



SMOKING CESSATION **BEYOND THE ABC:**

Tailoring strategies to high-risk groups

Smoking rates are declining in New Zealand as more and more people are successfully quitting. However, rates remain unacceptably high among deprived communities, Māori and Pacific peoples and in people with mental health disorders. It is often helpful to think of smoking as a chronic relapsing disease, thereby acknowledging the difficulties of smoking cessation and the likelihood of relapse. Ideally, health professionals should be providing smoking cessation support in the ABC format to every patient who smokes, at every consultation. It is also important to individualise cessation support by understanding why a patient's previous quit attempts have failed and encouraging a wave of social support for future attempts, particularly in groups with high rates of smoking. Health professionals who are able to do this increase the chances that patients will be able to stop smoking long-term.

Identifying groups with high rates of smoking

In New Zealand, smoking rates are falling; daily smoking among all adults was 18.3% in 2006/07, 16.4% in 2011/12 and most recently, 15.5% in 2012/13.¹ However, smoking is analogous to a chronic disease with frequent relapses, and ongoing work is required to continue this downward trend in the number of people who smoke.

Smoking rates are substantially higher than the national average, and particularly concerning in:

- People who live in highly deprived areas
- Māori and Pacific peoples
- People with mental health disorders

The good news is that many people who smoke also frequently think about quitting, regardless of their background. When surveyed, approximately 40% of people who smoke reported attempting to quit in the previous 12 months.² However, most attempts to quit do not succeed, and long-term success, e.g. remaining smokefree for at least six months, is only achieved in 3 – 5% of attempts without the support of a health professional.³

There are two strategies that health professionals can pursue in order to increase the number of people who quit smoking long-term:

1. Increase the number of people who attempt to quit smoking
2. Increase the success rate of quit attempts

Brief advice to stop smoking and, most importantly, an offer of cessation support by a health professional can increase the

number of people who attempt to stop smoking by 40 – 60%.⁴ This means that one extra person can be expected to attempt to give up smoking for every seven people who are advised to do so and offered support in their attempt.⁴

Tailoring support to patients by understanding their quit-history and circumstances means that health professionals can increase the chances of the patient's next attempt succeeding. It is important to let patients who are quitting know that it is likely that they will lapse. However, behavioural support, e.g. Quitline, and pharmacological smoking cessation aids, do help prevent a lapse in abstinence becoming a return to regular smoking.

Current smoking is associated with poverty

Deprivation is strongly associated with smoking in New Zealand (Figure 1, over page). After adjusting for age, sex and ethnicity, a person from one of the most deprived communities in New Zealand (Decile 10) is over three times more likely to be a current smoker, compared with a person from one of the least deprived communities (Decile 1).¹ Women who live in lower socioeconomic areas are also more likely to smoke during pregnancy (17%) compared with pregnant women in the general population (11%).⁵

Smoking rates in Māori and Pacific peoples must be reduced further

Almost one-third (32.7%) of Māori smoke, a rate more than twice as high as New Zealanders of European descent, and more than one-third of Māori women smoke during pregnancy.^{5,7} Death rates due to lung cancer and smoking-related diseases are three times higher in Māori than non-Māori.⁷ However, it is encouraging to know that most Māori who smoke do want to quit. During the five-year period between 2006 and 2011, it was estimated that almost two-thirds (62%) of Māori who

smoked made at least one quit attempt.⁷ It is important that these previously unsuccessful attempts be acknowledged and lessons learnt when future attempts to quit smoking are made. It is also good news that the number of Māori youth who have never smoked is increasing: for boys from 58% in 2006/07 to 75% in 2013/14, and for girls from 52% in 2006/07 to 72% in 2013/14.⁷ Relative to their population size, Māori also tend to use smoking cessation support services more than non-Māori; from April to June 2014 Māori accounted for almost one in five Quitline caller registrations.⁸

Māori who do not smoke are exposed to second-hand smoke more (11.4%) than non-Māori who do not smoke (6.4%).⁷ This increases the severity of the negative health effects of smoking on Māori children. More than 20% of Māori households with one or more child have at least one person who smokes inside the home, compared to under 8% in non-Māori households.⁷

The overall rate of smoking among Pacific peoples is 23%, although this varies greatly depending on sub-ethnicity; it is

reported that 32% of Tokelauan and 30% of Cook Island people were classified as regular smokers in the 2013/14 New Zealand census, while 13% of people who identified as Fijian were regular smokers.⁹ Encouragingly, rates of smoking are reported to be declining among Pacific youth. Regular smoking among Pacific boys aged 15 – 19 years dropped to 13.6% in 2013/14 (from 20.1% in 2006/07), and regular smoking among Pacific girls of the same age fell to 10.3% in 2013/14 (from 21.4% in 2006/07).⁹

Smoking prevalence increases with severity of mental health disorders

People with a mental health disorder are approximately twice as likely to smoke as people who do not have a mental health disorder and generally, the level of nicotine dependence increases with the severity of the illness.¹⁰ Many people with mental health disorders who smoke will require additional support from health professionals to achieve long-term abstinence.¹⁰

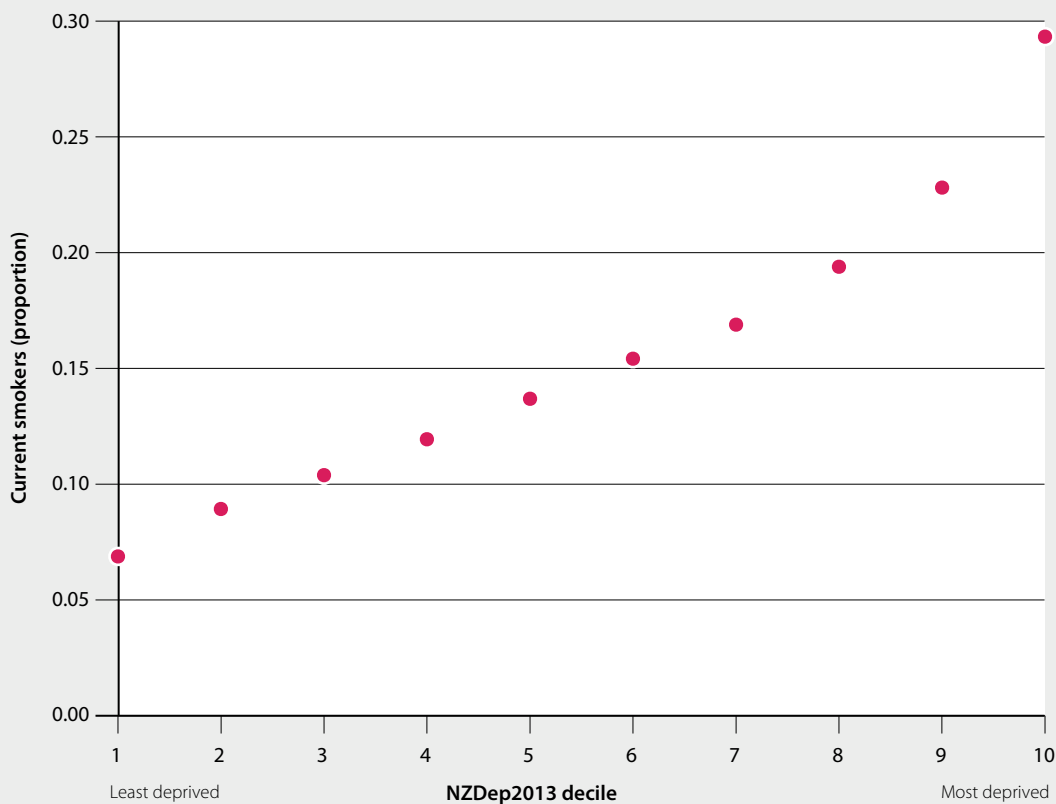


Figure 1: Proportion of people living in New Zealand communities, by deprivation status, who are current smokers, adapted from NZDep2013⁶

Adapting the ABC to different patient groups

General practitioners are encouraged to Ask about smoking, Briefly advise to quit and offer Cessation support (ABC), to all patients who smoke, at every consultation.¹¹ Some health professionals may be reluctant to persistently advise people to quit smoking due to concerns that their relationship with patients may be damaged. However, it should be remembered that most people who smoke are open to the idea of quitting;¹² 80% of current smokers report that they would not smoke if they had their life over again.¹¹

“When was the last time you smoked a cigarette?” is a non-judgemental way of enquiring about smoking status in patients who are known to be smokers.

Understand the barriers before you start

Understanding why the patient relapsed into smoking following attempts to quit allows health professionals to provide individual strategies, e.g. encouraging the patient's partner to also take part in the quit attempt if the partner is influencing the patient's smoking status. Having a partner who continues to smoke during pregnancy is said to “almost universally predict” a return to smoking among women who are pregnant.¹³

Fear of consequences can encourage smoking

For people whose social life is restricted to family/whanau and neighbours, a fear that quitting smoking can result in being “left-out” socially is a barrier to quitting.¹² Concerns that giving up smoking will cause illness are also not uncommon, e.g. coughing or chest infections following quitting. Other barriers to quitting smoking that are frequently reported include: fear of weight gain, boredom and the timing of a quit attempt being problematic.¹² A patient's individual concerns about quitting need to be addressed when discussing smoking cessation.

Viewing smoking as a stress-reliever can be a barrier to quitting

People who smoke often view it as a stress-relieving activity, therefore do not want to quit.^{12,14} There may also be concern that quitting smoking will worsen mood in people with a mental health disorder.¹⁴ In fact the opposite is more likely to be the case: smoking cessation has been shown to have beneficial effects on mood disorders, with an effect size equal to, or larger than, treatment with antidepressants.¹⁴ Health professionals should acknowledge that a patient's mood may improve in the minutes after smoking a cigarette. However, this is an opportunity to explain to the patient that the reason

Why does quitting smoking improve mental health?

A meta-analysis of 26 studies found consistent evidence that smoking cessation is associated with improvements in depression, anxiety, stress, quality of life and positive affect.¹⁴ This benefit was similar for people in the general population and for those with mental health disorders.¹⁴

The fallacy that smoking improves mental health can be understood when the neural changes that long-term smoking causes are considered. Over time, smoking results in modification to cholinergic pathways in the brain, resulting in the onset of depressed mood, agitation and anxiety during short-term abstinence from tobacco, as levels of nicotine in the blood drop.¹⁴ When a person who has been smoking long-term has another cigarette their depressed mood, agitation and anxiety is relieved. However, as a person continues to abstain from smoking the cholinergic pathways in the brain remodel and the nicotine withdrawal symptoms of depressed mood, agitation and anxiety are reduced through abstinence from nicotine. The process whereby people relieve withdrawal symptoms with a drug, i.e. nicotine, which then reinforces these symptoms is referred to as a withdrawal cycle and it may also be associated with a decline in mental health.¹⁴

The effects of smoking cessation on patients with mental health disorders

Hydrocarbons and tar-like products in tobacco smoke are known to induce the cytochrome P450 enzyme CYP1A2.¹⁵ When patients taking other medicines that are metabolised by this enzyme stop smoking there may be an initial rise in medicine levels in their blood as enzymatic activity falls to normal levels. There may be some instances where stopping smoking in a patient taking certain antipsychotics (e.g. clozapine, olanzapine, chlorpromazine, haloperidol) or insulin causes clinically significant changes in serum concentrations.¹⁵ Patients with insulin-dependent diabetes who stop smoking should be alert to the symptoms of hypoglycaemia and increase their frequency of blood glucose monitoring.¹⁶

they feel better is because they are addicted to nicotine, and that every puff continues this cycle (see: "Why does quitting smoking improve mental health?"; previous page). The patient can then be reassured that all people who break the cycle of smoking addiction will experience mental health benefits.¹⁴ N.B. The doses of antipsychotics used to treat some mental health disorders (and insulin) may need to be adjusted if abrupt cessation occurs in a person who is heavily dependent on cigarettes (see: "The effects of smoking cessation on patients with mental health disorders: previous page).

From talking to quitting

Motivational interviewing can increase the likelihood that a patient will attempt to quit smoking and increase the chances of them succeeding.¹⁰

The general techniques of motivational interviewing include:¹⁰

1. Expressing empathy
e.g. "So you've already tried to give up smoking a couple of times and now you're wondering if you will ever be able to do it?"
2. Developing the discrepancy between the goal of being smokefree and the behaviour of smoking
e.g. "It's great that your health is important to you, but how does smoking fit with that for you?"
3. Rolling with resistance
e.g. "It can be hard to cope when you're worried about your mother's health and I realise that smoking is one of the ways that you've used to give yourself a break. What other ways do you think you could use?"
4. Encouraging self efficacy
e.g. "Last time you didn't think you'd be able to manage without smoking at all – and you've actually gone all week with only two cigarettes – what did you do differently this time to make that happen?"

A goal of care when consulting with patients who are current smokers is to negotiate a firm quit date and to agree on "not one puff" from that point onwards.¹⁰

Cessation support is the most important aspect of the ABC approach


It is important that cessation support, e.g. referral to smoking cessation service, should be offered to all people who smoke

without assessing their readiness to stop smoking. Only offering cessation support to people with a stated desire to quit smoking is a missed opportunity for positive change. Also see: "A review of pharmacological smoking cessation aids", Page 42.

A meta-analysis of the effect of cessation support found that offers of cessation support by health professionals, e.g. "If you would like to quit smoking I can help you do it", motivated an additional 40 – 60% of patients to stop smoking within six months of the consultation, compared to being advised to quit smoking on medical grounds alone.⁴ It is important to note that the motivation of patients to stop smoking was not assessed before offers of cessation support were made.

Referral to a smoking cessation service is recommended

Quitline is a smoking cessation service which offers phone-based support, six days a week (Monday – Friday 8 am – 9.30 pm, Sunday 10 am – 7.30 pm on 0800 778 778) to all people who want to quit smoking. People can self-refer to Quitline or they can be referred by a health professional. Patients can also be referred electronically if the relevant feature is enabled on the practice management system. Txt2Quit support is available from Quitline directly to mobile phones.

 For further information go to: www.quit.org.nz

Aukati Kai Paipa is a free smoking cessation service that delivers face-to-face coaching for Māori from over 30 centres around New Zealand.

 To find your closest provider go to the Aukati Kai Paipa website at: www.aukatikaipaipa.co.nz/contact-us

Smokefree Communities offers smoking cessation services to people living in the North Shore, Waitakere and Rodney areas. Programmes focus on reducing rates of smoking among women who are pregnant and their whanau/family, Asian people and their families, and all families with children aged under 16 years. Smokefree Communities provides support in Chinese, Korean, Burmese and Hindi/Fiji Hindi languages.

 To find out more about Asian Smokefree services go to: www.comprehensivcare.co.nz/services-and-programmes/addictions/asian-smokefree-services/

Preventing smoking relapses

Health professionals can discuss strategies with patients to help manage triggers where there is extra pressure to smoke. For example, focus on something that is important to the

patient and incorporate it into a response that they use to decline an offer to smoke, e.g. “No thanks, my daughter has asthma – our home is now smokefree to help her breathing get better”.

Creating a wave of social support

Encourage the person quitting to reach out for assistance from anyone they know who has previously quit smoking. Peer support for people who are attempting to quit smoking can take many forms. The rationale is that a person with similar life experiences to the person who wants to stop smoking can provide practical tips that fit with their lifestyle. A friend or family member is also more likely to have regular contact with the person attempting to quit. Examples of peer support might be having a coffee or tea together each morning to discuss any difficulties or temptations, or attending situations together where there may be a strong temptation to smoke, e.g. the pub.

There is some evidence that peer support may be more successful when people in deprived communities attempt to quit smoking, compared with people in the general population.¹⁷ Some maraes in New Zealand have also run competitions that both challenge people who are quitting smoking to stay smokefree while also supporting each other's quit attempts.

The Quitline Blog is the most popular online smoking cessation peer support forum operating in New Zealand. People who are attempting to quit smoking can be encouraged to access this forum to receive support at any time of the day or night. Social networking platforms, e.g. Facebook, can also be used to provide a substitution for social situations where the person has previously found it difficult to resist the temptation to smoke. Social networking is more likely to be used by younger people who smoke and have regular access to the internet.

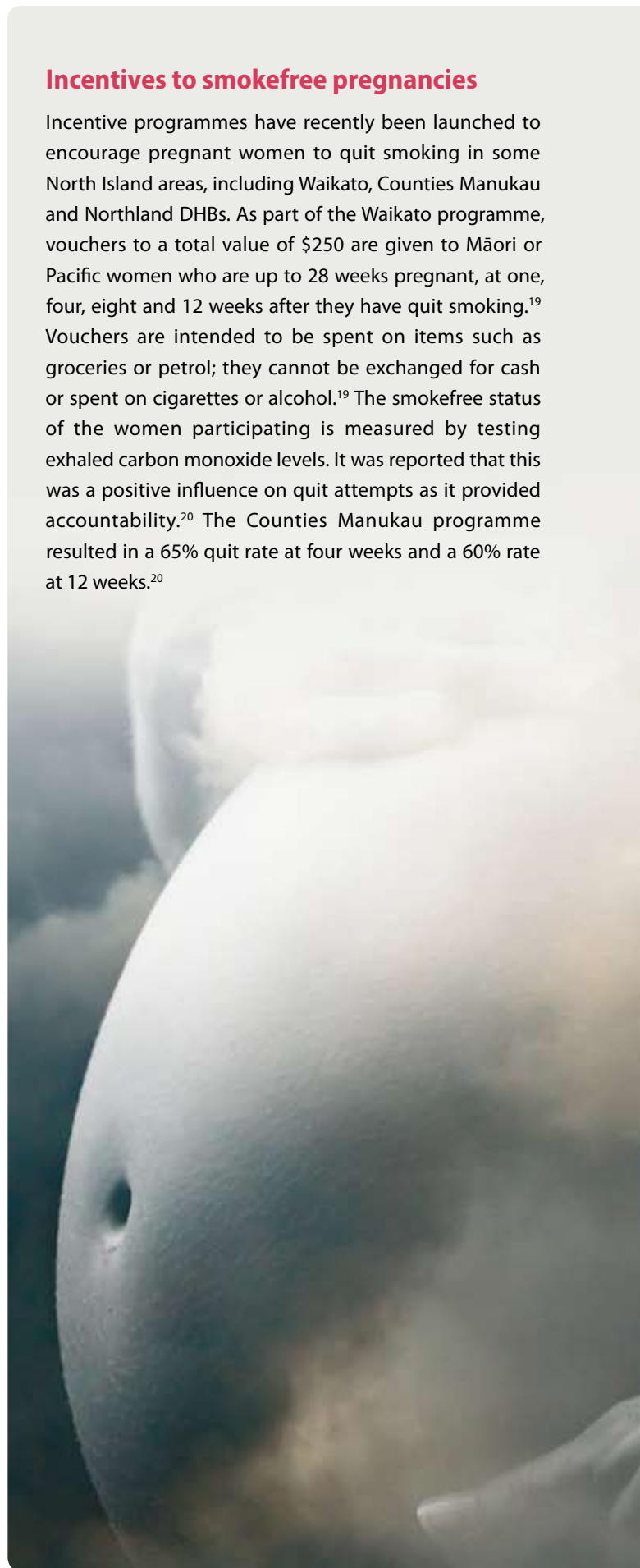
 The Aukati KaiPaipa Facebook page is available at: www.facebook.com/tkha.akp

Children are a positive and motivating influence

The health-related and financial benefits that the children of people who smoke gain when their parents quit smoking is a powerful motivating factor.¹² In particular, prospective parenthood can provide additional motivation to stop smoking. Having a smokefree pregnancy and then maintaining a smokefree household means that children are less likely to develop middle ear infections, or to have lower respiratory illness, asthma or abnormal lung growth, and have a lower incidence of sudden unexplained death in infancy.¹¹

Incentives to smokefree pregnancies

Incentive programmes have recently been launched to encourage pregnant women to quit smoking in some North Island areas, including Waikato, Counties Manukau and Northland DHBs. As part of the Waikato programme, vouchers to a total value of \$250 are given to Māori or Pacific women who are up to 28 weeks pregnant, at one, four, eight and 12 weeks after they have quit smoking.¹⁹ Vouchers are intended to be spent on items such as groceries or petrol; they cannot be exchanged for cash or spent on cigarettes or alcohol.¹⁹ The smokefree status of the women participating is measured by testing exhaled carbon monoxide levels. It was reported that this was a positive influence on quit attempts as it provided accountability.²⁰ The Counties Manukau programme resulted in a 65% quit rate at four weeks and a 60% rate at 12 weeks.²⁰



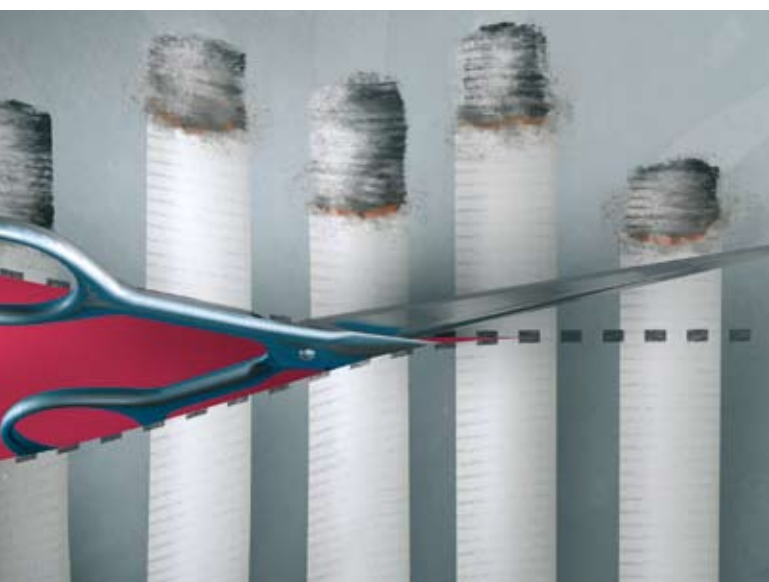
The cost of smoking just keeps going up

Cost increase is a recognised method for decreasing cigarette consumption. As part of the drive to create a smokefree New Zealand by 2025, it is government policy that an average pack of 20 cigarettes will cost more than \$20 by 2016, with future price increases beyond this highly likely.¹⁸ This policy is supported by the Royal New Zealand College of General Practitioners.¹¹

At a cost of \$20, a pack-a-day smoker would be spending \$140 a week, or more than \$7000 per year on cigarettes. The money that a family/whanau can save by quitting smoking can, and should, be used to create goals that unite families in their desire to be smokefree. For example, as well as spending the extra money on essentials such as clothing, a small weekly treat such as going to the local swimming pool can provide an ongoing and tangible incentive to being smokefree. Longer term goals such as saving for a family holiday can also create family “buy-in” and may help parents remain abstinent from smoking in the months following their quit date.

What to do if the patient does have another cigarette?

If a patient who is attempting to quit reports that they have had a brief smoking lapse then it is important that they do not see this as a failure. Support is required to help them avoid feelings of guilt and loss of control that can undermine their quit attempt. Remind patients that many people who quit experience lapses. Encourage the patient to continue to use NRT and any other smoking cessation medicines that have been prescribed. Ask the patient to again commit to “not one puff” onwards and to ensure that cigarettes, lighters and ashtrays have been discarded.



A review of pharmacological smoking cessation aids

Pharmacological aids for smoking cessation can reduce nicotine cravings and lessen withdrawal symptoms. An offer of medical assistance may embolden people who have previously attempted to quit smoking without support to try again. Pharmacological aids also reduce the likelihood of a lapse in abstinence becoming a return to long-term smoking.

The important factors to consider when discussing smoking cessation treatment options are the patient’s preferences and previous experience of smoking cessation aids, the patient’s likely adherence to treatment and the possibility of any adverse effects.

Nicotine replacement therapy

The use of NRT approximately doubles the likelihood of a person being able to quit smoking long-term; one in 14 people who would not otherwise have stopped smoking will do so for at least six months following a course of NRT.¹⁵ Several studies suggest that in people who are unmotivated to quit within the next month, the use of NRT results in an increased number of quit attempts and marginally higher rates of abstinence.²¹ NRT may therefore act as a quit catalyst for patients who smoke and who report that they are not yet ready to stop.²¹ Offering patients who smoke the opportunity to trial different forms of NRT before they attempt to quit may also improve their choice of NRT and result in better treatment adherence.

Most people who are attempting to quit smoking do not use enough NRT.²² Patients who are heavily dependent on cigarettes may gain benefit from increasing the dose of nicotine, e.g. wearing two patches, to replicate the levels of nicotine that reach the brain when they are smoking. Combining NRT products, e.g. using a nicotine patch and nicotine gum, is more effective than using a single NRT product.¹⁵ If patients begin to feel nauseous when using NRT they can be advised to reduce the frequency or dose of the product.²²

Subsidised NRT can be prescribed by general practitioners and registered Quit Card Providers. Subsidised supplies of NRT may also be obtained by general practices using a Practitioner Supply Order. Pharmacists can supply subsidised NRT that is prescribed on a normal prescription (maximum quantity 12 weeks) or a Quit Card (maximum quantity 8 weeks) at a cost of \$5; these will be dispensed in four-week quantities. Pharmacists are not able to prescribe subsidised NRT unless they are part of a special regional programme, e.g. Canterbury DHB.

Nicotine replacement therapy should be continued for at least eight weeks; the normal treatment course is 12 weeks.²³ Patients who feel they are still gaining benefit from treatment can continue to use NRT for longer periods.²³ If patients wish to use NRT as a way of reducing cigarette consumption, prior to quitting, then cigarette use should be reduced to half at six weeks and completely stopped at six months.²³

In order to determine an appropriate NRT regimen, New Zealand guidelines recommend combining the time until the first cigarette with the total number of cigarettes a person smokes each day (Figure 2). The amount of time that passes after waking until a person smokes their first cigarette is a useful guide when assessing nicotine dependence; New Zealand guidelines use smoking within an hour of waking as a sign of high tobacco dependence,²² smoking within five minutes of waking is a sign of severe dependence.¹⁰

Nicotine patches are fully subsidised in New Zealand and available in 7mg, 14 mg and 21 mg patches. These should be pressed in place on dry, clean and hairless skin, and replaced daily.²² Patches may cause some dermal erythema.²² If patients report disturbed sleep while using nicotine patches then they should be removed at night.

Nicotine gum is available in 2 mg and 4 mg formulations. It is recommended that nicotine gum be used regularly by people who are attempting to quit smoking.²² The 4 mg formulation

is indicated for people who are highly dependent on tobacco, i.e. smoking within an hour of waking. The gum should be bitten to liberate a peppery flavour. The gum should not be chewed continuously as swallowed nicotine can result in gastrointestinal disturbance. It can be placed between the cheek and gum and chewed again when the taste fades, and disposed of after 30 minutes.^{22,23}

Nicotine lozenges are available in 1 mg and 2 mg formulations. It is recommended that lozenges be used regularly when nicotine cravings occur.²² The 2 mg formulation is indicated for people who are highly dependent on tobacco, i.e. smoking within an hour of waking.

All people who wish to quit smoking can use NRT, including people with cardiovascular disease and women who are pregnant or breastfeeding, if they would otherwise continue to smoke.²² When discussing the use of NRT with a woman who is pregnant or breastfeeding perform a risk assessment and consider “Can she quit without NRT?” If not, NRT is safer than smoking. A study involving over 1700 pregnant women who used NRT found no significant association between NRT use and decreased infant birth weight.²⁴ Pregnant women who are using nicotine patches should remove them overnight.²² Adolescents aged 12 years or over can also be prescribed NRT,²² however, the use of NRT alone is unlikely to address the reasons why an adolescent has begun, and continues to smoke.

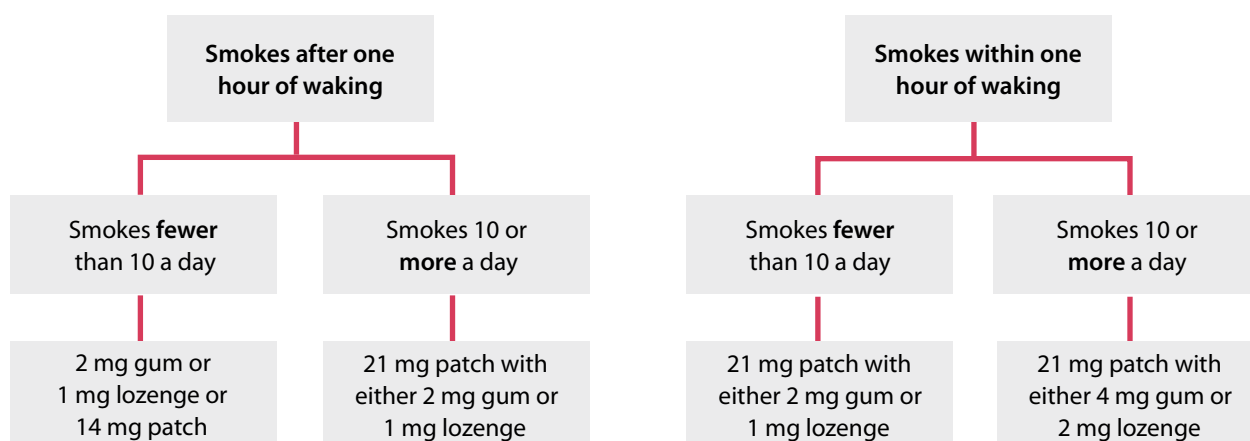


Figure 2: Nicotine dependence assessment algorithm for determining an appropriate NRT treatment regimen, adapted from “Guide to prescribing nicotine replacement therapy (NRT)”²²

Table 1: Comparison of smoking cessation medicines that are subsidised in New Zealand²³

	Bupropion	Nortriptyline	Varenicline
Funding status*	Fully subsidised	Fully subsidised	Fully subsidised with Special Authority approval for people who have tried previously to quit smoking with other medicines [†]
Efficacy	Almost doubles a patient's chances of quitting smoking long-term ¹⁵	Almost doubles a patient's chances of quitting smoking long-term ¹⁵	Approximately triples a patient's chances of quitting long-term ¹⁵
Mechanism of action	Atypical antidepressant which aids smoking cessation independently of its antidepressant action ¹⁵	Tricyclic antidepressant which aids smoking cessation independently of its antidepressant action ¹⁵	Stimulates nicotine receptors less than nicotine, i.e. is a partial agonist, thereby reducing cravings, and, at the same time, reduces the rewarding sensation of smoking, i.e. antagonist effect. ¹⁰
Contraindications	Lowers seizure threshold and should not be taken by patients with acute alcohol or benzodiazepine withdrawal, CNS tumour, eating disorders, bipolar disorder, use of monoamine oxidase inhibitors (MAOI) in the last 14 days, and in patients with severe hepatic cirrhosis.	Should not be taken by patients: who are acutely recovering from a myocardial infarction, with arrhythmias, during manic phases of bipolar disorder, with acute porphyria, who are breast feeding, or who have used a MAOI in the last 14 days	None, however, patients and their family/whanau should be vigilant for changes in behaviour, thinking or mood, in particular depression and suicidal ideation. If this occurs cease taking the medicine and seek medical advice immediately.
Adverse effects	In general, bupropion is considered to be a safer medicine than nortriptyline. One in a thousand patients are expected to have a seizure over the course of treatment. ²⁵ Use with caution in patients taking antipsychotics due to increased seizure risk. Skilled tasks, such as driving, may be impaired.	Has the potential to cause more harm than bupropion and can be fatal in overdose. ¹⁵ Adverse effects include: dry mouth, constipation, nausea, sedation (which can affect driving ability) and headaches. Advise patients to avoid alcohol as sedation may be worse. ¹⁰	Nausea may occur in approximately one-third of patients, but this is generally mild and will only be intolerable in a few patients. ¹⁰
Women who are pregnant	Avoid during pregnancy	Should only be taken during pregnancy when the benefits outweigh the risks	Avoid during pregnancy

	Bupropion	Nortriptyline	Varenicline
Patients with mental health issues	May cause levels of citalopram to be raised in some patients	In general, nortriptyline should be used with caution in patients thought to be at an increased risk of suicide, or who have a history of psychosis. Levels of nortriptyline can be increased by two to four-fold, or occasionally more, by the concurrent use of fluoxetine; in this situation nortriptyline dose reductions of 75% have been suggested.	See contraindications
Dosing	Initiate one to two weeks before quit date with one 150 mg bupropion tablet, daily, for three days, then 150 mg, twice daily. The maximum single dose is 150 mg bupropion, and the maximum daily dose is 300 mg bupropion. Treatment is usually for seven weeks. For people with risk factors for seizures or in elderly patients the maximum daily dose is 150 mg bupropion.	Initiate ten to 28 days before the agreed quit date with nortriptyline 25 mg, daily, gradually increase over ten days to five weeks to 75 – 100 mg nortriptyline daily, for up to three to six months. The dose should be slowly tapered while treatment is withdrawn.	Initiate one to two weeks before the quit date, at 500 micrograms varenicline, daily, for three days, increased to 500 micrograms varenicline, twice daily, for four days, then 1 mg twice daily for 11 weeks. The 1 mg dose can be reduced to 500 micrograms if it is not tolerated. This course can be repeated to reduce the risk of relapse.

* Subsidy status correct at the time of printing. Check the New Zealand Formulary for latest information.

† Varenicline is fully subsidised with Special Authority approval for people who have tried previously to quit smoking with other medicines and have not used varenicline in the preceding 12 months. In order to qualify for subsidy patients must:

- Indicate that they are ready to cease smoking; and
- Have enrolled, or about to enrol in a smoking cessation programme that includes prescriber or nurse monitoring; and
- Have trialled and failed to quit smoking previously using bupropion or nortriptyline; or tried but failed to quit smoking on at least two separate occasions using NRT, with at least one of these attempts including the patient receiving comprehensive advice on the use of NRT; and
- Not have used subsidised varenicline in the last 12 months; and
- Agree not to use varenicline in combination with other pharmacological cessation medicines; and
- Not be pregnant; and
- Not be prescribed more than three months funded varenicline

Electronic-cigarettes – the jury is still out


Electronic-cigarettes are a topic in smoking cessation that is evolving rapidly, both in terms of device design and evidence of effectiveness. The devices electronically vaporise a solution made up of propylene glycol and/or glycerol, nicotine and flavourings, that users inhale rather than burning tobacco leaves.²⁶ The solution is held in cartridges that are inserted into the device.²⁶ These devices are different to nicotine inhalators.

The body of research on electronic-cigarettes is small, but growing quickly, and opinion is divided as to the potential harms or benefits to personal or public health.²⁷ Currently, no electronic cigarette products have been approved under the Medicines Act for sale or supply in New Zealand and therefore it is illegal to sell an electronic-cigarette that contains nicotine.²⁶ It is also illegal for electronic-cigarettes, with or without nicotine, to be sold as smoking cessation aids, or for an electronic-cigarette that resembles a tobacco product to be sold to a person under the age of 18 years.²⁶ However, electronic-cigarettes are available on international websites as smoking cessation aids and many people who smoke are interested in using them for that purpose.

Electronic-cigarettes are considered by experts to be less harmful than conventional cigarettes, however, short-term adverse effects have been attributed to exposure to propylene glycol including eye and respiratory irritation.²⁸ The aerosol that electronic-cigarettes produce contains a number of cytotoxic and carcinogenic chemicals that may pose long-term risks to women who are pregnant.²⁸ These compounds are present at levels one to two orders of magnitude lower than is present in tobacco smoke, but at higher levels than is found in nicotine inhalers.²⁸

Both the Ministry of Health and WHO recommend that people who smoke should be encouraged to quit using a combination of approved NRT products, i.e. patches, lozenges and gum.²⁶ The Ministry of Health intends to assess new evidence as it arises regarding the safety and appropriateness of the use of electronic-cigarettes as smoking cessation aids.

Nicotine inhalators (15 mg nicotine cartridges) and nicotine mouth spray (1 mg nicotine per dose) are available as unsubsidised NRT products. Nicotine inhalators can be puffed on for 20 minutes every hour, and the cartridge replaced after three hours.²² One cigarette puff is equivalent to approximately ten inhalator puffs.²² Nicotine mouth sprays are also recommended for regular use, or for when cravings occur.²² After priming the pump, direct one spray to the inside of each cheek. Advise patients to resist swallowing for several seconds after application to achieve best results.²²

 For further information see the “Guide to prescribing nicotine replacement therapy (NRT)” available from: www.health.govt.nz

Medicines to aid smoking cessation

Medicines for smoking cessation should be prescribed in combination with behavioural support, e.g. Quitline, to improve their effectiveness.¹⁰ Table 1 (previous page) provides a comparison of smoking cessation medicines subsidised in New Zealand. In general smoking cessation medicines should not be used by women who are pregnant because the potential risk to foetal development cannot be balanced against the known benefits of smoking cessation.¹⁵ Some smoking cessation medicines may not be appropriate for patients with a history of mental disorders.



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