Evidence summary

- Tobacco smoking is estimated to kill between 4,300 and 4,700 New Zealanders each year.[6] Nearly half of these deaths occur in middle age (35–69 years).[7]
- Most of those killed by tobacco are not particularly heavy smokers and most started as teenagers.[7]
- Approximately 50 percent of smokers die prematurely from their smoking, on average 14 years earlier than non-smokers.[6]
- Smoking kills one in two of those who continue to smoke past age 35.[8]
- There is evidence that smoking can cause about 40 different diseases.[8]
- For Māori, the preventable mortality attributed to smoking is 21 percent of deaths in females and 22 percent in males.[6]
- For Pacific peoples, the preventable mortality attributed to smoking is eight percent of deaths in females and 19 percent in males.[6]
- For European/other ethnic groups, the preventable mortality attributed to smoking is 10 percent of deaths in females and 19 percent in males.[6]
- Smoking is socioeconomically patterned with higher rates of smoking in lower socio-economic groups. Thus tobacco smoking produces a greater relative burden of disease and premature death in lower socioeconomic groups and is a major contributor to socioeconomic inequalities in health.[9]
- Smoking, especially current smoking, is a crucial and extremely modifiable independent determinant of stroke.[10] A New Zealand study has confirmed that passive smoking as well as active smoking increases the risk of acute stroke.[11]
- Second-hand smoke (also called environmental tobacco smoke or ETS) is a Class A carcinogen and contains approximately 4,000 chemicals.[12,13]
- Past exposures to second-hand tobacco smoke causes the death of an estimated 347 people per year in New Zealand.[14] Exposure of children to second-hand smoke:
  - can cause middle ear effusion[15]
  - increases the risk of croup, pneumonia and bronchiolitis by 60 percent in the first 18 months of life[16]
  - increases the frequency and severity of asthma episodes[17]
  - is a risk factor for induction of asthma in asymptomatic children.[18]

Benefits of smoking cessation

These points may be helpful in motivating people to quit smoking. Many smokers deny being at increased risk of cancer and heart disease and more accurate perception of risk may assist cessation efforts.[19]

- It is beneficial to stop smoking at any age. The earlier smoking is stopped, the greater the health gain.[8]
- Smoking cessation has major and immediate health benefits for smokers of all ages. Former smokers have fewer days of illness, fewer health complaints, and view themselves as healthier.[20, 21]
- Within **one day** of quitting, the chance of a heart attack decreases.
- Within **two days** of quitting, smell and taste are enhanced.
- Within **two weeks to three months** of quitting, circulation improves and lung function increases by up to 30 percent.
- Excess risk of heart disease is reduced by half after one year's abstinence. The risk of a major coronary event reduces to the level of a never smoker within five years.[22] In those with existing heart disease, cessation reduces the risk of recurrent infarction or death by half.[20]
- Former smokers live longer: after 10 to 15 years' abstinence, the risk of dying almost returns to that of people who never smoked.[23] Smoking cessation at all ages, including in older people, reduces risk of premature death.[23]

- Men who smoke are 17 times more likely than non-smokers to develop lung cancer.[6] After 10 years' abstinence, former smokers' risk is only 30 to 50 percent that of continuing smokers, and continues to decline.[20]
- Women who stop smoking before or during the first trimester of pregnancy reduce risks to their baby to a level comparable to that of women who have never smoked.[20] Around one in four low birth weight infants could be prevented by eliminating smoking during pregnancy.[20]
- The average weight gain of three kg and the adverse temporary psychological effects of quitting are far outweighed by the health benefits.[24]

Evidence for effectiveness of health professional intervention

- A Cochrane review of 16 RCTs found simple advice from doctors had a significant effect on cessation rates (OR[ii] for quitting 1.69; 95% confidence interval 1.45–1.98).[25]
- When trained providers are routinely prompted to intervene with people who smoke, they achieve significant reductions in smoking prevalence (up to 15 percent cessation rates compared with 5 to 10 percent in non-intervention sites).[20]
- Doctors and other health professionals using multiple types of intervention to deliver individualised advice on multiple occasions produce the best results. Frequent and consistent interventions over time are more important than the type of intervention.[20]

Consumer satisfaction

- When smokers in a clinic with follow-up systems for smokers were asked about their response to the programme, 75 percent were more satisfied with their overall care because of the stop-smoking efforts.[26]

Nicotine Replacement Therapy (NRT)

- Systematic review shows that all forms of NRT commercially available in New Zealand (nicotine gum, transdermal patch, nicotine nasal spray and nicotine inhaler) increase quit rates at 12 months approximately 1.5 to 2 fold compared with placebo, regardless of the setting.[27]
- The effectiveness of NRT appears to be largely independent of the intensity of additional support provided to the smoker. Provision of more intense levels of support, although beneficial in facilitating the likelihood of quitting, is not essential to the success of NRT.[27]
- A more extensive discussion of evidence for the effectiveness of NRT is given in the Smoking Cessation Guidelines Evidence Review and Background. (See page three for information regarding acquiring this document).

Antidepressants

- Nicotine replacement therapy has been the mainstay of pharmacotherapy for tobacco addiction, but two other medications, the antidepressant drugs bupropion and nortriptyline, have also been shown to be effective.[28] Results of RCTs of bupropion and nortriptyline are sufficient to endorse their use in clinical practice.[29]
- Bupropion is recommended by the Medicines Adverse Reactions Committee (MARC) as second-line pharmacotherapy in New Zealand, although it is not publicly subsidised.

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ii Odds Ratios (OR): The OR is the ratio of the odds of exposure among cases compared with controls. For example an OR of 1.6 indicates that people who receive simple smoking cessation advice from their doctor have an increase chance of quitting by 1.6 times compared to those who do not receive simple smoking advice from their doctor.

- Nortriptyline is not registered for use as a smoking cessation adjunct but can be prescribed for this purpose under Section 25 of the Medicines Act 1981 (see page 19 for further information). As nortriptyline is fully subsidised it should be considered as a second-line agent, in particular for people who cannot afford bupropion.
- Bupropion is now recommended for first-line pharmacotherapy alongside nicotine replacement therapy and nortriptyline as second-line in the updated US clinical practice guideline.[4]

Cost-effectiveness of smoking cessation

- Multiple studies have evaluated the cost-effectiveness of various smoking cessation interventions. Puget Sound Group Health Co-operative found smoking cessation interventions cost less than US$1,000 per year of life saved.[20] For comparison, cost estimates for the treatment of moderate hypertension and drug therapy for hyperlipidemia are approximately US$10,000 and US$60,000 per year of life saved, respectively.
- Ershoff et al found that women in a Health Maintenance Organisation (HMO) given access to a self-help programme were more likely to achieve cessation for most of their pregnancy (22.2 percent versus 8.6 percent), and that this had impacted favourably on pregnancy outcomes, and generated cost savings.[30] The HMO saved approximately $3 for every $1 spent on the self-help programme.

Smoking cessation programmes

- Cross-sectional studies from the United States indicate that 90 percent of former smokers use individual methods rather than organised programmes to help them quit.[31] However, formal cessation programmes play a number of important roles:
  - they tend to be utilised by more heavily addicted smokers who have made multiple quit attempts
  - for the individual smoker, taking part in a structured programme increases the likelihood of successfully becoming a non-smoker for any given quit attempt
  - they reduce pressure on the health care system by removing the need for multiple follow-up visits.
- An evaluation of the Aukati Kai Paipa 2000 programme has been undertaken for the Ministry of Health. The report is being finalised currently and will be publicly released in late 2002. The programme appears successful in delivering cessation services in an appropriate, culturally safe manner to a population group that may not access other cessation services. Preliminary indications are that the programme has been successful in reducing smoking prevalence among Māori women and their whanau.
  - The indicative quit rate for the programme appears significantly higher at 12 months (23%) than the latent quit rate for Māori women not on the programme (12.5%).
  - Participants who did not quit showed a reduction in tobacco consumption.
  - Findings indicate that the use of NRT enhanced the quit rate.