

Library Watch on nicotine

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"It's All We Got Left". Why poor smokers are less sensitive to cigarette price increases.

Peretti-Watel P; Constance J. *International Journal of Environmental Research and Public Health* 6(2): 608-621, 2009. (30 refs.)

In France, between 2000 and 2008, concurrently to the increase in cigarette price, we observed an increasing social differentiation of cigarette smoking: smoking prevalence decreased among executive managers and professional occupations, it remained stable among manual workers, and it increased among the unemployed. Poor smokers were heavier smokers, they were more frequently tobacco-dependent, and they were more prone to smoke automatically or to reduce "negative feelings". In-depth interviews provided a more comprehensive insight into poor smokers. motivations: they were aware of their addiction, but they also talked about the pleasure they get from smoking, and they highlighted the essential needs satisfied by smoking: stress relief, cheap leisure, compensation for loneliness, break-up or redundancy. Acknowledging the functional aspects of smoking experienced by poor smokers helps to understand why increasing the cigarette price is unlikely to deter many poor smokers from smoking. Copyright 2009, Molecular Diversity Preservation.

Antismoking interventions in residential substance abuse treatment.

Stack KM; Goalder JS; Calhoun PS; Bradshaw EL; Samples CR. *Journal of Addiction Medicine* 3(2): 103-108, 2009. (16 refs.)

Objective: To develop and evaluate an educational strategy to increase motivation to quit smoking and improve attendance at antismoking classes in a residential substance abuse treatment program. Methods: The 241 patients admitted in 2004 who smoked reported the number of cigarettes smoked daily at the time of admission. Attendance at the antismoking classes was noted to determine if there was a relationship between attending the classes and a change in the number of cigarettes smoked at discharge. The 193 patients admitted in 2005 additionally attended four 1-hour motivational classes to encourage quitting smoking. Rates of attendance at the antismoking classes and smoking rates at discharge

were again noted. Results: Smoking rates in 2004 (n = 194; 81%) and 2005 (n = 161, 83%), P = 0.43, were similar. Voluntary participation in antismoking classes increased from 40% to 64% (P < 0.001). There was a greater reduction in the number of cigarettes smoked between admission and discharge in the quality improvement period compared with the reference period (P = 0.025). In both years, attendance at antismoking classes was strongly associated with quitting, P < 0.001. Of those who attended antismoking classes, 133 (74%) reported a reduction in smoking compared with only 27 (15%) of those who declined to attend, P < 0.001. Among smokers, nonattendance of antismoking classes was associated with increased likelihood of having all irregular discharge, P < 0.001. Conclusion: This study suggests the benefit of relatively brief, specific educational efforts to increase motivation to quit smoking in this high-use population. Copyright 2009, Lippincott, Williams & Wilkins.

Cigarettes butts and the case for an environmental policy on hazardous cigarette waste.

Novotny TE; Lum K; Smith E; Wang V; Barnes R. *International Journal of Environmental Research and Public Health* 6(5): 1691-1705, 2009. (45 refs.)

Discarded cigarette butts are a form of non-biodegradable litter. Carried as runoff from streets to drains, to rivers, and ultimately to the ocean and its beaches, cigarette filters are the single most collected item in international beach cleanups each year. They are an environmental blight on streets, sidewalks, and other open areas. Rather than being a protective health device, cigarette filters are primarily a marketing tool to help sell, safe cigarettes. They are perceived by much of the public (especially current smokers) to reduce the health risks of smoking through technology. Filters have reduced the machine-measured yield of tar and nicotine from burning cigarettes, but there is controversy as to whether this has correspondingly reduced the disease burden of smoking to the population. Filters actually may serve to sustain smoking by making it seem less urgent for smokers to quit and easier for children to initiate smoking because of reduced irritation from early experimentation. Several options are available to reduce the

environmental impact of cigarette butt waste, including developing biodegradable filters, increasing fines and penalties for littering butts, monetary deposits on filters, increasing availability of butt receptacles, and expanded public education. It may even be possible to ban the sale of filtered cigarettes altogether on the basis of their adverse environmental impact. This option may be attractive in coastal regions where beaches accumulate butt waste and where smoking indoors is increasingly prohibited. Additional research is needed on the various policy options, including behavioral research on the impact of banning the sale of filtered cigarettes altogether. Copyright 2009, Molecular Diversity Preservation.

Do cigarette prices vary by brand, neighborhood, and store characteristics?

Toomey TL; Chen V; Forster JL; Van Coevering P; Lenk KM. *Public Health Reports* 124(4): 535-540, 2009. (22 refs.)

Objective. We assessed the price variability of cigarettes by brand, neighborhood characteristics (racial/ethnic and youth composition, number of schools, and number of stores), and store type. **Methods.** Trained research staff purchased three different brands of cigarettes (premium, menthol, and discount-all produced by the same company) at 214 stores in one metropolitan area. We assessed associations between price and neighborhood/store characteristics through multivariate regression, using four price variables as dependent variables—the price of each brand of cigarettes and the mean price across the three brands. **Results.** We found that the price of cigarettes varied by neighborhood and store characteristics, although this variability differed by brand. For the same brand, the maximum price was 1.7 to 1.8 times higher than the lowest price. We found a positive association between the percentage of a neighborhood that was nonwhite and the price of discount and premium cigarettes as well as the overall mean price of cigarettes, but not with the price of the menthol brand. We found a negative association between the percentage of youth in a neighborhood and the price of premium cigarettes as well as the mean price, but not with the price of the other two brands. In addition, we found a greater likelihood of higher discount brand prices at independent vs. chain-operated stores. **Conclusions.** Our findings showed that cigarette prices do vary by brand, the youth and racial/ethnic composition in a neighborhood, and store type, suggesting that the tobacco industry might vary its marketing strategies based on brand as well as neighborhood and store characteristics. Copyright 2009, Association of Schools of Public Health.

Do ex-smokers report feeling happier following cessation? Evidence from a cross-sectional survey.

Shahab L; West R. *Nicotine & Tobacco Research* 11(5): 553-557, 2009. (24 refs.)

Introduction: Many smokers fear that when they stop smoking they will give up an important source of enjoyment and be less happy. Yet, little is known about the long-term affective impact of quitting. The present study examined ex-smokers' reports of change in happiness following cessation and factors associated with these reports. **Methods:** In a cross-sectional household survey of a randomly selected, representative sample, 879 ex-smokers were asked to indicate whether they felt happier now, less happy, or about the same compared with when they were smoking. In addition to sociodemographic variables, the survey assessed how long ago ex-smokers had quit as well as prior enjoyment of smoking. **Results:** The large majority of ex-smokers (69.3%, 95% CI = 66.2-72.3) reported feeling happier now than when they were smokers, and only a very small minority (3.3%, 95% CI = 2.2-4.7) reported feeling less happy. In multiple regression analysis, controlling for all other variables, we found that greater happiness following cessation was associated with being younger (odds ratio [OR] per 10-year decrease in age = 1.21, 95% CI = 1.09-1.35) and having quit more than a year ago (OR = 2.37, 95% CI = 1.48-3.80), but responses were not related to other sociodemographic factors, prior cigarette consumption, or previous enjoyment of smoking. Irrespective of these associations, in every given category of respondents, the majority of ex-smokers reported being happier having quit smoking. **Discussion:** Ex-smokers overwhelmingly reported being happier now than when they were smoking. There are many possible reasons for this finding, including self-justification, but it provides at least partial reassurance to would-be quitters that quality of life is likely to improve if they succeed. Copyright 2009, Oxford University Press.

Effect of preoperative smoking cessation interventions on postoperative complications and smoking cessation.

Thomsen T; Tonnesen H; Moller AM. *British Journal of Surgery* 96(5): 451-461, 2009. (51 refs.)

Background: The aim of this study was to examine the effect of preoperative smoking cessation interventions on postoperative complications and smoking cessation itself. **Methods:** Relevant databases were searched for randomized controlled trials (RCTs) of preoperative smoking cessation interventions. Trial inclusion, risk of bias assessment and data extraction were performed by two authors. Risk ratios for the above outcomes

were calculated and pooled effects estimated using the fixed-effect method. Results: Eleven RCTs were included containing 1194 patients. Smoking interventions were intensive, medium intensity and less intensive. Follow-up for postoperative complications was 30 days. For smoking cessation it was from the day of surgery to 12 months thereafter. Overall, the interventions significantly reduced the occurrence of complications (pooled risk ratio 0.56 (95 per cent confidence interval 0.41 to 0.78); $P < 0.001$). Intensive interventions increased smoking cessation rates both before operation and up to 12 months thereafter. The effects of medium to less intensive interventions were not significant. Meta-analysis of the effect on smoking cessation was not done owing to heterogeneity of data. Conclusion: Surgical patients may benefit from intensive preoperative smoking cessation interventions. These include individual counselling initiated at least 4 weeks before operation and nicotine replacement therapy. Copyright 2009, John Wiley & Sons.

Evaluation of school-based smoking-cessation interventions for self-described adolescent smokers.

Joffe A; McNeely C; Colantuoni E; An MW; Wang WW; Scharfstein D. *Pediatrics* 124(2): E187-E194, 2009. (21 refs.)

OBJECTIVE: The goal was to compare the efficacy of school-based, multisession, group smoking-cessation interventions versus a single group session in increasing quit rates among adolescent smokers. **METHODS:** Eight schools were assigned randomly to use 1 of 2 group smoking-cessation programs previously shown to increase quit rates among adolescents (Not on Tobacco [NOT] or Kickin' Butts). We reformatted the programs to twice-weekly 25- to 30-minute sessions delivered during lunch periods. Smoking status was assessed at end of program (EOP) and 1, 3, 6, and 12 months later. Self-reported quit status was confirmed with salivary cotinine levels. **RESULTS:** A total of 407 students (56% black and 52% female; mean age: 16 years) participated. Kickin' Butts participants were no more likely to quit than control subjects. In the conservative analysis (students with missing follow-up data classified as smokers), NOT participants were 1.92 times (95% confidence interval [CI]: 1.09-3.40 times) more likely to self-report quitting at 1 month. In the Bayesian analysis (missing follow-up data imputed by using all available data), NOT participants were significantly more likely than control subjects to self-report quitting at EOP (relative risk [RR]: 1.26 [95% CI: 1.10-1.43]), 1 month (RR: 2.07 [95% CI: 1.68-2.56]), and 12 months (RR: 1.58 [95% CI: 1.22- 2.04]). Cotinine-confirmed

quit rates were significantly greater among NOT participants, compared with control subjects, at EOP and 1 month. **CONCLUSIONS:** The reformatted NOT program had a modest effect on adolescents interested in quitting. Kickin' Butts, as reformatted for this project, did not have any effect on quit rates. Copyright 2009, American Academy of Pediatrics.

Illicit drug use as a predictor of smoking cessation treatment outcome.

Stapleton JA; Keaney F; Sutherland G. *Nicotine & Tobacco Research* 11(6): 685-689, 2009. (21 refs.)

Evidence from cross-sectional survey data suggests a negative association between illicit drug use and smoking cessation. In a prospective clinical cohort, we examined whether illicit drug users were less successful than other smokers when making an attempt to stop smoking. A total of 100 smokers attending a tobacco dependence clinic were studied. Pretreatment questionnaire measures of illicit drug use, demographics, health history, and tobacco smoking were taken. Treatment consisted of seven weekly behavioral support sessions plus nicotine replacement therapy or bupropion. Short-term outcome was assessed at the end of the treatment by self-report and carbon monoxide (CO) verification. A total of 24 smokers (24%) had used illicit drugs during the previous 30 days. Drug users were less likely to stop smoking than were nonusers. The difference in CO-verified success rates was 26.1% (29.2% vs. 55.3%, 95% CI = 4.8%-47.4%), and the odds ratio was 0.33 (95% CI = 0.12-0.89). Adjustment for group differences on all the measured background and treatment characteristics affected this result only marginally. Illicit drug use appears to have a significant detrimental effect on the success of an attempt to stop smoking. This effect is not explained by differences between drug users and nonusers on established prognostic factors. These first results in a prospective sample support findings from a large U.S. population survey of smoking cessation rates in drug users and nonusers. If these results are corroborated, clinicians treating smokers should consider developing new protocols to improve outcomes in smokers using illicit drugs. Copyright 2009, Oxford University Press.

Is smokeless tobacco use an appropriate public health strategy for reducing societal harm from cigarette smoking? (review).

Tomar SL; Fox BJ; Severson HH. *International Journal of Environmental Research and Public Health* 6(1): 10-24, 2009. (84 refs.)

Four arguments have been used to support smokeless tobacco (ST) for harm reduction: (1) Switching from

cigarettes to ST would reduce health risks; (2) ST is effective for smoking cessation; (3) ST is an effective nicotine maintenance product; and (4) ST is not a "gateway" for cigarette smoking. There is little evidence to support the first three arguments and most evidence suggests that ST is a gateway for cigarette smoking. There are ethical challenges to promoting ST use. Based on the precautionary principle, the burden of proof is on proponents to provide evidence to support their position; such evidence is lacking. Copyright 2009, Molecular Diversity Preservation.

Program strategies for adolescent smoking cessation.

Fritz DJ; Wider LC; Hardin SB; Horrocks M. *Journal of School Nursing* 24(1): 21-27, 2008. (22 refs.)

School nurses who work with adolescents are in an ideal position to promote smoking cessation. This opportunity is important because research suggests teens who smoke are likely to become habitual smokers. This study characterizes adolescents' patterns and levels of smoking, describes adolescents' perceptions toward smoking, and delineates quit strategies that may prove helpful for adolescents who attempt smoking cessation. Results suggest adolescent smokers have highly variable patterns and levels of smoking. They fail to consider their future health and continue to be unaware of the harmful effects of smoking and the addictive nature of tobacco. Among adolescent smokers, there are few gender differences in perception of smoking. Therefore, gender specific cessation programs may not be necessary. The most effective quit strategy was the acquisition of information on contents of cigarettes and the health effects of smoking. Armed with these strategies, school nurses can provide leadership in the design and implementation of school based smoking cessation programs. Copyright 2008, National Association of School Nurses.

Maine's Tobacco Medication Program: Compliance, patterns of use, and satisfaction among smokers.

Tworek C; Haskins A; Woods S. *Nicotine & Tobacco Research* 11(7): 904-907, 2009. (26 refs.)

In 2002, Maine's Tobacco HelpLine began offering free nicotine replacement therapy (NRT), including patch and/or gum, to uninsured adult smokers without NRT benefits. This study assessed compliance, NRT use patterns, and satisfaction among smokers calling the HelpLine and using free NRT. Telephone surveys were conducted in June-July 2005 among a sample of 541 eligible HelpLine callers authorized for NRT between February and March 2005, with 393 complete

interviews (72.6% response rate). Descriptive analyses and chi-square tests were conducted, including tests for significant differences by demographics and NRT utilization. Half of study respondents were aware of free NRT before calling the HelpLine and 95% reported NRT at least somewhat influenced their decision to call. Almost all respondents reported picking up NRT, had no problems obtaining it, and reported using it during a serious quit attempt. Most respondents reported uninterrupted NRT use without side effects and a mean duration of use at 39 days. A majority of respondents were very satisfied with their overall experience (88.2%) and reported this process as "very helpful" in their quit attempt (65.6%). Maine's NRT service model effectively encouraged smokers to contact the HelpLine and use NRT, demonstrating valuable opportunity for quitlines to provide NRT access and increase demand among motivated smokers. Copyright 2009, Oxford University Press.

Maternal smoking during pregnancy predicts nicotine disorder (dependence or withdrawal) in young adults: A birth cohort study.

O'Callaghan FV; Al Mamun A; O'Callaghan M; Alati R; Najman JM; Williams GM et al. *Australian And New Zealand Journal of Public Health* 33(4): 371-377, 2009. (44 refs.)

Objective: To investigate whether maternal smoking during pregnancy predicts offspring nicotine disorder (dependence or withdrawal) at 21 years. Method: Participants comprised a prospective birth cohort involving 7,223 singleton children whose mothers were enrolled between 1981 and 1983 at the first antenatal visit to the Mater Mothers' Hospital, Brisbane, Queensland. The present sub-cohort consisted of 2,571 youth who completed the Composite International Diagnostic Interview-computerised version (CIDI-Auto) that assesses nicotine dependence and withdrawal according to DSM-IV diagnostic criteria at the 21-year follow-up. Results: 12.8% of offspring met criteria for nicotine dependence and 8.5% met criteria for withdrawal. 16.6% met criteria for either dependence or withdrawal. Smoking during pregnancy resulted in offspring being more likely to have dependence or withdrawal at 21 years than offspring of mothers who never smoked (age adjusted odds ratio 1.53 (95% CI: 1.19-1.96). Conclusions: Findings emphasise the long-term adverse effects of maternal smoking during pregnancy, including nicotine dependence in young adult offspring. Implications: Public health approaches should strengthen arguments for mothers to cease smoking during pregnancy in view of the long-term health implications for offspring, and reinforce

measures to help smokers among pregnant women and women of childbearing age to stop. Copyright 2009, Public Health Association of Australia.

Parents who quit smoking and their adult children's smoking cessation: A 20-year follow-up study.

Bricker JB; Otten R; Liu JL; Peterson AV. *Addiction* 104(6): 1036-1042, 2009. (37 refs.)

Extending our earlier findings from a longitudinal cohort study, this study examines parents' early and late smoking cessation as predictors of their young adult children's smoking cessation. Parents' early smoking cessation status was assessed when their children were aged 8 years; parents' late smoking cessation was assessed when their children were aged 17 years. Young adult children's smoking cessation, of at least 6 months duration, was assessed at age 28 years. Forty Washington State school districts. Participants were 991 at least weekly smokers at age 17 whose parents were ever regular smokers and who also reported their smoking status at age 28. Questionnaire data were gathered on parents and their children (49% female and 91% Caucasian) in a longitudinal cohort (84% retention). Among children who smoked daily at age 17, parents' quitting early (i.e. by the time their children were aged 8) was associated with a 1.7 times higher odds of these children quitting by age 28 compared to those whose parents did not quit [odds ratio (OR) 1.70; 95% confidence interval (CI) 1.23, 2.36]. Results were similar among children who smoked weekly at age 17 (OR 1.91; 95% CI 1.41, 2.58). There was a similar, but non-significant, pattern of results among those whose parents quit late. Supporting our earlier findings, results suggest that parents' early smoking cessation has a long-term influence on their adult children's smoking cessation. Parents who smoke should be encouraged to quit when their children are young. Copyright 2009, Society for the Study of Addiction to Alcohol and Other Drugs.

Prolonged exposure to denicotinized cigarettes with or without transdermal nicotine.

Donny EC; Jones M. *Drug and Alcohol Dependence* 104(1-2): 23-33, 2009. (52 refs.)

Sensorimotor smoking stimuli are important determinants of cigarette use. The present study aimed to determine whether denicotinized cigarettes lose their reinforcing and/or subjective effects over a 9-day outpatient period when they are smoked with or without concurrent transdermal nicotine. After a preferred brand baseline, 68 participants were randomized into one of four conditions based on the dose (mg) of transdermal nicotine and the type of

cigarettes (dose/cigarette): 0/nicotine, 0/denicotinized, 7/denicotinized, and 21/denicotinized. Under placebo patch conditions, participants smoked a similar number of nicotine and denicotinized cigarettes and no group differences emerged over repeated testing. The total volume of smoke inhaled was lower in the denicotinized group, although this decrease dissipated over time. Denicotinized cigarettes were rated as having low positive and high negative subjective effects. Compared to placebo, transdermal nicotine decreased the number of denicotinized cigarette smoked, produced a lasting decrease in the total volume of denicotinized cigarette smoke inhaled, but had little effect on the subjective effects of denicotinized cigarettes. Transdermal nicotine attenuated withdrawal during initial smoking abstinence; however, once participants were allowed to smoke withdrawal symptoms were relatively low regardless of patch condition. The persistent use of denicotinized cigarettes may result from the presence of nicotine withdrawal and/or the degree to which smoking becomes somewhat independent of the outcome of the behavior (i.e., habit learning). Additional studies would be useful to determine what factors drive continued use of denicotinized cigarettes, whether their use subsides as withdrawal dissipates, and whether they address motives for smoking distinct from current pharmacotherapy. Copyright 2009, Elsevier Science.

Smokers' expectancies for abstinence: Preliminary results from focus groups.

Hendricks PS; Wood SB; Hall SA. *Psychology of Addictive Behaviors* 23(2): 380-385, 2009. (34 refs.)

Smokers' expectancies regarding the effects of cigarette use are powerful predictors of smoking motivation and behavior. However, studies have not investigated the consequences that smokers expect when they attempt to quit smoking: abstinence-related expectancies. The primary goal of this qualitative study was to gain initial insight into smokers' expectancies for abstinence. Eight focus groups were conducted with 30 smokers diverse with respect to age, gender, and ethnoracial background. Content analyses indicated that smokers anticipate a variety of outcomes from abstinence. The most frequently reported expectancies included pharmacologic withdrawal symptoms, behavioral withdrawal symptoms, decreased monetary expense, and immediate improvement of certain aspects of physical functioning and health. Additional expectancies concerned weight gain, improved attractiveness, enhanced social functioning/self-esteem, long-term health outcomes, and loss of relationships. Finally, a

number of relatively unheralded expectancies were revealed. These involved nicotine replacement therapy effectiveness, alcohol and other drug use, cue reactivity, cessation-related social support, aversion to smoking, and "political process" implications. This study provides a preliminary step in understanding smokers' expectancies for abstinence from cigarettes. Copyright 2009, Educational Publishing Foundation.

The hookah: The Indian waterpipe.

Ray CS. *Current Science* 96(10): 1319-1323, 2009. (30 refs.)

The hookah, a waterpipe, originated in India and became popular for smoking tobacco. It spread elsewhere and acquired other names like nargile, shisha, goza and hubble-bubble, before its popularity declined in India. A resurgence of hookah smoking is occurring in India and around the world, and is being promoted as safer than cigarette smoking. This article debunks this myth, by showing that hookah smoke contains more tar and carbon monoxide than cigarette smoke, promotes nicotine addiction and exposure to second-hand smoke, and causes gum disease, tuberculosis, chronic lung diseases, lung cancer, cardiovascular disease and low birth weight. Copyright 2009, Current Science Association.

Vaccines against nicotine. (review).

Cerny EH; Cerny T. *Human Vaccines* 5(4): 200-205, 2009. (38 refs.)

Medications against any dependence-inducing drug face a dilemma: if they are efficient, they will induce withdrawal symptoms and the patient is likely to stop taking his medication. Anti-drug vaccines are irreversible, provide protection over years and need booster injections far beyond the critical phase of acute withdrawal symptoms. Interacting rather with the drug in the blood than with a receptor in the brain, the vaccines are, in addition, free of side effects due to central interaction. For drugs like nicotine interacting with different types of receptors in many organs, this is a further advantage. There are three reasons that anti drug vaccines have first been developed against nicotine. Firstly, in most parts of the world 20 to 50% of the adult population smoke and any smoking cessation treatment will have an important impact on public health and be commercially a very attractive product. The second reason are the smokers themselves, who would like to quit in significant numbers and who have shown good compliance for

any form of treatment. Thirdly, the quantities of cocaine or heroine taken by dependant persons are higher than the quantity of nicotine per cigarette, which makes an anti nicotine vaccine the easier vaccine project. Three anti nicotine vaccines are today in an advanced stage of clinical evaluation. We report here how those vaccines work, on the progress of the trials and future developments to expect. Results show that the efficiency of the vaccines is directly related to the antibody levels of the probates, a fact which will help to optimize further the vaccine effect. We expect the vaccines to appear on the market during a time window between 2009 and 2011. Copyright 2009, Landes Bioscience.

The association of snus and smoking behaviour: A cohort analysis of Swedish males in the 1990s.

Stenbeck M; Hagquist C; Rosen M. *Addiction* 104(9): 1579-1585, 2009. (35 refs.)

Background: The European Union has banned sales of moist snuff (snus) in all member states, with the exception of Sweden. The ban is motivated by the potential adverse health effects of snus, but snus may also help people to avoid smoking or stop tobacco use. Aims: The purpose of this study is to investigate the association between snus and smoking behaviour. Measurements: The Swedish Survey of Living Conditions (ULF) health interview panel running from 1988/9 to 1996/7 was used to examine the gross and net flows between smoking and snus among Swedish males. Females were excluded from the analysis due to low snus prevalence. Contingency table models were used to investigate several hypotheses about the relationships between snus and smoking behaviour. Findings: We found clear associations between the two habits. For the younger cohort (age 16-44 years), snus use contributed to approximately six smoking quitters per smoking starter attributable to snus. For the older cohort (age 45-84) there were slightly more than two quitters per starter. In terms of odds ratios, in the younger group smoking cessation attributable to snus was twice as common as smoking initiation, but in the older group the odds of starting smoking attributable to snus was 2.5 times higher than for quitting. Conclusions: Snus contributed to the reduction of smoking among Swedish males in the 1990s. Snus had different effects among non-smokers and smokers in different age groups. Copyright 2009, Society for the Study of Addiction to Alcohol and Other Drugs.