time, identify and articulate their problems and access specialist mainstream services. The availability of a tailored a smoking intervention when the parent identified smoking as problem behaviour is entirely new in this context.

For such an intervention to be effective it needs to have ‘program coherence’ it needs to be delivered using the same principles as the program through which the intervention is delivered. For example, in essence the program gives the parent the message – we (the authority invested in Child Protection Services) don’t want to take your children away but we do want to help you reduce the harm to your children from some of your personal and parenting behaviours. A smoking intervention needs to echo this - we (the authority) have no right to tell you what do about your smoking but we do want to help you reduce some of the harm to you and your children from your current smoking behaviour.
Chapter 2: The construction of the strategy

2.1 Introduction

The construction of the strategy and the context of its application are described in terms of how it is derived from the best practice that is recommended in the literature. The strategy is then examined in the light of best practice recommendations for a harm reduction intervention.

There are three parts to the process of constructing a strategy: the strategy, the relationships involved in delivery and the vehicle by which the strategy is provided (see Figure 13).

![Diagram showing the strategy in context]

2.2 The strategy

Perhaps the most effective process for change-based intervention of this nature is that first described by the Mental Research Institute as ‘brief strategic therapy’. As described in the previous section, the process stages are to:

1) Define the problem—define who, what, where, how and how often (but not why) to find the interactional patterns that support the problem;

2) Explore potential solutions—explore previous solutions and any exceptions, and visualise life without the problem;

3) Try something new—how will the interactional pattern change if the problem is gone? What will we do instead?

4) Measure the outcome (Watzlawick et al. 1974; Szapocznik & Williams 2000).

Therefore, the strategy has four stages, each of which are discussed in the following sections.
**The first stage**

Problem definition in this context is not smoking in itself—smoking is regarded as a solution behaviour. The problem concerns barriers to effective self-control around smoking. The strategy deliverer explores whether the participant has any of the risk factors that may contribute to persistent smoking,

1. Did your mother smoke while she was pregnant with you?
2. Did people smoke in the home in which you grew up?
3. Did you have a stressful childhood?
4. Are you an Aboriginal person?
   a. Or have you come from a country with few smoking regulations?
5. Do you have a mental illness?
6. Do you have a mental health problem?
7. Are you taking medication for a mental illness or mental health problem, or are you taking any other medication?
8. Have you ever been in state care, lived in an institution or custodial care, or been homeless?
9. Have you ever been addicted to alcohol or another drug?
10. Have you either never tried to stop smoking, or tried to stop many times without lasting success?
11. Do most of the people you know smoke?
12. Are you currently in a stressful situation? (See Appendix 1).

For each ‘yes’ response, the participant is asked if they would like to hear what contributes to the special relationship. An information package is included in the strategy, which contains all the information—expressed in plain English—required to explain why this factor may contribute to their continued smoking, and what they may need to consider if they decide to change their smoking behaviour.

The primary benefit of this stage is to raise consciousness. Reaching for a cigarette is possibly the least conscious daily act. Many participants had been able to ignore a lifetime of relentless anti-smoking messages. Questions 1 and 2 are designed to help assuage assumptions about current smoking being an indicator of personal failure, while, at the same time, challenging the exposure of their children to environmental tobacco smoke. Questions 3 and 8 create opportunities to acknowledge the possibility of complex post-traumatic stress disorder resulting from childhood, and the role of nicotine in regulating affect. Question 4 also helps to introduce the role of smoking in managing symptoms of post-traumatic stress resulting from critical
incidences. Questions 5, 6 and 7 raise and help explain the role of nicotine in the self-management of psychiatric symptoms. Question 9 is designed to raise the possibility of a concurrent addiction. Questions 10, 11 and 12 explore current stress levels, attitudes to smoking and the role of smoking in mediating difficult relationships.

The secondary benefit of this stage is that it challenges current beliefs about the capacity to change. When the strategy was delivered, many participants immediately expressed relief, commenting that they had believed their continued smoking was due to them being weak willed or stupid—a belief that was reiterated each time they saw an anti-smoking advertisement.

**The second stage**

Using information provided in response to Question 12, beliefs about smoking are explored. The participant is encouraged to see smoking as a behaviour distinct from the effects of nicotine, and to deal with the two as different, each requiring a separate decision and set of goals.

Depending on what is known about the participant, the strategy deliverer frames a constructivist question about how the participant visualises themself in the future. For example, ‘In five years’ time, your children will be going their own way, and you will have more time and energy to give to yourself. How you imagine yourself? What will you be doing? Are you a smoker in five years’ time?’

The deliverer needs to take time to listen and to prompt the participant to expand their ideas. If the ideas are entirely and persistently negative, this may indicate depression, and the deliverer needs to raise the possibility of the participant seeing a doctor or psychologist.

Once the deliverer has an understanding of the participant’s situation, the participant is asked to consider all the options they have about future smoking as two different goals—nicotine and smoking—each with immediate and medium-term goals. The choices offered are to:

- Do nothing;
- Protect themself and their children from environmental tobacco smoke;
- Take charge of their smoking;
• Definitely want to smoke less;
• Stop smoking, but rethink giving up nicotine later;
• Stop smoking and stop using nicotine.

The participant is asked to consider an end time for the achievement of goals, and to think of ways in which they will reward themself. The information package contains all the information—expressed in plain English—that the participant may need to support putting this plan into action. Some of this information concerns the use of nicotine replacement products, and some concerns strategies for dissuading others from smoking in the home. It also includes a recommendation that the participant consult their general practitioner to have regular symptom checks and/or medication reviews, if they answered ‘yes’ to Questions 6, 7 or 8 in the first stage, and if their plan involves a change in the amount or method of ingestion of nicotine or a reduction in smoking.

The primary benefit of this section is to give the participant an opportunity to rethink themself and their smoking in a context that is free from any negative ideas about change. Many people in the hard-to-reach subgroup are not used to thinking for the long term—they do not have savings plans, superannuation or mortgages. The researcher has often considered that the greater the struggle for day-to-day existence, the less the long term is considered. For some participants, thinking about the longer term is liberating—it brings awareness that, at some point, the negative aspects of their life will have ended. The secondary benefit of this stage is that it divides the task of change into a number of smaller, manageable and potentially accumulative steps, each with their own reward.

The third stage
In this stage, as the participant begins to action their goal, the multiple meanings of smoking are explored as they arise, or pre-emptively if they are perceived to be a possible barrier to successful implementation of the plan. The participant is encouraged to develop new responses and learn new skills in managing the gaps left by nicotine and/or smoking. These may include the intuitive use of smoked nicotine to relieve troubling symptoms; the expressive use of smoking to convey nuances of emotion; and the interactive use of cigarettes to bond, convey friendship, mark rituals, and withhold and modify behaviour. Tools are included to help the participant record their daily smoking and to monitor their mood over time.
It is important that the participant identifies people who may support or sabotage their efforts. This is done by asking the participant: ‘If you were to be successful in achieving your goal, who would be most pleased? Who would be most annoyed? Who would be least interested?’ The latter question helps identify people who may inadvertently sabotage the attempt, such as a companion smoker who may have to smoke alone if the participant stops.

The benefit of this stage is that it supports the participant to implement their plan. It identifies what participants may need to learn and practice to develop new solutions to the problems for which nicotine and/or smoking was previously used. It helps the participant identify their genuine supporters and the people who may sabotage them.

**The fourth stage**

This stage is introduced at the planning stage through questions such as: ‘If you succeed, how will you reward yourself?’ Or: ‘What will you do with all the money you save?’ This is revisited in the third stage, and the participant should be persistently reminded to frequently celebrate small success.

### 2.3 Relationships

There are a number of relationships to be considered, including the relationship between the strategy deliverer and the participant, and the relationship of the strategy to the vehicle of delivery, which, to some extent, is context-driven.

**Relationship between the strategy deliverer and the participant**

The literature review gives recommendations for best practice regarding the nature and dynamics of the relationship between the service provider and the recipient. The ways in which these are applied in the context of this strategy are:

1. Home visiting;
2. Offering to deliver the strategy in a way that is most helpful to the participant—offering choices about whether they would prefer to receive the strategy at home, on the telephone or at mutually convenient location, such as a coffee shop;
3. Responding quickly to referral (two days or less);
4. Contacting the participant as soon as possible after they have signalled an interest in receiving the strategy;
5. Skill building over theoretical insight;
6) Providing information to develop skills to support behaviour change. The strategy does not provide information in the hope that it will lead to insight, which will then change behaviour. In the first and third stages, there is an emphasis on preparing for change. This includes predicting what may emerge—for example, how relationships may be challenged, or if symptoms of anxiety will result from withdrawal of nicotine or a reduction in cigarette smoking. The participant is supported to access appropriate services;

7) Ensuring a cooperative relationship between the caseworker and client;

8) The strategy deliverer avoiding taking the position of expert, and instead regarding the participant as the expert about in own lives and in their smoking. To support this, the strategy deliverer takes the curious stance, enquiring gently and sensitively about the participant and drawing out their expertise and their ideas about their future. The deliverer is a conduit for new information about nicotine and smoking, but their primary role is that of a facilitator of change. The strategy provider needs to be willing to listen to the participant, particularly when they discuss the stresses and difficulties for which smoking is perceived to be a relief. The deliverer needs to be supportive and encouraging;

9) Ensuring choices for parents (parents remained in control);

10) The participant is in charge throughout the process—they choose their goals and the methods they use, the time they will take and the ways in which they will celebrate their success;

11) Developing contracts. Contracts are used because they ensure a greater likelihood that the deliverer will do as they say. Contracts help the recipient have faith in the provider. In this context, the strategy deliverer must honour all agreements made with the participant. This includes arriving to meetings on time, and accepting if the participant needs to withdraw. The contract in this context is the agreement and the consent to provide the strategy.

**Relationship of strategy to the vehicle of delivery**

This strategy is delivered through Parent Support—a major provider of parenting services to families in the hard-to-reach population in WA. As described earlier the service meets all the recommendations for best practice for successful programmes targeted to the hard-to-reach, which are listed below. Likewise this strategy:

1) Is operationalised and flexible. The strategy is manualised, but it is not a script—it is designed to enable a relationship between the deliverer and the participant to emerge and to focus on mutually agreed areas of concern;
2) Has programme coherence. The same principles that underpin the clinical framework of Parent Support also underpin this strategy:

- It is strengths-based in that it focuses on solutions, rather than exploring problems and possible reasons for problems;
- It is delivered in the context of a collaborative relationship, with agreed goals, roles and responsibilities;
- There is transparency of process—the participant has copies of all notes and documentation. Information sharing is only undertaken with informed consent and only when it supports participants’ goals;
- Using the underpinning principles and processes, the strategy can be reinvented in different cultural contexts;
- The strategy is designed to include people with special needs, including those with significant burdens, such as mental illness or disability. When specialist assistance is required, it is incorporated into the process;

3) Is grounded in theory. As indicated in Chapter 9, Part 2, evidence of best practice are used;

4) Is targeted and tailored to context. Just as the Family Functioning Profile (a collaborative assessment tool used in Parent Support) was successfully developed in situ for the Kimberley using the same process, the strategy could also be developed for use in other areas, and for individual and group application;

5) Has an inbuilt capacity to measure outcomes. The strategy has two measures—pre and post frequency of smoking by the participant and pre and post exposure of children to environmental tobacco smoke.

2.4 Vehicle of delivery

This strategy could be located within a variety of services targeting parents in the hard-to-reach population subset. Providers could include specific drug and alcohol services or services designed to enhance parenting. Providers could also include supported housing services or a telephone service, such as the Alcohol and Drug Information Service. The strategy could also be delivered from a discrete unit within a government department, and accessed free on demand by government programmes or community-based organisations.
Wherever or however the strategy is provided, the following factors must be in place to preserve its integrity:

- The strategy deliverer must be suitably qualified with tertiary level qualifications in human services, and must be trained to deliver the strategy;
- The deliverer must have access to appropriate supervision and support;
- The strategy must be tailored to context, without loss of principles or process;
- Strategy delivery, participant involvement or participant outcome must not be contingent in the provision of service by the vehicle of delivery;
- Personal information generated by the provision of the strategy belongs to the participant and cannot be shared without the informed consent of the participant, and only if it supports the participant’s goals;
- The vehicle of provision must have effective ways of identifying and responding to child abuse and neglect. The strategy deliverer must have a working knowledge of the protocol and must act accordingly if concerned about the children of the participant.

2.5 Best practice in harm reduction

The strategy needs to adhere to the recommendations about best practice in harm reduction explored in Chapter 5, Part 2. These are explained in the following sections.

1. The strategy must be underpinned by theory about how it may reduce harm

While there may be some benefits to some people from the effects of nicotine, the evidence is irrefutable that there is no benefit to be derived from smoking a cigarette, cigar or pipe. Exposure to environmental tobacco smoke also causes harm. There is a dose-response relationship—the greater the frequency and the longer duration of smoking, the greater the likelihood of contracting and dying from a harm-related disease. Adverse outcomes can be seen from as low as four cigarettes per day; however, there is no safe level of smoking. The risk of contracting the majority of smoking-related diseases begins to drop upon cessation, and continues to fall throughout abstinence (US DHHS 2008). Therefore, any reduction in smoking is a reduction in harm from smoking. This strategy is designed to support smokers to smoke less and to smoke in places that reduce their own, and others’ exposure to environmental tobacco smoke.
2. The strategy must demonstrate an effect on the prevalence of the behaviour it is seeking to change

This study is too small to effect a change in the prevalence of smoking in the hard-to-reach population. However, it seeks to affect the number of cigarettes smoked by the participant, and the number of cigarettes smoked in the home of the participant, which exposes children in their care to environmental tobacco smoke. The effect of the strategy can be demonstrated by pre and post measurements of the numbers of cigarettes smoked by the participant. If the strategy is successful, there will be a reduction in the number of cigarettes smoked in the second measurement. The reduction may be total if the participant has stopped smoking. However, if there is only a reduction, it is likely to contribute to a greater reduction later on. A recent study concluded that smokers who were able to decrease the number of cigarettes smoked per day by at least 25% were more likely to quit later (Broms et al. 2008).

3. The strategy must demonstrate an effect on others

Those most affected by participant smoking are children who live in, or stay frequently, at the participant’s home. There are two effects: immediate and obvious, and long-term and insidious. As indicated in Chapter 8, Part 2, children who live with smoking parents breathe in environmental tobacco smoke and are damaged by it. Children who live with smoking parents are more likely to become smokers because they absorb nicotine from environmental tobacco and they perceive smoking as normal.

Goals for participants include:

- Protecting children from tobacco smoke by no longer smoking in the family home and by preventing others from smoking in the family home. If the participant selects this goal and is successful, then the children in the home will no longer be affected by environmental tobacco smoke;
- Ceasing to smoke. If the participant selects this goal and is successful, their children’s odds of daily smoking are reduced (Bricker et al. 2005);
- Reducing smoking. If this is selected and the participant is successful, the likelihood of them ceasing to smoke is increased (Broms et al. 2008) and the likelihood of their children taking up smoking in adulthood is reduced (Bricker et al. 2005).
4. The strategy must ensure that no aspects of the intervention convey a symbolic approval of the undesired behaviour

Participants have resisted a lifetime of relentless anti-smoking messages. This strategy is careful not to use words and concepts that are associated with failure. The word 'quit' is never used—instead, the participant is invited to consider changing or taking charge of their smoking. This strategy does not condone smoking. At the front of the package provided to the participant is a notice that smoking is harmful, that abstinence is the best option and that this strategy is designed for those who do not want or cannot attain abstinence. Detailed information on the harm smoking causes to smokers and to those exposed to environmental smoke, particularly children, is included in the booklet. This approach focuses on dismantling the attitudinal and practical barriers to change in smoking-related behaviours, which, for the targeted population subgroup, is more likely to be effective in reducing smoking.

5. The strategy must be able to predict potential threats—why it may fail to reduce harm

There are two ways in which this strategy may fail to reduce harm. The first is that the participant may choose not to make changes to their smoking. The second is that they make changes that result in harm because they have a condition and/or take medication for a condition that is adversely affected by a reduction in smoking or in nicotine.

Doing nothing to change smoking behaviour is the first of a number of options listed in stage two. There a number of reasons for articulating a no-change option. Firstly, by placing this statement as the first option, the participant must consider it consciously as a valid choice. Those who do not choose this option have recognised it as the option that they were previously unconsciously accepting. For those who choose this option, at least it is a conscious choice. However, it becomes difficult to continue to do something consciously that one has previously done unconsciously. The recommendation of no change or that of making the unconscious conscious is recognised as a powerful precursor to change in the brief strategic discourse (Watzlawick et al. 1978; Szapocznik & Williams 2000).

In the first stage of the strategy, participants are asked directly if they have a mental illness, a mental health condition and if they are on medications. If so, they are advised to consult their attending physician prior to and while changing smoking behaviour or nicotine intake. All subsequent stages reiterate this message.
It is possible that the participant has an undiagnosed mental health condition. In stage two, the participant is asked to visualise their future. The deliverer takes time to listen and to prompt the participant to expand their ideas. If the ideas are entirely and persistently negative, the strategy deliverer needs to raise the possibility of the participant seeing a doctor or psychologist. There is no reason to suggest that this strategy, when applied, may lead to an increase in smoking or to the induction of new smokers.

2.6 Summary

• This strategy is grounded in a number of relevant and trusted theories.
• This strategy is designed in accordance with recommendations distilled from the evidence for best practice for the target group.
• This strategy is designed in accordance with recommendations distilled from the evidence for best practice for harm reduction.
• This strategy is likely to be successful.
• This strategy is very unlikely to cause harm.
Chapter 3: Method

3.1 Introduction

This chapter provides an overview of the research methods used in this study. The evolution of the investigation is described, and the research design and justification for the design are presented. The research question, which guides the study, as well as the specific objectives and hypotheses, are described. The inclusion and exclusion criteria used to guide recruitment are described. The questionnaires used in the study and the data analyses used for the quantitative and qualitative components are presented. Strategies used to address ethical issues are also described.

3.2 Evolution of the research

The research process took four years, with the researcher continuing to work full time until the final year. Some changes to the design of the research were made in response to issues arising from the analysis of the literature. The research changed from a prospective to exploratory study, and the number of participants changed from 150 to 20. However, there was no change in the research question, the hypotheses or the objectives. The reasons for the changes are detailed below.

In the original design, it was proposed that, ‘The design strategy is non-experimental in nature and could optimally be described as a prospective study’. A prospective study follows a cohort of similar individuals over a period. These individuals are differentiated in terms of their response to certain factors or events. Typically, it is the measurement of the response of individuals in the cohort to those factors or that event that is the subject of the study (Burns 1998). A prospective study is generally undertaken to confirm a hypothesis, which is founded on an existing body of research. At the commencement of this research, the researcher assumed that there would be a body of existing work on behavioural harm reduction approaches for tobacco smoking, as there were for all other drugs, and that components of harm reduction approaches, such as pharmaceutical products and counselling, were effective. The researcher also assumed that, given that the correlation between smoking and poverty has been known since the late 1980s, there would be a body of existing work on efforts to treat people in the hard-to-reach cohort. Thus, the
The proposed research would have consolidated existing harm reduction approaches in a particular model directed at the hard-to-reach cohort.

However, as the literature review proceeded, it became clear that not only had few behavioural harm reduction methods for tobacco been explored since the very few in the mid-1980s, but behavioural harm reduction, as a concept, seemed to have little place in a discourse that was focused on control and prevention. It was also found that components of harm reduction approaches, such as pharmaceutical products and counselling, had a limited effect when used for tobacco cessation.

The researcher considered that an exploratory study was a more appropriate research response, as little was known about behavioural harm reduction approaches to tobacco smoking and little was understood about the enhanced smoking rates of people in the hard-to-reach cohort. As an exploratory study, greater emphasis could be placed on the preliminary work to gain familiarity with the various aspects of the subject: tobacco smoking as a facet of human behaviour, nicotine as a drug of addiction, harm reduction, parents in the hard-to-reach population, and enhanced smoking rates in population subsets. Greater consideration needed to be afforded to the formulation of the strategy. The strategy needed to be informed by current thinking on harm reduction in the broader alcohol and other drug fields, and by best-practice principles from secondary services that are typically targeted at parents in the hard-to-reach cohort.

As a prospective study, it was initially intended that the research would take pre and post measurements of a cohort of 150 smokers, half of whom received the strategy and half of whom did not. Following this, the differences in smoking rates would be examined. Instead, as an exploratory study, this research analysed the literature about smoking among all groups known to have enhanced smoking rates, and all aspects of nicotine, as well as considering the effectiveness of all interventions to change smoking-related behaviour in the general population and parenting behaviour in the cohort. The strategy was delivered to 20 participants, most of whom provided a commentary on its effect. Additionally, the experience of caseworkers recruited to provide the strategy was used to further inform the effect of the strategy.

There was no change in the recruitment base. Participants were recruited from the client basis of a programme delivering parenting enhancement services to parents in
the hard-to-reach cohort. There were changes to the recruitment process. It had been intended that, from the commencement of the research, every parent or caregiver in the programme who lived in the metro area and who smoked would be approached to participate in the research. Adding a ‘recruitment spiel’ to the first stage protocol of casework was quickly found to be inappropriate. For many clients, the early relationship-building phase was vital to establishing trust. Caseworkers felt that deviating to talk about smoking was intrusive and could contribute to a rejection of the service. Instead, parents who smoked were offered an opportunity to participate only once a working relationship had been established.

These changes had an effect on the data generated by the research. In the original design, it was proposed that, ‘The design strategy uses qualitative data to compliment and flesh out quantitative data, the predominant paradigm is quantitative’. However fewer participants meant less quantitative data and a greater range of qualitative data was generated, both methods were retained.

3.3 The research question

The research question was: To what extent does a tobacco-related harm reduction strategy change the smoking behaviour in parents in a hard-to-reach population cohort?

3.4 Hypotheses

This study is designed to identify and articulate the important biological, personal, social and political factors that contribute to a successful tobacco-related harm reduction strategy. The relational threads between the participants, the intervention and harm reduction is articulated by these hypotheses:

a) Participants will be found to have existing (or unrecognised) physiological, and/or psychological relationships to nicotine and to smoking, which makes their dependence on tobacco smoking complex;

b) Participants may be in relationships where mutual smoking is significant or the provision of cigarettes is a symbol of loyalty, intimacy or control. This may complicate a reduction or cessation of smoking by one party.

c) The majority would prefer to have greater control over their smoking;
d) A strategy that responds to exigencies of the previous hypotheses and which is delivered in accordance with the elements of best practice for this cohort will be successful in reducing exposure to harm from tobacco smoke.

3.5 Objectives

1. To identify factors that contribute to, or mitigate against, changes in tobacco smoking in parents in a hard-to-reach population cohort;
2. To use principles of best practice to design a tobacco-related harm reduction strategy for parents in the hard-to-reach cohort;
3. To apply the strategy under research conditions;
4. To explore the effect of the strategy using specific research methods; and
5. To identify opportunities for the delivery of a tobacco-related harm reduction strategy for parents of the hard-to-reach.

The objectives are achieved through:

• Comparisons of participants’ smoking frequency and measurements of smoking frequency inside the family home, taken before the strategy was provided and six months later;
• Comparisons of measurements of any changes in participants’ attitudes to health-related behaviour, taken before the strategy was provided and six months later;
• Comparisons of data sets;
• An analysis of the role of the 4S Strategy in supporting changes in smoking behaviour. This analysis draws on the participants’ responses to the questions in the strategy; and
• An analysis of the role of service providers and the context of their work as it affected the delivery of the strategy. This analysis draws on their experience.

3.6 Justification for the research design

Quantitative methods
One of the National Academies in the USA, the Institute of Medicine reviewing and analysing all the literature on the subject indicated that harm reduction in the context of tobacco control has a very specific meaning. To be deemed successful, it must reduce mortality and morbidity (Stratton et al. 2001). Such measurements are
beyond the range of this study. However, harm reduction can also be deemed effective if it involves changes in behaviour that result in a reduction in exposure to tobacco smoke. This is because such changes can potentially reduce mortality and morbidity (Cinciripini et al. 1995; 1997; Stratton et al. 2001; West et al. 2005).

There are two forms of tobacco smoke—that which is directly ingested into the lungs as a result of drawing on a cigarette, cigar or pipe; and environmental tobacco smoke, which collects in the air around a person who is smoking. Environmental tobacco smoke can be very concentrated in a confined area. As the literature review indicates, environmental tobacco smoke can actually be more harmful because fewer chemicals have been burnt off through the act of drawing on the cigarette. Therefore, any reduction in environmental tobacco smoke also constitutes a reduction in the harm for those exposed, whether they are smokers or not.

The most direct method of exploring the effectiveness of a harm reduction strategy for tobacco smoking is to take measurements of the frequency of cigarette smoking before and after the intervention, and compare these measurements. The most direct method of exploring the secondary impact of a harm reduction strategy on children of smokers is to take measurements of the frequency of cigarette smoking in the home before and after the intervention, and compare these measurements.

There is controversy about the criteria for measuring the effectiveness of smoking cessation trials (West et al. 2005). This controversy concerns the method by which changes in smoking behaviour should be judged (self-report or biochemical markers) and the number of days of abstinence (six months, one year or two years).

**Self-report or biochemical markers?**

Self-report relies on the participant’s word about whether they have been smoking whereas the use of biochemical markers measures chemical residues of smoking in the body. This is typically done by measuring levels of cotinine in blood, saliva or urine or the level of carbon (CO) in expired breath. Whether biochemical markers should be used to validate self-report of changes in smoking behaviour was a significant question in the development of this study.

Almost all studies in the published literature indicate the accuracy of self-report is high (Benowitz 2002; Martinez et al 2004) however one study found the rate of
misreporting for self-reported never smokers was high; 19.8% of self-reported never smokers were classified as smokers based on cotinine levels (Martinez et al. 2004). Reasons for the high rate of discrepancy in this context were not understood however the following factors were suggested:

- This was a particular population taking part in a chemo-prevention study not a smoking cessation program thus sensitivity to the social stigma associated with smoking might have resulted in a high degree of underreporting among current smokers; and

- Blood cotinine levels were used as a biochemical marker which could not discriminate between nicotine absorbed from smoking, the from environmental tobacco smoke or from the use of nicotine replacement products (Martinez et al. 2004).

Other studies have found self-reporting to be a valuable contribution, as is demonstrated by a major study—conducted by the Department of Psychiatry, Treatment Research Center at the University of Pennsylvania School of Medicine—on the detection of smoking following smoking cessation treatment. This study found that carbon monoxide measurements indicated that only 2% of those reporting abstinence were found to be smoking, and measurements of urinary cotinine indicated that only 7% reporting abstinence were found to be smoking (Gariti et al. 2001). Another study assessing smoking status in disadvantaged populations found computer administered self-report to be an accurate and acceptable measure (Bryant et al, 2011).

A major review of biochemical verification of tobacco use and cessation (Benowitz 2002). indicated that:

- ‘In most settings, biochemical verification provides additional assurance that the participant’s self-reports are accurate’ (Benowitz 2002 pp157). Biochemical verification is perhaps most useful in confirming a non-smoking status;

- There are some problems with using biochemical markers to determine the severity of an addiction. Those described in the review were used to determine appropriate levels of a nicotine replacement product;

- The use of biochemical verification can have an impact on treatment effect however this difference was most marked in studies on pregnant women;

- Biochemical validation is not always necessary;
• The levels of self-report misrepresentation are low; and
• ‘Although the addiction is to smoking nicotine, the use of nicotine replacement products is typically part of an effective treatment regime and cotinine levels do not distinguish between nicotine derived by smoking and that derived by other sources. Alternative methods of validation such as employing multiple items to verify smoking status are likely to produce accurate estimates...’ (Benowitz 2002 pp156).

When Benowitz’s findings are considered the implications for the strategy in this study are:
• The strategy in this study only recruits smokers and is not concerned with abstinence;
• Other ways of determining the level of nicotine needed in a replacement are available to the participants in this study. These include a conversation with the prescribing physician, the advising pharmacist or even by reading the advice on the product package. These were relied upon because are available, accessible and offer greater participant involvement in the course of their treatment; and
• The strategy in this study excludes pregnant women.

This review did however recommend the use of biochemical markers in harm reduction studies consequently a variety of methods were considered for the strategy in this study.

Tests for salivary and urinary cotinine
Tests for salivary and urinary cotinine present numerous biopsychosocial problems with this study population:
• Trust is difficult to obtain and maintain: Most parents on this program were either mandated or coerced and, as indicated in the results, fear involvement with child protection services. In Western Australia and other jurisdictions the use of biochemical markers is strongly associated with policing for example breath and saliva tests are used to detect drivers under the influence, the Department for Child Protection and the Drug Court often demands urine and blood samples to prove abstinence from drugs; and
• They are intrusive and can only measure expressed nicotine levels for several hours and up to two days, respectively and (Murray et al. 1993); and
They do not distinguish between smoked nicotine and that absorbed via nicotine replacement products.

The use of a device for measuring expired carbon monoxide (CO) in the breath of participants was also considered and a different set of problems was encountered:

- CO tests require the establishment of a baseline, initial CO varies a lot between individuals, subsequent testing indicates 'mono-exponential decay' which also varies between individuals. The use of a cut off point can be described as crude and has a specificity of 94% and a sensitivity of 90% (Sandberg et al 2011);
- Although Breath CO is an indicator of recent smoking it has a half-life of only two to three hours, which limits its sensitivity (Marrone et al 2011); and
- Participants cannot always control their environment, they do not have the capacity to control the smoking of others in the home, such environmental CO sources affect the reading (Benowitz 2002).

Self-report was selected for this study because:

- The strategy developed for this study is delivered via a relationship, the need to develop and maintain trust is essential;
- The availability of other 'multiple items to verify smoking status', self-report of changes in smoking behaviour is discussed along with changes in mood and coping capacity;
- This study is not a trial—it is an exploration;
- The strategy being explored does not concern abstinence from smoking or from nicotine;
- The association of bio-chemical verification with policing in this cohort; and
- Problems associated with the accuracy of expired (CO) compared with self-report biochemical verification methods.

Perhaps the most commonly used method of measuring smoking is the Fagerstrom Test for Nicotine Dependence. Doctors and other health professionals use it to gain a sense of level of dependence. Question one concerns frequency of smoking, level of dependence is confirmed by the third question which concerns how soon after waking the first cigarette is smoked. Using smoking frequency as measure was considered the 'best fit' with the participant's understanding the measurement of smoking.
In the early stage of the strategy, participants were asked to make a daily tally of their cigarette smoking, noting the time each cigarette was smoked. This was typically done by marking a table or a picture of a clock face. If a reducing regime is used, this helps decide which cigarettes are taken out of the daily tally. Discussions with the participant after the cigarette/s had been missed indicated whether the reduction has been successfully integrated into the reduction plan. In this study, self-report is not merely about stating how many cigarettes are being smoked on a daily basis; it is also confirmed by other observed or reported behaviour changes. Pre and post measurements of the frequency of smoking and the frequency of smoking in the home have the capacity to indicate a change in smoking behaviour. This tests the capacity of the 4S Strategy to change smoking behaviour.

**How long is abstinence?**

There has been controversy about an appropriate length of time between pre- and post-testing of participants in a study. Studies conducted between the 1960s and 1980s indicated that the use of therapeutic nicotine reduced smoking. At the time there was criticism of the study methods used and the length of time between treatment and follow-up reflecting a quandary; how soon after the last cigarette was the status of ex-smoker be valid? Perhaps responding to this criticism, new studies were undertaken using gold standard methods of randomised control trials with two and four-year follow-up periods. These produced much the same results. In the late 1990s, ‘The Cochrane Tobacco Review Group and the US Department of Health and Human Services Tobacco Use and Dependence Guideline Panel … both accepted a six month period as adequate for assessing treatment differences’ (West et al. 2005, pp. 299–301).

This research project is located in a programme that offers a change-based intervention over six months, with a follow-up six-months after that. Reports were already indicating that parents on the programme—even those with addictions—were making significant positive behavioural changes within six months, and follow-up was indicating that these changes were sustained or enhanced. For this study, the length of time between measurements selected was approximately six months, with the six months commencing on the day the strategy was delivered. Six months was selected because it was a time lapse of acceptable length for researchers to measure treatment differences, and because it fitted with the project schedules through which the strategy was delivered.
It is arguably the case that changes in behaviour are more likely to be sustained if they are underpinned by changes in attitude towards that behaviour. As described in the literature review, there are differing views on the value of attitudes that underpin behaviour. There are counselling models based on the idea that insight leads to a change in attitude, which leads to a change in behaviour (for example, psychoanalytic), or that a change in behaviour leads to a change in attitude (for example, brief strategic). In the addiction field, social-psychological, social learning theory and family systems theory all rely on change in attitude as a precursor for change in behaviour. This research does not seek to reach any conclusions about this matter; however, given the strength of the connections between attitude and behaviour, it was considered valuable to collect data on both. Measurements of participants’ attitudes towards health-related behaviour were taken at the same time as frequency of smoking measurements. These were compared for confirming traits.

**Qualitative methods**

One may have the best strategy in the world, but it is useless without an effective mechanism for delivery. This project was not merely about the effectiveness of the strategy; it was a broader exploration of the strategy’s implications, both for the receivers and for those who deliver the strategy. It is these people who are the most appropriate informants.

For the strategy, recipients’ qualitative data was drawn from two sources:

- Recipients’ ‘smoking story’—that is, their personal narrative about how they came to their current position about smoking, and their hopes about their future smoking. This was compiled from notes taken during the delivery of the strategy; and
- Recipients’ opinions about the research and the strategy. This was canvassed at the conclusion of the involvement through structured questions.

From the strategy providers, qualitative data was drawn from their experience of providing the strategy in the context of their role as service providers. This was collected through structured interviews at the conclusion of their involvement with the project.
3.7 Inclusion and exclusion criteria

To be eligible for inclusion in the study, participants had to be:

- Parents or caregivers of children under 15 years of age, who were clients or connected to clients of Responsible Parenting Services;
- Tobacco smokers;
- English speakers, so that informed consent could be given;
- Residents within the metropolitan area;
- Adults (aged over 18 years).

The criteria of exclusion from the sample were those participants who were:

- Pregnant—because abstinence is the only consistently recommended response to smoking during pregnancy;
- Hospitalised for a mental illness during the previous six months—because the literature recommends this.

3.8 Sample

Sample pool

The pool of potential participants (with one or more factors that contribute to social disadvantage) presents challenges to service deliverers, as well as to researchers. The literature indicates a 30% engagement rate is considered good (Stewart-Brown 2006). The diverse vulnerabilities of the population (such as mental illness and poverty leading to transience) can mean the process of finding a sample that is safe (not displaying any exclusion criteria) is be time consuming and, for those excluded, pointlessly intrusive. To avoid this, the sample was drawn from parents already voluntarily engaged with a caseworker in a change process through one of the intensive casework services provided to this group by Responsible Parenting Services; Parent Support and Best Beginnings.

Both programmes were extended throughout the period of recruitment—2009 and 2010—with Parent Support taking 589 new referrals in 2008, 937 in 2009 and over 1,200 in 2010. Best Beginnings involvement can be up to two years. In the period up to 31 December 2010, it had serviced over 1,000 parents in the previous 10 years. Unfortunately, the Best Beginnings database was unable to produce accurate reports from 2008 onwards.
The number of referrals is not an accurate reflection of the potential pool—a percentage of referrals do not become active cases. For example, in Parent Support in 2009, when recruitment began, of the 937 referrals, 4% could not be contacted, 13% were redirected as Parent Support was too full to provide a service, and 7.5% rescinded consent. Therefore, 75.5% (n = 708) of referrals went on to be allocated a caseworker. Even then, casework did not automatically progress. In 14.5% of cases, a working relationship could not be established; in 3% of cases, the family moved away; and in 4.5% of cases, the child exited the family home. Only 45.5% (n = 426) of referrals resulted in a completed case. In terms of engagement and retention rates, 2009 was typical of all other years for the service.

The issue of parental smoking and smoking in the home is routinely asked by service providers on both programmes in order to help protect the caseworker from environmental tobacco smoke. The incidence of smoking reported by parents was between 30% and 50% (based on internal reports from 2000 to 2009). In Parent Support, all referrals are entered into the database, and, in 2009, 32% of primary caregivers (one per referral) were entered as a current smoker of tobacco. The actual smoking rate must have been far higher because in nearly 25% of cases, it was not known whether the primary caregiver smoked. Thus, for Parent Support in 2009, the potential pool was at least 136. Although the data was not available for Best Beginnings, the researcher had access to service providers who estimated that in 2009, the sample size was approximately 30 women. The potential pool for 2010 was the same because the extensions of the services took place outside the metropolitan area, and recruitment was within the metropolitan area. Therefore, the potential pool for the recruiting period was 332, prior to exclusions for pregnancy and recent admission to hospital for mental illness.

A second sample pool emerged from the snowball effect. In a few cases, friends or relatives of the client expressed an interest in the project. They were included, provided they met the same inclusion criteria.

**Sample size**

In light of the changes to the research already described, the sample size was reduced to 20—all of whom, once they had provided informed consent, were offered the strategy and a follow-up evaluation. This was sufficient to generate some data concerning factors that contribute to or mitigate against a reduction in tobacco
smoking and/or a reduction in tobacco smoking in the family home. A participant was considered as such, once they had signed the consent form. All 20 participants were included in the outcome data in order to expose recruitment, engagement and retention rates. All client participants in the study received the normal care provided by the programme they were using at the time.

Three service providers working within Responsible Parenting Services were trained to deliver the strategy. The researcher also delivered the strategy.

3.9 Recruitment

The opportunity for recruitment by a caseworker occurred in a number of ways:

• If the parent smoked in the family home, the caseworker was required to request the parent either receive casework outside the home, or not smoke while the caseworker was present. This was done to protect the caseworker from environmental tobacco smoke;

• If a child in the family smoked and cigarettes were provided by the caregiver as a form of behaviour management;

• If a parent raised their smoking as an issue; and

• If a primary caregiver raised an issue about a secondary caregiver’s smoking (for example, grandparents who cared for children on a regular basis).

When such circumstances were noted, the caseworker discussed the project and invited the parent to receive further information. Whenever this occurred, a pamphlet was left with the parent. If the parent continued to express interest, they were put in touch with a strategy provider who offered further information about the project. If they decided to participate and did not satisfy any of the exclusion criteria outlined above, they were invited to sign a form of consent and disclosure.

3.10 Questionnaires, data collection and measurement

Demographic information

The only demographic information collected concerned the gender and age of the participant and the number of children (by gender and age) who lived in or frequently stayed in the participant’s home (for example, children on regular access visits).
Quantitative instrumentation

Three instruments were used in this study to measure smoking frequency, attitudes to health, and level of compulsion involved in smoking. Here, they are presented in the order of their significance to the project.

Smoking frequency

The measurement of smoking frequency was crucial to the research. The instrument most commonly used to determine a person’s level of dependence on cigarettes is the Fagerström Test for Nicotine Dependence (Fagerström 1978). Although validated and revised in 1989 (Fagerström & Schneider 1989) and 1991 (Heatherton et al. 1991), this test was not useful in this context for several reasons. Firstly, the test was designed in an era in which people smoked at will—cigarettes were very cheap and there were almost no restrictions on the places in which smoking could occur. One of the crucial questions of the Fagerström Test concerns when the first cigarette is smoked after waking, with the sooner this occurs being a key measure of the level of dependence. The test assumes, firstly, that the smoker will have had a full night’s sleep and an eight-hour break from cigarettes, and in the morning smoked as soon as they needed to. Today, and within the sample group of this research, smoking at will is rare. Cigarettes are too expensive and the context of these people’s lives is more complex. It could never be assumed that a parent had a full night’s sleep or that they smoked their first cigarette when they needed to. Some participants awake during the night in order to smoke in peace, and some occasionally smoke at night because they are awake for other reasons. Most smoke earlier or later than desired because other activities, such as getting children ready for school, are more pressing. It seemed much simpler to ask participants how many cigarettes they smoked. Therefore, the researcher devised a simple four-point questionnaire concerning smoking frequency. This asked four questions that concerned:

- The number of cigarettes smoked by the participant in a typical 24 hours;
- The number of cigarettes the participant smoked inside the home in a typical 24 hours;
- The number of cigarettes typically smoked by anyone in the home in a typical 24 hours; and
- The amount of money spent on tobacco per fortnight.
There were problems with the first question. On the first application, several participants gave a number that was less than the number of cigarettes recorded a few days later in the daily tally. If this was the case, with the permission of the participants (which was given in all cases), the daily tally was recorded, instead of the first response, as it appeared to be a more accurate. The first two questions were asked frequently during the application of the strategy, but only the first and last responses were recorded as data contributing to the project. The last question was quickly abandoned. Some participants smoked smuggled tobacco, for which they paid approximately half the recommended retail price, and half way through the project the tax on tobacco was increased significantly.

Questions concerning smoking frequency were asked and recorded just prior to the application of the strategy, and six months later. The questions generated data that indicated a change in smoking behaviour by the participant, and the amount of environmental tobacco in the family home.

The Orientation to Life Questionnaire

If the strategy enabled participants to reduce the harm from smoking to themselves and their children, then it is possible that this would influence their beliefs about their capacity to move in health enhancing ways. The researcher considered that this would be worth measuring. Despite a detailed search, the researcher could not find a more recent questionnaire that used strengths-based questions to explore self-esteem and self-efficacy in relation to health than the Orientation to Life (OTL) Questionnaire (Antonovsky 1987). This questionnaire does this simply and unobtrusively and matches the strengths-based focus of the programmes through which the strategy was delivered. This questionnaire was designed by medical sociologist, Antonovsky, in 1987, when looking for the aspects that kept people well, rather than the aspects that made them sick. At the time, this change from the pathogenic focus on risk factors for disease to the salutogenic focus on the strength and determinants for health represented a paradigm shift in thinking about health. Antonovsky hypothesised that people who weather adversity, such as Jews surviving the Holocaust, have developed a sense of coherence—they have the capacity to assess and understand the situation in which they find themselves, and find meaning to move in a health-promoting direction.
The OTL Questionnaire, which is also known as the Sense of Coherence Scale, uses a set of questions to measure a ‘global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that:

1) the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable and explicable;

2) the resources are available to one to meet the demands posed by these stimuli;

3) these demands are challenges worthy of investment’ (Antonovsky 1987, p. 19).

These three domains are referred to as comprehensibility, manageability and meaningfulness. In 1993, Antonovsky raised the notion that a person with an admirable sense of coherence needs also to be intrinsically admirable. Some people have a strong sense of coherence because they are coercive in their relationships. He used a number of examples of how people may reduce the stressors on themselves by increasing the stressors on another, such as men who do not allow their wives to drive. Antonovsky believed that a strong sense of coherence needs to be attained in the context of civility, not coercion (Antonovsky 1993).

The OTL Questionnaire is a 29 item semantic differential questionnaire. A 13 question version was also produced, which was used in this study—a copy is appended. Respondents were asked to select a response on a seven-point semantic differential scale with two anchoring phrases. A high score always expresses a strong sense of coherence.

The questionnaire has been used extensively in over 20 countries, and reliability has been examined on many occasions. Meta-reviews have been conducted on at least two occasions: in 1993, Antonovsky (1993) reviewed 26 studies, and in 2005, Lindstrom and Erikson (2005) reviewed 458 scientific journals and 13 doctoral theses. Antonovsky found consistently high internal consistency in a variety of populations, with test-retest scores over six months showing only minor fluctuations (within plus or minus one), except when major changes in patterns of life experiences occurred. Antonovsky found consensual validity to be high, but had insufficient comparative scales to give construct validity. However, the criterion validity was striking. Cohorts that would be considered hard-to-reach, such as drug-addicted, homeless women, had the lowest mean scores (55.0), and kibbutz and USA faculty males had the highest mean scores (68.7) (Antonovsky 1993). Lindstrom and
Erikson (2005) found face validity acceptable and consensual validity moderate. Construct validity was unclear, with studies on the correlation between scales and theoretical construct showing differing results. Criterion value was found to be similar to that of Antonovsky, with a high negative correlation with anxiety and depression, and a strong positive correlation between optimism and self-esteem (Lindstrom & Erikson 2005).

For the purposes of this study, participants were asked to complete the shortened OTL Questionnaire (Antonovsky 1987) before the application of the strategy, and again six months later. The lower the response, the weaker the participant’s orientation to life. If the intervention was successful, comparisons of pre and post scores would show a small improvement.

The Severity of Dependence Scale
If the strategy reduced harm as measured by reduced smoking frequency in participants, it could be suggested that a contribution to success was that some participants were chippers. Chippers are a cohort constructed by the Cancer Council of Victoria. They are individuals who are able to smoke regularly, maintain low levels of consumption, and manage abstinence with little difficulty (see Tobacco in Australia). The Cancer Council of Victoria estimates that chippers compromise 5% of smokers in Australia. To counter this potential criticism, the Severity of Dependence Scale (SDS) (Gossop & Darke 1995) was applied once, before the application of the strategy. The SDS was selected for a number of reasons—the primary reason being that it is a measure of compulsive use, which is the essential ingredient of addictive behaviour. By definition, a chipper does not succumb to compulsive use of cigarettes. The SDS is also reliable in measuring degree of dependency—it has the flexibility to be used across a range of drugs, and is designed for research, not clinical use, so its application is unobtrusive.

The SDS satisfies a number of criteria, which indicates its suitability as a measure of dependence. The SDS has high face validity. The questions are related to behavioural patterns of drug taking that are, in themselves, indicators of dependence—such as dose, frequency of use, duration of use, daily use and degree of contact with other drug users. All SDS items load significantly with a single factor, and the total SDS score is extremely highly correlated with the single factor score. It has criterion validity in that drug users who have sought treatment at specialist and
non-specialist agencies for drug problems have higher SDS scores than non-treatment samples. After major reliability testing with users of a variety of drugs in several countries, the psychometric properties of the scale are rated as good (Gossop & Darke 1995).

The SDS has good discriminative power in that it provides a full range of scores when applied to samples with differing degrees of involvement in drug taking behaviours. The wording of SDS can be adapted to cover different types of drugs and includes a time reference for behaviour and experiences. For example, during the past year:

1) Did you think your use of [named drug] was out of control?
2) Did the prospect of missing a fix (or dose), or not chasing, make you anxious or worried?
3) Did you worry about your use of [named drug]?
4) Did you wish you could stop?
5) How difficult did you find it to stop or to go without [named drug]?

Each of the items is scored on a four-point scale. For items one to four:
- 0 = never/almost never;
- 1 = sometimes;
- 2 = often/always/nearly always.

For item five:
- 0 = not difficult;
- 1 = quite difficult;
- 2 = very difficult;
- 3 = impossible.

A total SDS score can be obtained by the addition of scores for all items, with higher total scores indicating higher levels of dependence (Gossop & Darke 1995). The version used in this project can be found in the appendices.

**Other quantitative data**

A further stream of quantitative data was generated by the application of the 4S Strategy. The first ‘S’ explores whether the participant has a special relationship with tobacco or nicotine. This ‘relationship’ is generated by the known correlates between
smoking and specific facets of the human condition, such as whether one’s mother
smoked or whether a mental health condition is present. There are 12 possibilities for
a special relationship. The number for each participant is considered a contributor to
the frequency of smoking.

This data is generated by a tick-box questionnaire. The responses may be used
clinically after the data has been collected. The loading of the facets per participants
can by placed alongside pre and post data to explore comparisons.

**Order of application**

All the above quantitative data is collected through numerical responses or tick-box
questionnaires. In undertaking the research, the measurements were presented in a
different order. The OTL Questionnaire was completed first, at the beginning of the
relationship with the participant, as it seems to be the most emotionally neutral
aspect of the study. The SDS was completed after the OTL Questionnaire because
some find the SDS confronting, and it requires the participant to recognise their
concerns about smoking. If the SDS was applied before the OTL Questionnaire, it is
possible that it would influence the outcome. Smoking frequency was undertaken
next, and then the strategy was applied. Smoking frequency is a persistent feature of
the strategy.

**Qualitative instrumentation**

*Data generated by the 4S Strategy*

Each participant, as a recipient of the 4S Strategy, had their ‘smoking story’—that is,
their narrative about how they came to their current position about smoking, and their
hopes about their future smoking. In the application of the strategy:

- The first ‘S’ explores whether the participant has a ‘special relationship’ with
  nicotine and smoking (based on 13 personal or social factors that lead to
  enhanced smoking rates). This prompts discussion about their personal
  experiences and leads to the development of tailored strategies that may
  support harm reduction;
- The second ‘S’ concerns separating nicotine from smoking. It helps
  participants to understand nicotine and smoking as different functions that
  each require a different response;
- The third ‘S’ explores the participants’ personal and social meanings of
  smoking. This prompts discussion about their personal experiences and leads
  to the development of tailored strategies that may support harm reduction;
The fourth ‘S’ concerns celebrating small steps in the harm reduction journey. This provides the research with the method of reduction. Each participant’s narrative was recorded from notes taken during the delivery of the strategy.

**Data generated by participants’ evaluation of the strategy**
The opinions of strategy recipients were canvassed at the conclusion of involvement, through two structured questions about the strategy and the research. Responses were recorded on paper at the time, and written out later.

**Data generated by the strategy provider’s evaluation of the strategy**
The opinions of strategy providers were collected through structured interviews at the conclusion of their involvement with the project. Two structured questions were asked, concerning their motivations for involvement, and their experience as a provider. Responses were recorded on paper at the time, and written out later.

### 3.11 Data analysis

**Quantitative data analysis**
All analysis was undertaken with the intention to treat participants. Any incomplete data representing participants who did not receive the strategy, but completed the research questionnaires, or representing participants who did not complete either, were recorded as two separate groups.

Data garnered from the instruments applied pre and post were sorted into variables, graphed and subject to paired t-tests to ensure the changes were not due to chance. Pre and post smoking frequency scores were compared with other questionnaire scores. Pearson’s product-moment correlation coefficient was used to determine if changes in one variable were correlated with changes in another. Marked scatter graphs and trend lines were used to illustrate relationships between variables.

The researcher conducted statistical analyses with the assistance of, and final checking by, the Post Graduate Statistical Support Service, Department of Mathematics, at The University of Western Australia.

**Qualitative data analysis**

*Strategy recipients*
The narratives, which included a description of the method used to reduce harm, were sorted into themes that were analysed in terms of risk factors (contributing to the onset and maintenance of smoking), and resilience factors (contributing to the reduction of harm associated with smoking (Rutter & Quine 2005).

**Strategy providers**

The narratives of those who took part in training were sorted into themes that were analysed in terms of factors contributing to the delivery of the strategy and factors that were detrimental to the delivery of the strategy. These were considered in light of the changes that were made to the programmes through which the strategy was delivered.

### 3.12 Ethics

The research gave rise to a number of important ethical considerations. These concerned the vulnerability of the target group, accessing participants, and the effect of the intervention and the research.

**Approval**

All components of the research’s design, method and ethical considerations were conducted in accordance with, and accepted by, The University of Western Australia Ethics Committee. The research design was approved by the Department for Community Development (now the Department for Child Protection), which is the agency responsible for Parent Support and Best Beginnings—the programmes from which the participants were recruited.

**Participant vulnerability**

People in the hard-to-reach population subset, as indicated in the literature review, have vulnerabilities associated with economic disadvantage, educational disadvantage, social exclusion, under-representation, inability to articulate their needs and unwillingness to engage with service providers (Doherty et al. 2003). Some may have problems associated with mental ill health and substance abuse. As described below, special attention was paid to ensure that there was no coercion, and that informed consent could be provided.
Access to participants
The researcher and others providing the strategy were employed by Responsible Parenting Services (under the auspices of the Department for Child Protection), and, as such, were subject to police clearance and Working with Children checks. Service providers who agreed to partake in the research were confirmed, by their team leaders, to be effective and trustworthy. Parent Support and Best Beginnings are evidence based and designed specifically to meet the needs of parents in the hard-to-reach population subset. At the point of recruitment, clients had not demonstrated any exclusion criteria and had demonstrated an understanding of the nature of the service and a willingness and capacity to change their parenting.

Consent
Clients engaged with the service provided informed consent, through a protocol approved by the Department for Child Protection Legal Office, to receive the service. At the recruitment opportunity, the research was explained, and the client was invited to keep an information sheet and to think further about their involvement. Those who continued to show an interest were put in touch with a strategy provider, who may or may not have been the caseworker, depending on the client’s wishes. The strategy provider ensured that the client understood that the strategy was entirely non-conditional and extra to existing service delivery. Clients were provided with the following information, both written and verbally:

• Information about the participant in the context of the research would be kept separate from existing files and case notes to preserve the non-conditional nature of participation;
• At any time, the participant could refuse any further involvement in the research, and any identifying data held by the researcher would be destroyed;
• Involvement in the research and/or a withdrawal from the research would not jeopardise the participant’s involvement with the services they were receiving;
• Copies of information derived from the research would be provided on request;
• No identifying information would be released to anyone, or used in reports;
• All identifying information would be kept in a secure location, and, when the research was complete, would be destroyed.
**Effect of the strategy**

It was possible that the application of the strategy would arouse emotional distress, or that expert help may be needed to develop strategies to substitute functions of smoking. In line with existing casework practice, specialist help was provided quickly and without cost to the participant. Participants with a mental health condition were only included if they had not been hospitalised in the previous six months, and were willing to use medical support to monitor symptoms and levels of medications if they reduced their smoking or their intake of nicotine.

**Confidentiality**

- All identifying information, except when in use, was kept in a locked cabinet within a secure building.
- When in use, identifying information was kept within sight of the researcher.
- Once data was complete and coded, all identifying data was removed from the documents.
- De-identified raw data was kept for seven years.
Chapter 3: Results

Introduction

In this section of the thesis, the data garnered through the application and the researching of the strategy are presented. Qualitative data, in terms of the applicants’ stories, are embedded the first section and a section on evaluation by participants and providers is presented. In the second section the focus is on the quantitative data generated by the test and retest scores. This is followed by a discussion of the results and the study’s effect on the participants—parents in the hard-to-reach population subset. The implications for social work in various contexts are discussed, and some recommendations about the strategy and further research are made. Of the 20 participants, three did not provide retest data. Their data is present in the demographic data, but is excluded from all other data presentations.
Chapter 1  Data garnered through the application of the strategy

1.1 Introduction

In this chapter, the demographic information of the two groups—strategy providers and strategy receivers (participants)—is presented with a commentary. The focus is on the data generated by participants as they progress through the four stages of the strategy. An evaluation consisting of provider and participant feedback is discussed, and there is a brief discussion about the participants who did not complete the strategy.

1.2 Demographic characteristics of participants

**Strategy providers**

Including the researcher, three staff were recruited from the Parent Support programme, and were trained to deliver the strategy. One provider worked on an allied programme that targeted new mothers with significant personal and social burdens—Best Beginnings. Best Beginnings, unlike Parent Support, which is an intensive casework programme, provides a supportive mentor to a new mother for two years. The aim is to enhance attachment, parenting skills and life skills. Those recruited from Parent Support were qualified in social work and experienced in casework. One provider had additional qualifications in child protection, and another was also an experienced alcohol and other drug counsellor and family therapist.

**Strategy recipients**

Table 13: Participant profiles

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary carers (parent/s with sole or majority care of children)</td>
<td>15</td>
</tr>
<tr>
<td>Secondary carers (having regular, but not daily, care of children—such as access fathers and grandmothers)</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
</tr>
<tr>
<td>Youngest</td>
<td>19</td>
</tr>
<tr>
<td>Oldest</td>
<td>69</td>
</tr>
<tr>
<td>Mean age</td>
<td>35</td>
</tr>
<tr>
<td>Single parents</td>
<td>11</td>
</tr>
<tr>
<td>Participant living with the other parent of the children</td>
<td>5</td>
</tr>
<tr>
<td>Participant living with someone who is not the other parent</td>
<td>2</td>
</tr>
<tr>
<td>Grandmothers with daily care</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 14: Ages of children of participants

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls under 5 years</td>
<td>7</td>
</tr>
<tr>
<td>Boys under 5 years</td>
<td>9</td>
</tr>
<tr>
<td>Girls 5–16 years</td>
<td>15</td>
</tr>
<tr>
<td>Boys 5–16 years</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
</tr>
</tbody>
</table>

A distinction was made between ages because it is likely that children under five years of age would spend more time in the family home, and therefore have a greater exposure to the home’s environmental tobacco smoke. All the participants were residents within 30 kilometres of the Perth metropolitan area of WA.

1.3 Stage one

Each participant was asked whether they had a special relationship with nicotine and/or smoking. The purpose of this was not to collect data but to engage the participant’s interest in their smoking. Participant’s responses to this question were recorded and is included in the results because it confirms the link between enhanced smoking and the accumulating risk factors identified in the literature review (see table 15). These factors were explored with participants by asking direct questions for which a ‘no’ or ‘yes’ response could be selected.

Table 15: Responses to stage one

<table>
<thead>
<tr>
<th>Question</th>
<th>No. of yes responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did your mother smoke while she was pregnant with you?</td>
<td>18</td>
</tr>
<tr>
<td>Did people smoke in the home in which you grew up?</td>
<td>18</td>
</tr>
<tr>
<td>Did you have a stressful childhood and/or adolescence?</td>
<td>18</td>
</tr>
<tr>
<td>Are you an Aboriginal person?</td>
<td>1</td>
</tr>
<tr>
<td>Do you come from a country with few smoking regulations?</td>
<td>0</td>
</tr>
<tr>
<td>Do you have a mental illness?</td>
<td>6</td>
</tr>
<tr>
<td>Do you have a mental health problem?</td>
<td>14</td>
</tr>
<tr>
<td>Have you ever been in state care, lived in an institution, been in custodial care or been homeless for more than one month?</td>
<td>6</td>
</tr>
<tr>
<td>Have you ever been addicted to alcohol or another drug?</td>
<td>10</td>
</tr>
<tr>
<td>Have you either never tried to stop smoking, or tried to stop many times without lasting success?</td>
<td>17</td>
</tr>
<tr>
<td>Do most of the people you know smoke?</td>
<td>17</td>
</tr>
<tr>
<td>Are you currently in a stressful situation?</td>
<td>13</td>
</tr>
</tbody>
</table>

Once all questions had been answered, the participant was asked if they wanted to know the ways in which the questions to which they had responded ‘yes’ could contribute to their smoking. Most participants were interested. The following information emerged from these conversations, and was later written out from case notes.
Did your mother smoke while she was pregnant with you?
In two cases, participants (an access father and single mother) did not know if their mother smoked while she was pregnant because they were taken into care at a young age. These were counted as ‘yes’ because both participants expected that this would have been the case, and because smoking was common with substitute carers.

Did people smoke in the home in which you grew up?
For almost all participants, smoking in their childhood homes by fathers, other relatives and friends was considered normal.

Did you have a stressful childhood and/or adolescence?
Examples given of a stressful childhood or adolescence included abuse and/or neglect at home, death and/or serious illness of a parent or sibling, violence in the home or community, frequent moves, being bullied at school, traumatic events in the community, and leaving home before the age of 18. During discussions relating to marriage, only one marriage was described as long and happy—that of a grandmother.

<table>
<thead>
<tr>
<th>Table 16: Childhood stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, but did not discuss any details</td>
</tr>
<tr>
<td>Abandoned in infancy and placed in state care</td>
</tr>
<tr>
<td>Abandoned by father, and mother affected by religious mania</td>
</tr>
<tr>
<td>Mentioned physical and emotional abuse</td>
</tr>
<tr>
<td>Sexually abused</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 17: Stress in adolescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left home or state care between the ages of 13 and 15, and spent over a year on the streets</td>
</tr>
<tr>
<td>Used drugs, such as methamphetamine and heroin</td>
</tr>
<tr>
<td>Spoke of, or alluded to, rape, sexual exploitation or violence from partners</td>
</tr>
<tr>
<td>Admitted to hospitals for drug overdoses, and psychiatric hospitals for unspecified reasons</td>
</tr>
<tr>
<td>Married before the age of 18 in order to leave home</td>
</tr>
<tr>
<td>Lived with a partner at the age of 16</td>
</tr>
<tr>
<td>Marriage/partnership violent</td>
</tr>
</tbody>
</table>

Are you an Aboriginal person?
One participant was Aboriginal (a single mother), and another (an access father) thought he may be a ‘bitzer’ (mixed race), but could not be certain because he had been taken away from his family at a young age. This was not counted as ‘yes’.
**Do you have a mental illness?**
Examples given of mental illness were bipolar disorder, depression or schizophrenia.

| Recurrent admissions to psychiatric hospitals, but no diagnosis | 2 |
| Multiple diagnoses not included elsewhere on this list, bi-polar disorder and personality disorder | 2 |
| Schizophrenia finally diagnosed after years of amphetamine-induced psychosis | 1 |
| Bi-polar disorder | 2 |
| Depression | 1 |

**Do you have a mental health problem?**
Examples given of mental health conditions were anxiety, post-traumatic stress and low self-esteem.

| Post-traumatic stress | 4 |
| Phobias | 3 |
| Attention deficit disorder | 1 |
| Incapacitating grief | 1 |
| Multiple sclerosis related to bi-polar disorder | 2 |
| Depression | 1 |
| Depression/anxiety/low self esteem | 2 |

The data recorded in response to this question was that nominated by the participant at the time. It was only revised later if requested by the participant. This happened in two cases (for a grandmother who was sexually abused in early adolescence, and a married mother with a history of physical and emotional abuse), in which post-traumatic stress emerged when the participant reduced their smoking.

Participants responded to this question in various ways. For some, it was clear that they had never considered grades of mental health—they considered that someone was either ill or was not. If they had decided that they were not mentally ill, they kept any troubling ideas, thoughts or feelings to themselves. Others were more accepting of their internal troubles, rationalising them as a natural legacy of a traumatic upbringing. For others, there was a gradual dawning—particularly when reducing cigarette smoking—that smoking was pivotal in the repression of troubling memories and in mediating the worries of current factors that were stressful. Five participants nominated having both a mental illness and a mental health condition.

**Have you ever been in state care, lived in an institution, been in custodial care or been homeless for more than one month?**
Of the six participants who were homeless for protracted periods during early, mid or late adolescence, two had lived in foster families that were not enriching. All those who were homeless had left home in order to escape profound abuse and/or neglect.

**Have you ever been addicted to alcohol or another drug?**

Table 20: Participants' use of alcohol and other drugs

<table>
<thead>
<tr>
<th>Drug</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opiates</td>
<td>2</td>
</tr>
<tr>
<td>Alcohol</td>
<td>1</td>
</tr>
<tr>
<td>Cannabis</td>
<td>2</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>4</td>
</tr>
<tr>
<td>Poly drug use</td>
<td>1</td>
</tr>
</tbody>
</table>

When this question was asked, the word ‘addiction’ was not explained. It was left to participants to determine if they considered their level of use an addiction. All six who had been homeless were involved in drug use.

**Have you either never tried to stop smoking, or tried to stop many times without lasting success?**

Table 21: History of attempts to stop smoking

<table>
<thead>
<tr>
<th>Attempt Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never tried to stop and did not think about it</td>
<td>11</td>
</tr>
<tr>
<td>Never tried to stop, but thought about it a great deal</td>
<td>2</td>
</tr>
<tr>
<td>Multiple attempts to stop without success</td>
<td>4</td>
</tr>
<tr>
<td>Prior periods without smoking for less than one year</td>
<td>2</td>
</tr>
<tr>
<td>Prior periods without smoking for more than one year</td>
<td>1</td>
</tr>
</tbody>
</table>

Of the four who made multiple attempts to quit (including a grandmother who was sexually abused in early adolescence, a married mother with a repressed history of physical and emotional abuse, a married mother with multiple sclerosis, and a widowed grandmother) by using nicotine replacement therapy, acupuncture and hypnosis, not one managed cessation of more than a few days. One smoked on the way home from the hypnotist.

**Do most of the people you know smoke?**

There was a pervasive acceptance of smoking in participants’ family and friendship networks. For most participants—particularly those with a history of homelessness and drug use—smoking seemed to be a normal activity; sharing cigarettes was the first thing they did when meeting with friends. For those who were involved with their family of origin, smoking or not smoking was integral to their relationships with
parents. For one participant (a single mother), smoking was payback—it was one of the things of which her mother disapproved. However, for another (a single mother), involvement in the project was based on a desire to be different from her mother, who ‘smokes like a chimney’. For another, it was about an alliance with her father who was now the only other smoker in the family. One participant (a married mother) stated that she lived in a ‘smoking world’, and another (a single mother) smoked and ceased smoking with her parents. One participant (a recently separated father) increasingly found himself in the minority among family and friends. Both grandmothers felt ashamed that they were still smoking, as their adult children did not smoke.

**Are you currently in a stressful situation?**

No definitions of a stressful situation were offered. It was left to the participants to determine what this meant. They spoke of multiple stressors in terms of fears about their children, people with whom they had relationships, drug use and illness.

<table>
<thead>
<tr>
<th>Table 22: Multiple current stressors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear that the Department for Child Protection would remove their children</td>
</tr>
<tr>
<td>Feelings related to a current or ex-partner</td>
</tr>
<tr>
<td>Fear of violence from a current or ex-partner</td>
</tr>
<tr>
<td>Demanding and/or critical parents or relatives</td>
</tr>
<tr>
<td>Feelings related to drug-related deaths of partners (two opiate overdoses and one smoking-related death)</td>
</tr>
</tbody>
</table>

The fear that the Department for Child Protection would remove their children was the most immediately raised and the most severe stressor. This agency was described as sinister and waiting to pounce—words used were ‘set their dogs loose’, ‘breathing down my neck’ and ‘those bastards’. Despite this, the participants were receiving help from the Department and were aware that the Department endorsed the smoking project. The researcher feels that some of these fears may arise from participants’ lack of confidence in their own parenting—perhaps stemming from their own childhood experiences. These fears were projected onto the Department. It is worth noting that of the three who did not continue, one participant (a single Aboriginal mother) had her children removed by the Department for Child Protection just after commencement of the strategy.

In the stressors concerning parents, one participant (a single mother) described her mother as ‘vicious’. Another participant (a single mother), stated that her mother assisted her, but that ‘it cost’, in terms of a barrage of criticism. In another case, on
the second visit to a participant (a mother living with someone who was not the other parent), her parents arrived during the visit. The participant became very agitated when attempting to explain the presence of the researcher. From then, she was unavailable to participate in the study. One participant (a mother living with the father of the children) had multiple sclerosis. Although few participants complained about this, or even discussed it—perhaps because they were unaware of what they were without—family support was limited.

Table 23: Participants' level of family support

| Help and support of family | 4 |
| Family involvement, ranging from hostile to conditional | 6 |
| No contact with family | 7 |

Multiple at-risk factors that contribute to a special relationship with nicotine and smoking

Most participants were subject to a number of factors known or thought to incur a special relationship between nicotine and smoking, as described in the strategy. As the graph above illustrates, the most common combination of factors concerns the past—maternal smoking and smoking in the childhood home. The second most common combination involves the past and present concerns—absence of previous attempts to quit, and friends who smoke. A combination of these factors perhaps indicates that smoking was normal both in childhood and currently, and that not
smoking was the exception. Also of concern is the number of factors present for most participants, ranging from the least (five) to the most (15). The mean was 11.5.

1.4 Stage two

In this stage, beliefs about smoking and nicotine, as separate items, were explored. Each participant was presented with six potential goals, ranging from ‘doing nothing’ to relinquishing both smoking and nicotine.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Number selecting that goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do nothing</td>
<td>0</td>
</tr>
<tr>
<td>Protect myself and my children from environmental tobacco smoke</td>
<td>4</td>
</tr>
<tr>
<td>Take charge of my smoking</td>
<td>1</td>
</tr>
<tr>
<td>Smoke less</td>
<td>1</td>
</tr>
<tr>
<td>Stop smoking, but rethink giving up nicotine later</td>
<td>2</td>
</tr>
<tr>
<td>Stop smoking and stop using nicotine</td>
<td>11</td>
</tr>
</tbody>
</table>

Many were surprised that it was acceptable in this study to have an end goal that still involved smoking. The participant with multiple sclerosis did not wish to stop; she wished to lessen her smoking intake because she felt it was not the tobacco that would shorten her life. Both grandmothers wanted to have one cigarette in the evening. For one grandmother, this was part of her grieving ritual—she sat under a tree and reflected on the day, as she and her husband had done for many years before his death. Another (a single mother) only wanted to smoke one or two cigarettes when her young child had gone to sleep. She wanted to smoke outside, but lived in an apartment in a dangerous area, and did not want to leave her child alone, or be obvious and predictable in her behaviours. Therefore, she smoked in the laundry under the vent. The participant with schizophrenia carried several cigarettes around with him, so that if he met a friend—particularly one who had been in a psychiatric hospital—he was able to share a cigarette with them. Another participant (a single mother) wanted to become an occasional smoker—only smoking at parties when she had alcohol, which occurred about once a month.

All the participants used behavioural methods, such as experimenting with periods of not smoking, smoking outside the home and away from children, and reducing regimes to change their smoking habits. Some also used other methods.
Table 25: Methods used to reduce smoking

<table>
<thead>
<tr>
<th>Method</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural methods only</td>
<td>2</td>
</tr>
<tr>
<td>Behavioural methods with nicotine replacement products</td>
<td>11</td>
</tr>
<tr>
<td>Behavioural methods with Zyban or Champix</td>
<td>3</td>
</tr>
<tr>
<td>Behavioural methods with nicotine replacement products and Zyban or Champix</td>
<td>1</td>
</tr>
</tbody>
</table>

Participants were encouraged to see nicotine replacement products as having multiple purposes—they could be used as a substitute for smoking, or when needed to support or extend predetermined periods of not smoking. Participants were encouraged to understand the speed of nicotine delivery in different products in order to use them to their best advantage. In two cases, participants’ general practitioners would not prescribe Zyban or Champix. One participant, within the six months of the research, completed a course of prescribed medication. Although she stopped smoking while on the medication, she resumed smoking upon completion. However, her smoking had reduced from 35 cigarettes per day to 25.

1.5 Stage three

As the participants began to progress towards their goal, the strategy provider supported them to consider the ways in which the personal and social meanings of nicotine ingestion and smoking could affect their progress. These meanings were various, complex and important. Most participants used tobacco intuitively to soothe troubling feelings and thoughts. For some, this was because of a legacy of stress from childhood and adolescence, for some this resulted from current problems and relationships, and for some this was because of both. As well as the specific mental health problems described in the first S, the following emotions were either discussed or demonstrated during the third S:

- **Fear:** This was typically expressed verbally, particularly towards the Department for Child Protection, and also because of violence and further rejection by family or partners;
- **Anger:** This was rarely expressed verbally, but seeped out in tone and gesture as participants described the behaviour of people around them that they had previously tolerated without question. Several participants, when describing recent malicious behaviour directed towards them by family members, became enraged, and paced up and down and required nicotine or to smoke to restore equilibrium;
Disappointment: This was mostly because people that participants had hoped
would support them had not, or because participants were disappointed that
they had not achieved their goals as fast as they had hoped;

Loneliness: This was a clear feature of the majority of the participants’ daily
lives, particularly when their children were at school. When going through
typical daily smoking patterns, it became clear that smoking punctuated long
hours of boredom and elevated mood when the emptiness of life, without
nurturing mutual adult relationships, became acute;

Guilt: This was commonly expressed. For those with stressed childhoods, this
was particularly notable, and seemed connected to the ideal childhood that
they had constructed as children and had promised themselves they would
provide for their own children. They saw themselves as failing in this goal. For
others, it was concerned with smaller ways in which they had let their children
down, particularly relating to their own drug use and smoking.

Aspects that were not expressed by participants are also worth noting:

- Few complained about having no family support, or having no reliable co-
parent;
- No one expressed fears of smoking-related illnesses;
- No one expressed anger towards their children.

A number of participants were involved in relationships in which mutual smoking, or
the provision of cigarettes, were perceived as markers of loyalty, intimacy or control.
There were many examples of this, a few of which are given below.

**Example one**
One participant (a single mother) realised that she smoked far more than she wanted
because the father of the child, who visited daily, kept the cigarettes. He took one
whenever he wanted and automatically gave her one, which she smoked because
she paid for them and thus wanted her share. She instituted a policy of no smoking
within the apartment because of the child (who was exposed to 60 cigarettes per
day). They subsequently took turns to leave the flat to smoke; he left far more often
than she did, so she stopped purchasing so many cigarettes. He claimed at first to
support her involvement in the project; however, as soon as it became difficult for
him to smoke in comfort, he stopped visiting her as frequently. The participant began
to go out more and to become involved in activities appropriate for a young mother.
**Example two**
The participant (a married mother) who stated that she inhabited a ‘smoking world’ found that her partner and his siblings laughing at her for not smoking, and denied her request to cease smoking inside her home. Much to the delight of her children, when these adults began smoking in her home, she squirted them with a soda syphon. Her partner and his parents resentfully acquiesced, and no longer smoked in the home; however, her partner’s siblings became angry and stopped visiting. This participant undertook sessions with a psychologist and realised that her subservient behaviour towards most people had its aetiology in physical and emotional abuse from her childhood.

**Example three**
One participant (a married mother with multiple sclerosis) wanted to smoke less, but her partner wanted her to stop. She wanted to smoke outside, but needed assistance to walk. She wanted her partner to smoke outside, but he did not want to change his smoking habits. She was angry with him for not smoking outside when it was easy for him to do so. He was angry with her because she was smoking, but he still left her cigarettes when he was away from home for more than a few hours. Smoking was already established as a currency of conflict in their relationship. The research project made little difference to this, except that the participant achieved whole days of not smoking and smoked less at the end of the project.

**Example four**
One participant (a single mother), despite being 45 years of age, was still dominated by her ‘vicious’ and manipulative mother, who was a heavy smoker. The participant decided not to smoke around her mother and began to refer to her mother’s severe illness as ‘smoking related’. This marked a turning point in their relationship. When this realisation was combined with the realisation that the Department for Child Protection would soon be ‘off her back’ because of the age of her children, she began to feel that liberation was finally possible.

The extrication of smoking from these relationships often signalled either the end, or a significant re-evaluation of the relationship. As these relationships were typically with partners or parents, the change in the relationship was inevitably conflicted and distressing.
Positive relationships had a positive effect. In three cases (of a single mother, a married husband and a recently separated husband), part of the participants’ motivation to stop smoking was because an intimate friend or partner had ceased smoking or did not smoke. In relation to this, kissing was an issue—as one participant said, ‘I want to snog him without feeling like I taste like an ashtray’. In one case (of a single mother), both the participant and her partner ceased smoking at the same time.

1.6 Stage four

Table 26: Goal outcomes

<table>
<thead>
<tr>
<th>Achieved their selected goals</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exceeded their selected goals</td>
<td>4</td>
</tr>
<tr>
<td>Did not achieve their selected goals, but did achieve other goals</td>
<td>6</td>
</tr>
</tbody>
</table>

Participants were asked to celebrate small steps and to initially use any money saved to reward themselves. Many of the female participants purchased small items that supported periods of not smoking, such as nicotine replacement therapies; magazines to distract them from their craving; and manicure and nail polish items to have, as one participant stated, ‘something to fiddle with’. Once cessation or significant reduction was underway, the extra money was usually added to the family budget. However, participants were encouraged to use the money in ways that were visible and pleasurable. Often, it was used for family outings.

1.7 Evaluation of the strategy

Feedback about the strategy and the research was sought from providers during the process. Evaluation questions were asked of recipients after the application of their strategy. These responses have value and should be considered when the strategy is applied again.

**Strategy providers**

At the beginning of the strategy, 24 staff from Parent Support and Best Beginnings showed an interest in the research project by attending the briefing sessions. At the end of the briefing session, verbal feedback was sought about the future intentions of attendees:

• Six were senior staff who wanted to be more fully aware of the project, but had no intention of becoming providers;
• Seven were interested because they believed a tobacco intervention could be tagged onto a SIDS prevention intervention in the Best Beginnings programme. They understood that merely telling their clients that smoking was bad for them and their baby was ineffective. However, most believed that this tobacco intervention was too complex for them to provide, and would take up too much time in the visiting schedule. However, they would welcome an external provider;

• Eleven were Parent Support caseworkers who felt that this would be a valuable addition to their work. There was a divergence of opinion about:
  - Whether the caseworker or an external provider should provide the strategy;
  - The extension of the casework period—the importance varied depending on the pressure of the waiting list;
  - The diversion of focus from parenting to smoking, and how this may interfere with the casework process;
  - How parental smoking and a parent’s refusal or failure to address their smoking could be used to influence a child protection inquiry.

Clearly, there were significant issues concerning who, how and where such a strategy should be delivered; these are discussed later. All staff agreed to recruit for the project, and five went on to attend the training. Of those who trained:

• One departed and was unable to continue with the project;
• One decided that, as a smoker herself, she could not, in all conscience, be a strategy provider;
• One Best Beginnings parent visitor (unqualified) began with her first participant and, within two sessions, realised that the work was beyond her capabilities. The participant she had supported instead began working with another deliverer;
• Two highly qualified Parent Support staff (including the researcher) delivered the strategy to 20 participants.

Strategy providers were asked to comment on their experience through using semi-structured interviews. The following section is a summary of and commentary on the conversations that followed these questions:

• What attracted you to this research and to become a strategy provider?
• What did you feel about the process of training and being a provider?
What did you feel about the strategy and the research?

Responses were corralled into two sections. The first was personal interest. This concerned previous smoking. Both deliverers had been long-term smokers, who only stopped after much effort and perseverance, and after having lingering cigarette use. This lingering involved thinking about smoking, dreaming about smoking, and gravitating towards smokers at social occasions. After the training, they felt that the difficulties related to smoking addiction were explained. Neither had previously understood the complexity of nicotine and the relationship between nicotine and mental health issues. Both expressed exasperation with the Quit campaign:

“...leading people to believe smoking was easy to stop and [that] those who didn't were stupid—I mean, I was obviously not smarter than smoking ... they missed the point entirely. I used to feel outraged when the ads were on”.

“When I quit, I would have really appreciated this strategy and the delivery mode, especially talking through the relationship with nicotine”.

The other responses related to professional interest. Providers noticed the predominance of smoking in their client group and were concerned about the exposure of these clients’ children. One often wondered whether induction to smoking occurred through peer pressure or tobacco marketing, and now understood that this was the trigger—rather than the cause—of smoking. Real induction was generational. For them, this project was fundamentally about social justice and social inclusion—this is what had attracted them to work in Parent Support. Like the Parent Support clinical framework, it was a map, not a script. It allowed for the development of a focused working relationship with the client. They stated:

“As a provider, the process, the programme was good to have, keeps focus, gave us [the provider and the client] the information we needed, but it was a bit wordy for some clients to manage without help”.

“It worked!”

“Yes, of course it did. Parent Support did—it’s from the same stable”.

There were issues that both had to face in terms of being a provider:

“You had to have the support of the team leader [to be a provider] and if they had a big wait list, the pressure was on to close cases and take new clients. I know some team leaders thought we were extending our reach
and that parental smoking was nothing to do with us. There were other caseworkers who wanted to be providers, but didn’t want to have the row with the team leader”.

“Yes, there were times I thought it was a distraction from the business in hand and there were clients I would have recruited, but I knew they would have welcomed the distraction”.

“I know one client put her hand up because it was touch and go with her kids staying, and I had the sense she thought this would be a point in her favour. I told her Child Protection could not be informed about her involvement, but she didn’t believe me. Why should she, when they [the department] have lied to her before?”

“I think this is our business, but it should be provided by people allied to the programme, rather than the caseworker. I think that it worked best when I was the provider and not the caseworker. The caseworker needs to be recruited because once the trust is established, they are more likely to listen to the provider if the caseworker had introduced them”.

There were issues concerning the perception of the research within the wider Department for Child Protection, with some thinking it was an extension of what one called ‘the tobacco police’:

“I had calls from child protection officers. One wanted information they could use in protection proceedings against a mother because she smoked. Another wanted to know if she should make the mother of a newborn change her clothes after she had been outside for a cigarette. It turned out she had seen a film about smoke particles that stuck to clothing after smoking”.

Another commented:

“Attitudes of CPs [child protection staff] are very difficult to contend with. They are judgemental. It feels like [for clients] the smoke is their only comfort—their only ally”.

Both found the research component—the questionnaires and the specific timing—onerous. While they understood the need for research and research conditions, it was hard to extend beyond clinical intervention. One commented about the introductory talk: “I hate calling them hard-to-reach to their face”.
Strategy recipients
Of the participants who completed the strategy, five made no response to evaluation questions and only eight were interested in hearing about the findings of the research. The researcher feels this lack of interest may have two drivers:

- People in the hard-to-reach cohort are rarely asked evaluation questions. Perhaps the idea of having their opinion valued made them dumbstruck. Most needed to have the word ‘evaluation’ explained, and needed to be prompted about the differences between their experience of the strategy and of the research;
- Evaluation signals the end of the relationship with the provider. Recipients often expressed disappointment, which was particularly pertinent given that it often followed the end of their involvement with Parent Support.

Strategy recipients were asked: ‘There was a reduction of (or no change) in smoking during the research. Please comment on what you feel contributed to that change (or lack of change)’. The responses depended on how the participants had fared in the strategy. Those who had achieved or exceeded their goals and had made significant changes in attitude and lifestyle were the most positive:

“Finally dealing with all my shit. Didn’t realise how smoking was keeping a lid on it. Wish I’d done it years ago, but the other methods didn’t work. First time in my life I’m saving money. I want to go on a trip.” (Grandmother whose reduction eclipsed post-traumatic stress linked to sexual abuse in early adolescence; she subsequently visited a psychologist).

“Didn’t know you could be flexible with smoking with methods. I thought I would never quit; I haven’t, but I have changed. It’s a good feeling, at last.” (Grandmother who had struggled to stop smoking for 20 years; now on planned two cigarettes per day).

“Didn’t realise I’d have to change my life, too”. (Married mother whose reduction eclipsed post-traumatic stress linked to physical abuse and neglect in childhood; she subsequently visited a psychologist).

“Never thought I’d be able to stop. Every time I saw a Quit ad on telly, I felt angry and sick”. (Mother living with partner who was not the father of the children, who had given cigarettes to oldest son to modify his behaviour).
“Always thought you had to quit and never smoke again—that’s why I didn’t try. I took charge”. (Access father with schizophrenia, now walking daily and only keeping cigarettes on him to maintain friendships made while in psychiatric hospital).

“Never thought I would succeed”. (Single mother who stopped smoking).

Others were less impressed:

“I think I would have done it anyway, but it was good to talk the process through”. (Recently separated father).

Those who had not achieved their desired goals reflected a level of disappointment, but still reported sustained changes in attitude and behaviour:

“Disappointed I haven’t reached goals because of stress [from a promotion at work]”… [However, I] “have sustained change. Don’t panic if I haven’t got cigarettes … lots of other things—I don’t take them out with me, don’t spend so much. Increased confidence, also changed eating pattern, so don’t put on weight”, [and I’m] “walking. I’m pleased with myself. I always felt deceitful taking money for smokes out of the family budget”. (Father married to mother of the children, and still on a reducing regime).

“My determination, coping in other ways, understanding the relationship between smoking and mental illness, being bedridden and having a duff lighter!” (Mother married to father of the children, cut smoking by half).

Two comments were very short:

“Dunno.” (Single mother who thought she had ‘lost the plot’ with the strategy, but the follow-up showed she smoked at half the starting rate. She was pleasantly surprised that she was halfway towards her goal and decided to resume the strategy).

“Great—ta”. (Single mother who smoked the least to start with; stopped smoking and her parents also stopped in solidarity).

It was a provider’s view that one couple were on the strategy because the husband believed he could influence his wife’s smoking. The same provider spoke to the couple separately:

“I always wanted to stop. I was concerned about the children, the smell on their clothes. I am so pleased with myself. I’m surprised that my husband
has cut down and isn’t smoking inside anymore.” (Wife, who stopped smoking).

“Thought it strange not being forced to quit. Resent being called hard-to-reach. I like smoking, but I did the programme for the wife and the children. I’m surprised now I can go for hours without a cig[arette]. I use an inhaler to tide me over”. (Husband, who now smokes outside the home and is on a reducing regime).

Recipients were then asked: Do you have any comments or concerns about the research? Responses tended to be short:

“Didn’t know all that stuff, it was helpful.”

“Everyone [who smokes] should do it.”

“All those questions!”

“Great.”

“Wish this was available years ago.

“Better that someone like me do harm reduction—not going to live long, anyway—tobacco is not going to kill me, so I might as well get the benefit of nicotine”.

Recipients were then asked: Is there anything else you would like to comment on?

Many responses were focused on the relationship with the provider:

“Thank you.”

“Thank you, thank you.”

“Thank you.”

[Strategy provider] “is brilliant”.

“Thanks … [strategy provider] was really understanding.”

Others compared their experience with this strategy to previous attempts to stop smoking:

“I think it is wonderful and the strategy has been really helpful not punishing me. It has changed my attitude from being a helpless smoker.”

“Quit is very black and white. I was never going to be a goodie—now I can see it differently”.
One participant saw that the real value was for their children, but still felt bad about having been a smoker:

“Glad the kids aren’t affected by it anymore, but I still feel guilty.”

The focus of the participants’ answers was related primarily to their experience of the strategy and to their relationship with the provider. There were some difficulties for recipients in separating the research from the strategy, even when prompted. This focus on the experiential reinforces the principles of service delivery for this cohort—targeted, tailored and delivered via a relationship.

It is clear from these conversations that the providers felt:

• The strategy is a valuable asset to a programme for working with parents in the hard-to-reach cohort;
• As an addition to a broader programme, the way in which the strategy is provided requires careful consideration if it is to be an asset and not a distraction;
• The boundary between the strategy and the forces of child protection requires clear articulation. There is a chance that the possibility of effective support and intervention will be missed if maternal smoking becomes another lash in the whip of punitive intervention;
• Less wordy information, such as a film, could be used to deliver the information.

It is clear from these conversations that the recipients felt that the strategy:

• Worked;
• Was no more intrusive than it needed to be;
• Stimulated interest in their relationship to smoking;
• Helped them see the difference between nicotine and smoking;
• Provided attainable goals that could continue to have meaning after the relationship with the provider concluded.

Some recipients could see the difference between this strategy and the quit type of intervention, and could see how this succeeded where other methods failed. There were no negative comments made about this strategy.
1.8 Participants who did not complete the strategy

Table 27: Comparison between incomplete and complete data

<table>
<thead>
<tr>
<th></th>
<th>Complete data</th>
<th>Incomplete data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>Mean no. of children</td>
<td>2.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Mean smoking frequency</td>
<td>28.1</td>
<td>21.3</td>
</tr>
<tr>
<td>Mean no. of factors contributing to</td>
<td>7.46</td>
<td>6.33</td>
</tr>
<tr>
<td>increased smoking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of the 20 participants who were recruited, three did not complete the strategy. When their demographic data is compared with the completing participants’ demographic data, they are found to be younger, to have more children, to smoke less and to have fewer factors contributing to increased smoking. The three who did not complete the strategy did so following the collection of demographic data, but prior to stage two of the strategy. All were single mothers. One was Aboriginal and wanted no more involvement after her children were removed by the Department for Child Protection. One could not be contacted following the early sessions. The third resided with a man who was not the father of her children, and was visited by her parents during a session. She became embarrassed and attempted to explain the researcher’s presence, but her parents reacted in a hostile manner. It was impossible to continue that session and the researcher left the premises. The participant accepted another appointment, but was not available and did not respond to further calls or a letter.

1.9 Summary

The data generated by the application of the strategy confirms that:

- Participants had multiple factors that placed them in the hard-to-reach cohort;
- The relationship between the strategy provider and recipient was robust enough to enable discussion of factors that may be barriers to goal attainment, even when those factors were painful and confronting;
- The strategy was robust enough to initiate and support change in smoking behaviours;
- The strategy was robust enough to support parents to protect children from environmental tobacco smoke.
Chapter 2   Results garnered from the questionnaires

2.1 Introduction

The previous chapter presented qualitative data—this chapter presents the results of the quantitative component of the study. Factors that contribute to increased smoking are pertinent to both qualitative and quantitative results. This, and the other questionnaire given once before the strategy—the SDS—is discussed. This is followed by comparisons of pre and post scores from the frequency of smoking table and the OTL Questionnaires. Comparisons are then made between the scores of different questionnaires. In reading this chapter, it should be noted:

- Questionnaires and the reasons for their use are discussed in the section on method;
- ‘Pre’ and ‘post’ refer to a score recorded before the provision of the strategy, and a second score recorded six months after the first score;
- Smoking and exposure to environmental tobacco smoke concerns the number of cigarettes smoked during a typical 24 hours; and
- In the graphs representing participants’ smoking frequency, the data is always presented from the least to the most cigarettes smoked per 24 hours.

2.2 Questionnaires given once only before the strategy

Severity of Dependence Scale

![Severity of Dependence Scale](image)

Figure 15: SDS scores
There are five questions in the SDS. The total score is obtained through the addition of the score ratings—the higher the score, the higher the level of dependence. As can be seen from figure 15, all participants scored above the cut-off point of four, and all but two were in the range for dependency. Six participants scored the maximum (mean = 11, range = 5 to 15).

2.3 Pre and post comparisons

**Smoking frequency table**

<table>
<thead>
<tr>
<th></th>
<th>Pre-strategy</th>
<th>Post-strategy</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants smoking on a daily basis</td>
<td>17 (all)</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Least number of cigarettes smoked</td>
<td>14</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Most number of cigarettes smoked</td>
<td>40</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Total daily consumption</td>
<td>478</td>
<td>101</td>
<td>377</td>
</tr>
<tr>
<td>Total mean daily consumption</td>
<td>28.1</td>
<td>5.9</td>
<td>22.2</td>
</tr>
</tbody>
</table>

As can be seen from Table 28 and Figure 16, the strategy had a significant effect on the smoking frequency of participants. Within six months, no participant increased their smoking—they either ceased smoking or reduced their cigarette consumption. Of the 12 participants still smoking, their daily mean cigarette consumption had dropped from 28.1 to 8.4.
The pre-test smoking frequency mean was 28.1; post-test it was 5.9. This represents a difference of 22.2 (t = 8.6123, p = <0.0001).

**Smoking frequency and factors contributing to increased smoking**

Table 29: Pre smoking frequency and factors contributing to increased smoking

<table>
<thead>
<tr>
<th>Cigarettes smoked per day</th>
<th>Number of factors</th>
<th>Mean number of factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>5</td>
<td>6.8</td>
</tr>
<tr>
<td>Between 21–39</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Between 31–40</td>
<td>7</td>
<td>8.2</td>
</tr>
</tbody>
</table>

As can be seen from Table 29, there is a relationship between smoking frequency and the number of factors contributing to increased smoking. The more the factors contributing to increased smoking, the greater the smoking frequency.

**Smoking in the home**

A number of factors contribute to the rate at which children are exposed to environmental tobacco smoke. In this study, only the number of cigarettes typically smoked by the participant and by others in the home on a daily basis were considered.

Table 30: Smoking in the home

<table>
<thead>
<tr>
<th></th>
<th>Pre-strategy</th>
<th>Post-strategy</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of homes in which smoking occurred</td>
<td>14</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>No. of children &lt;5 years exposed</td>
<td>10</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>No. of children 6–16 years exposed</td>
<td>26</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Total no. of cigarettes smoked in home by participant</td>
<td>264</td>
<td>16</td>
<td>248</td>
</tr>
<tr>
<td>Total no. of cigarettes smoked in home by others</td>
<td>136</td>
<td>11</td>
<td>125</td>
</tr>
<tr>
<td>Total cigarettes smoked inside daily</td>
<td>400</td>
<td>27</td>
<td>373</td>
</tr>
<tr>
<td>Most cigarettes smoked in home per day</td>
<td>60</td>
<td>4</td>
<td>56</td>
</tr>
<tr>
<td>Least cigarettes smoked in home per day</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mean cigarettes smoked in home per day</td>
<td>28.57</td>
<td>1.9</td>
<td>26.67</td>
</tr>
</tbody>
</table>

Before the strategy, only three participants did not smoke in the home. Of those who did, seven allowed others to smoke in the home. The participants, either as primary or secondary carers, cared for a total of 39 children, of whom 13 were under the age of five years. Thirty-three children were exposed to environmental tobacco smoke generated by cigarettes smoked in the home. There are issues in presenting this
data graphically because, in some cases, one parent smoked, exposing one child, and, in some cases, two parents smoked, but only one was involved in the study. In other cases, one or two parents exposed more than one child. In addition, not all children were exposed to all cigarettes smoked in the home. This is further complicated because some sibling groups of mixed age occupy the same home, and children under the age of five typically have a greater exposure to environmental tobacco smoke, particularly if their mother smokes.

As Table 30 indicates, the strategy had a significant effect in reducing the exposure of children to environmental tobacco smoke in the home. No child was subject to increased exposure, and for most children exposure ceased, while for others it was reduced. The mean pre-test smoking in the home frequency was 28.57; the post-test was 1.9—a difference of 26.7 (t = 5.3001, p = 0.0001).

**OTL Questionnaire**

While individual scores are interesting (pre and post scores can be seen in Figures 17 and 18), the change in scores across the group is more illustrative of the effect of the strategy on the cohort. Pre and post mean scores can be used to determine if the change was due to chance or to the strategy, to eclipse larger than average differences in scores by individuals, and to explore any differences in domain scores.

![Figure 17: OTL Questionnaire A—Mean pre and post individual scores](image-url)
The mean pre and post scores are 3.91 and 4.22; the difference is 0.51 ($t = -3.9154$, $p = 0.0092$), representing an overall slight improvement. Those whose positive difference score was more than one also found that their change in smoking habits heralded significant differences in their attitude to life:

- Participant 6 (difference 1.16) had not recognised how little control she had over the behaviour of visitors in her own home until she tried to institute a no-smoking ban in the home. She began to work with a psychologist and recognised the role of nicotine and smoking in helping her tolerate a difficult situation;

- Participant 12 (difference 1.46) had a very low pre score of 2.15, indicating that she felt she had little or no manageability or comprehensibility of meaningfulness in her life. This raised serious concerns for the strategy provider. The participant indicated that she had not realised how bleak her outlook was, and agreed to see a psychologist in order to remain with the project. She recognised the role of nicotine in repressing symptoms of post-traumatic stress—a legacy of childhood emotional neglect and sexual abuse;

- For participant 17 (difference 1.22), the scores reflected a shift in his capacity to parent. Prior to the strategy, he tended to keep his children at home throughout the weekend. Once he realised their exposure to environmental tobacco smoke was detrimental and in the early days of his reduction, he took them out to various parks where they could play and where he could smoke surreptitiously. His own childhood had not included the pleasures of going to parks and playgrounds, and he found that he enjoyed it so much that, by the retest, he was walking for at least 40 minutes each day. This was probably partially responsible for his success. Smoking was reduced from 40 to two cigarettes per day, and walking possibly improved his mood and his health.
Figure 18 illustrates total participant responses to specific questions. The mean pre and post scores are 3.91 and 4.26. This difference is 0.35 ($t = 2.0684$, $p = 0.0608$), representing a slight improvement across all questions, except Question 12. This question concerned feeling down: ‘Many people, even those with a strong character, feel like losers in certain situations. How often have you felt this way in the past?’ Given the relationship between smoking cessation and depression, and the numbers who ceased smoking, this reduction is perhaps an accurate reflection of the post-test situation.

Table 31: Pre and post score per domain

<table>
<thead>
<tr>
<th>Domain</th>
<th>Questions</th>
<th>Pre</th>
<th>Post</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensibility</td>
<td>1,3</td>
<td>3.59</td>
<td>4</td>
<td>0.41</td>
</tr>
<tr>
<td>Manageability</td>
<td>4,7,8,10,11,12,13</td>
<td>3.93</td>
<td>4.41</td>
<td>0.48</td>
</tr>
<tr>
<td>Meaningfulness</td>
<td>2,5,6,9</td>
<td>4.28</td>
<td>5.04</td>
<td>0.76</td>
</tr>
</tbody>
</table>

As indicated by Table 31, the highest pre and post scores, and the biggest score difference per domain, follow the same pattern. This is perhaps a reflection of how the strategy, and the programme in which it is located, are constructed. The emphasis is on skill building, rather than insight, to change behaviour. Therefore, the participant is more likely to have a higher score in the manageability domain than in the comprehensibility domain. The participants were all parents who had, through participation in the Parent Support programme, made at least some changes resulting in improvements in the behaviour of their children, and in their relationship
with their children. It is possibly this that motivated their involvement in the research. The results, in all cases, led to a reduction in smoking and a significant reduction in smoking in the home—both of which probably reinforced participants’ capacity to make meaning and to move in a health enhancing way. As parents, meaning was enhanced as they moved both themselves and their children towards better health. This may contribute to the highest scores in the meaningful domain.

2.4 Relationships between scores

**Smoking frequency and severity of dependence**

![Figure 19: Pre smoking frequency and SDS score](image)

A Pearson product-moment correlation coefficient was computed to assess the relationship between participant pre smoking frequency and their SDS scores. As Figure 19 illustrates, there was a weak to moderate relationship ($r = 0.33$, $p = +0.3001$).

<table>
<thead>
<tr>
<th>SDS score range</th>
<th>Number</th>
<th>Mean age</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6</td>
<td>45 years</td>
</tr>
<tr>
<td>11–14</td>
<td>2</td>
<td>42 years</td>
</tr>
<tr>
<td>5–10</td>
<td>9</td>
<td>30 years</td>
</tr>
</tbody>
</table>

There was also a relationship between age and SDS score. Almost half of the participants who scored more than 11 on the SDS were over 40 years of age. This is
perhaps an indication of greater concerns about the accumulation of damage from smoking over time.

**Pre smoking frequency and smoking in the home**

Before the strategy, the number of homes in which smoking occurred was 14. The number of cigarettes smoked daily by the participant and others ranged between two and 60—a mean of 14.3. A Pearson product-moment correlation coefficient was computed to assess the relationship between the participant’s pre smoking frequency, and the amount of smoking in the home by the participant and others. As Figure 32 illustrates, there is a moderate relationship ($r = 0.3$, $p = 0.548$).

**Smoking frequency and OTL score**

A Pearson product-moment correlation coefficient was computed to assess the relationship between pre smoking frequency and OTL score. As indicated by Figure 21, there is either no or a very weak relationship ($r = 0$, $p = 0.0485$).
A Pearson product-moment correlation coefficient was also computed to assess the relationship between post smoking frequency and OTL score. The results are similar to the pre coefficient ($r = 0, p = -0.3389$).
2.5 Summary of results

Table 33: Pre and post outcomes of smoking frequency, smoking in the home and orientation to life

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (mean)</th>
<th>Post-test (mean)</th>
<th>Difference</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking frequency</td>
<td>28.1</td>
<td>5.9</td>
<td>22.2</td>
<td>8.6123</td>
<td>1.85916E-07</td>
</tr>
<tr>
<td>(no. of cigarettes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking in the home</td>
<td>28.57</td>
<td>1.9</td>
<td>26.7</td>
<td>5.3001</td>
<td>0.0001</td>
</tr>
<tr>
<td>(no. of cigarettes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation to life</td>
<td>3.91</td>
<td>4.22</td>
<td>0.51</td>
<td>-3.9154</td>
<td>0.0092</td>
</tr>
</tbody>
</table>

The strategy had a significant and positive effect on the smoking frequency of participants. Within six months, no participant increased their smoking—they either ceased smoking or reduced the number of cigarettes they smoked. Of the participants, five, which is almost one third, ceased to smoke. Of those still smoking, mean daily consumption was reduced from 28.1 to 8.4.

The strategy had a significant and positive effect on smoking in the home, and thus on the exposure of children in the care of the participants to environmental tobacco smoke. Before the strategy was applied, smoking occurred in 14 homes, affecting 36 children of whom 10 were under five years old. Six months later, smoking occurred in only three homes, with five children exposed. The total number of cigarettes smoked in the home by the participant and others dropped from 264 per day to 16 per day.

The strategy had a positive effect on how participants felt about their capacity to comprehend, manage, and make meaning in their lives, as measured by the OTL Questionnaire. The questionnaire is known to deliver consistent results over time, with shifts towards greater scores indicating positive changes in life. The mean score of participants shifted slightly upwards. Some participants, whose change in smoking behaviour was the catalyst for other significant changes in daily behaviours and in relationships, had significantly better post scores.
Chapter 3   Discussion

3.1   Introduction

This chapter discusses the results of the study and draws reference from the available literature. How the results answered the research question is described in terms of the effects of the strategy on participants of the study. These effects are compared with the outcomes of other similar projects. The effects are also explored in the light of the original hypotheses, best-practice principles emerging from the literature, and the qualitative and quantitative findings generated by the research. The implications for social work policy and practice and further research are considered and recommendations are made.

3.2   The tangible effects of a harm reduction tobacco related strategy on parents in the hard to reach cohort

*Reduced smoking by participants*

The results of the Severity of Dependence Scale indicate that all participants were above the cut off point for addiction to nicotine, in all cases this was inhaled from cigarettes. The data presented in the previous chapter indicate that during the time the strategy was implemented and six months later there was a significant reduction in smoking by most participants. The number of daily smokers was reduced by almost one third—from 17 to 12. Of those still smoking the overall mean number of cigarettes pre-test was 28.1 post-test this reduced to 8.4. Participants reduced their smoking by between 28% and 100%. The mean reduction was 75%.

*Reduced smoking in the home*

There was a significant reduction in smoking in the home by most participants. Those participants who continued to smoke tended to avoid smoking in the home. This reduction is important because it meant a reduction in the exposure of children in the care of participants to environmental tobacco smoke in the home, particularly those under the age of five. Of 39 children of parents in this study, before the strategy, 33 were exposed daily to a mean of 12 cigarettes. Six months after the strategy, only five children were exposed to a daily mean of 5.4 cigarettes. This can be summarised as an overall reduction of 97%.
3.3 The projected effects of a harm reduction tobacco related strategy on parents in the hard to reach cohort.

The effects of the strategy concern further strategy outcomes that can be projected, if the tangible differences are sustained.

Can tangible differences be sustained?
There are no guarantees in any study, whether an exploration or a double blind randomised trial, that some one who has stopped smoking at the final measure will not resume or increase their smoking at some point. However studies discussed in the literature review have consistently indicated reduced smoking is a gateway to cessation. Study participants who ceased or made significant reductions in their smoking—for example, changing from 37 or 40 cigarettes per day to two or no cigarettes per day—also reported significant changes in attitude and behaviour, this was confirmed by improvements in the OTL score indicating lifestyle change. In addition, the precedence for sustaining change in this cohort was already set. Parent Support—the programme from which the parents were recruited, and from where the principles of the strategy were borrowed—conducts a six-month follow-up on groups of exiting parents. In 2009, 26% had sustained positive changes and 53% had continued to build on the positive changes incurred by the programme. Those who referred the family and case managers confirmed these results.

Participants are more likely to cease smoking later
A major longitudinal study involving twins, undertaken in Finland, indicated that the association of smoking reduction with increased likelihood of cessation was independent of genetic or early, shared family influences on smoking behaviour. The study concluded that smokers who are able to decrease the number of cigarettes smoked per day by at least 25% are more likely to quit later (Broms et al. 2008). If that conclusion is applied to this study, then all participants are more likely to quit later, as they all reduced smoking by over 25%.

Participants are more likely to stop smoking during future pregnancy
A British study conducted on mothers in the hard-to-reach cohort who smoked during pregnancy found that the level of nicotine dependency at the beginning of pregnancy was the only factor of difference between those who ceased smoking and those who did not. Those who ceased, smoked an average of 14 cigarettes per day, and those who did not smoked an average of 18 cigarettes per day (Bennett & Clatworthy
Of the participants in this study, nine were healthy, female and under 30 years of age (mean 28.5 years), and thus may have more children. Before the strategy, seven smoked over 18 (mean 31) and two smoked between 14 and 17 (mean 14.5) cigarettes per day. After the strategy, one participant smoked 25 per day (having reduced by 10), four continued to smoke a mean of six per day, and four stopped smoking. If the findings of the British study are applied to this study and all nine women were to become pregnant, only one, instead of seven, would be likely to continue smoking.

Children are less likely to become daily smokers during adulthood

The literature indicates the strongest predictors and the most sensitive indicators of daily smoking at 18 years of age are parental tobacco use, low socio-economic status and problem behaviour (Derzon & Lipsey 1999). Later studies indicate that it is not just parental modelling, but the proportion of nicotine absorbed from that available in environmental tobacco smoke during childhood, that is associated with subsequent smoking in adolescence (Becklake et al. 2005). A more recent major study found conclusively that each parent smoking increased the likelihood by 28% that their children would become daily smokers (Bricker et al. 2007).

These indicators and predictors were all factors shared by the children in the participants’ care in this study. Sixteen children were exposed to one parent, and 17 children were exposed to two parents’ environmental tobacco smoke on a daily basis. If the 28% likelihood of the Bricker study is applied to this study, then, prior to the strategy, approximately 12 children were projected to become daily smokers, after the strategy, only three were projected to become daily smokers. The intervention potential is strengthened because the smoking strategy was delivered in conjunction with work aimed to reduce problem behaviour through enhanced parenting; thus reducing two of the factors contributing to the uptake of daily smoking during adulthood.

3.4 Comparisons with other strategies

There is little meaningful data available for comparison with this study. In this study, participants supported behavioural harm reduction with products and therapies that were available, and achieved a mean reduction in smoking of 75%. Previous and rather old harm reduction studies were undertaken before such products were available. Examples of studies variously indicate a 75% reduction in smoking,
compared with a 2% reduction in a comparison group (Glasgow et al. 1983); a 56% reduction in smoking; and a 28% reduction in nicotine use (McGovern & Lano 1991). These efforts had much better outcomes than a major abstinence-based programme delivered at a similar time, in which around 33% to 36% of participants were able to quit or maintain reduced smoking at the three- to four-year follow-up (Colletti et al. 1982).

Outcomes for products and therapies are only based on cessation rates, not reductions. Pharmacotherapies are now being used in conjunction with counselling and secondary interventions (Bittoun 2006).

The literature describes in the previous section indicates behavioural harm reduction strategies that incorporate whatever products and therapies are available, appropriate and accessible have a greater chance of succeeding, as this study has shown.

3.5 Outcomes in relation to the original hypotheses

This study was designed to identify and articulate the important biological, personal, social and political factors that could contribute to a successful tobacco-related harm reduction strategy. The relational threads between the participants, the intervention and harm reduction were originally articulated by these four working hypotheses, all of which were confirmed by the research:

1) Participants will be found to have existing (or unrecognised) physiological and/or psychological relationships to nicotine and to smoking, which makes their dependence on tobacco smoking more complex;

2) Participants’ smoking is intrinsic to relationships in which mutual smoking, or the provision of cigarettes, are markers of loyalty, intimacy or control. The extrication of smoking from these relationships may be complicated, conflicted and distressing;

3) The majority would prefer to have greater control over their smoking;

4) A strategy that responds to exigencies of the previous hypotheses and which is delivered in accordance with the elements of best practice for this cohort will be successful in reducing the harm from tobacco smoking.

The physiological and/or psychological relationship to nicotine and to smoking was highly significant. Eight mental illnesses and 12 mental health conditions had been
diagnosed; some participants had multiple diagnoses. These illnesses complicate addiction to nicotine. Cigarette smoking can alleviate negative symptoms of a mental illness and of medications used to treat the illness. However smoking tobacco influences the metabolism of many medications, cessation, and particularly abrupt cessation, of smoking can result in adverse effects such an overdose from the prescribed dose.

There is no diagnosis for what one participant referred to as a ‘crap childhood’. Adverse early life circumstances do not necessarily coalesce into a mental health diagnosis however this by no means reduces their impact on the individual’s development. By any definition, 15 of the 17 participants completing the strategy, as children and young people, suffered the kind of stress incurred by victims of war such as prolonged exposure to violence, violent and sudden loss of family and friends and poor nutrition. The effect was magnified by the absence, throughout life, of unconditional love, encouragement and support. Strategy providers witnessed participants lighting cigarettes in response to feelings that had no voice, and in response to the pervasive sense of impotence relating to the recurrence of those feelings. Smoking and nicotine was essential, and was perceived to be essential, to the management of troubling feelings. This ‘undiagnosed’ and unvoiced legacy of childhood complicates tobacco addiction. Nicotine delivered by cigarettes soothes troubling feelings associated with anxiety and trauma. Having a cigarette does, and is perceived to, calm feelings of rage, and is a ritual of self-activated comfort for the bereaved, abandoned and lonely.

Only four participants had the help and support of family. For the rest, family involvement was non-existent, hostile or, at best, conditional. For many of the participants, smoking with, or despite, a mother, father or intimate partner was a marker of control or loyalty, or signalled a truce in hostility. For some, smoking was the only genuinely shared activity—the giving of a cigarette the only act of generosity. For others, it was even more important—the only binding agent in a relationship. As nicotine increases the salience of reward, a shared cigarette enhances the perception, rather than the real value, of the relationship. The extrication of smoking meant facing the reality of the paucity of the relationship and for some relinquishing the hope that it could ever be improved.

Type 2 or complex trauma, as discussed in Chapter 7, Part 2, would include current symptoms relating to abuse or neglect in childhood, but this is not listed in the Diagnostic and Statistical Manual of Mental Disorders.
One hypothesis not considered at the time the list was constructed was - parents will be found to make great efforts to give their children a better childhood than they themselves experienced. Participants were aware, at various levels, of the adverse effect of their ‘crap childhoods’, and were making great efforts to ensure their own children were loved and cared for. Efforts included seeking help and benefitting from services such as Parent Support, and using this opportunity to manage their smoking. The ‘missing hypothesis’ can be seen at all stages in the strategy:

• The first stage demonstrated the connections between the participants’ exposure to smoking as children, their current smoking, and the possible consequences of them exposing their children to smoking. Participants made the connection without any prompting, and although they were led to the insight they experienced the insight, for some it was an epiphany that motivated change;

• The second stage highlighted the benefits of nicotine and exposed the role of smoking in maintaining dysfunctional relationships. Many participants personalised this information and began to challenge their role as a smoker in relationships, in several cases the immediate change was to stop giving children cigarettes to modify behaviour;

• At the third stage the strategy offered protecting children from environmental tobacco smoke as a discrete goal that was not dependent on the participants stopping smoking, almost all began with as a first goal; and

• At the fourth stage it seemed for those participants who protected their children from exposure to environment tobacco this was a reward in itself.

The parents’ desire to give their children a better life was the greatest contributor to the reduction in children's exposure to environmental tobacco smoke. The strategy was congruent and opportune in channelling this desire. The strategy also included tips to help participants convince others not to smoke in the home. Even those participants who were unable to stop smoking either ceased or significantly reduced exposing children to their own and to others’ cigarette smoke.

The 4S Strategy explored in this study was shows promise as a strategy for reducing the harm from tobacco smoking because it responded to exigencies of the target group. The first S raised the issues in the first hypothesis, with the question: ‘Do you have a special relationship with nicotine and smoking?’ This signalled, for each
participant, the ways in which smoking helped them cope with the exigencies of mental health conditions and the legacy of a ‘crap childhood’. The second S presented smoking as comprised of two different elements: nicotine (the chemical) and smoking (the behaviour), and invited them to make a decision about each. The strategy presented taking control of smoking as a process, not an event. This allowed participants to perceive that a series of small goals was attainable, as opposed to one, large, unattainable goal. The third S challenged the role of smoking in existing relationships and helped participants to re-evaluate those relationships by using professionals, such as psychologists. The fourth S helped participants to look for, recognise and reward small steps on the way to achieving a self-determined goal. For many participants, this was an entirely new behaviour.

The 4S Strategy was successful in reducing the harm from tobacco smoking because it was delivered in accordance with the elements of best practice for the hard-to-reach cohort described in the literature review (Berry et al. 2000, Dawson & Berry 2002; DePanfilis et al. 2004):

- Most meetings were delivered in the participant’s home, in their own territory, through visiting or phone calls or a combination of both, depending on the participant’s wishes;
- The strategy was delivered in the context of a trusting relationship. The provider was committed to a collaborative process that would enhance participants’ well-being and their capacity to parent;
- The work was participant directed—their goals were sought and worked towards. There were no assumptions made, nor any secret agendas held, about the nature or purpose of the work;
- Inputs by providers were multi-modal, involving practical, educational, and therapeutic responses, and brokering services from doctors and other health professionals. All aspects of the intervention were generated collaboratively and tailored to participants’ unique circumstances;
- The strategy attended to the needs of the parent, the child and parenting, itself—particularly in situations in which parents used cigarettes to modify children’s behaviour, and subsequently needed to learn other ways to act;
- The strategy measured outcomes in terms of change in behaviour by the parent and the effect of that change on the rate of children’s exposure to environmental tobacco smoke; and
• Measurements were done conjointly with the provider and the recipient involved in the process.

3.6 The strategy in relation to recommendations for best practice

In the section on harm reduction in the literature review six points were articulated as necessary elements that should be taken into consideration when developing harm reduction strategies for smoking. In this section the strategy is considered in response to each of these. The literature reviewed consistently indicates a harm reduction strategy needs to effect a reduction of harm in one or more of these elements:

• Risk of harm for each use episode;
• The elevation of this risk because of repeated use; and
• The risk from and to others who may or may not be doing the same thing.

The strategy is considered in response to each of these.

1. Theory of how the strategy may reduce harm

The strategy did not reduce the risk of harm for each use episode but it did reduce the elevation of risk because of repeated use, and it reduced the risk from and to others who may or may not be doing the same thing. How it did this was through a number of stages that:

• Reached out to people who had previously not responded to prevention or control strategies;
• Delivered a staged intervention in the context of a collaborative relationship that sought and worked towards participants’ goals;
• Offered an alternative to quitting – a change in smoking behaviour as a process involving small incremental steps, rather than as an event that was won or lost;
• Presented smoking as a solution behaviour and offered alternate solution behaviours;
• Acknowledged the benefits of nicotine and offered alternate methods of ingestion; and
• Harnessed parents’ desires to improve life for their children.

2. Effect on prevalence of the undesirable behaviour
There was an effect on the prevalence of the behaviour (smoking tobacco), daily smoking ceased by almost one third, and only three children, rather than 12, were likely to become daily smokers. The mean reduction in daily smoking was such that all participants were more likely to cease smoking later, and if nine women were to become pregnant, only one, rather than seven, likely to continue smoking.

3. Effect on intensity of use
The effect on intensity of use was also significant. Of those still smoking, the mean daily smoking rate fell from 28.1 to 8.4 cigarettes.

4. Effects on others
The effect on others, particularly children, was significant. The number of children exposed daily fell from 33 to five, and the mean daily rate fell from 12 cigarettes to 5.4 cigarettes.

5. Whether aspects of the intervention or the intervention, itself, conveys symbolic approval of the undesired behaviour
No aspect of the strategy could be justly criticised for conveying symbolic approval of smoking. However, it is possible that criticism may come from those whose attitudes to smoking are based solely on prevention or control, and who may not understand the nature of harm reduction or the need for targeted interventions for the hard-to-reach cohort. To assuage this, the strategy begins with a disclaimer that supports the fact that the best alternative is not to smoke, and that the strategy is designed for those who cannot stop smoking. The term ‘quit’ is never used because, for this cohort, it is associated with failure. Instead, the words ‘change in smoking behaviour’ are used. However, these do not carry an assumption of quitting—they refer to whatever the participant desires in terms of their smoking behaviour.

6. Potential threats: why it may fail to reduce harm
There are several potential threats that may prevent the strategy from reducing harm:
- Participants with a mental health condition—particularly those taking medications—may find a reduction in smoking or in nicotine exacerbates the symptoms of mental illness, or changes the efficacy of a prescribed dose of medication. To prevent this, participants were asked whether they had a mental illness, were encouraged to use slow reducing regimes, and were asked to consult with their treating physician regularly while making changes in smoking behaviour;
Participants with undiagnosed mental health conditions may find symptoms emerging from a subclinical level if nicotine levels drop. To prevent this from disrupting changes in smoking behaviour and causing distress, participants were invited to monitor their own symptoms and to seek psychological help if they were troubled.

3.7 Implications for social work

Implications for policy
Policy concerning population health is focused on reducing the incidence of preventable death and disease in the general population. As indicated by all the National Tobacco Strategies policy tackling tobacco smoking has always been funded through and implemented within the domain of population health, with the focus entirely on control and prevention. This policy has made it hard to sustain a smoking habit by decreasing the opportunities for smoking, increasing the price of cigarettes, and informing people of the harmful effects of smoking. In the last 30 years, this approach has been successful in reducing the incidence of smoking in the general population, and in reducing the level of community exposure to environmental tobacco smoke. It has also repositioned smoking from being an icon of success and sexiness to one of villainy and poverty. This policy needs to be extended to pay more attention to the small population cohorts who have a more complex relationship to nicotine and smoking, who live outside the mainstream, who are targeted by tobacco smugglers.

Policy written and implemented by social workers and allied professions is social policy driving government agendas and public and not-for-profit sector policy driving service delivery, particularly to the more vulnerable and marginalised cohorts in the population. There has been no policy regarding tobacco smoking that has arisen from social work, although there has been policy that encourages responses to the problematic use of alcohol and other drugs. There are three fundamental reasons why social work should begin to address smoking. These concern smoking as a social justice issue and a child protection issue, and the unique access this profession has to those affected.

Smoking as a social justice issue
Smoking is now almost entirely confined to people with specific personal and social burdens. For example, people with a mental illness or who are homeless smoke at
three to four times the rate of the general population. Aboriginal people smoke at a rate that is at least double that of the general population. Factors contributing to this concern the functionality of nicotine, the personal and social functions of smoking, the adverse consequences of abrupt quitting, and until recently the lack of any alternative effective support. It is this that makes smoking among the poor an issue of social justice.

Social work is committed to working to address and redress inequity and injustice, particularly when it affects socially disadvantaged people. As with other professional bodies overseas, the Australian Association of Social Workers Code of Ethics defines social work as:

‘…working with Australia’s First Peoples … supporting people to achieve the best possible levels of personal and social wellbeing … working to address and redress inequity and injustice affecting the lives of clients, client groups and socially disadvantaged people … working to achieve human rights and social justice through social development, social and systemic change, advocacy and the ethical conduct of research’ (AASW 2010, p. 7)

This initially involves subscribing to

‘the principles and aspirations of the United Nations Universal Declaration of Human Rights, other international conventions derived from that Declaration, as well as other human rights documents’ (AASW 2010, p. 7).

Providing effective interventions for smokers fits every category. A harm reduction option is informed by the UN International Covenant on Economic Social and Cultural Rights (United Nations 1966), in which Article 12 places the right to health as an autonomy-enhancing right. Signatory countries are committed to prioritise health interventions to promote those treatments most likely to increase autonomy among those least able to control their own behaviours.

Smoking and other unhealthy behaviours with a major psychosocial component, such as obesity, are perhaps the issues that bridge the policy gap between prevention and social work. Social work has the capacity to respond to the individual who does not fit the generic profile targeted by standard prevention measures.

**Smoking as a child protection concern**

Many children of the poor and the marginalised parents continue to be exposed at home and in their communities—sometimes to vast quantities of environmental
tobacco smoke. Parental, particularly maternal, smoking compounds with other factors of poverty and marginalisation to have insidious and sometimes catastrophic effects on children throughout their life trajectory. These include poor health, welfare and educational outcomes, as well as an increased propensity to be a daily smoker.

When a pregnant woman smokes, she increases the risk of an adverse event during the pregnancy and the birth, and she increases the likelihood that her child will die of SIDS. Pre- and post-natal exposure to environmental tobacco smoke increases a child’s risk of injury or death by fire. The child will have increased rates of many illnesses, of adverse behavioural outcomes and of cognitive impairment. This will cause more time away from school (Kum-Nji et al. 2006), more hospital admissions, and less capacity to recuperate from surgery (O’Rouke et al. 2006). The child is also more likely to become a daily smoker—for each parent smoking, the likelihood is increased by 28% (Bricker et al. 2007). Aboriginal children are exposed more than other Australian children. Approximately 67% of Aboriginal mothers smoke throughout pregnancy (Gilchrist et al. 2004), and 62% of households with Aboriginal residents have at least one regular smoker (Australian Institute for Health and Welfare 2008).

Women who stop smoking during pregnancy tend to do so at confirmation of the pregnancy. Without any intervention, between 20% and 35% cease smoking (but only 2% of Aboriginal mothers), and over half reduce their smoking. Factors contributing to continued maternal smoking include Aboriginality, poverty and marginalisation, smoking 18 or more cigarettes per day, and having a partner who continues to smoke (Fingerhut et al. 1990; Severson et al. 1995; Bennett & Clatworthy 1999; Woodby et al. 1999). Despite a great number of prevention efforts and a few more significant interventions targeted later in the pregnancy, the reality is that if a mother does not stop smoking in response to confirmation of pregnancy, she is unlikely to do so at any time during the pregnancy (Orleans et al. 2000; Lumley et al. 2009; Tappin et al. 2005).

**Unique access**

Social work has unique access to all cohorts with enhanced smoking rates. The majority of that access is through the delivery of services designed to improve well-being and enhance community participation. Attention to the client as a smoker may mean the provision of sequestered smoking places so that the client can access services and/or the provision of nicotine replacement products that will enable the
client to do such things as keep appointments and use public transport. Attention to the client as smoker should also mean enabling access to effective interventions, such as the one studied in this thesis, that have been designed in accordance with principles derived from UN documents, social work codes of ethics and from principles of best practice for service delivery to poor and marginalised people.

Social work is also charged with child protection, and children need to be protected from tobacco smoke. Ensuring that this happens for all children has many dilemmas. There is no case to be made for threatening the removal of a child because the mother smokes during pregnancy. Smoking is not illegal and the insidious effects of maternal smoking are typically related to poverty. The catastrophic effects caused by smoking are only predictable in terms of increased risk. There is no safe alternative to smoking during pregnancy. There is perhaps a case for non-smoking to be a condition of a protection order—that no one can smoke around a baby who has, for example, an increased risk of SIDS (Sundell 2004; Shah et al. 2006). Testing for exposure to environmental tobacco smoke is simple and non-invasive. There is precedence for a conditional response. Parental smoking is sometimes articulated as something not to be done around children in orders issued by the Family Court.

A therapeutic response, such as the 4S Strategy, is preferable and may prompt many parents to access help. At the very least, it may encourage them to protect their children from environmental tobacco smoke. This may prevent the transmission of smoking to subsequent generations.

A policy change that places some responsibility for smoking within services delivered by social work would require a redirection of funds away from campaigns. Instead, the responsibility would lie with evidence-based harm reduction strategies delivered by professionals who already have relationships with people in the hard-to-reach cohort.

**Implications for practice**

The strategy was designed to support parents to change their smoking habits and, particularly, to protect children from environmental tobacco smoke. The strategy would compliment any casework service similarly attempting to enhance the competency and confidence of parents. This strategy, with a few small changes, could be implemented in a number of different settings that provide services to people in the hard-to-reach cohort. Application of the strategy, in the context of this
study, demonstrated that skilled workers who are trained to deliver the strategy are required for the successful implementation of the strategy. A commitment from the system to extend the life of the case and provide extra resources is also required. The strategy was most appropriately delivered by a caseworker (not the family’s caseworker), without any conditions attached to the provision or the success of the strategy.

In this study the strategy was only offered to individuals involved in two particular programmes. However, two service providers who thought the strategy could be delivered in services targeted to the support the education of teenage mothers and to support people with a mental illness have expressed interest. Several possibilities arose from discussions with these service providers: making the strategy available to individuals, providing the strategy in a group setting, and providing the strategy as part of a community-based response to smoking. Another university has expressed interest in developing the 4S Strategy as part of an Aboriginal community based effort to improve health outcomes for children.

Adaptation of the strategy for these and other contexts is very feasible. However, a number of elements need to be considered. If the strategy is offered as an adjunct to a service—as it was in Parent Support—and delivered only as requested to individuals or couples, then there may be no need to make changes to the strategy. However, the strategy deliverer may need to eclipse certain sections, particularly those relating to children, if the recipients are not parents. If the strategy is offered to a group, then a skilled group worker should be engaged to support the provider to make the best use of group dynamics.

A greater level of adaptation is required if the strategy is offered in the context of an Aboriginal community. This would need to be conducted in accordance with the principles underpinning the strategy. Therefore, for example, the first stage of the process would concern collaboration with potential recipients about how the strategy could be implemented in their context. It would include consultation with community members about how the information in the strategy could be best articulated, and whether any sections required greater or lesser emphasis. The process of developing a strategy for use in a specific context generally leads to participants having a sense of ownership over their version of the strategy, and a strong commitment to its implementation within that context.
Other venues through which this strategy could be delivered include community drug service teams and telephone services, such as the Alcohol and Drug Information Service, as both these services use qualified providers. Wherever the strategy is applied, the same conditions need also apply—adhering to the principles underpinning the strategy when developing it for use in new contexts; use of qualified, skilled and trained providers; service commitment of time and resources; and no conditions attached to the clients’ access or success.

### 3.8 Recommendations

The findings of this study lead the researcher to make the following statements:

- The 4S Strategy shows promise as a strategy for reducing the harm from tobacco smoking because it responded to the exigencies of cohorts including access, engagement and attention to at-risk factors.
- The 4S Strategy shows promise as a strategy for reducing the harm associated with the exposure of children to environmental tobacco smoke because it harnessed the desire of parents to make better lives for their children, and was designed using the principles of best practice for parents in the hard-to-reach population.

To use and build on the findings of this study, the researcher makes the following recommendations:

- This research needs to be used to inform further work with population cohorts with enhanced smoking rates.
- Further research needs to be conducted on the statements made about the generational transmission of smoking and about the home being the site of induction;
- This strategy needs to be developed and applied under research conditions in a number of other contexts, particularly in Aboriginal contexts.
Conclusion

People in the hard-to-reach cohort - those most affected by marginalisation and poverty who are the least likely to heed prevention messages - can be supported to make significant changes to their smoking behaviour. These changes, in turn, can improve the long-term health of their children and can diminish the likelihood of them taking up daily smoking in adulthood.

A number of factors contributed to the changes in smoking behaviour made by the parents who took part in this study, all of which can be replicated in other contexts.

Firstly a proportion of parents/carers are taking part, whether coerced or mandated to do so, in a targeted evidence-based program designed to enhance their parenting behaviour, the type of program described in Chapter 7 of the first part of this thesis. Once the parents who smoke are responding to the program, that is, they are engaged in a relationship with the service provider and have achieved some positive outcomes with their children, then they are likely to be ready to re-evaluate broader aspects of parenting behaviour such as smoking.

Secondly the operational principles of the program and the strategy were congruent particularly concerning strengths based collaboration. This included an appreciation of the existing strengths of parents in having protected their own children from experiencing the levels of abuse and abandonment they experienced as children and of managing with little family support. The program and the smoking strategy channelled the existing desire of such parents to give their children a better life than they had experienced.

With these two factors are in place the 4S strategy was able to present tobacco smoking in a new light. Instead of presenting it as a pointless addiction it was presented as a solution behaviour, one that supported the management of troubling feelings, repressing anger and symptoms of post traumatic stress and supported transactions within relationships. The strategy supported participants to access alternative solutions to managing these frailties. It presented changing smoking behaviour as serious of small steps. Participants were helped to find existing
mainstream methods to support the changes they sought to make in their smoking behaviour and encouraged to celebrate each step achieved.

The strategy was effective in that during the period of implementation there was a 75% reduction in smoking by participants and exposure of children to environmental tobacco smoke was reduced by 97%.

What is new about the work described in this thesis is the creative juxtaposition of existing evidence-based elements: The 4S strategy was designed using evidence from the alcohol and other drug–related harm reduction discourse, as well as evidence from the discourse relating to enhancing parenting in the hard-to-reach cohort. The strategy also incorporated the most recent evidence concerning nicotine addiction, nicotine and mental health conditions, and the role of cigarettes and smoking in sub-cohorts of the hard-to-reach population. As such this is the first cohort targeted, harm reduction strategy to use access pathways created by child protection services.

This strategy can be replicated; it could become an adjunct to family support and child protection interventions, but is it likely to be replicated? Discussions with various service providers are ongoing, it may yet be delivered in the context of non-government mental health services. When the research was proposed, approved and first implemented child protection services were in a rare period of expansion, the state was in the height of an economic boom and there had been some highly publicised deaths of children who were under the supervision of child protection services. By the time the research was half way through the global financial crisis had occurred and belts were being tightened. There was pressure on social workers in child protection to cut the number of hours spent with families and cut the number of cases to focus only on child protection. Despite this there was sufficient good will and commitment for the project to be completed. It is likely to be replicated in the future but probably in an Aboriginal rather than generic context.

The 4S strategy was developed specifically for people marginalised by poverty and social and personal burdens and it uses a family approach this makes it appropriate for Aboriginal people. Since the project commenced the Closing the Gap Agenda was announced by the Australian Federal Government which includes a commitment to halve the gap in mortality rates for Aboriginal children under five in a decade, this will be tackled in part by a reduction in smoking which contributes to Sudden Infant
Death Syndrome and poor health outcomes. Elements of the strategy have been included in a tackling smoking training package for Aboriginal health workers and interest has been expressed by another university in developing the 4S Strategy as part of an Aboriginal community based effort to improve health outcomes for children.
Bibliography


Australian Infant, Child, Adolescent and Family Mental Health Association 2001, *Children of parents affected by a mental illness scoping project report*, Mental Health and Special Programs Branch, Department of Health and Aged Care, Canberra.


Benowitz, NL 2002 ‘Biochemical verification of tobacco use and cessation’ Nicotine and Tobacco Use, vol. 4, pp 149-158.


Berry, M 2005, ‘Winning ways to engage families: outlining the proven techniques that engage families in strategies for change’, Proceedings of the 2005 New South
Wales Family Services Conference, Australia.


Calma, T 2010, ‘What’s needed to close the smoking gap?’, *Seminar provided by National Drug Research Institute*, 17 November 2010, Perth.


Chamberlain, C & MacKenzie, D 2003, ‘Counting the homeless’, *2001 Australian census analytic program*, Cat. no. 2050.0, ABS.


Cincipripini, PM, Lam, C, Blalock, JA, Robinson, J, Wetter, DW, and Baile, UT, 2006, ‘Does scheduled reduced smoking have a place among smoking cessation treatments?’ Society for Research on Nicotine and Tobacco Orlando FL: 2006


Clark, K 2006, Report on the analysis of Best Beginnings client data, Telethon Institute for Child Health for the Department of Community Development, Western Australia.

Clark, K 2008, A follow up study of Best Beginning clients, Telethon Institute for Child Health for the Department of Community Development, Western Australia.

Coghlan, R, Lawrence, D, Holman, D & Jablensky, A 2001, Duty to care—physical illness in people with a mental illness, Department of Public Health and Department of Psychiatry and Behavioural Science, The University of Western Australia, Western Australia.


Corcoran, J 2000, *Evidence-based social work with families*, Springer Series, USA.


Daly, A, Saunders, D & Roberts, L 2000, *Collaborative health and wellbeing survey: an overview*, Health Department of Western Australia, Western Australia.


DePanfilis, D, McDermott, Lane, M Strieder, F & Girvin, H 2004, Making family connections to help families meet the basic needs of their children replication manual, Family Connections, Baltimore.

Department for Community Development 2001, Annual report, Government of Western Australia.


Department of Human Services 2003, Child protection outcomes project, Government of Victoria, Australia.


Gariti, P, Alterman, A, Ehrman, R, Mulvaney, FD & O’Brien, CP 2001, Detection of smoking following smoking cessation treatment, Department of Psychiatry, Treatment Research Center at the University of Pennsylvania, School of Medicine Philadelphia Veterans Affairs Medical Center, Philadelphia.


Glascoe, FP 2004, Parents evaluation of developmental status, Ellsworth and Vandermeer Press, USA.

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Grant, M 1968, ‘Here’s a filter that tames the killer tar’, *The Herald*, 5 May.


Herman, JL 1992, Trauma and recovery, Basic Books, New York.


Katzung, B G (ed.) 2000, Basic and clinical pharmacology, 8th edn, McGraw-Hill, Appleton & Lange, USA.


from focus groups’, *Journal of Nicotine & Tobacco Research*, vol. 8, no. 2, pp. 287–296.


Landy, S 2006, *An evaluation of family pathways: an evidence-based model of service*, Psychological Medicine Clinical Care Unit, Princess Margaret’s Hospital for Children, Western Australia.


Moss, J 2009, Models and frameworks used to explain addiction, Responsible Parenting Services, Department for Child Protection, Western Australia.


Neonate Asthma Prevention Project Evaluation 2007, Internal document supplied on request by the Asthma Foundation of Western Australia


Sandberg, AnnSofi, Skold, MC, Eklund, A, Wheelock, AM, 2011 ‘Assessing recent smoking status by measuring exhaled carbon levels’ *Plos ONE* vol. 6 Issue 12

SANE 2001, ‘Smoking reduction and cessation for people with schizophrenia guidelines for general practice’, *Quit Victoria*, University of Melbourne Department of Psychiatry, Department of Human Services, Melbourne.


Schorr, LB 1997, *Common purpose strengthening families and neighborhoods to rebuild America*, Random House, USA.


Stratton, K, Shetty, P, Wallace, R & Bondurant, S (eds) 2001, *Clearing the smoke: assessing the science base for tobacco harm reduction*, The Board on Health Promotion and Disease Prevention, Institute of Medicine, National Academy Press, USA.


Tappin, DM, Lumsden, MA, Gilmour, WH, Crawford, F, McIntyre, D, Stone, DH Webber, R, MacIndoe, S & Mohammed, E 2005, ‘Randomised controlled trial of home based motivational interviewing by midwives to help pregnant smokers quit or


Appendix 1

The 4S Strategy

This book has been produced to support a research project: ‘An exploration of the effect of a tobacco-related harm reduction strategy on parents in the hard-to-reach population’. This research is undertaken by the School of Social Work at The University of Western Australia, and is supported by Responsible Parenting Services, Department for Child Protection, Western Australia.

Tobacco smoking is harmful. Children exposed to environmental tobacco smoke may develop health problems and are more likely to become smokers in adulthood. Not smoking is the best option. The strategy in this booklet is designed for people who have found difficulties stopping smoking and/or who wish to reduce the harm from smoking.
What is the 4S Strategy?

The 4S Strategy provides a pathway to support people to change their smoking behaviour. It is delivered in four stages.

The First S: Some people have a special relationship with nicotine and smoking

Recent research strongly indicates that, for a variety of reasons, some people gain a greater benefit from nicotine and are more likely to smoke. The research also suggests that these people may have greater problems stopping smoking and that if they quit in the typical way (a sudden and rapid cessation of smoking) it can be harmful. The aim of this stage is to help you identify if you are in this group, and, if so, why that is the case.

The Second S: Separate smoking from nicotine

Smoking and nicotine ingestion are connected, but they are not the same thing. If people with a special relationship to nicotine or smoking want to reduce or stop smoking, they need to deal with these as two separate activities. This is an opportunity to make choices, and there are many options: you may choose not to change; or, to protect yourself and your children from exposure to environmental tobacco smoke, you can reduce your smoking and maintain your nicotine intake; you can reduce smoking and nicotine intake; or you can stop smoking and, eventually, cease nicotine use.

The Third S: Social and personal meanings of smoking

The aim of this stage is to action your goals and to help you explore how the activity of smoking may have developed deep personal and social meanings. It is also to help you consider the future role of nicotine in your life.

The Fourth S: Stay in touch and celebrate small successes often

This aim of this stage is to take small steps and to celebrate achievements. If you are taking any long-term medication or have a mental illness or mental health condition, this stage is also about ensuring you stay in touch with your doctor.
How can I do the strategy?

The 4S Strategy can be delivered in a number of ways: by an individual working through this book alone; by two or more friends working through it together; or by a service deliverer, such as caseworker or counsellor, working through it with their client.

How do I use this booklet?

The first part of the booklet contains the 4S Strategy as a pathway of activities. The second part of the book holds all the detailed information you may need to help you follow the pathway.
THE FIRST S: DO YOU HAVE SPECIAL RELATIONSHIP WITH NICOTINE AND SMOKING?

Circle one answer per question.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Did your mother smoke while she was pregnant with you?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Did people smoke in the home where you grew up?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Did you have a stressful childhood?</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td></td>
<td>(i.e. abuse, neglect at home, death, serious illness of a parent</td>
<td></td>
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<tr>
<td></td>
<td>or sibling, violence in the home or community, frequent moves,</td>
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<td></td>
<td>bullying at school, traumatic events)</td>
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<td></td>
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<tr>
<td>4</td>
<td>Are you an Aboriginal person?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Have you come from a country with few smoking regulations?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>(i.e. countries in Asia, Africa and South America)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Do you have a mental illness?</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td></td>
<td>(i.e. bi-polar disorder, depression, schizophrenia, other)</td>
<td></td>
<td></td>
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<td>7</td>
<td>Do you have a mental health problem?</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td></td>
<td>(i.e. anxiety, post-traumatic stress, low self-esteem)</td>
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<tr>
<td>8</td>
<td>Are you taking medication for a mental illness or mental health</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>problem, or any other illness?</td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Have you ever been homeless, in state care, lived in an</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>institution, or been in custodial care?</td>
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<tr>
<td></td>
<td>(i.e. lived with a foster family, orphanage, hostel, specialist</td>
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<td></td>
<td>care centre detention centre, psychiatric hostel, prison)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Have you ever been addicted to alcohol or another drug?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Have you either never tried to stop smoking, or tried to stop</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>many times without lasting success?</td>
<td></td>
<td></td>
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<tr>
<td>12</td>
<td>Do most of the people you know smoke?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>13</td>
<td>Are you currently in a stressful situation?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Further information on the above can be found on page 8.

How many times did you reply ‘yes’? _____

One ‘yes’ tick puts you in the ‘special relationship with nicotine and smoking’ group. The more questions you answered ‘yes’ to, the more care you need to take of yourself in regard to smoking, particularly if you want to reduce smoking-related harm.
THE SECOND S: SEPARATE SMOKING FROM NICOTINE

No one is addicted to cigarettes or to smoking—a cigarette is merely a carrier for nicotine, like a glass or a bottle is the carrier for alcohol. The addiction is to nicotine, which can have positive effects, and may help people deal with difficulties in their lives. A smoking habit is not just about addiction. For many people, smoking is an activity that may have many meanings.

Smoking is an activity that:

- Supplies nicotine to the brain—nothing gets nicotine to the brain like a cigarette; however, there are other ways that can be nearly as effective;
- Can have deep personal meanings. Smoking can become a comfort and a constant companion. It can help break up the day and pass the time;
- Can have big implications in relationships. It can be the glue that holds people together, or the currency of intimacy. The giving or withholding of cigarettes can be a token of power and control;
- Can have deep social meanings. It can hold groups of people together in secret (and sometimes in shame) apart from the mainstream who do not smoke.

Nicotine:

- Is a psychoactive drug that lifts mood, reduces anxiety and, in some cases, helps brain function;
- Can be absorbed into the body through the lungs, mucus membranes (mouth, nose and anus) and through the skin;
- Can be addictive.

When thinking about changing smoking behaviour, it is helpful to consider nicotine and smoking as different—each requiring a separate goal—and to think about how that change may fit into your ideas about the future:

Imagine yourself in five years’ time. How old will the children be? What will you be doing? Are you still a smoker?

Lasting change tends to happen slowly. The table below has a list of possibilities about your future smoking. You may see it as list of steps towards a long-term goal of freedom from both smoking and nicotine, or you may pick one stage for now, and
make another selection when you reach that goal. Next to each stage is an empty space for you write in, and next to that is the section of the booklet you may want to read to support your decision. If you are already doing one, write ‘achieved’ in the empty space in the middle. If you would like to achieve one, write in the month and year you would like to achieve it by.

<table>
<thead>
<tr>
<th>Step</th>
<th>Which section of the book to use</th>
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<tbody>
<tr>
<td>Do nothing</td>
<td></td>
</tr>
<tr>
<td>Protect myself and my children from environmental tobacco smoke</td>
<td>Environmental tobacco smoke Little Lungs Controlled smoking</td>
</tr>
<tr>
<td>Take charge of my smoking</td>
<td>Controlled smoking Using cigarette substitutes</td>
</tr>
<tr>
<td>Definitely want to smoke less</td>
<td>Controlled smoking Reduction Regimes Using cigarette substitutes Understanding Nicotine Understanding Smoking</td>
</tr>
<tr>
<td>Stop smoking, but rethink giving up nicotine later</td>
<td>Using cigarette substitutes Understanding Nicotine Understanding Smoking</td>
</tr>
<tr>
<td>Stop smoking and stop using nicotine</td>
<td>Treatment drugs Understanding Nicotine Understanding Smoking</td>
</tr>
</tbody>
</table>

Once you have made a decision, use the following plan to help you implement it.

1. **Work out your baseline**

Use the plan below to find your cigarette intake for a typical 24 hours. If you have two different typical days, such as a weekday and weekend, then do two (there are spare sheets at the back of this booklet).
Example

<table>
<thead>
<tr>
<th>Time</th>
<th>Smoke and circumstances</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00am</td>
<td>Woke up</td>
</tr>
<tr>
<td>7.10am</td>
<td>1st cigarette</td>
</tr>
<tr>
<td>8.30am</td>
<td>2nd cigarette</td>
</tr>
<tr>
<td>9.00am</td>
<td>3rd cigarette</td>
</tr>
<tr>
<td>9.30am</td>
<td>4th and 5th cigarette with mate over coffee</td>
</tr>
<tr>
<td>11.00am</td>
<td>6th cigarette on way to supermarket</td>
</tr>
<tr>
<td>11.30am</td>
<td>7th cigarette on way out of supermarket</td>
</tr>
<tr>
<td>11.45am</td>
<td>8th cigarette at home from supermarket</td>
</tr>
<tr>
<td>1.00pm</td>
<td>9th cigarette after lunch</td>
</tr>
<tr>
<td>2.00pm</td>
<td>10th cigarette</td>
</tr>
<tr>
<td>3.00pm</td>
<td>11th cigarette</td>
</tr>
<tr>
<td>5.00pm</td>
<td>12th cigarette</td>
</tr>
<tr>
<td>7.00pm</td>
<td>13th cigarette</td>
</tr>
<tr>
<td>8.00pm</td>
<td>14th and 15th cigarette on phone</td>
</tr>
<tr>
<td>9.00pm</td>
<td>16th cigarette</td>
</tr>
<tr>
<td>10.00pm</td>
<td>17th cigarette</td>
</tr>
<tr>
<td>10.30pm</td>
<td>18th cigarette</td>
</tr>
<tr>
<td>10.45pm</td>
<td>Bedtime</td>
</tr>
</tbody>
</table>

Put the date on this and keep it safe—you will need to go back to it later to measure change.

2. Plan the first step

Think first only about the first step, rather than the long-term goal. Suppose the first step is to protect yourself and your children from environmental tobacco smoke. This requires that you no longer smoke, or let anyone else smoke, in the home or car.

You need to plan this out by answering the following questions:

- When will I start?
- Who will I tell?
- What do I need to do?
- Who will help me?
- Who will be against me?
- If I am successful, is there anyone who should be pleased for me, but probably won't care?

You may need to talk through the last three with a trusted friend or counsellor, or call a counselling helpline, such as the Alcohol and Drug Information Service.
3. Decide how to celebrate success

It is always best to work out what the finished product will look like. There may be a sign on the front door warning visitors, and a smoking spot somewhere away from the house. Children’s hair and clothing may no longer smell of tobacco smoke. When this has been realised, what will you do to reward yourself?
THE THIRD S: SOCIAL AND PERSONAL MEANINGS OF SMOKING

Smoking and nicotine may have many meanings for you—meanings that you may not realise until your smoking pattern begins to change. Below are some examples from people who were successful using this strategy.

**Nicotine improves your mood (so does walking!)**

Dad with depression:

I smoked because it made me feel better. When I decided not to expose the children anymore, I smoked outside. We live in a flat, so I went over to the park. The kids came with me and we started to have long walks. When the kids were at school, I still went for walks. Smoking wasn’t so important anymore; walking made me feel better.

**Nicotine can mask symptoms of complex trauma**

Grandmother:

I smoked since I was 13. When I started to cut down, I began to have nightmares about bad things that happened when I was child. I didn’t realise that smoking kept a lid on that. I went to see a psychologist and got a lot sorted out.

**Nicotine can make activities and relationships seem more rewarding than they actually are**

Mum with two children:

I used to smoke with my partner in the house. His brothers used to visit and we all used to smoke. Sometimes it was so foggy in the lounge it made your eyes sting. We decided to make the house smoke free and set up a place under the tree in the garden where people could smoke. His brothers got really annoyed and just lit up anyway. We squirted them with a soda syphon. The kids thought it was hilarious. His brothers stopped visiting and suddenly we had lots of family time.

As can be seen from these examples, some people may prefer you to smoke because it is the only thing that holds a relationship together. Realising this may be
painful and dealing with it may be difficult. Always get help and talk it over with someone who is outside the situation. Counsellors are available on various telephone lines if you can’t afford or get to a psychologist. You may also find the section on managing moods useful.
THE FOURTH S: STAY IN TOUCH AND CELEBRATE SMALL SUCCESSES OFTEN

If you are taking any long-term medications or have a mental illness or mental health condition, see your doctor before you start, and ensure you stay in touch with your doctor, as your medication may need to be reviewed.

This method suggests that you take small steps over a long period of time, and use any the methods available to help you achieve your goals. Each time you have achieved a step, celebrate it—get yourself a token of success and, when you feel low, look at that token and remind yourself of your success. Each time you have taken a step, do another typical 24 hours of smoking—even if your goal was not to reduce—and see if you have made a difference. Date and keep it.
INFORMATION ABOUT WHY SOME PEOPLE HAVE A SPECIAL RELATIONSHIP WITH NICOTINE OR SMOKING

Being born to a smoking mother and growing up in a smoking home

Children born to mothers who smoke in pregnancy and/or children who live with smokers are more likely to become smokers when they grow up (28% more likely for each parent who smokes). This is because nicotine enters the baby’s body through the mother’s blood and later through environmental tobacco smoke breathed in the home. The child is accustomed to nicotine and smoking is perceived as normal. Typically, these young people start smoking in early adolescence when naturally spending more time outside the smoky air of home. The body and brain is looking for nicotine—the mind is calling for a cigarette.

A stressful childhood

People born into poverty and social disadvantage tend to experience more stress. Children under stress often cannot cope well at school, have poor impulse control and low self-esteem. This can lead to long-term learning difficulties, problems in thinking and planning ahead, and a belief that they are not worth much. This may also mean—often with without them realising it—that they develop symptoms of complex traumatic or anxiety.

The drug nicotine soothes anxiety and lifts mood (this is not just about satisfying cravings). It is possible, without realising it, to use nicotine to help soothe difficult emotions or deal with symptoms, such as troubling memories. Also, having a smoke typically involves time out—having a quiet five minutes alone or with a trusted mate who is also smoking.

Aboriginal people

Many Aboriginal people have suffered a great deal of extra stress resulting from the Stolen Generation and from racism in the community. Nicotine helps to reduce anxiety and lift mood (see above). In the early days of settlement, tobacco was provided to Aboriginal people as part of rations, establishing the expectation of smoking. Today, half of Aboriginal people smoke. There have been few major anti-tobacco campaigns targeted towards Aboriginal people.
Migrants and refugees

Many migrants and refugees have experienced stress. Nicotine helps to reduce anxiety and lift mood. Many countries of origin have not introduced any tobacco control measures, and smoking, particularly for men, is sometimes seen as an important part of their masculinity.

Mental illness and mental health conditions

A mental illness is a serious condition that has been diagnosed by a doctor or psychiatrist. It is usually treated with medication and support. A mental health condition is less serious and may be treated by drugs or psychological treatment. An example of this is depression. Someone may have depression associated with bi-polar disorder (swinging between depression and elation) or uni-polar depression (no swings) that is crippling and requires constant medication and, sometimes, periods in hospital. Both are a mental illness. Someone else may have depressed moods that are not just in response to life’s difficulties. They become down for weeks at a time, but eventually bounce back. This is a mental health condition. The drug nicotine not only soothes anxiety and lifts mood, it can also help people with psychotic conditions to process information. It is possible, without realising it, to use nicotine to help to soothe difficult emotions or deal with symptoms of a mental illness or a mental health condition. Having a smoke typically involves time out—having a quiet five minutes to yourself or with a trusted mate who is also smoking.

Both nicotine and smoking may be helping the smoker feel better. Therefore, when changing smoking habits, extra psychological support and medical support may be required. Many people with a mental illness who stop smoking without specialist support face the possibility of a relapse of their illness for up to six months after stopping.

If you change either your smoking habit or the level of nicotine, you will need to check in with your doctor.
Medications (particularly those prescribed for mental health problems)

Both nicotine and chemicals from tobacco smoke affect the rate at which many medications are absorbed. These medications are prescribed in a dose that takes this into account.

*If you change either your smoking habit or the level of nicotine, your doctor will need to check your medication levels regularly.*

Homelessness, state care, hostels and other institutions, and custodial care

People who have lived in these contexts tend to have experienced a great deal of stress and often continue to experience emotional difficulties (see the section on childhood stress). In such places, the provision of cigarettes was often used to control behaviour and, in some places, tobacco was a currency.

Alcohol and other drugs

Both nicotine and chemicals from tobacco smoke affect the way in which many psychoactive drugs are experienced. Many drug users and drug counsellors believe that smoking is doing the least damage (they are wrong), and ignore smoking as a dependency. They have also often encouraged smoking.

Never tried to stop smoking, or tried to stop many times without lasting success

Many people have never tried to stop smoking because they cannot imagine being able to function without cigarettes. People who have significant problems stopping smoking may feel they are weak willed or have an addictive gene or personality. They end up blaming themselves because they are not aware that just quitting smoking may mean the worsening of symptoms associated with a mental health problem, as well as the usual difficult symptoms of nicotine withdrawal.

Most people I know smoke

People whose friends and family also smoke may have big problems stopping because they become the outsider in their social group. Many smokers find that they
mostly mix with other smokers, so when stopping smoking, they can feel marginalised (like lepers)—pushed far away from the rest of the world. Stopping smoking can mean loss of those friendships.

If smoking has an important place in the social life and activities of your community, stopping smoking may change your status in this group and people may regard you differently. You may need to explore this before you change your smoking habits.

**Current stress**

Nicotine reduces anxiety and lifts mood. Having a cigarette typically involves time out—having a quiet five minutes to yourself or with a trusted mate who is also smoking. Both nicotine and smoking may be contributing to you feeling better about your current situation. If you change your smoking habits, you may need extra support.
INFORMATION ABOUT THE DIFFERENCE BETWEEN NICOTINE AND SMOKING

Understanding smoking

Smoking, as an activity, may have many meanings besides delivering nicotine. In the many thousands of years of human use of tobacco, it has satisfied medicinal, spiritual, emotional, psychological and social needs.

In the past, smoking has meant different things to different people

American Indians have used tobacco for over 1000 years. They used tobacco juice as a personal germicide and smoke as a crop insecticide and during rituals to purify and ‘bless’ activities. They used ritual pipe smoking in ceremony.

Within 100 years of tobacco being discovered by European invaders, it was an industry with consumers all around the world. By the beginning of the twentieth century, the production of cigarettes was mechanised and they were cheap—perfect for the new factory assembly lines where workers had short breaks. It was quick, easy to use, curbed hunger and made the workers feel like they were doing something worthwhile.

Advertising and the social acceptance of smoking (it was still regarded as good for your health) meant that by the middle of the twentieth century, cigarettes were smoked regularly by about half of the population of many nations. In the movies of the time, the way in which a cigarette was lit and smoked was used to convey the underlying emotion of a scene. The sharing of a cigarette was a code for sexual attraction or sexual activity. During all that, time smoking was thought to be good for you.
In the second half of the twentieth century, people were living long enough to develop the diseases associated with long-term tobacco smoking, particularly lung cancer. The development of an aggressive anti-smoking lobby led to the introduction of laws to control tobacco sales, tobacco smoking, advertising and taxation. Governments invested money on anti-smoking campaigns. Within 50 years, smoking rates had dropped significantly. Smoking was banned from many places and, in the movies, tobacco smoking was for baddies or losers. Those still smoking are predominantly from the poor and disadvantaged groups within society.

**Smoking can have meaning for an individual’s identity and relationships**

People who smoke on their own often use cigarettes to pass the time, reward themselves, enhance mental activity or relax. Smokers, often without realising it, smoke a cigarette because it helps to cut out painful feelings, anxieties, fears or intrusive memories. Some people smoke because it fits with their image of themselves, in the same way that heroes and sophisticated, sexy women smoked in old movies, today some people smoke to convey a tough, or bad boy/girl image.

In relationships with other smokers, smoking together—especially when having to sneak out from a smoke-free area—can strengthen an existing bond. Refusing to smoke with someone you usually smoke with communicates rejection. In intimate relationships, the shared cigarette is a bonding activity, often done following sexual intercourse or a meal. The way in which a cigarette is smoked (the timing and the
‘tone’ of gesture) can be used to communicate. A cigarette when lit or smoked in a desperate or aggressive way can communicate sadness or anger. It is very difficult to be the one in such a relationship who stops smoking because it signals the end of a particular way of being together.

In relationships with non-smokers, smokers may leave a room to smoke during a difficult conversation to signal ‘you make me need to smoke’. The emotion of the conversation is lost during the interruption. Smoking in front of someone who disapproves of smoking or of the smoker communicates rebellion or resistance.

**Most of the harm is from smoking, not from nicotine**

*Harm to smokers*

Tobacco kills approximately one half of persistent smokers. This includes years of misery and suffering from coronary heart disease, cancers, peptic ulcer, ulcerative colitis and respiratory problems, such as asthma, chronic obstructive airways disease and pneumonia.

*Harm to people exposed to environmental tobacco smoke*

People exposed to environmental tobacco smoke suffer increased rates of all smoking-related disease and have greater rates of hospitalisations.

*Harm to babies in the womb*

Smoking while pregnant affects the baby, making it more likely to die in the womb or from Sudden Infant Death Syndrome, or to be born early and underweight. Smoking affects the pregnancy, increasing the chances of an ectopic pregnancy, miscarriage, haemorrhage and premature rupture of the membranes.

*Harm to children exposed to environmental tobacco smoke*

The effect is worse on children because their lungs are developing. Children exposed to tobacco smoke suffer:

- Increased rates of middle ear disease, asthma, wheeze, cough, phlegm, impaired heart function, snoring, adenoids and tonsillitis—all of which lead to far greater rates of hospitalisations;
- Behavioural problems, including attention deficit like disorders. Babies often have a tremor, two-year-olds can be down, and older boys can become antisocial;
• Cognitive impairment, including delays in reading, math and general abilities; impaired hearing; and delayed language development;
• An increased likelihood of developing their own smoking addiction. Children absorb nicotine from environmental tobacco smoke and this can contribute to them developing an addiction. Studies show that each parent who smokes increases the likelihood by 28% that their child will become a daily smoker.\textsuperscript{13}

Tobacco smokers are also responsible for 23% of fire injuries.

**Understanding nicotine**

*Nicotine is a psychoactive drug*

Like heroin, caffeine and alcohol, nicotine is a drug that affects the central nervous system. The effect of nicotine on the brain is complex and not fully understood. It is thought that, unlike all other drugs, nicotine both stimulates and relaxes. When introduced into the brain, particularly by smoking, it prompts the release of a powerful ‘feel good’ chemical cocktail of ‘feel good’ neurotransmitters, such as dopamine, serotonin, and B-endorphin.

Some people can become dependent on nicotine if they:
• Use on a regular basis (10 to 20 or more times per day);
• Experience a typical withdrawal experience when stopping;
• Use even when it hurts or harm is obvious;
• Believe they cannot manage without it.

Many people use nicotine occasionally and do not become dependent—just as most drinkers of alcohol are not alcoholics.

*Dependency involves the body*

Nicotine enters the body and creates a few nicotine receptors. The first few receptors may have been created from exposure to nicotine in the womb, from living in a smoky environment or from smoking cigarettes. If these receptors are not fed more nicotine, they may gradually die off. In theory, the more nicotine that enters the body, the more receptors are created, and the more nicotine is needed to fill them. If it were

\textsuperscript{13} J Bricker et al. 2007, ‘Parents’ and older siblings’ smoking during childhood: changing influences on smoking acquisition and escalation over the course of adolescence’, *Nicotine and Tobacco Research*, vol. 9, no. 2, pp. 915–926.
as simple as that, people who smoke would just keep smoking more and more until they were smoking all night and all day; however, this just does not happen. Most smokers reach a daily level with which they are comfortable.

If there is too much nicotine for the number of receptors, symptoms of nicotine poisoning occur, including rush, head spinning, headache, nausea and tremor, which are unpleasant. In certain circumstances, if there is too little nicotine for the number of receptors, then the early symptoms of withdrawal occur, including craving, agitation, anger and tearfulness. Dependent people tend find a comfort point between withdrawal and poisoning, and ingest enough nicotine to keep them there. They do this through the numbers of cigarettes and the amount and depth of puffing.

The effects (that can be felt) of nicotine last for about two hours. Nicotine remains detectable in the muscles for around two days. It was thought that nicotine receptors lasted for about 11 to 14 days, and it was assumed that withdrawal symptoms, including cravings, would magically disappear once this time had elapsed. It is now understood that the average life of receptors differs with different people and, in some people, the receptors never die.

Smokers who are dependent on nicotine tend to get agitated if they go beyond a time at which they usually smoke. This can occur even if they have recently had a cigarette, and even if they are able to go without smoking for one third of every 24 hours, and can cope without for long periods, such as during long flights. Clearly, it is not just about the physical addiction to nicotine—there are also other things at work.

**Dependency involves beliefs and feelings**

Although most regular smokers know that their addiction is to nicotine, not cigarettes, they usually talk about their addiction as if it were to cigarettes. This may be because when you watch someone smoking, you do not see the transfer of nicotine to the brain—you just see the cigarette being smoked. Although it is the cigarette that delivers the nicotine, it is like an alcoholic thinking that he is addicted to the wine glass or to the bottle.

Some regular smokers believe that they are powerless over their addiction. They think that they have an addictive gene or an addictive personality. There is probably no such thing—it is just that they have been using for so long that they cannot imagine life without it.
Withdrawal causes both physical and emotional discomforts. The relief a cigarette brings is enormous. The activity of taking a ‘smoko’ also brings relief. People who use nicotine to regulate troublesome feelings will need to find other ways to manage. They may not realise that nicotine does this until they give it up.

A regular smoker has a pattern of personal and social behaviours relating to smoking, some of which are only to do with smoking. Changing to another form of nicotine will require many behavioural adjustments. All of this will involve changes in thinking and feeling about nicotine use.

**Nicotine has harms and benefits**

Nicotine, particularly when smoked, can reduce anxiety and elevate mood. In people with some psychotic conditions, it can improve the capacity to sort sensory information. Nicotine can enhance the effects of stimulant drugs (such as caffeine or amphetamine) and can reduce the drowsy effect of depressant drugs (such as alcohol, benzodiazepines or opiates). Nicotine can briefly enhance the performance of mental activities.

Most people who use nicotine are smokers, and smoking is extraordinarily harmful. Nicotine, by itself, can have some adverse effects on the cardiovascular system, but this harm is insignificant when compared with the harm from smoking.

Nicotine use, regardless of ingestion method, is not advised during pregnancy because it is thought to predispose children towards Sudden Infant Death Syndrome.

**How nicotine is ingested affects how it is experienced**

Smoking is the fastest and most effective method of getting nicotine into the central nervous system. Nicotine supplied via an inhaler may provide the same effect, but it will not be as fast or as furious—nothing does it like a cigarette.

When waking up in the morning after eight or so hours of not smoking, a smoker is nicotine deprived and usually requires a number of cigarettes to bring them to a comfort level (some people wake to smoke during the night, and some people just wake and smoke because they are awake). There may be intervals during the day in which people cannot smoke, such as during a visit to a hospital or cinema. Smokers tend to ‘stock up’ on nicotine before these intervals by smoking an extra amount.
They then smoke as soon as they can upon leaving the smoke-free venue. People who have to attend appointments in a public hospital struggle because they may have to wait for hours and have to walk a long way to locate a smoking area.

Nicotine can be ingested through the mucus membranes in the mouth. It is carried in products, such as snus, and in nicotine replacement therapies, such as gum and lozenges. Products such as snus have more nicotine than a cigarette, but take minutes, rather than seconds, to get to the brain. Gum is chewed and lozenges are sucked. They both gradually release nicotine, which needs to accumulate in the body before any effect is experienced. This may take over five minutes.

A nicotine patch is stuck onto the skin and left there for many hours. It is not designed to give a rush as a cigarette does; it is designed to prevent the worst of withdrawal symptoms. Placed on the skin, nicotine is absorbed transdermally, which is a slow process. The nicotine gradually accumulates—sometimes until symptoms of nicotine poisoning occur.

**Treatments for nicotine addiction (also known as pharmacotherapies)**

**Quitting smoking**
Typically, this is done by picking a date, stopping on that date and suffering the withdrawals. This does work for some people and seems more likely to work when a person smokes less than 15 cigarettes per day. It rarely works the first time, and for some it takes around 14 attempts. Abrupt cessation of nicotine can be harmful for people with a mental health condition, as it can exacerbate symptoms for up to six months. Stopping smoking often means that regular medications are more effectively absorbed and levels can become toxic.

**Stopping smoking gradually**
Slowly reducing the amount smoked over a period of time (also known as a reducing regime) can be far less traumatic and much safer for some people, especially those with mental health conditions. Studies have shown that this kind of harm reducing behaviour approach is as effective in the long term as attending a quit group. Harm reduction is about reducing harm without necessarily stopping use. Many people who begin by reducing their smoking go on to stop.

**Nicotine replacement therapies**
These pharmaceutical products are available from pharmacies and some supermarkets. They contain a measured dose of nicotine. They are an alternative way of delivering nicotine; however, they can be used to ease the symptoms of nicotine withdrawal, rather than as an alternative to smoking. They include patches, gum, lozenges and inhalers. They cannot be used by pregnant women or people with certain conditions. This is covered in more detail in the section on using cigarette substitutes.

*Bupropion (Zybon) and Champix (Varenicline as tartrate)*

These different medications are pills taken twice each day for six weeks. They are available only on a doctor’s prescription and are on the Pharmaceutical Benefits list, so they are cheap. Both are antidepressants, but are prescribed for smoking at a sub-clinical level (not enough to treat depression). They are partial agonists, which means the drug sits in the nicotine receptor cell. This has a dual effect. It alleviates craving and withdrawal and, if you smoke while taking it, prevents nicotine from being absorbed. Some find these drugs almost miraculous and never smoke again, while others find them effective, but have uncomfortable side effects (such as insomnia). They cannot be used by pregnant women or people with certain conditions.
INFORMATION ABOUT ENVIRONMENTAL TOBACCO SMOKE

Environmental tobacco smoke is the most poisonous smoke

When a cigarette is smoked, two kinds of smoke are produced—the smoke drawn through the cigarette into the smoker’s mouth and the smoke that is constantly emitted by the cigarette, but has not been smoked. It is understood that sucking smoke through the heat ring at the end of the cigarette burns off some of the chemicals. This smoke then goes into the smoker’s lungs, which act as an air filter, absorbing many of the chemicals. The unsmoked smoke, which is most of the smoke that accumulates in a room, is the most dangerous smoke. The first and easiest thing you can do to protect your children and yourself from environmental tobacco is to make your home and car smoke free.
LITTLE LUNGS

This is your campaign to keep your children’s air free from tobacco smoke in the place where you and your little one’s lungs breathe. If you start this campaign, you must be the champion. This means that you can never smoke in the house or car again, or the entire campaign will be lost.

Start by asking nicely

Set up a place for smokers to go. This might mean putting a chair or two under a carport. Make sure this is away from the room where the children sleep, or it could make things worse. Place ‘no smoking’ stickers where you can. Then tell people who smoke in the house:

The doctors say [child’s name] will get sick if their little lungs have to keep breathing all that smoke. You would be a really good dad/uncle/friend if you smoke in the place I’ve made for you, and not in the house.

Be prepared to argue

Prepare for arguments by having your main points ready. Think through what might happen and discuss it with a counsellor or caseworker, particularly if you are afraid it could lead to violence. People usually respond by denying the link between their smoking and your child’s sickness. They say things like, ‘My mum/dad smoked when I was little and it never did me any harm’. You need to point that they smoke because their parents smoked and remind them of any cough they may have or of how unfit they are.

Get strategic

Almost everyone is a sucker for some form of emotional blackmail—there will be some emotion that you can trigger, and they will change their behaviour to avoid feeling that emotion. Find the button and use it.

Guilt: ‘You just don’t love the children do you?’ Or, ‘Poor little lungs. You don’t care if they get damaged or if they take in the smoke and cause cancer in 20 or 30 years’ time. You don’t care if you pass your addiction on to another generation’.
Promises: ‘If you stop smoking in the house, I would really respect you and tell everyone what a good person you are’.

Threats: This is a threat to reduce your respect and love for someone. Be wary—if you say this, they may take it a step further and invite you to withdraw from the relationship. Be ready with an answer: ‘I’m not asking you to quit, just to look after the children’s little lungs. If you can’t do this one simple thing, it makes me realise that you’ll always put yourself ahead of the children’.

If this does not work, you may wish to reconsider your place in the household, or discuss this with a counsellor or caseworker.
CONTROLLED SMOKING

Undertaking a period of controlled smoking may help you to prepare to reduce your smoking. Controlled smoking means only smoking when you decide to. Smokers have a tendency to reach for a cigarette, often without realising, every time they feel a trigger to smoke. They also have regular smoking times—moments during the day when they always smoke, such as with their first cup of coffee or after a meal.

If you have started to smoke outside, or if you decide to only smoke a certain amount of cigarettes every day, you will not be able to respond to every trigger to smoke, and you are likely to become uncomfortable if you miss regular smoking times. Therefore, before you start, following the instructions in the below sections.

Find your baseline

If you have not already found your baseline, then do it now. There are blank timetables at the back of this book. Have a normal smoking day, smoking as before, and keep a diary of how many cigarettes you have and when you smoked them.

Example

<table>
<thead>
<tr>
<th>Time</th>
<th>Smoking circumstance</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00am</td>
<td>Woke up</td>
</tr>
<tr>
<td>7.10am</td>
<td>1st cigarette</td>
</tr>
<tr>
<td>8.30am</td>
<td>2nd</td>
</tr>
<tr>
<td>9.00am</td>
<td>3rd</td>
</tr>
<tr>
<td>9.30am</td>
<td>4th and 5th with mate over coffee</td>
</tr>
<tr>
<td>11.00am</td>
<td>6th on way to supermarket</td>
</tr>
<tr>
<td>11.30am</td>
<td>7th on way out of supermarket</td>
</tr>
<tr>
<td>11.45am</td>
<td>8th at home from supermarket</td>
</tr>
<tr>
<td>1.00pm</td>
<td>9th after lunch</td>
</tr>
<tr>
<td>2.00pm</td>
<td>10th</td>
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<tr>
<td>3.00pm</td>
<td>11th</td>
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<td>5.00pm</td>
<td>12th</td>
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<tr>
<td>7.00pm</td>
<td>13th</td>
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<tr>
<td>8.00pm</td>
<td>14th and &amp; 15th on phone</td>
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<tr>
<td>9.00pm</td>
<td>16th</td>
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<tr>
<td>10.00pm</td>
<td>17th</td>
</tr>
<tr>
<td>10.30pm</td>
<td>18th</td>
</tr>
<tr>
<td>10.45pm</td>
<td>Bedtime</td>
</tr>
</tbody>
</table>

This baseline will help you examine the times when you are most likely to smoke more and identify your difficult spots. It will also identify how much nicotine your
Controlled smoking is about sticking to a number or a pattern of smoking each day. You may smoke less, but it should not be much less—a drop of five per day is significant.

**Set up a smoking plan for the day**

Break up the day into blocks of time or sequences of events, and set smoking breaks into them. Blocks of time are more useful for people who do not have a lot to do. This would involve deciding how many to smoke each day, then dividing the day into ration blocks that follow a typical smoking pattern. People tend to smoke more first thing in the morning, and have a few extra at night so that they are less likely to wake during the night with cravings. The table below is an example.

<table>
<thead>
<tr>
<th>Time</th>
<th>Cigarette ration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00am</td>
<td>Wake up</td>
</tr>
<tr>
<td>7.30am</td>
<td>1st cigarette</td>
</tr>
<tr>
<td>8.00am</td>
<td>2nd</td>
</tr>
<tr>
<td>9.00am</td>
<td>3rd</td>
</tr>
<tr>
<td>10.00am</td>
<td>4th</td>
</tr>
<tr>
<td>11.00am</td>
<td>5th</td>
</tr>
<tr>
<td>12.00pm</td>
<td>6th</td>
</tr>
<tr>
<td>1.00pm</td>
<td>7th</td>
</tr>
<tr>
<td>2.00pm</td>
<td>8th</td>
</tr>
<tr>
<td>3.00pm</td>
<td>9th</td>
</tr>
<tr>
<td>5.00pm</td>
<td>10th</td>
</tr>
<tr>
<td>7.00pm</td>
<td>11th</td>
</tr>
<tr>
<td>9.00pm</td>
<td>12th</td>
</tr>
<tr>
<td>10.00pm</td>
<td>13th</td>
</tr>
<tr>
<td>10.30pm</td>
<td>14th</td>
</tr>
<tr>
<td>10.45pm</td>
<td>Bedtime</td>
</tr>
</tbody>
</table>

Sequences of events are more useful for people who are busy, and if the weekend or school holidays are significantly different to ordinary days, so two or more plans need to be made to cope with different schedules. The sequences of events should fit with your daily life.
Example for a school day

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00am</td>
<td>Wake up</td>
</tr>
<tr>
<td>8.30am</td>
<td>1st cigarette, kids left for school</td>
</tr>
<tr>
<td>9.00am</td>
<td>2nd Tidied up, cup of coffee</td>
</tr>
<tr>
<td>10.00am</td>
<td>3rd Beds made</td>
</tr>
<tr>
<td>11.00am</td>
<td>4th Washing sorted</td>
</tr>
<tr>
<td>1.00pm</td>
<td>5th Had lunch</td>
</tr>
<tr>
<td>2.00pm</td>
<td>6th Get washing folded</td>
</tr>
<tr>
<td>2.30pm</td>
<td>7th Get ready to pick the kids up from school</td>
</tr>
<tr>
<td>4.30pm</td>
<td>8th Homework done, kids playing</td>
</tr>
<tr>
<td>5.30pm</td>
<td>9th Need to get dinner ready</td>
</tr>
<tr>
<td>6.30pm</td>
<td>10th Had dinner</td>
</tr>
<tr>
<td>7.30pm</td>
<td>11th Slipped out during the television ads</td>
</tr>
<tr>
<td>8.30pm</td>
<td>12th Kids in bed</td>
</tr>
<tr>
<td>9.00pm</td>
<td>13th</td>
</tr>
<tr>
<td>10.00pm</td>
<td>14th</td>
</tr>
<tr>
<td>10.45pm</td>
<td>Bedtime</td>
</tr>
</tbody>
</table>

Manage the gaps

In the example above, controlled smoking cuts out four cigarettes per day. If it is also
the start of smoking outside, it means you are no longer breathing in your own
environmental tobacco smoke. *This is a very significant reduction.* It is quite likely
that you will have cravings for nicotine and it is quite likely that you will miss the act
of smoking when you feel like it. Here are some ways you can manage this.

**Self talk**

Maximise your coping skills. Work out how long until your next cigarette and tell
yourself, ‘Of course I can cope without a cigarette for 10 minutes. I go without for
eight hours a night and I’m okay’. Minimise your stressors by asking, ‘Do I really
need three cigarettes to go to the shops? It’s only a supermarket I’m visiting, not the
jaws of death’.

**Sucking, chewing and swigging**

Many people find that they want to put something in their mouth when going without
a cigarette. It is important that cigarettes are not replaced with sugar. Use a water
bottle, a sugar-free lolly or chewing gum. If you are really desperate, try munching
carrots, celery sticks or fruit.

**Don’t get mad, get going**
Many people experience mood changes even when dropping by four cigarettes per day. Typically, they get tearful and/or cranky. Mood can be raised by short bursts of activity—a brisk walk, a vigorous dance to your favourite music or a short work out will boost the feel good chemicals in your brain. This is not a lie—30 minutes of exercise each day is as effective as a course of antidepressants.

**Dealing with friends who smoke**
Tell them what you are doing and ask them to support you. An example of their support might be by you each smoking your own cigarettes, so that you can control how many you have, rather than having to share and smoke at the same time. If you usually go out to smoke together, you may opt to use a nicotine inhaler instead of having a cigarette.

**Dealing with saboteurs**
Anyone who tries to sabotage you by laughing at you for trying, or by encouraging you to smoke more than your regime is not your friend. If they are a relative, you may be stuck with them. If you know you will not get their support, do not tell them what you are doing—they may not notice you smoking less. If they offer you a cigarette, you could take it, put in your pack and thank them—tell them you are saving it for later.

**Preparing for emergencies**
Refer to the sections on using cigarettes substitutes and managing moods.
REDUCING REGIME

A reducing regime is possibly the safest way for people with a mental illness or a mental health problem to stop smoking. The idea is to very slowly (months or years, rather than weeks or days) reduce the amount of nicotine that gets into the body on a daily basis. This method also works for long-term smokers who have tried and failed everything else.

Rules of reducing regime:

• Use daily exercise to enhance your mood;
• Take a long time—think in years or months, not days or weeks;
• Maximum reduction of one in 10 cigarettes;
• Shortest time between reductions is 1 month.

If you have a mental illness:

• If you have been in hospital for your mental illness, wait until you have been stable for six months;
• Discuss with your doctor before you make this change.

If you have a mental health condition:

• Use the self-mapping techniques before you start and during the reducing regime to keep a handle on things;
• If ‘stuff’ comes up for you, talk to a counsellor or a caseworker, or ask your doctor for a referral to a psychological.

If you are on any long-term medication:

• Seek advice from your doctor and arrange to have regular check-ups concerning the level of your medications (reduced smoking may mean you absorb drugs more effectively and could end up taking too much).

If you drink alcohol on a daily or regular basis:

• Alcohol has a disinhibiting effect that makes it very hard to stick with regimes. You need to factor this into your plan;
• Use nicotine replacements (not patches) for part of a day and cigarettes for other parts of a day;
• Under medical advice, use nicotine replacements with Zyban or Champix.
How to do undertake your reducing regime

Smoke outside
Smoking outside will reduce the amount of smoke that you inhale. This may be your first reduction (see the section on controlled smoking). If you have become comfortable with smoking outside for a month, or if you decide to continue smoking inside, then go to the next paragraph.

Decide on the first goal
The temptation is to make the first reduction goalposts too narrow to get the ball through, or too far away for your kicking capacity. Go for an achievable, small first goal. This might be to reduce the number of cigarettes you smoke by one in 10 cigarettes per day (this is one if you smoke 10, two if you smoke 20). When you have achieved that and have been comfortable with it for one month, you can think about another goal. Plan how you will celebrate achieving the first goal and how you will reward yourself for each stage of reduction.

Second reduction
Choose one of the ways outlined in the section on controlled smoking—blocks of time or daily events—and create a routine that suits you. Decide how many cigarettes represent one in 10 of your daily total. Remove that many cigarettes from your daily routine (avoid doing this first thing in the morning and last thing at night). Read the tips on managing the gaps.

Do not go to the third reduction until you have been successful and comfortable for at least for one month. Give yourself the reward.

Third reduction
Now take another two cigarettes out of the daily total.

Do not go to the next reduction until you have been successful and comfortable for at least for one month. Give yourself the reward.

Subsequent reductions
Keep reducing every month or so, until you are happy with yourself. People have very successfully sustained goals that have included using nicotine gum until 9.00pm
and then having a three cigarette daily allowance. One lady had half a cigarette each day when she had her coffee after dinner. One lady had one each year on her birthday.

**Using cigarette substitutes**

As you will have noticed, there are two ways of substituting cigarettes:

- With a *nicotine replacement product*, such as a patch or a lozenge;
- With a *smokeless tobacco product*, such as snus or spit tobacco.

These are designed for different contexts, as is outlined below.

**Nicotine replacement products**

These are not designed to be long-term substitutes for cigarettes. They are designed to ease the symptoms of withdrawal in the process of stopping smoking. They are becoming increasingly cheaper, and do not taste nice.

It is helpful to think of these as two types of delivery systems: short and sweet, and long and lasting. Short and sweet would include inhalers, lozenges and gum. These deliver a small amount of nicotine in a relatively short time (taking up to 20 minutes to kick in). These are really helpful when:

- Undertaking controlled smoking or a reducing regime, to keep you on track to the next cigarette;
- Managing a short period of enforced abstinence, such as a bus or plane trip, a doctor’s appointment, a hospital visit or a long shopping trip.

Long and lasting includes patches and prolonged use of lozenges. These deliver a measured amount of nicotine over a period of time. They are really helpful for:

- Heavy to medium smokers to get used to not smoking at all;
- Preventing serious nicotine withdrawal when in periods of high stress; enforced abstinence, such as surgery (use under medical advice); a long flight; or a stay in smoke-free zone, such as a hostel or prison.

**Smokeless tobacco products**

Both spit tobacco and snus are used extensively overseas and deliver about as much nicotine as cigarettes. Spit tobacco is commonly found in America. It is chewed and then spat out. Snus is a Swedish product, which is held in the mouth, usually in the cheek, and releases nicotine. These are not completely safe, but are far safer than smoking. They are usually far cheaper than cigarettes or nicotine replacements.
These are designed to be used instead of cigarettes. They were developed for use where smoking was not a practical alternative:

- Snus was developed in Sweden, where winter temperatures are so cold that the moisture in tobacco freezes;
- Spit tobacco was designed for use in America, Canada and Australia when transport for ordinary men was a horse. It is very difficult to roll, light and smoke a cigarette on horseback, and is dangerous to get rid of the butt in an area, as this may ignite a bushfire.

There are two types of snus:

A loose, moist tobacco packed into a cylindrical or spherical shape.

A pre-packaged powder in small bags made from the same material as teabags.

These products may be useful in the following ways:

- To prevent serious nicotine withdrawal when in a prolonged period of high stress or enforced abstinence, such as a long flight or a stay in smoke-free zone, such as a hostel;
- As a complete replacement for smoking.

These are not for sale in Australia; however, it is legal to purchase them from overseas and bring them or have them sent to Australia for personal use. This is
most easily done by purchasing them over the internet and having them delivered by mail (search for the word ‘snus’ via Google).
MANAGING MOODS

Anyone who reduces the level of nicotine in their system is likely to have difficult feelings. Sorting those out from the troubling symptoms of a mental health condition can be tricky. This chapter gives you a simple mapping technique that can be used to keep track of your moods over a long period. You should use this if you have a mental illness or a mental health condition and are making changes to your nicotine levels. Find a quiet place and use the blank example from the back of the book. If you have a trusted friend with you, it may be helpful to get them to ask you the questions.

Ask yourself, ‘When my mood is good for a whole day what is that like? What am I doing? What am I feeling? What am I thinking?’ If there is someone around who cares about you and knows you well, ask them, ‘What do I look like on a good day? (What is my whole body and facial expression like?)’ Then do the same again, this time asking, ‘What is it like for an ordinary day?’ Then do the same again, asking ‘What is it like for a bad day?’
**Example**

<table>
<thead>
<tr>
<th></th>
<th>What am I doing?</th>
<th>What am I feeling?</th>
<th>What am I thinking?</th>
<th>What does it look like?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On a good day?</strong></td>
<td>Going for a walk, calling friends, shopping, chatting to the neighbours.</td>
<td>Hopeful, appreciative of the world around me, pleasure at things I do, even ordinary stuff like eating.</td>
<td>Focused, thinking about what I am doing and what I want to do, wishing it was always like this.</td>
<td>Face is relaxed, head up, walking at a good pace, dressed nicely.</td>
</tr>
<tr>
<td><strong>On an ordinary day?</strong></td>
<td>Needing to push myself to do ordinary things and feel good when I've achieved them, get most things done.</td>
<td>Feel tired, no energy, scared this is the slippery slope to feeling worse, wish the demands would go away, then feel guilty.</td>
<td>Must make an effort, wishing for things to be different, can't focus much, mind keeps nagging at stupid things.</td>
<td>Worried expression on face, run out of energy quickly.</td>
</tr>
<tr>
<td><strong>On a bad day?</strong></td>
<td>Just want to stay in bed, only get up to do the stuff I absolutely have to do.</td>
<td>Feel guilty for giving in, feel guilty for letting people down, feel useless.</td>
<td>Thousands of negative thoughts going around in circles like water down a plughole.</td>
<td>Slow motion, carrying a huge weight, miserable face, shoulders drooping, clothes awful, if dressed.</td>
</tr>
</tbody>
</table>

Now decide what this means for you. This will depend on your condition and the treatments you are receiving. For example, if you have bi-polar depression, a run of good days may be the signal of a relapse of your condition. If you have no mood swings, a run of good days means you are really well. It may be helpful to talk this through with your caseworker or mental health professional.

Plan what you should do if you get a run of good or bad days. Do you need to seek help or get your medication reviewed? Write down your plan.

<table>
<thead>
<tr>
<th>Action</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Good</strong></td>
<td>Two weeks of good days—think about getting a job.</td>
</tr>
<tr>
<td><strong>Ordinary</strong></td>
<td>One week of feeling ordinary—What can I do to lift my mood?</td>
</tr>
<tr>
<td><strong>Bad</strong></td>
<td>Three days of feeling bad—walk daily, if still can’t shift it, see doctor.</td>
</tr>
</tbody>
</table>
Pick a time each day when you will do the mapping exercise. This is probably in the evening. Ask yourself, ‘What sort of day was it today?’ You need to reflect on this for the whole day and not just go for the mood you are in at the time. Mark this on the map below and add any major things that happen that are likely to affect you. It might look like this:

<table>
<thead>
<tr>
<th>Date</th>
<th>Kind of day</th>
<th>Event that may affect you</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>2 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>3 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>4 Oct</td>
<td>bad</td>
<td>Kids fighting all day</td>
</tr>
<tr>
<td>5 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>6 Oct</td>
<td>good</td>
<td>Friend came with flowers</td>
</tr>
<tr>
<td>7 Oct</td>
<td>good</td>
<td>Flowers still lovely</td>
</tr>
</tbody>
</table>

Once you begin to reduce the number of cigarettes you smoke, it will begin to have a pattern:

<table>
<thead>
<tr>
<th>Date</th>
<th>Kind of day</th>
<th>Event that may affect you</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Oct</td>
<td>ordinary</td>
<td>Cut down by two cigarettes</td>
</tr>
<tr>
<td>9 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>10 Oct</td>
<td>ordinary</td>
<td></td>
</tr>
<tr>
<td>11 Oct</td>
<td>bad</td>
<td>Missed those two cigarettes today</td>
</tr>
<tr>
<td>12 Oct</td>
<td>ordinary</td>
<td>Went for a walk</td>
</tr>
<tr>
<td>13 Oct</td>
<td>good</td>
<td>Went for a walk</td>
</tr>
<tr>
<td>14 Oct</td>
<td>good</td>
<td>Went for a walk</td>
</tr>
</tbody>
</table>

After a while, you can look back and see how far you have come, and you can work out what lifts you when you feel down.

<table>
<thead>
<tr>
<th>Date</th>
<th>Kind of day</th>
<th>Event that may affect you</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Nov</td>
<td>good</td>
<td>Have cut down by two for a month now—bought myself a bottle of nail polish and some hand cream to celebrate</td>
</tr>
<tr>
<td>8 Nov</td>
<td>ordinary</td>
<td>Cut back by two more—feels scary, but the walking is good</td>
</tr>
<tr>
<td>9 Nov</td>
<td>good</td>
<td>Warned the kids I might get grumpy, but they said it was okay, all in a good cause</td>
</tr>
<tr>
<td>10 Nov</td>
<td>bad</td>
<td>Felt crappy—did a double walk</td>
</tr>
<tr>
<td>11 Nov</td>
<td>ordinary</td>
<td>Still felt crappy</td>
</tr>
<tr>
<td>12 Nov</td>
<td>good</td>
<td>Took friend some flowers</td>
</tr>
<tr>
<td>13 Nov</td>
<td>ordinary</td>
<td>Double walk</td>
</tr>
</tbody>
</table>
### BLANK STRATEGY SHEETS

Do you have a special relationship to nicotine or smoking?

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>No or don’t know</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Did your mother smoke while she was pregnant with you?</td>
<td>No or don’t know</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Did people smoke in the home where you grew up?</td>
<td>No or don’t know</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Did you have a stressful childhood? (i.e. Abuse, neglect at home, death, serious illness of a parent or sibling, violence in the home or community, frequent moves, bullying at school, traumatic events)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Are you an Aboriginal person?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Have you come from a country with few smoking regulations? (i.e. countries in Asia, Africa and South America)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Do you have a mental illness? (i.e. bi-polar disorder, depression, schizophrenia, other)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Do you have a mental health problem? (i.e. anxiety, post-traumatic stress, low self-esteem)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>Are you taking medication for a mental illness or mental health problem, or any other illness?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Have you ever been homeless, in state care, lived in an institution or been in custodial care? (i.e. lived with a foster family, orphanage, hostel, specialist care centre detention centre, psychiatric hostel, prison)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Have you ever been addicted to alcohol or another drug?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Have you either never tried to stop smoking, or tried to stop many times without lasting success?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td>Do most of the people you know smoke?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>13</td>
<td>Are you currently in a stressful situation?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Total yes (count ‘don’t know’ as a ‘yes’)

---

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>No or don’t know</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List of options about smoking:

<table>
<thead>
<tr>
<th>Decisions</th>
<th>Which section of the book to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do nothing</td>
<td></td>
</tr>
<tr>
<td>Protect myself and my children from environmental tobacco smoke</td>
<td>Second-hand tobacco smoke, Little Lungs, Controlled smoking</td>
</tr>
<tr>
<td>Take charge of my smoking</td>
<td>Controlled smoking, Using cigarette substitutes</td>
</tr>
<tr>
<td>Definitely want to smoke less</td>
<td>Controlled smoking, Reduction Regimes, Using cigarette substitutes, Understanding Nicotine, Understanding Smoking</td>
</tr>
<tr>
<td>Stop smoking, but rethink giving up nicotine later</td>
<td>Using cigarette substitutes, Understanding Nicotine, Understanding Smoking</td>
</tr>
<tr>
<td>Stop smoking and stop using nicotine</td>
<td>Treatment drugs, Understanding Nicotine, Understanding Smoking</td>
</tr>
</tbody>
</table>
### Controlled smoking timetable

<table>
<thead>
<tr>
<th>Time</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00am</td>
<td></td>
</tr>
<tr>
<td>7.30am</td>
<td></td>
</tr>
<tr>
<td>8.00am</td>
<td></td>
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<td>8.30am</td>
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<td>12.30am</td>
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<td>1.00pm</td>
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<td>4.00pm</td>
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<td>4.30pm</td>
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<td>5.00pm</td>
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<td>5.30pm</td>
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<tr>
<td>6.00pm</td>
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<td>6.30pm</td>
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<tr>
<td>7.00pm</td>
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<td>7.30pm</td>
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<tr>
<td>8.00pm</td>
<td></td>
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<tr>
<td>8.30pm</td>
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**Mood mapping**

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<th>What am I feeling?</th>
<th>What am I thinking?</th>
<th>What does it look like?</th>
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<tr>
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<td>On an ordinary day?</td>
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<td>On a bad day?</td>
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**Action plan**

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<td>1 week of feeling ordinary</td>
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<td>3 days of feeling bad</td>
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<td>Month</td>
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Appendix 2

Orientation to Life Questionnaire

In response to each question, please circle the number that most closely represents how you feel on a scale of one to seven, with one being ‘never’ and seven being ‘always’.

1. When you talk to people, do you have the feeling that they don’t understand you?
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Never | Always have this feeling |

2. Do you have the feeling that you don’t really care what goes on around you?
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Never | Very often |

3. Has it happened in the past that you were surprised by the behaviour of people you thought you knew well?
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Never happened | Always happened |

4. Has it happened that people you counted on disappointed you?
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Never happened | Always happened |

5. Life is:
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Full of interest | Completely routine |

6. Most of the things you will do in the future will probably be:
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Completely fascinating | Deadly boring |

7. What best describes how you see life?
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Can always (find a solution to painful things in life) | Can never |

8. When you think about your life, you very often:
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | Feel how good it is to be alive | Ask yourself why you exist at all |

9. Doing things you do every day is:
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
   | A deep source of pleasure and satisfaction | A source of pain and boredom |

10. When you do something that gives you a good feeling, it’s certain that:
    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
    | You will go on feeling good | Something will happen to spoil the feeling |

11. Do you think that there will always be people you will be able to count on in the future?
    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
    | Certain there will be | Doubt there will be |
12. Many people, even those with a strong character, feel like losers in certain situations. How often have you felt this way in the past?

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<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Very often</td>
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13. When you think of the difficulties you are likely to face in important aspects of your life, do you feel that:

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<tr>
<td></td>
<td>You will always succeed (in overcoming difficulties)</td>
<td>you will never succeed</td>
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Appendix 3

Severity of Dependence Scale

Please circle the response that most closely says how you feel about each question.

1. Do you think your cigarette smoking is out of control?
   Never/almost never  Sometimes  Often  Always or nearly always

2. Does the prospect of missing a cigarette make you anxious or worried?
   Never/almost never  Sometimes  Often  Always or nearly always

3. Do you worry about your cigarette smoking?
   Never/almost never  Sometimes  Often  Always or nearly always

4. Do you wish you could stop?
   Never/almost never  Sometimes  Often  Always or nearly always

5. How difficult have you found it to stop smoking?
   Never/almost never  Sometimes  Often  Always or nearly always