

occasions. This explanation would also accord with the examinations of various industrial, medical, or technical alcohols in terms of chemical composition in Russia that did not show strong contamination.^{9,11} Of course, one might argue that non-alcohol consumption decreased during the Gorbachev reforms as well.

However, even if there was an observed increased mortality in people who drink non-beverage alcohols over and above the effects of ethanol intake, residual and other confounding might explain such effects. Non-beverage alcohol drinkers often live at the margins of society, and living conditions such as housing, poor diets, and less social support might contribute to raised mortality, and could not be completely ruled out in Leon and colleagues' study (eg, fewer collateral reports in cases than in controls). Finally, a major source of alcohol consumption in Russia was not included in the study—consumption of illegally produced beverages. Russia traditionally has a high proportion of illegally produced alcohol (eg, samogon¹²), and men who drank non-beverage alcohol probably also consumed illegally produced alcohol, with related health effects.

We thank Leon and colleagues for raising awareness of non-beverage alcohol consumption and its potential harm, but there are remaining questions that should be answered in future research, such as improved measurement of ethanol intake from non-beverage alcohol and better control of confounding, before specific measures on alcohol policy are suggested. Such policy measures, to a large degree, would vary

depending whether or not the effects of non-beverage alcohol are ethanol-based, and future research will have to decide on this question.

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We declare that we have no conflict of interest

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Snus—what should the public-health response be?

Published Online
May 10, 2007
DOI:10.1016/S0140-6736(07)60679-5
See **Articles** pages 2010
and 2015

Cigarettes account for 96% of global sales of manufactured tobacco by value, and global cigarette production continues to increase dramatically (eg, from 1686 billion cigarettes in 1950 to 5604 billion in 2002).¹ Snus, a form of smokeless tobacco that has lower levels of many toxins than most other smokeless tobaccos, has become the dominant form of tobacco used by Swedish men, who now have an unusually low smoking rate.² In most developed countries about a fifth of annual deaths are caused by smoking, and about 20 times as many people have a serious smoking-caused illness each year, most of these being chronic respiratory diseases.³ It is in this context that

the potential public-health impact of the availability of a smokeless tobacco product that has been estimated as 90% less harmful than cigarettes⁴ should be carefully considered.

Two articles in today's *Lancet* examine the effects of Swedish snus on health. One reports on cancer risks in Sweden⁵ and the other estimates the health effects if snus were to be launched in Australia.⁶ Juhua Luo and colleagues⁵ report on the risk for three different types of cancer in a cohort of almost 280 000 Swedish male construction workers followed up for 20 years. As in previous studies,² they found that snus use did not increase risks of oral cancer whereas smoking more

than doubled the risk (relative to never-tobacco users). Similarly, snus users had a slightly lower rate of lung cancer than never-tobacco users whereas smokers' risks of lung cancer were over tenfold greater. The novel finding in this study was that snus users had about twice the risk of pancreatic cancer compared with never-tobacco users, but again risks were highest for smokers (figure).

Snus is not harmless. It can cause gingival recession⁷ and adverse outcomes in pregnancy,⁸ and there is conflicting evidence on cardiovascular risks.⁹ However, for all the major smoking-caused diseases, including this new finding for pancreatic cancer, the risks are lower with snus than with smoking. Importantly, for two of the most prevalent smoking-caused diseases (lung cancer and chronic obstructive pulmonary disease), snus poses no risk. It is particularly noteworthy that in Luo and colleagues' analyses of the whole male cohort, men who had ever used snus were significantly less likely to develop lung or oral cancer and non-significantly less likely to develop pancreatic cancer, compared with men who had never used snus (presumably because snus use reduced smoking^{10,11}). Most snus users who developed pancreatic cancer in Luo's study had used snus before the 1980s. Since that time the levels of carcinogens in snus have reduced.¹²

Snus is currently banned in the European Union (apart from in Sweden) and in Australia. Coral Gartner and colleagues used the best available data and expert reviews to estimate the likely health impact of snus in Australia.⁶ They conclude that snus is likely to produce a net benefit to population health, with the size of the benefit dependent on how many inveterate smokers switch to snus. This finding challenges the wisdom of bans on snus where cigarettes are widely used, and also encourages public-health professionals to disclose accurate health information on the relative risks of snus compared with cigarettes.¹³ We are not suggesting that clinicians should advise their smoking patients to switch to snus, when safe and effective medications are available to treat cigarette dependence. Nor do we agree with Gartner and colleagues' suggestion that health departments should promote snus. On the contrary, we recommend that clinicians advise their smoking patients on more flexible ways to quit smoking with existing approved medicines, rather than snus.¹⁴

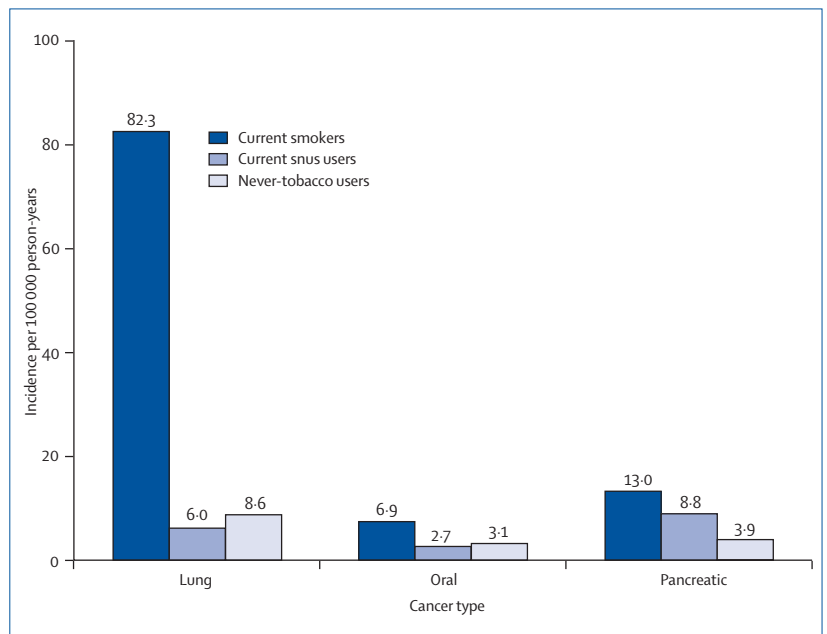


Figure: Age-adjusted incidence rates for three cancers (by 2004) as function of tobacco-use status in male Swedish construction workers at recruitment (1978-92)
Redrawn from data in tables 2 and 3.⁵

Sometimes if a product is "not safe", this may be grounds for banning the product. But such an absolutist position can ignore the complex realities of many of the most important health risks we face. From the perspective of the never-user of tobacco, exposure to any level of residual risk from a tobacco product such as snus can seem to be an unnecessary risk. It may help the non-tobacco user to reflect that popular energy-dense diets and sedentary lifestyles are also "not safe", carrying significant risks of diabetes, heart disease, and cancers. We consider the appropriate response is to inform consumers and encourage alternatives while respecting individual choice. Public health is largely determined outside clinical settings. Price, advertising, legal restrictions, and availability of alternatives all have a large influence on health behaviour. Public policy should aim to strongly discourage highly dangerous behaviours, and provide appropriate information and warnings about lower-risk behaviours. It is a hallmark of addictive substances that users' ability to act on their decision to abstain becomes impaired by the unpleasant effects accompanying drug withdrawal and by the promise of satisfying effects produced by the drug. It is a perverse public-health policy that makes an addictive drug widely available in its most harmful form, yet bans or fails to properly inform consumers

of availability of that drug in a much less harmful form (for both the consumer and those around them).¹⁵

5 years ago snus was almost entirely sold by one Swedish company to consumers from Scandinavia. Today, most of the big multinational tobacco companies are test-marketing low-nitrosamine snus products. Drug companies should develop smoking cessation medications and marketing formats that can effectively compete with the imminent launch of new smokeless tobaccos—and be more palatable than snus, especially for female smokers. Regulators should also address the uneven playing field on which nicotine is currently sold. Nicotine in its safest form (as an approved drug) is expensive, only recommended for short-term use, sometimes requires a doctor's prescription, and typically comes with labelling that may lead some consumers to believe that it is more harmful than smoking. Nicotine in its most harmful and addictive form—the cigarette—is typically cheap, available everywhere, to take for as long as you like, and in many parts of the world (including the USA) comes with minimum information on health risks. It is time for regulation of all nicotine-delivery products to provide access inversely proportional to harmfulness (ie, the opposite of the current situation).¹⁵

Around a billion people are addicted to nicotine in deadly cigarettes and many have no immediate plans to quit. Young people will also continue to try dangerous and addictive products. We believe it is preferable that, if people become addicted to cigarettes or decide to try tobacco, they can use a product that is markedly less harmful than cigarettes. In Sweden, primary use of snus is associated with reduced risk of cigarette smoking in adulthood.¹¹ The *Lancet* papers published today, when added to mounting epidemiological evidence,⁹ indicate that we should not delay in allowing snus to compete with cigarettes for market share, and we should be prepared to accurately inform smokers about the relative risks of cigarettes, snus, and approved smoking-cessation medications. In light of all the available evidence, the banning or exaggerated opposition¹³ to snus in cigarette-rife environments is not sound public-health policy.

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