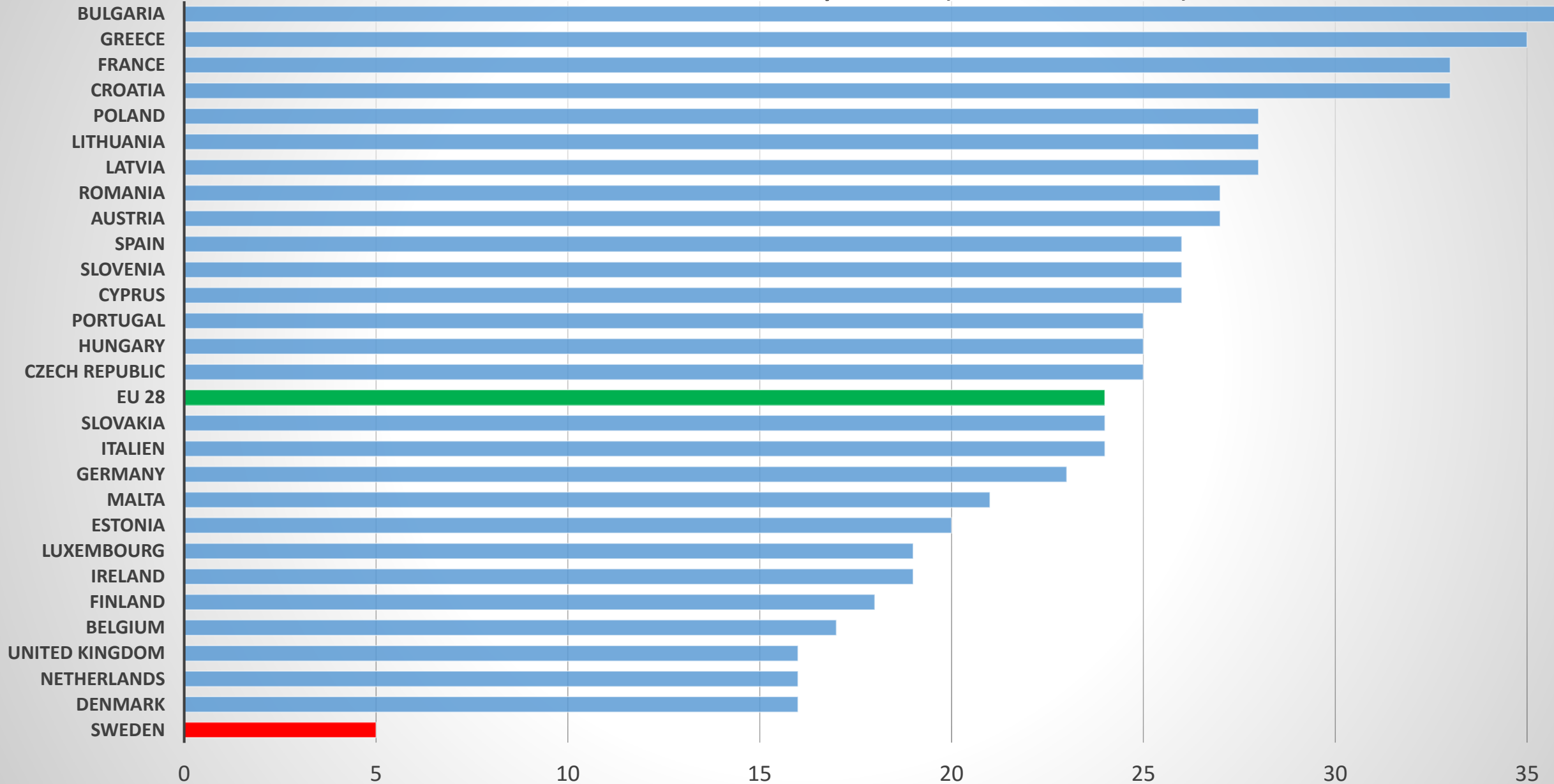


50 years of increasing snus use in Swedish men – impact on smoking and public health

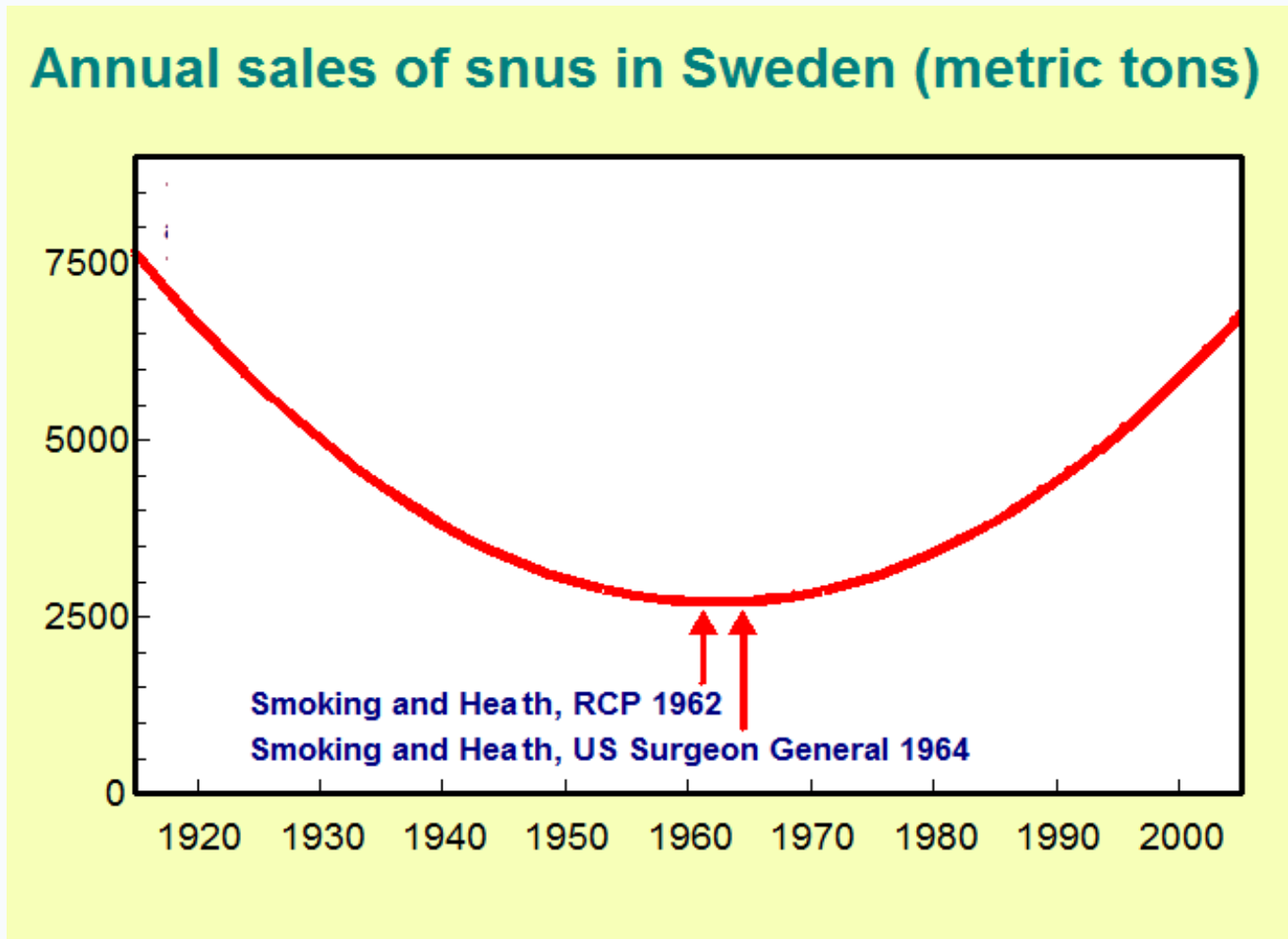
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Prevalence of daily smoking in the EU

Source: Eurobarometer 458, May 2017 (Table QB4aT2)

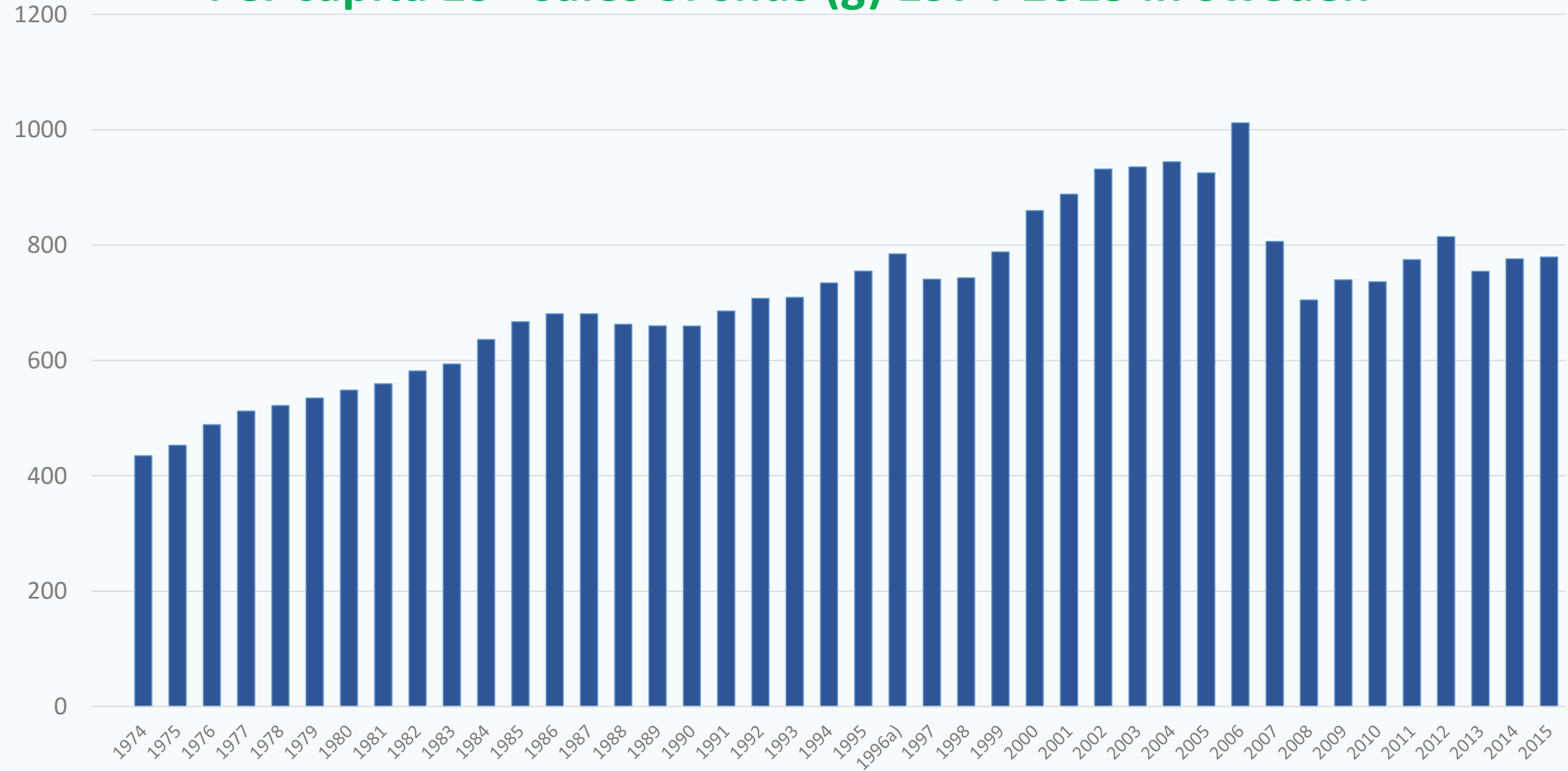


About 50 years ago something happened to tobacco use in Sweden



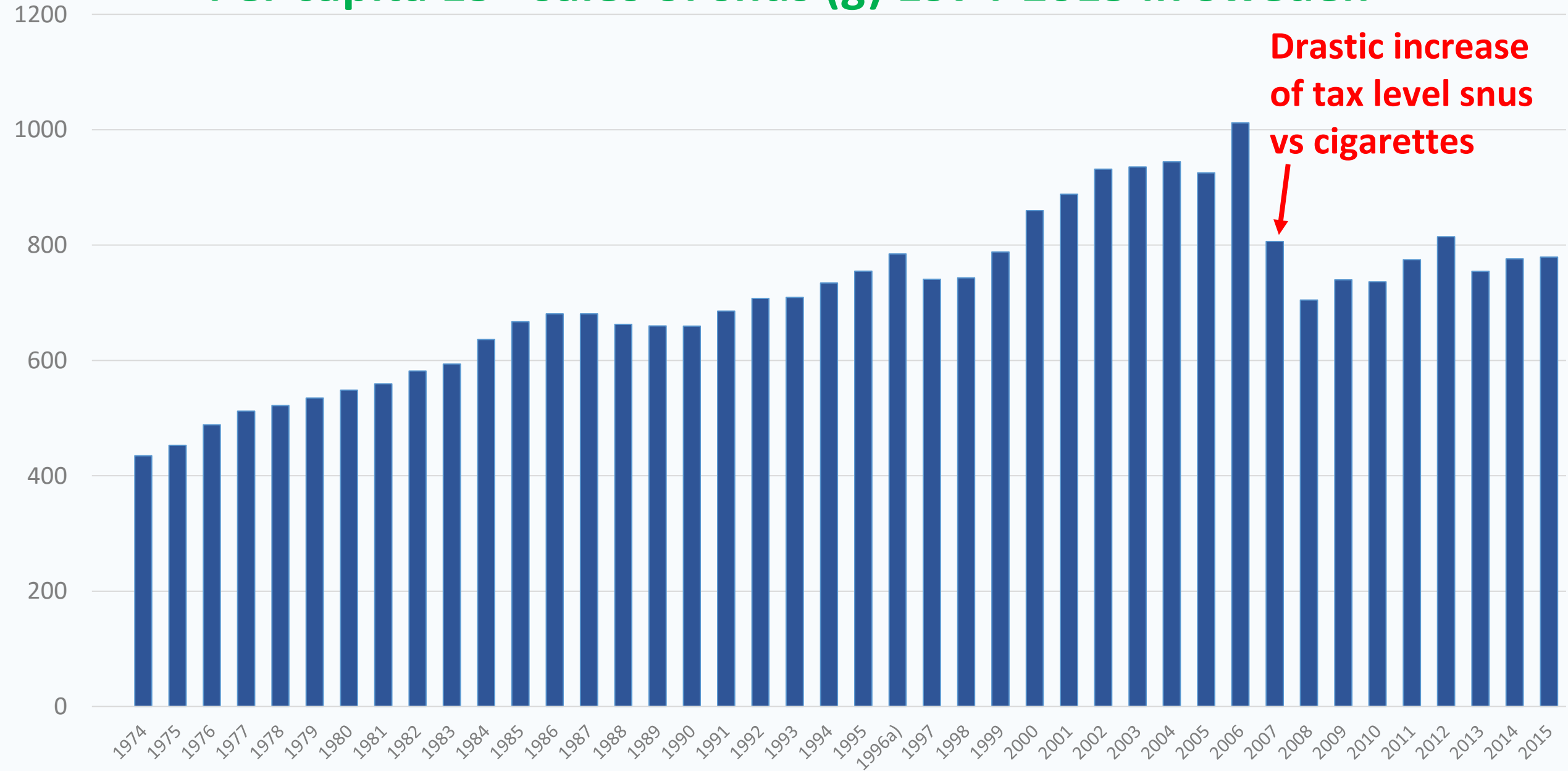
In the 1970s, the earlier decline in snus sales transformed into an increase.

Per capita 15+ sales of snus (g) 1974-2015 in Sweden



Source: Ministry of Finance

Per capita 15+ sales of snus (g) 1974-2015 in Sweden



Source: Ministry of Finance

INITIATION OF DAILY TOBACCO USE IN SWEDEN

Primary initiation of smoking:

- Initiation of daily smoking among non-tobacco-users.

Secondary initiation of smoking:

- Initiation of daily smoking among daily snus users.

Primary initiation of snus use:

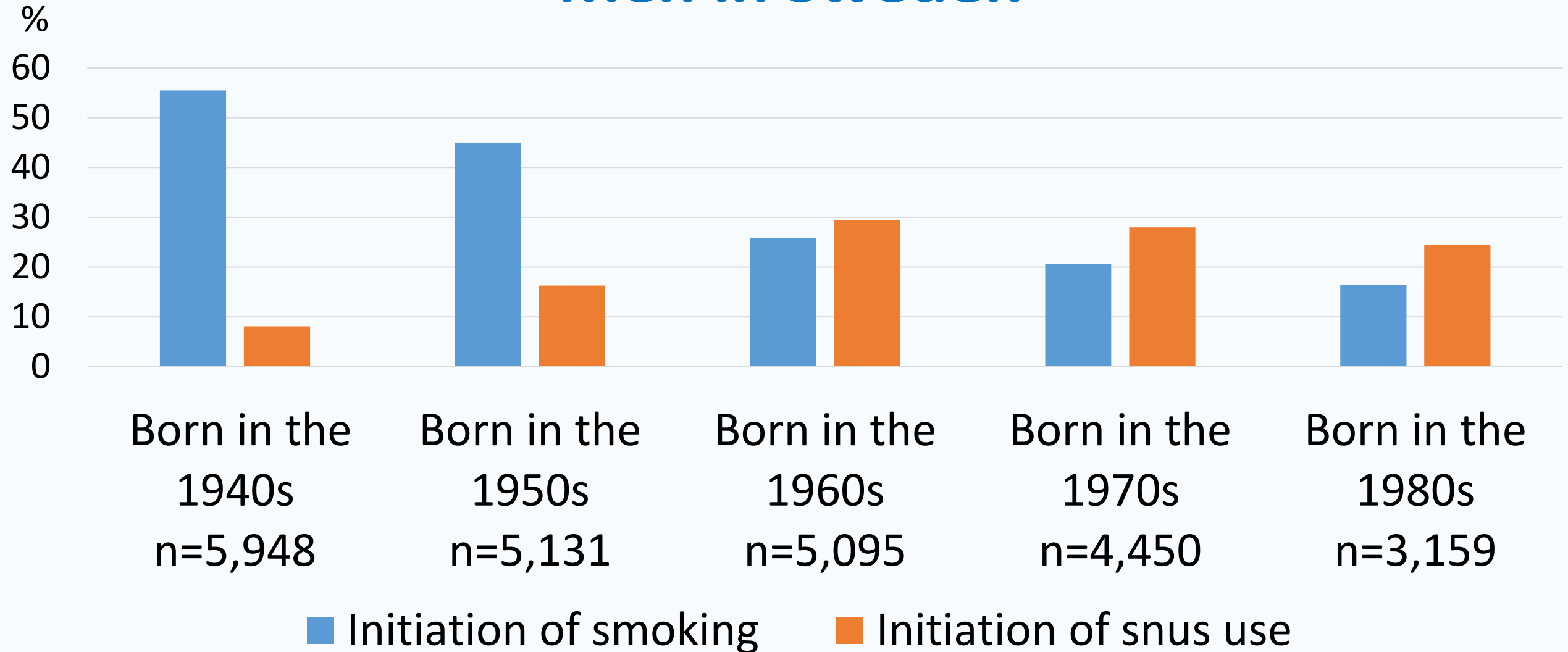
- Initiation of daily snus use among non-tobacco-users.

Secondary initiation of snus use:

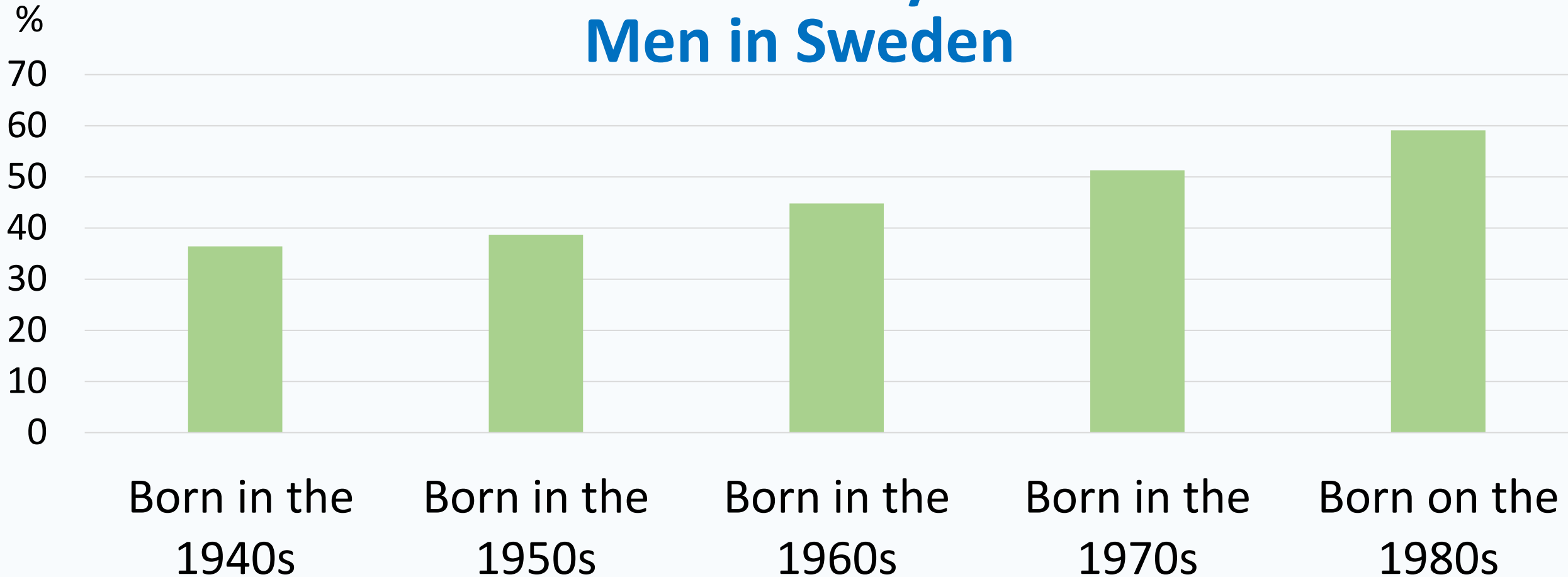
- Initiation of daily snus use among daily smokers.

Primary initiation of daily tobacco use

Men in Sweden



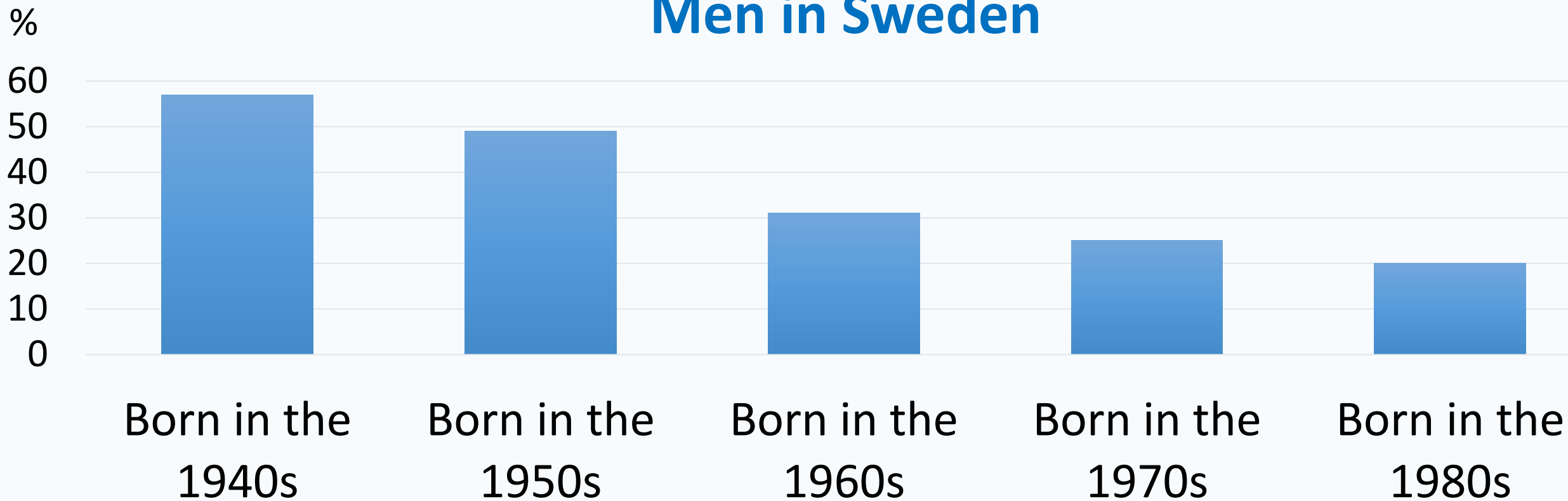
Non-initiation of daily tobacco use Men in Sweden



The upward trend of non-initiation, together with the downward trend of smoking initiation, suggests that the snus-initiators are not recruited among presumptive never-tobacco-users, but rather among presumptive smokers. Thus, snus use is not added to smoking but replacing smoking.

Source: Ramström Borland Wikmans, 2016

Primary + secondary initiation of daily smoking Men in Sweden



Primary initiation of snus use is sometimes followed by secondary initiation of smoking. When these cases are added, there is very little change. We still see the strong decline of initiation of smoking. This refutes the concerns that have been raised that snus would be a gateway to smoking.

Quit ratios in Sweden

For smoking	For snus use
Men n=11557	Men n=8758
0.70	0.35
Source: YCYL study 2003-2011	

Quit ratios (quitters)/(ever users) are much lower for snus use than for smoking. There have been assumptions that this would reflect stronger nicotine dependence in snus use than in smoking.

Quit ratios are influenced both by the strength of dependence that hampers quitting, and, the strength of motivation to quit.

The nationwide representative FSI/ITS surveys 2003 -2006 (n=33,641) examined how these parameters are associated with smoking respectively snus use.

Questionnaire item to measure dependence

How soon after waking up do/did you take your first cigarette/snus?

After >60 minutes (0 points)

Within 31-60 minutes (1 point)

Within 6-30 minutes (2 points)

Within 5 minutes (3 points)

Questionnaire item to measure motivation to quit smoking/snus use

Do/did you have a desire to quit?

None (0 points)

Some (1 point)

Strong (2 points)

Mean scores (men) for...

dependence on ...			
...smoking n=1607	...snus use n=1698		
1.66 95% CI 1.61-1.71	1.67 95% CI 1.63-1.71		

Source: FSI/ITS surveys 2003-2006.

Strength of dependence is equal for smoking and snus use. This refutes the concerns that have been raised that switching to snus would worsen nicotine dependence and perpetuate use of tobacco.

Mean scores (men) for...

dependence on ...		motivation to quit..	
...smoking n=1607	...snus use n=1698	...smoking n=1536	...snus use n=1566
1.66	1.67	1.21	0.70
95% CI 1.61-1.71	95% CI 1.63-1.71	95% CI 1.18-1.24	95% CI 0.67-0.73

Source: FSI/ITS surveys 2003-2006.

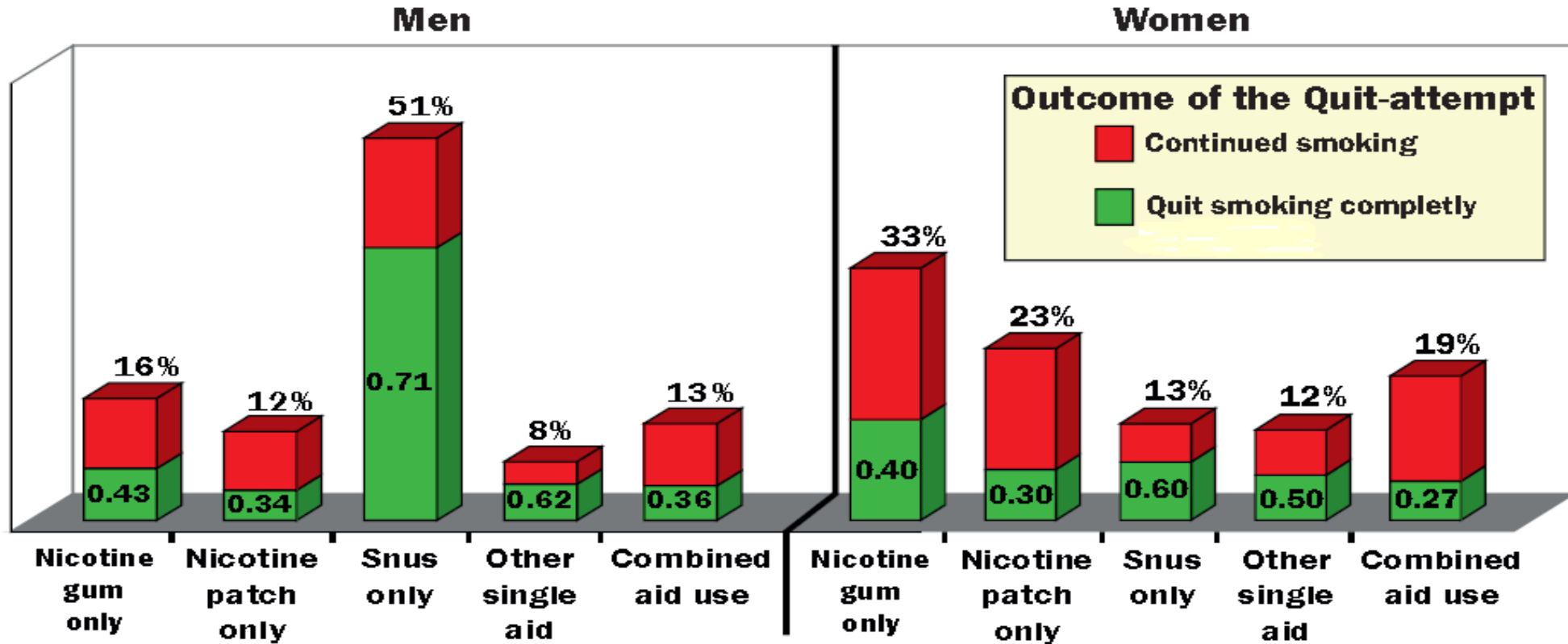
While strength of dependence is equal for smoking and snus use, strength of motivation to quit is much less pronounced for snus use than for smoking. Consequently, the lower quit ratios for snus use are explained by lower motivation, not by stronger dependence.

The great majority of all attempts to quit smoking are “Self-help quit attempts” i.e. made without professional assistance in terms of medical and/or psychological treatment/counselling.

What is the role of snus in this, dominant category of quit attempts ?

Role of snus as smoking cessation aid

Percentages of “Self-help quit-attempts” made with different aids and Outcome of the quit-attempt



The numbers in green sectors indicate aid-specific quit ratios (successfulness)

Among men, snus is used in 51%, nicotine gum in 16% and nicotine patch in 12% of all self-help quit attempts. Both men and women who use snus as cessation aid have much higher success rate than users of nicotine gum or patch.

A cessation aid's impact on population level is:

(Successfulness in individuals) x (Extent of use)

Snus as an aid for smoking cessation reaches superior levels in both these respects, particularly among men.

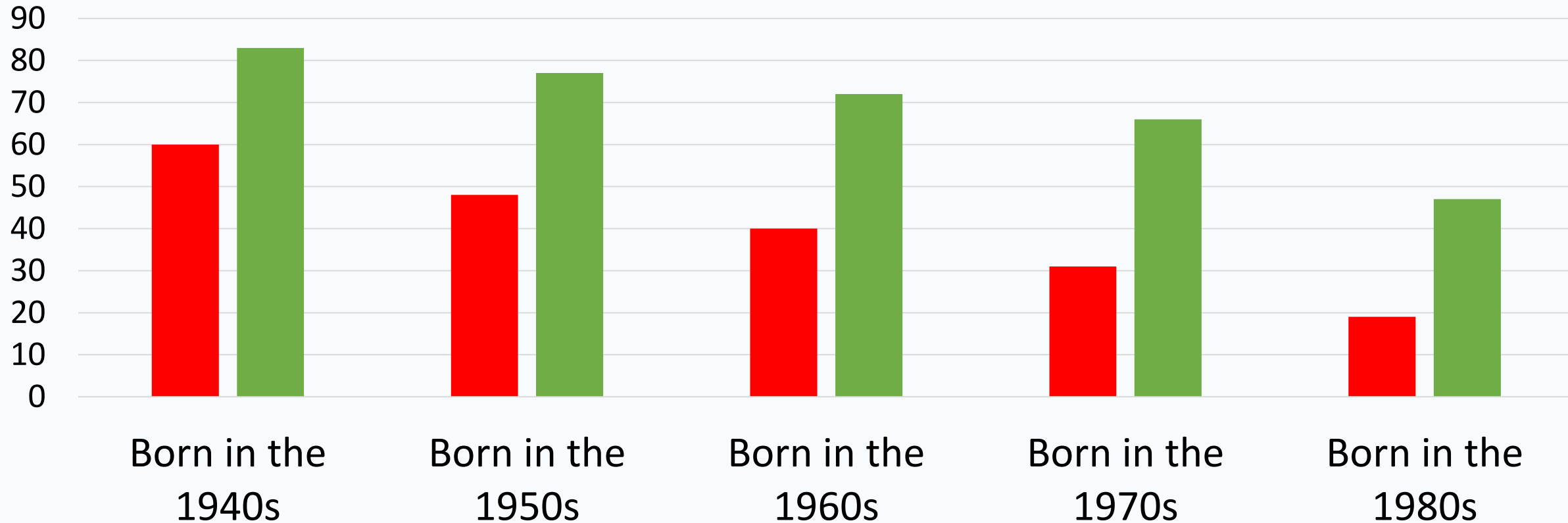
As a result, the number of men who quit smoking using snus is higher than the number of all men who quit smoking by using the officially approved NRT products.

A question of particular interest is: How does uptake of snus among smokers affect their chances to quit smoking?

Proportion having quit smoking completely at the time of the survey in different categories of primary initiation of daily smoking

- Primary smokers without uptake of snus n=6,943
- Primary smokers with uptake of snus n=3,737

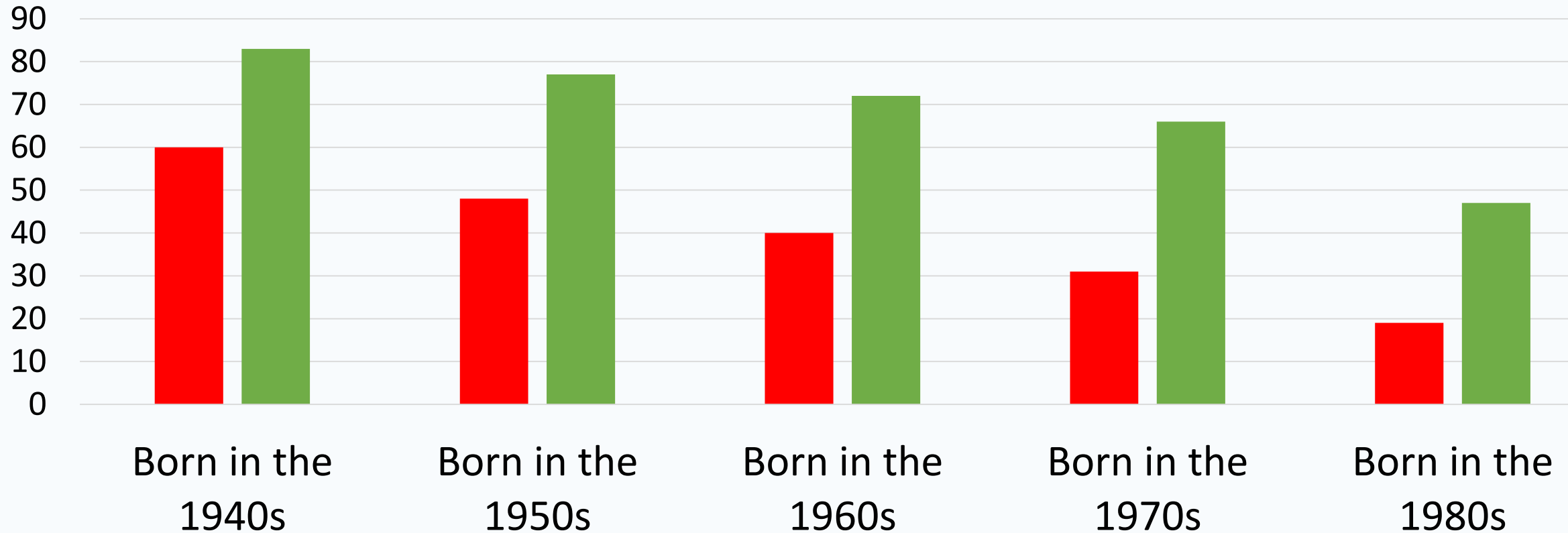
% within category



Proportion having quit smoking completely at the time of the survey in different categories of primary initiation of daily smoking

- Primary smokers without uptake of snus n=6,943
- Primary smokers with uptake of snus n=3,737

% within category



The RELATIVE difference between the categories increases across the birth cohorts along with increasing dominance of snus use.

Our data have shown that primary smokers' uptake of snus use results in very dramatic reduction of smoking.

What happens to their subsequent snus use?

Smoking and/or snus use at the time of the survey

Primary smokers with uptake of daily snus use (men)

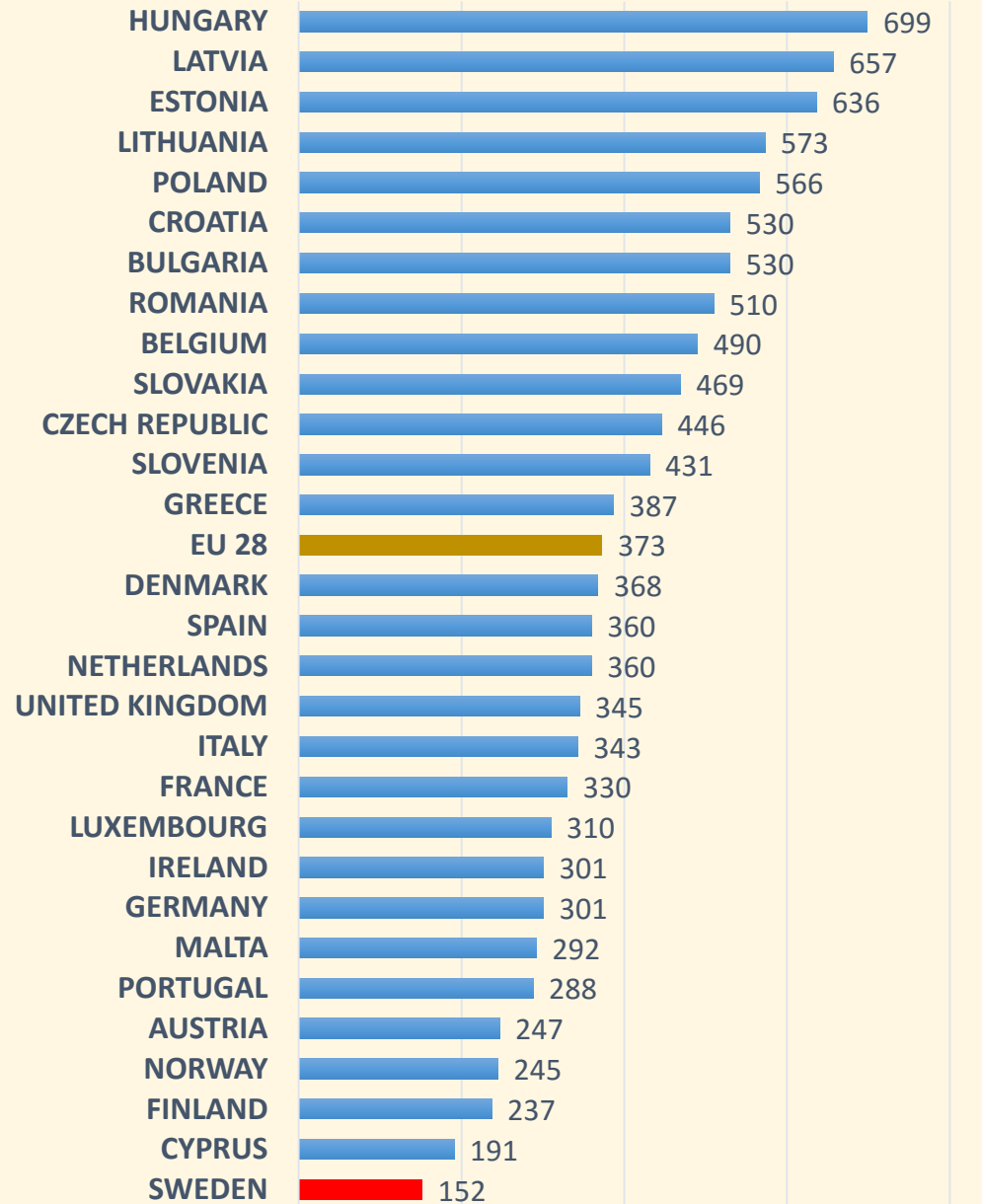
Smoking and snus use (dual use)	18.9% (<i>daily</i> dual use 9.0%)
Smoking, no snus use	4.8%
Total smoking	23.7%
No smoking, snus use	44.8%
No smoking, no snus use	31.5%
Total smokefree	76.3%

More than 80% have quit at least the one kind of their tobacco use.

31.5% have quit both smoking and snus use.

Persisting dual use is uncommon. Dual use appears to be a transient stage serving as a stepping-stone towards smokefree or completely tobacco-free life.

Death rate per 100,000 attributable to tobacco, all causes of death, men 30 years and older

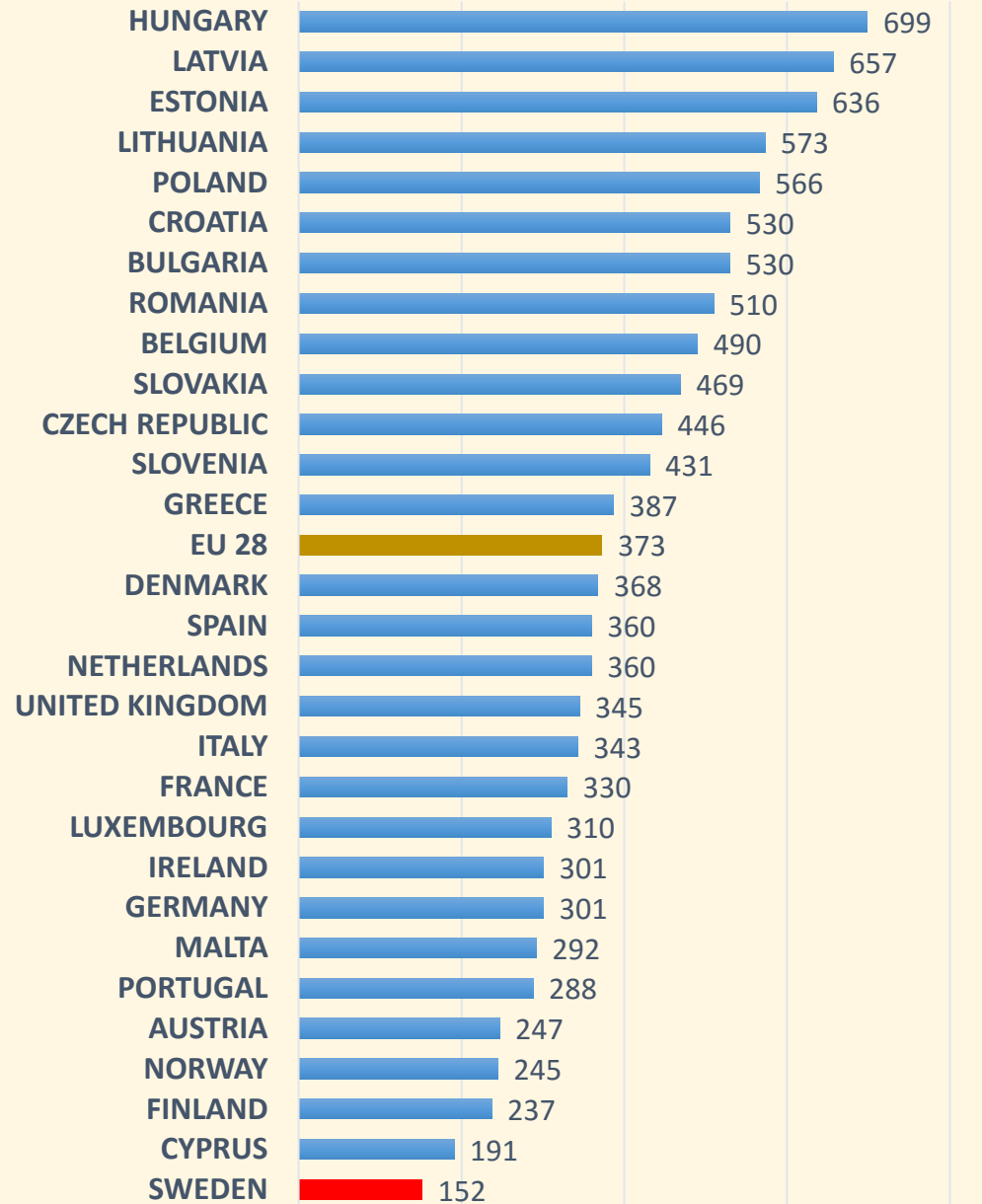


Source:
WHO Global
Report, 2012

Summary

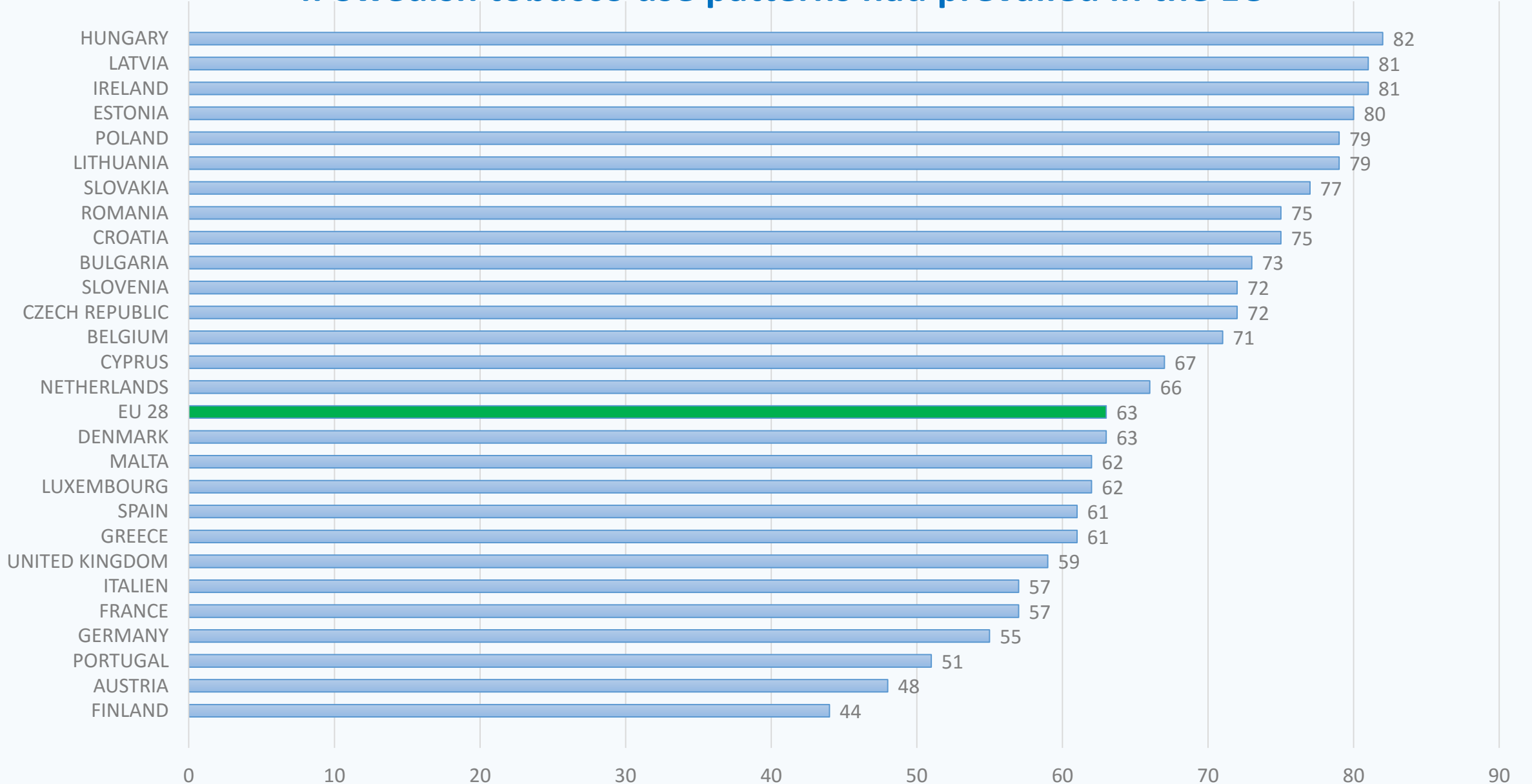
- 50 years of increasing initiation of snus use has been accompanied by decreasing initiation of smoking and increasing proportion of non-initiation of tobacco use.
- Primary snus users appear to be recruited among prospective smokers rather than among prospective non-tobacco users.
- Snus use is NOT a gateway to smoking – instead it hampers initiation of smoking.
- Lower quitting among snus users than smokers is due to lower level of motivation to quit, not to different strength of nicotine dependence.
- Snus as self-administered aid for smoking cessation yields higher success rates than nicotine gum or patch.
- Among men snus is the most commonly used aid for smoking cessation.
- Among men the combination of successfulness in individuals and large extent of use has resulted in higher number of quitters with snus than quitters with nicotine gum/patch.
- Among male smokers who had taken up daily snus use 76% were totally smoke-free at the time of the survey, and 32% had quit all tobacco use.
- Dual use of snus and cigarettes is rather uncommon and appears to be a transient stage, a stepping-stone towards smoke-free or tobacco-free life.
- Snus favours public health both by decreasing initiation of smoking and increasing cessation of smoking.
- In Swedish men, where snus has become the dominating kind of tobacco use, the tobacco-related mortality is the lowest in Europe, 152 deaths per 100,000 compared with the European average 373 per 100,000.

Death rate per 100,000 attributable to tobacco, all causes of death, men 30 years and older



Source:
WHO Global
Report, 2012

Percentage of tobacco-related deaths that would have been averted if Swedish tobacco use patterns had prevailed in the EU



Source: Ramström poster at GFN 2017

CONCLUSIONS

**IF, snus is made available by lifting of the current ban in the EU,
AND, truthful public education encourages substitution of snus for cigarettes as in Sweden,
around 320,000 premature deaths per year can conceivably be prevented among men 30 years
and older in the current EU countries.**