

## Review

# The Scientific Foundation for Tobacco Harm Reduction, 2006-2011

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<http://www.harmreductionjournal.com/content/8/1/19/abstract>

<http://www.harmreductionjournal.com/content/pdf/1477-7517-8-19.pdf> (full text)

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## Abstract (provisional)

Over the past five years there has been exponential expansion of interest in tobacco harm reduction (THR), with a concomitant increase in the number of published studies. The purpose of this manuscript is to review and analyze influential contributions to the scientific and medical literature relating to THR, and to discuss issues that continue to stimulate debate. Numerous epidemiologic studies and subsequent meta-analyses confirm that smokeless tobacco (ST) use is associated with minimal risks for cancer and for myocardial infarction; a small increased risk for stroke cannot be excluded. Studies from Sweden document that ST use is not associated with benign gastrointestinal disorders and chronic inflammatory diseases. Although any form of nicotine should be avoided during pregnancy, the highest risks for the developing baby are associated with smoking. It is documented that ST use has been a key factor in the declining rates of smoking and of smoking-related diseases in Sweden and Norway. For other countries, the potential population health benefits of ST are far greater than the potential risks. In follow-up studies, dual users of cigarettes and ST are less likely than exclusive smokers to achieve complete tobacco abstinence, but they are also less likely to be smoking. The health risks from dual use are probably lower than those from exclusive smoking. E-cigarette users are not exposed to the many toxicants, carcinogens and abundant free radicals formed when tobacco is burned. Although laboratory studies have detected trace concentrations of some contaminants, it is a small problem amenable to improvements in quality control and manufacturing that are likely with FDA regulation as tobacco products. There is limited evidence from clinical trials that e-cigarettes deliver only small doses of nicotine compared with conventional cigarettes. However, e-cigarette use emulates successfully the cigarette handling rituals and cues of cigarette smoking, which produces suppression of craving and withdrawal that is not entirely attributable to nicotine delivery. THR has been described as having "the potential to lead to one of the greatest public health breakthroughs in human history by fundamentally changing the forecast of a billion cigarette-caused deaths this century."

## Table of Contents of Full Text:

Abstract	Page	2
Introduction		3
Smokeless Tobacco (ST) Health Risks		
Cancer		4
Cardiovascular		6
Other		10
Summary of Health Effects		10
Misperceptions of Health Risks of ST		10
ST as Substitute for Cigarettes		11
Dual Use		22
Tobacco Harm Reduction		28
References		32
Tables		41