

Tobacco Policy

Using evidence for better outcomes

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(RACP)**

and

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of Psychiatrists
(RANZCP)**

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Public Policy Strategy

15: Harm reduction

Harm reduction aims to minimise the harmful effects of cigarette smoking among those unable yet to quit.

- **Nicotine with smoking tobacco.** Nicotine reaches the brain (the hit) at almost the same time as hot toxic gases are absorbed from the lungs. Seeking the nicotine with every puff, the smoker inhales toxicants 100 to 200 times a day. Pleasure and harm work together. Nicotine maintains the momentum often enough and for long enough for smokers to die from the toxicants. Thus the underlying principle of smoking tobacco harm reduction is to separate the two.
- **Non-cigarette nicotine** in the doses used does not kill, certainly not as NRT, if it is not associated with cigarette smoking.
- **Oral tobaccos**, mean no smoke toxicants and are seldom lethal.

Harm reduction means doing all of the following things, preferably together, to obtain maximum effect:

1. Reaffirming the health benefit of smoking cessation and offering support to quit;
2. Regulating smoking tobacco products to minimise their toxicity;
3. Providing less dangerous (that is, non-cigarette forms) of nicotine (usually NRT or oral tobacco);
4. Regulation for fire safer manufactured cigarettes to reduce fire injuries and fatalities. The manufactured cigarette needs to be redesigned so it does not burn full length when left unattended; and,
5. Partial combined approaches. For the many cigarette smokers who continue to inhale both nicotine and smoke, harm reduction can only be partial. Toxicity and dependence on nicotine both need to be reduced. For example, some argue that, as toxicity-reduced cigarettes would be perceived to be less dangerous, then young people may be especially likely to take up cigarette smoking; indeed former smokers may be more likely to relapse. However relapse could also be prevented if satisfying forms of non-cigarette nicotine were available. Such measures are complementary parts of a comprehensive smoking tobacco control program.

Oral tobacco is much less dangerous than cigarette smoking.²⁰⁷ When sourced from Sweden (“snus”), oral tobacco is less toxic than when sourced from South Asia.²⁰⁸ Currently, commercial import from any country is prohibited in both

Australia and New Zealand. Both countries are well-placed to permit only the importation of 'snus'. Oral tobacco carries a reduced mortality risk (10 per cent) compared with cigarette smoking.²⁰⁴

Are the public misled about the toxicity of tobacco smoke?

Since the 1950s, it has been known that cigarette tar painted on the backs of mice caused cancer. Tar contains almost all of the addictive agent, nicotine, as well as known carcinogens such as benzalaphaprene, smoking tobacco specific nitrosamines and heavy metals. Tar yield has been found to be unrelated to lung cancer risk among those smoking filtered cigarettes.²⁰⁹ Descriptors such as 'light' or 'mild' are misleading.

With over 4000 chemicals in cigarette smoke, many have believed these were too numerous to assess. Those that were measured, such as tar, bore little relation to mortality rates. Recently, however, in a paper originally written for the New Zealand Ministry of Health,²⁰³ toxicological risk assessment principles were applied to cigarette smoke, whereby the known toxicity rating of each constituent was multiplied by its concentration in smoke. In this way the most toxic constituents of cigarette smoke were identified.^{203 210}

The vapour or gas phase of cigarette smoke contains a dozen or so volatile organic compounds (VOCs) which together account for most of the identifiable known toxicity of cigarette smoke. The particulate phase toxins such as the smoking of tobacco specific nitrosamines and the trace heavy metals, principally arsenic, ranked lower down the scale. Furthermore, the levels of these constituents in New Zealand cigarettes were lower than in a typical United States brand.²¹¹ Tests have shown that VOCs account for at least 80 per cent of the total identifiable toxicity of Holiday Extra-mild cigarettes.²¹² These VOCs were virtually all small molecules with a molecular weight of less than 100.

Charcoal filters. Documents from cigarette company laboratories from 40 years ago show that charcoal filters can greatly lower most VOCs in cigarette smoke, thus greatly lowering cigarette smoke toxicity.^{213 214} Current charcoal filters, however, do not contain sufficient charcoal.

In summary the Colleges recommend:

- Quitting smoking is the first choice; or
- Switching to more satisfying forms of smokeless nicotine (requiring pharmaceutical research and development) (Second choice when available);
- Pricing of all products to reflect putative level of harm i.e. NRT would be cheapest; and,
- Permitting the use of oral tobacco (snus) for example, as currently widely used in Sweden, as an aid to smoking cessation subject to confirmatory research trials.