

Smoking and Cancer: A Cancer Society Fact Sheet



Key points:

- Smoking is a proven cause of cancer in many different parts of the body.
- The major cancers caused by smoking (i.e. of the lung and upper airways) are a more common cause of death than other major cancers in New Zealand (e.g. bowel cancer and breast cancer).
- In New Zealand an estimated 1700 cancer deaths per year are due to smoking (at 23% of all cancer deaths).
- Of the 12,800 years of life lost each year from lung cancer in New Zealand, 82% were from smoking (i.e. 10,500 years of life lost).
- These cancer deaths are declining in men but there is not yet a clear decline for women.
- Cancer from smoking is also an important cause of health inequalities in New Zealand (with higher death rates for Māori and Pacific peoples). The relative ethnic inequalities for lung cancer deaths are likely to widen in the future unless there is much improved tobacco control.

Cancers caused by smoking

Smoking has been identified as a cause of various cancers in US Surgeon General reports since 1964.¹ The International Agency for Research on Cancer (IARC) has also published reports on the cancers caused by smoking. In 1986 it reported that there was sufficient evidence

that active tobacco smoking was a cause of lung cancer, and cancers of the kidney and bladder; upper respiratory–digestive tract including oral cavity, throat (pharynx), voice box (larynx), and gullet (oesophagus); and pancreas.²

IARC has since reported that smoking tobacco can also cause cancer in the stomach, liver, cervix, different parts of the head (i.e. the nasal cavity, paranasal sinuses, and nasopharynx), and a blood cancer (leukaemia).³ This list of cancers is very similar to those in a recent US Surgeon General’s report.¹ But the Surgeon General also says that “the evidence is suggestive” that smoking causes cancer of the bowel (colon) and rectum. The evidence around active smoking and the risk of breast cancer is still unclear.

In summary, it has been concluded that tobacco is a powerful cancer-causing product that can cause cancer in many different parts of the body.⁴ It is not just cigarette smoking but also pipe, and cigar smoking that can cause tobacco-related cancers.⁴ In New Zealand the major cancers caused by smoking (i.e. of the lung and upper airways) are a more common cause of death than other major cancers (e.g. bowel cancer and breast cancer).⁵

Cancers caused by second-hand smoke

Given the evidence for active smoking, it is not surprising that second-hand smoke (SHS) is also a cause of lung cancer.^{3, 6-9} SHS is also linked to cancer in the back of the nose (nasal sinus cancer)^{6, 7} and there is evidence for a link with other cancers (see the Cancer Society Fact Sheet on SHS).

Impact of smoking on cancer in New Zealand

The overall impact of smoking on cancer has been estimated at around 1700 deaths per year (at 23% of all cancer deaths).¹⁰ Fairly similar figures have been reported in another analysis using an earlier year and different methods.⁴ It has been calculated that of the 12,800 years of life lost each year from lung cancer – 82% were from smoking (i.e. 10,500 years of life lost).¹¹

Numbers of cancer deaths due to smoking in New Zealand in the year 2000¹⁰ (and % for all cancer deaths)*

Type of cancer	Men	Women	Total
Lung cancer	750 (87%)	430 (79%)	1180
Upper aero-digestive cancer**	127 (50%)	48 (49%)	175
Other cancer	274 (9%)	88 (3%)	362
All cancer	1151 (28%)	566 (16%)	1717

* This analysis may underestimate the real figures in that no deaths prior to age 35 years were attributed to smoking. Also there is no consideration of cancer caused by exposure to SHS.

** Cancers of the mouth, gullet (oesophagus), throat (pharynx), and voice box (larynx).

Trends

The trend in cancer deaths caused by smoking (including lung cancer), has been downwards in men since peaking around 1980.¹⁰ The trend for lung cancer deaths in women is of an increase since the 1970s¹⁰ but with a levelling off in recent years and no clear downward trend (i.e. for deaths from “trachea, bronchus and lung” for 1999 to 2001).⁵

A study for the time period 1981-1999 has also reported that lung cancer deaths decreased in men and increased in women over this time period¹². In men, the socioeconomic inequality in lung cancer death rates continued during this period (despite a decline in deaths in all socioeconomic groups). In women, a disproportionate increase in the deaths of lower socioeconomic groups (when compared to higher socioeconomic groups) resulted in an overall increase in inequality. Over this time period there was also an overall increase in ethnic inequalities in death rates from lung cancer (in both men and women). In particular, the lung cancer death rate increased significantly over this time period. The authors of this study concluded that these inequalities will probably widen in future decades – unless there is strong public health to improve tobacco control. All these patterns are consistent with the tobacco epidemic¹³ being the key underlying cause of lung cancer in New Zealand. However, asbestos is likely to also be playing some smaller role.¹⁴ In particular, the high lung cancer death rate among Māori is over four times the non-Māori/non-Pacific rate for women and over three times for men for 1996-1999.¹² The rates for Pacific people are also relatively high (at over 2 times for men and 1.4 times for women, compared to non-Māori/non-Pacific).

Reducing the risks of smoking-related cancer:

It is clear that people who stop smoking reduce their smoking-related cancer risks⁴. This applies to lung cancer, other cancers and other diseases caused by smoking (such as heart disease and chronic lung diseases). Among “ever smokers”, the estimated risks of death from lung cancer by age 75 years are “16% for men who continue to smoke cigarettes, 6% for men who stop smoking by age 50 years, and 2% for men who stop smoking by age 30 years”⁴.

Non-smokers can reduce their risk of cancer by avoiding SHS (see the Cancer Society Fact Sheet on SHS). For New Zealand to reduce smoking-related cancer deaths, it is necessary for there to be greater success from comprehensive tobacco control and much more intensive tobacco control

measures. Tobacco control has certainly worked in the past to reduce smoking in men, followed by declining lung cancer rates among men. But to rapidly reduce the inequalities in smoking-related cancer there is also a need for programmes that are far more successful for Māori, Pacific and low-income citizens (see the Cancer Society Fact Sheet on Smoking and Inequalities).

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