KEY MESSAGES

- Based on the available literature, there is inconclusive evidence that snus serves as a gateway to cigarette smoking.
- In Sweden, switching from cigarettes to snus is far more common than switching from snus to cigarette in Sweden.
- Dual users of both snus and cigarettes consumed fewer cigarettes than the number of cigarettes consumed by exclusive smokers.

QUESTIONS AND ANSWERS

What is the gateway theory?

Gateway theories have been proposed in various areas of substance use for many years. These theories argue that use of one substance makes someone more likely to use other (generally "harder" or more dangerous) substances. The gateway theory as it is applied in tobacco use suggests that using snus or other smokeless tobacco products increases the likelihood that an individual will progress to cigarette smoking. Studies that have evaluated the gateway issue examine the order over time in which snus and cigarettes are used by the individual, and other factors that contribute to tobacco use in general, in order to establish a causal link between snus use and smoking. However, the term “gateway” is not merely a shorthand for the transition from snus to smoking (which occurs in both the US and Sweden).

What evidence is available to examine that snus use is a gateway to cigarette smoking?

There have been numerous studies about individual-level transitions between tobacco products among adults (Furberg et al. 2005, 2006, Hjalmarson and Saloojee 2005; Lindstrom and Isacsson 2002; Lund et al. 2010; Lundqvist et al. 2009; Ramström and Foulds 2006; Rodu et al. 2003). The most predominant trend found in the studies was users switching from cigarettes to snus. There was some evidence of switching from snus use to smoking but the studies were unable to establish the relationship that snus use was strongly associated with the future smoking. In fact, several authors have suggested that snus use is associated with being a former smoker (Furberg et al. 2005, 2006; Ramstrom and Foulds 2006) in Sweden, and a recent review and analysis of seven Norwegian cross-sectional studies concluded that daily snus use was associated with the increased probability of being a former smoker (Lund et al. 2010).

Two studies of the a large Swedish youth cohort (Galanti et al. 2001a; Galanti et al. 2008) concluded that early age at initiation of tobacco use was an important predictor of future tobacco use, irrespective of product order. A higher rate of tobacco progression was observed among participants who initiated both cigarette and snus use within a short time interval. The authors noted that overall, the gateway effect of snus use to smoking affected approximately 6% of youths.

Kozlowski et al. (2003) conducted a study among adults in the United States to evaluate the non-causal and causal patterns of smokeless tobacco use. The study assessed the prevalence of 'non-gateway' and possible 'gateway' patterns of smokeless tobacco use, using the order of first use of either cigarette and/or smokeless tobacco. The authors found that a large majority of smokeless tobacco users were non-gateway users and concluded that "causal gateway effects should be of minor concern for policy. Smokeless tobacco may be more likely to prevent smoking than cause it" (Kozlowski et al. 2003).

What information is available on dual use of both snus and cigarette smoking?

Dual tobacco use is defined as the concurrent use of both snus and cigarette. There is evidence in Sweden of dual use: people who ever used snus are more likely to have ever smoked (i.e., be former smokers who have quit) than people who have never used snus. However, it is not clear from the literature whether current snus users are also more likely to smoke simultaneously. This is because the studies often do not collect or report the data on temporal sequence (i.e., use of snus precedes smoking) necessary to fully understand the use pattern. There is evidence that smokers who also use snus smoke fewer cigarettes per day or smoke less often in a specified period than exclusive smokers (Post et al. 2010; Carlens et al. 2010; Eliasson et al. 1995; Gilljam and Galanti 2003; Hansson et al. 2009; Janzon and Hedblad 2009).

Available studies suggest that dual users in Sweden and Norway are in transition away from, not towards, smoking, i.e., that snus is being used as a smoking cessation method (Furberg et al 2005, 2006, 2008; and Lund et al. 2010) . More recently, Lund et al. (2010) noted that, "Of combination users who used snus daily, 55.3% reported that their motive for using snus was to quit smoking totally" – i.e. they started with cigarettes, were in a transition stage with dual use and had the intention to quit smoking.

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