

# "Harm Reduction in Norway - the case of snus"

Tobacco Harm Reduction - Diversifikation der Rauchentwöhnungsstrategien  
13. Oktober 2021

**Karl E. Lund** Ph.d.

Senior Researcher



# THE TOBACCO ATLAS

SIXTH EDITION

Smoking: 7,5 million deaths annually

Number of smokers: 1.1 billion

Europe:

1.4 million deaths annually

A significant cause of health inequality

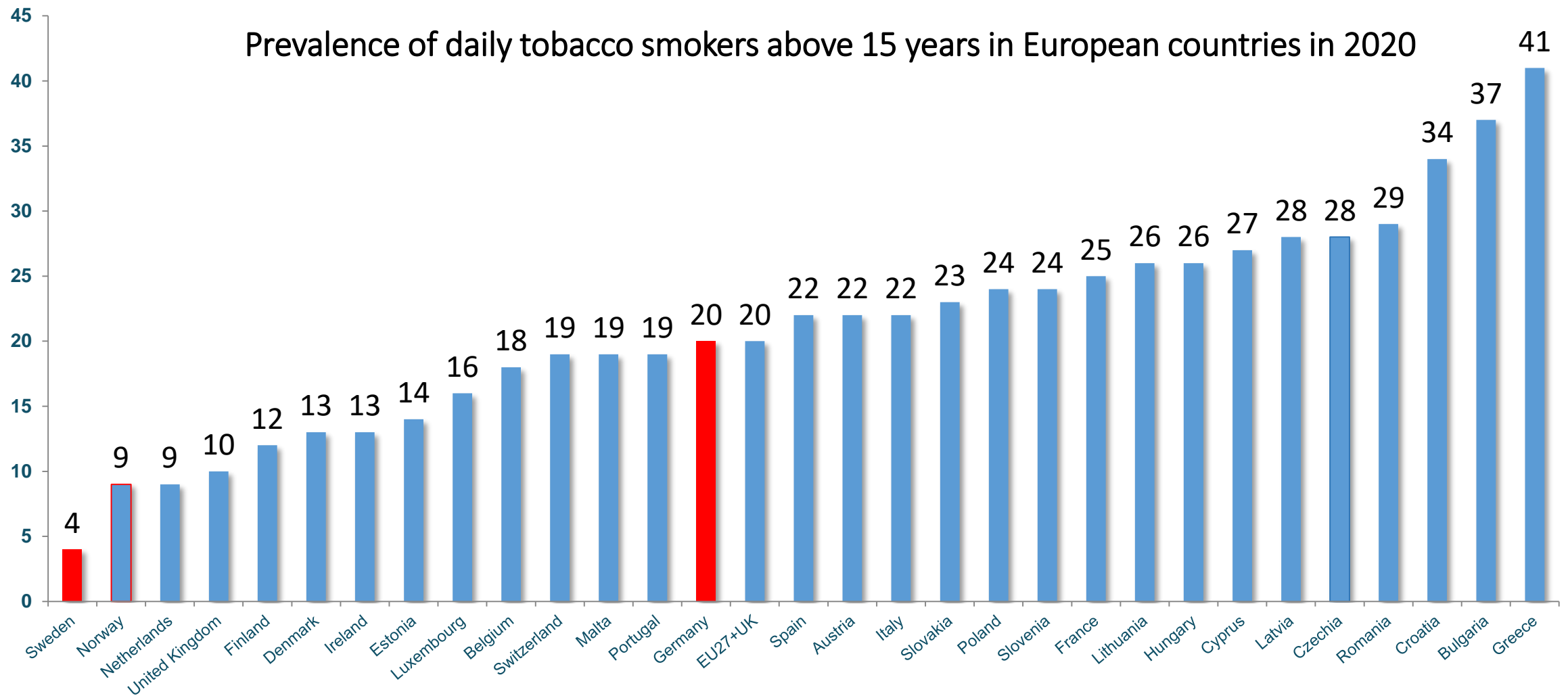
Consumption decreasing by 0.9% per year

JEFFREY DROPE AND  
NEIL W. SCHLUGER, EDITORS

WITH ZACHARY CAHN, JACQUI DROPE,  
STEPHEN HAMILL, FARHAD ISLAMI, ALEX LIBER,  
NIGAR NARGIS AND MICHAL STOKLOSA



THE COMPANION VOLUME TO THE  
TOBACCOATLAS.ORG WEBSITE —  
NEWLY REVISED, EXPANDED AND UPDATED



Source: Eurobarometer 506, February 2021. Central Bureau of Statistics Norway, chart 05307, 2019. The Federal Office of Public Health Switzerland, 2017. Tobaksfakta 2019.

# NATIONAL TOBACCO STRATEGY 2012-2018

A strategy to improve the health of all Australians by reducing the prevalence of smoking and its associated health, social and economic costs, and the inequalities it causes

Department of Health & Social Care

Department of Health, Social Services and Public Safety  
www.dhssps.gov.uk

# TOBACCO CONTROL DELIVERY PLAN FOR WALES 2017-2020

Tobacco Control Plan  
Delivery Plan 2017 - 2022

TEN-YEAR  
TOBACCO CONTROL  
STRATEGY FOR NORTHERN  
IRELAND

## European Strategy for Tobacco Control

# SOUTH AUSTRALIAN TOBACCO CONTROL STRATEGY 2017-2020

# TOBACCO CONTROL PLAN 2015-18

A tobacco-free future

National strategy for tobacco control

2013-2016

World Health Organization  
Regional Office for Europe  
Copenhagen



# ROADMAP TO A TOBACCO-FREE FINLAND Action Plan on Tobacco Control

# En framtid uten tobakk Nasjonal strategi for arbeidet mot tobakkskader 2019-2026

# The International Tobacco Control Policy Evaluation Project ITC Netherlands National Report FINDINGS FROM THE WAVE 1 TO 8 SURVEYS (2008-2014) SEPTEMBER 2015

# SUNDHEDSSTYRELSEN Sundhed og livsstil Sygdom og behandling Rationel farmakoterapi Uddannelse Planlægning Forside > Sundhed og livsstil > Tobak > [Lægning](#) SUNDHED OG LIVSSTIL Graviditet og fødsel Børn og unge Alkohol Ernæring Lovgivning på tobaksområdet Tobaksområdet reguleres af flere forskellige love og bekendtgørelser. Her kan du danne dig et samlet overblik over området. Un- bekendtgørelser, samt ændringer og tilføjelser til lovene. Du kan des- skil rette henvendelse til, hvis du har spørgsmål til loven eller beken- gældende lovgivning på området kan til enhver tid findes på [Betsinfo](#)

## Regional Strategy for Tobacco Control

Department of Health

# Uppföljning av regeringens alkohol-, narkotika-, dopnings- och tobaksstrategi Förslag på indikatorer avseende de långsiktiga målen i strategin

# Tobacco Control Strategy Planning Guides

Towards a Smokefree Generation

A Tobacco Control Plan for England



The 'Zero-vision' will be achieved by intensified use of traditional means..

Punitive

Stronger regulations for smoking...

Higher taxes on cigarettes.....

Denormalization of smokers.....



Educational

More information...

Stronger warnings.....

Intensified campaigns.....

Cigarettes are bad....



**Society has changed.....**

Stronger regulations...into societies already fairly well regulated

Higher taxes...into markets where cigarettes already appear costly

Denormalize...a group already feeling stigmatized

Intensified campaigns...aimed an audience already inoculated and 'imune'

More information....into populations already well informed



Society has changed.....

Stronger regulations...into societies already fairly well regulated

Higher taxes...into markets where cigarettes already appear

Denormalize...a group already feeling stigmatized

Intensified campaigns...aimed at a population already inoculated and 'immune'

More information...into populations already well informed

**Marginal returns from intensifying the traditional weapons of tobacco control**



**The smokers have changed.....**

Resistant and reactant

Inoculated and immune

Social class decent

Vulnerable groups

Mental disorders

Lack of coping skills



Smokers possess other characteristics than those we targeted with traditional tools some decades ago.....





ALL OVER AMERICA...  
**MORE SCIENTISTS AND EDUCATORS  
 SMOKE KENT** with the MICRONITE FILTER  
 than any other cigarette!

SMOKE PRESENTATION OF AMERICAN SCIENTISTS WHO SMOKE	
KENT	80%
AMERICAN	75%
AMERICAN	70%
AMERICAN	65%
AMERICAN	60%

SMOKE PRESENTATION OF AMERICAN EDUCATORS WHO SMOKE	
KENT	85%
AMERICAN	80%
AMERICAN	75%
AMERICAN	70%
AMERICAN	65%

KENT  
 CIGARETTES  
 NEW  
 MICRONITE FILTER  
 KING SIZE

REGULAR SIZE KING SIZE  
 OR CRUSH-PROOF BOX

For good smoking taste,  
 it makes good sense to smoke **KENT**





He's one of the busiest men in town. While his door may say *Office Hours 2 to 4*, he's actually on call 24 hours a day.

The doctor is a scientist, a diplomat, and a friendly sympathetic human being all in one, so matter how long and hard his schedule.

According to a recent Nationwide survey:  
**MORE DOCTORS SMOKE CAMELS**  
 THAN ANY OTHER CIGARETTE



# Viceroy

## *FILTER*

### the Smoke!

As your Dentist, I would recommend **VICEROYS**

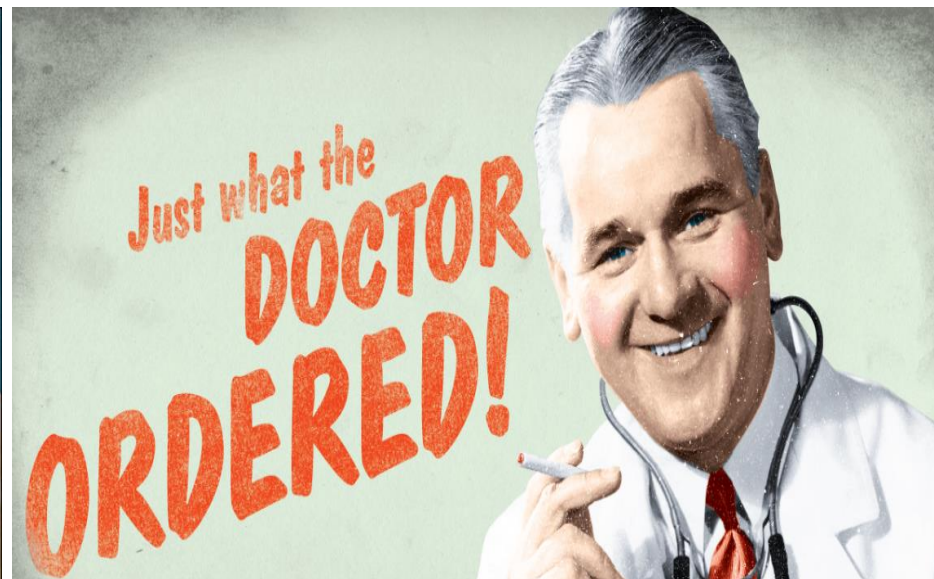


**FRESH? So do I!**

Smoke a **FRESH** cigarette



Don't touch the anti-static guard wrapped from your package of Camels when you open it. The *Resistor Pack* is protective against dust and germs. Its silver and bronze, even in the air atmosphere of cigarette bins, the *Resistor Pack* delivers fresh Camels and keeps them right until the last one has been smoked.



Just what the  
**DOCTOR**  
**ORDERED!**



**20,679\* Physicians**  
 say "**LUCKIES**  
 are *less irritating*"

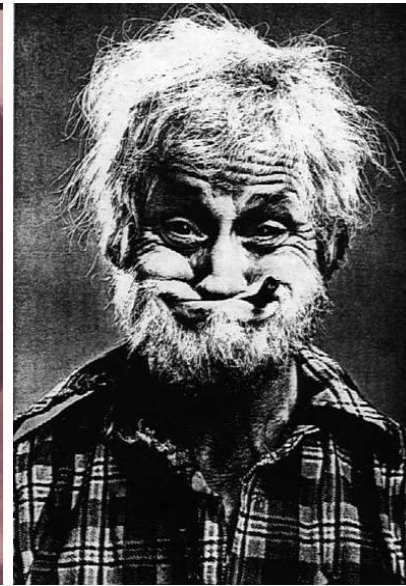
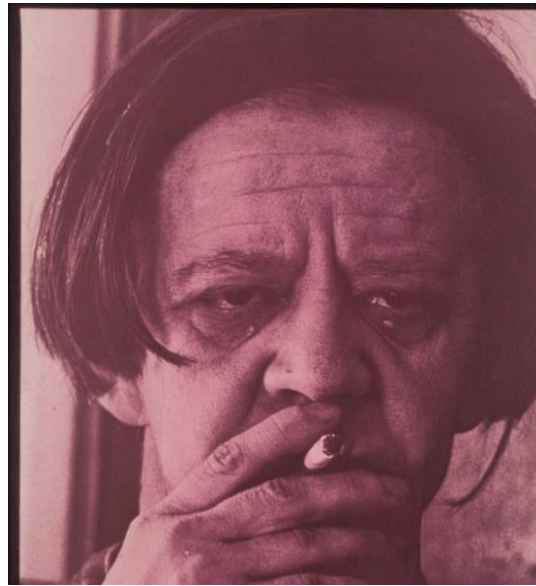
**"It's toasted"**  
 Your Throat Protection against irritation against cough





Tour de France





Smoking associated with low SES – vulnerable populations



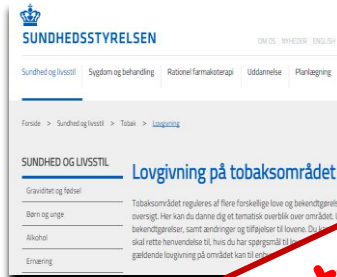
Department  
of Health &  
Social Care

Tobacco Control Plan  
Delivery Plan 2017 - 2022



Department of  
Health, Social Services  
and Public Safety  
[www.dhs.gov.uk](http://www.dhs.gov.uk)

TEN-YEAR  
TOBACCO CONTROL  
STRATEGY FOR



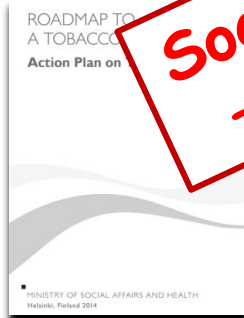
A tobacco-free future

Department  
of Health

National strategy for tobacco control

2012

Plan for England



TOBACCO CONTROL  
DELIVERY PLAN FOR  
WALES 2017-2020

European Strategy for  
Tobacco Control

World Health Organization  
Regional Office for Europe  
Copenhagen



Regional Strategy  
for  
Tobacco Control



Tobacco Control Strategy  
Planning Guides

Society has changed and the smokers have changed  
- but the tobacco control policy remains the same



Das Institut für Suchtforschung (ISFF) lädt Sie herzlich ein zur

4. Fachtagung zum Thema

**Tobacco Harm Reduction**

**„Diversifikation der**

**Rauchentwöhnungsstrategien“**

Mittwoch, 13. Oktober 2021

10:15–17:15 Uhr (Hybridkonferenz)

## The core elements of THR:

- Availability of alternatives to cigarettes
- Risk-proportionate regulation (e.g. taxation)
- Communicate risk difference between products
- Advice smokers to switch product



### Hiding in plain sight Treating tobacco dependency in the NHS

A report by the Tobacco Advisory Group  
of the Royal College of Physicians



### Harm reduction in nicotine addiction Helping people who can't quit

A report by the Tobacco Advisory Group  
of the Royal College of Physicians

October 2017



Royal College  
of Physicians

## Nicotine without smoke Tobacco harm reduction

A report by the Tobacco Advisory Group  
of the Royal College of Physicians

April 2016



This organisation has been certified  
as a producer of reliable health and  
social care information.  
[www.theinformationstandard.org](http://www.theinformationstandard.org)



# WHO: E-Cigarettes Threaten Fight Against Global Tobacco Use

E-cigarettes branded 'harmful' as World Health Organisation calls for greater regulation to protect children

Experts have accused the WHO of failing to understand the "fundamental difference" between a deadly tobacco addiction and being addicted to nicotine.



WHO sounds the alarm on 'harmful' e-cigarettes

## What are the differences?

Topic	Opponents	Proponents
<b>Political aim:</b>	Tobacco-free Society	Reduction of smoking related mortality
<b>Nicotine:</b>	Therapeutic use only	Recreational use will always exist
<b>Nicotine addiction:</b>	Unacceptable	Acceptable if health risk are low
<b>Product regulation/taxation:</b>	Designed to deter adolescents	Should motivate smokers to switch
<b>Risk communication:</b>	'No nicotine products are risk-free'	Emphasize the risk difference
<b>Contrasting risk:</b>	Compare to no nicotine use	Compare to smoking
<b>Risk-reduction potential:</b>	Unknown (no long-term studies)	Huge (based on toxicological/physiological testing)
<b>Product innovation:</b>	Precaution principle	Novel products may outperform cigarettes
<b>Nicotine industry:</b>	Can't be trusted	Willing to cooperate

# SNUS



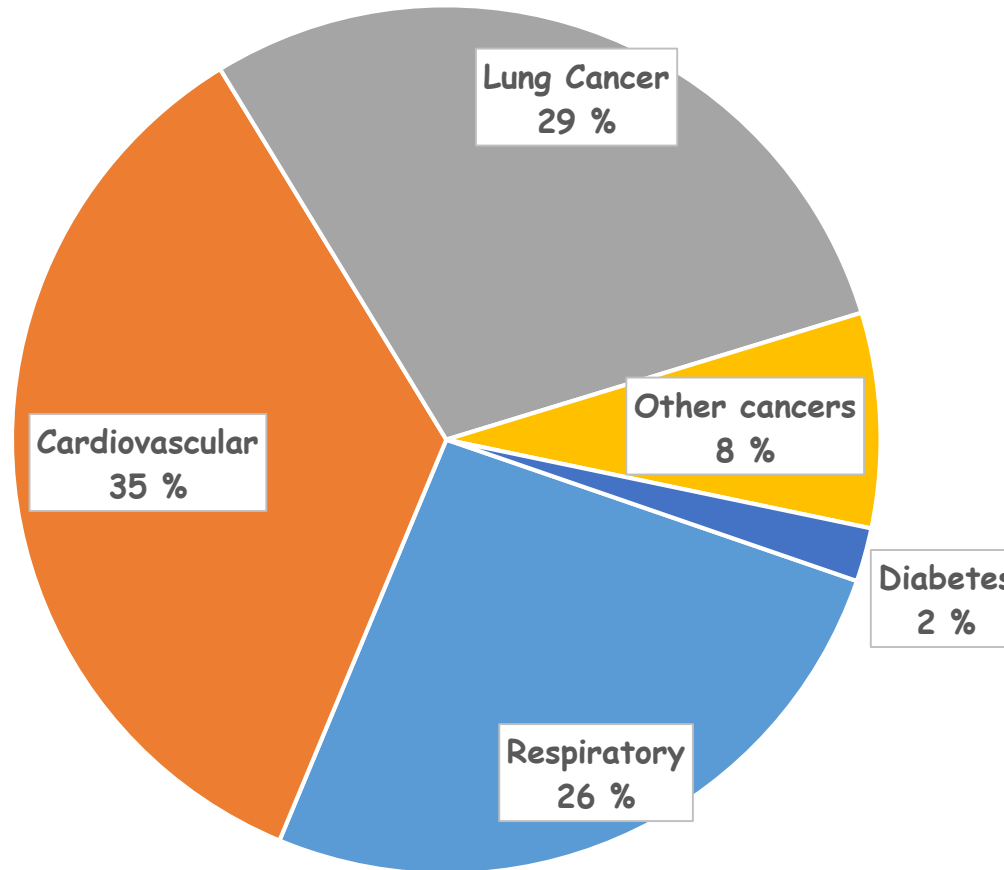
- Available for 200 years
- Use patterns observed since 1985
- Epidemiological studies on health effects conducted

- Oral, low-toxicity smokeless tobacco product
- Moist powder of pasteurized finely ground tobacco leaves
- Pre-baked portions wrapped in cellulose
- Discrete to use, no spitting



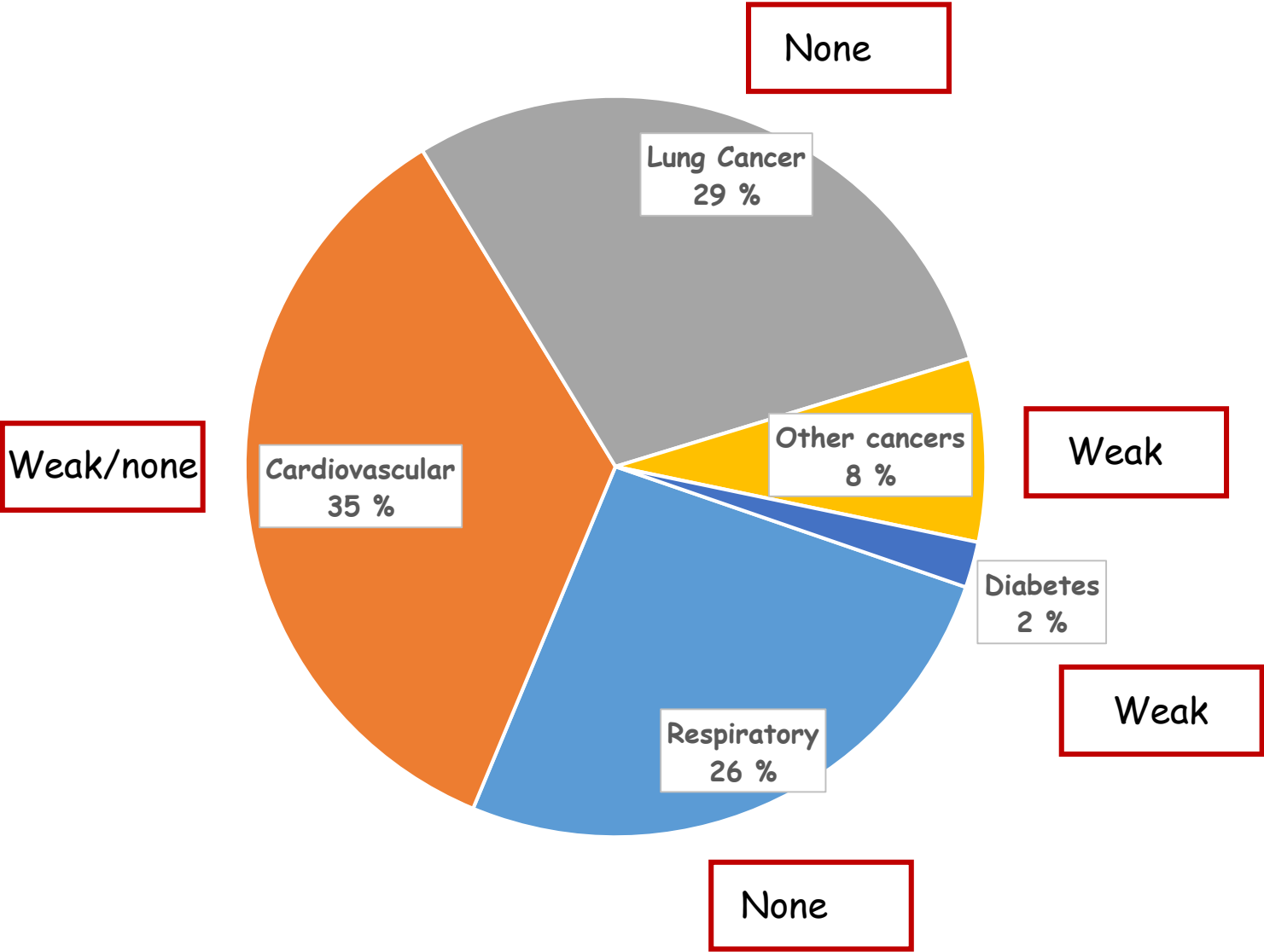


**When smokers die from smoking-related diseases, they die from...**



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

Smoking-related diseases - association with snus use





In 2007:

*On toxicological and epidemiological grounds, some of the Swedish smokeless products appear to be associated with the lowest potential for harm to health. ... Therefore, in relation to cigarette smoking, the hazard profile of the lower risk smokeless products is very favorable (161). ... for most of the major health effects of tobacco, smoking is many times more dangerous than smokeless tobacco use (156).*



In 2008:

*«there is no evidence that STP (smokeless tobacco products) use is associated with any major health hazard that does not also arise from tobacco smoking» (113)*



In 2019:

*"Using General Snus instead of cigarettes puts you at a lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis."*

**Safer alternative.....Not safe alternative**



**Probably increases risk of:**

- *oesophageal and pancreatic cancer*
- *lethality after myocardial infarction and stroke*
- *premature births*
- *type 2 diabetes among high intensity consumers*

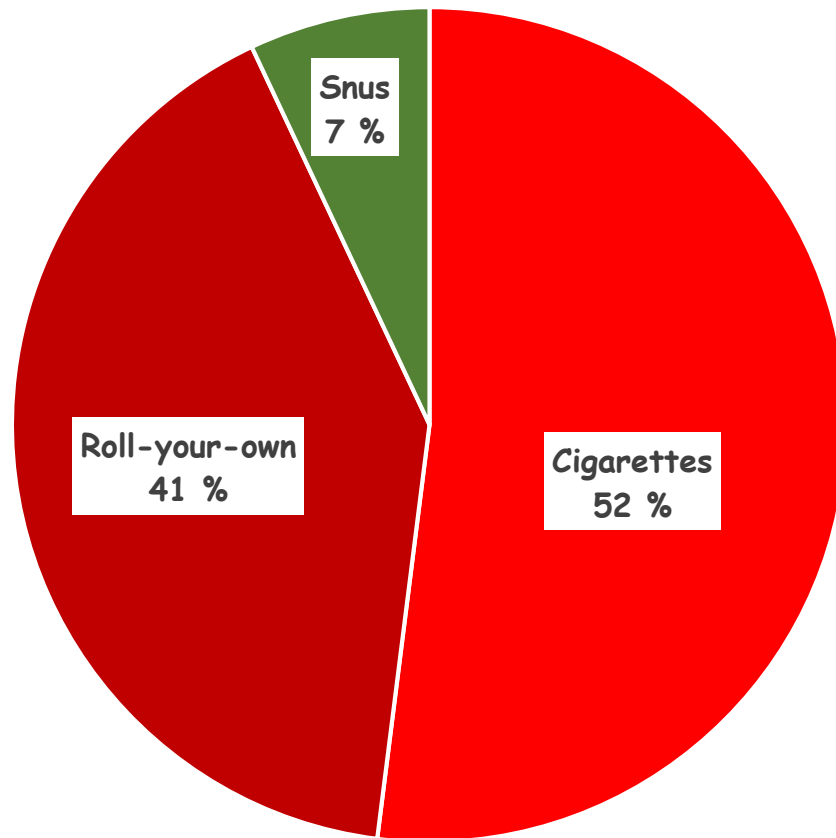




# The changing nicotine market in Norway

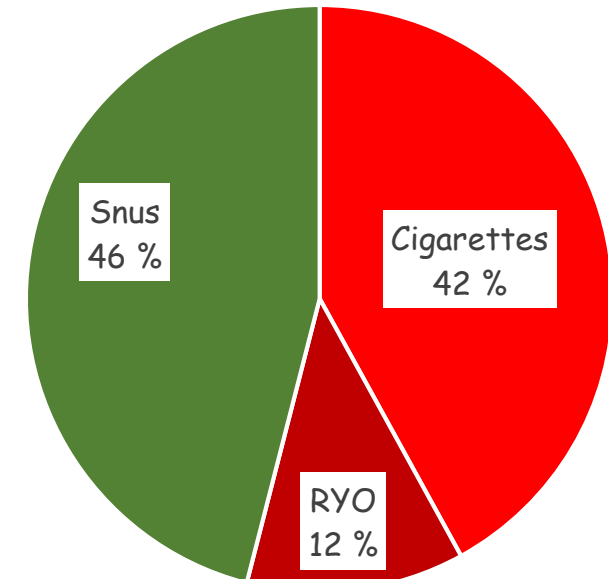
## Sales volume (weight)

1999/2000



2 kg/per capita

2019/2020



1 kg/per capita





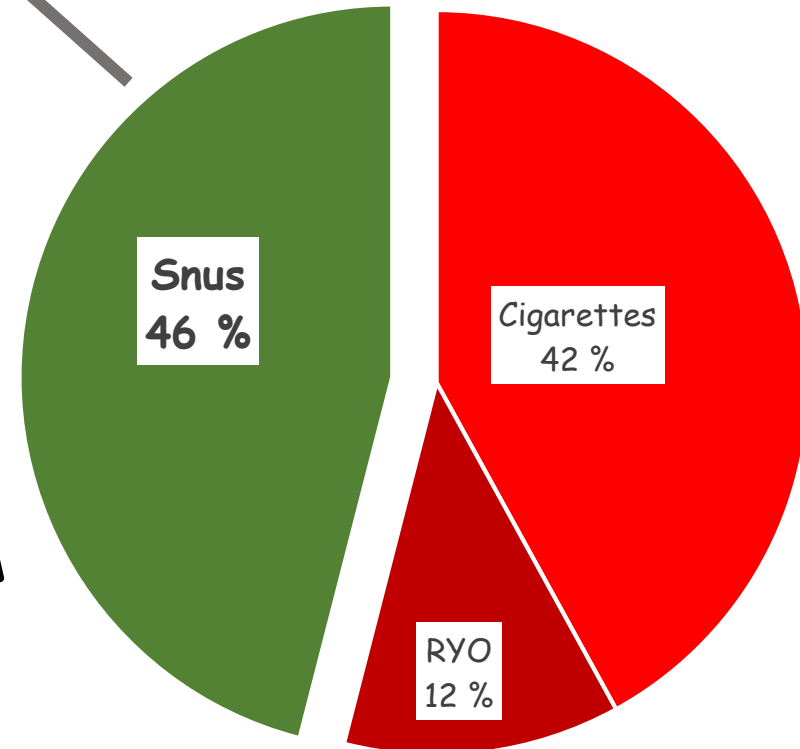
# Who makes up the growing segment of snus-users ?

Addition: Otherwise tobacco-free ?

Diversion: Otherwise smokers ?

Transition: Established smokers ?

Nicotine landscape  
2019/2020



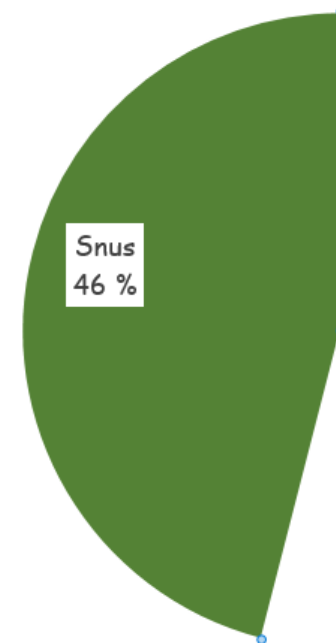
Who makes up the snus users?

1. Otherwise tobacco-free youth?  
*'The addition hypothesis'*

I ♥ math



*("The Good Guys")*

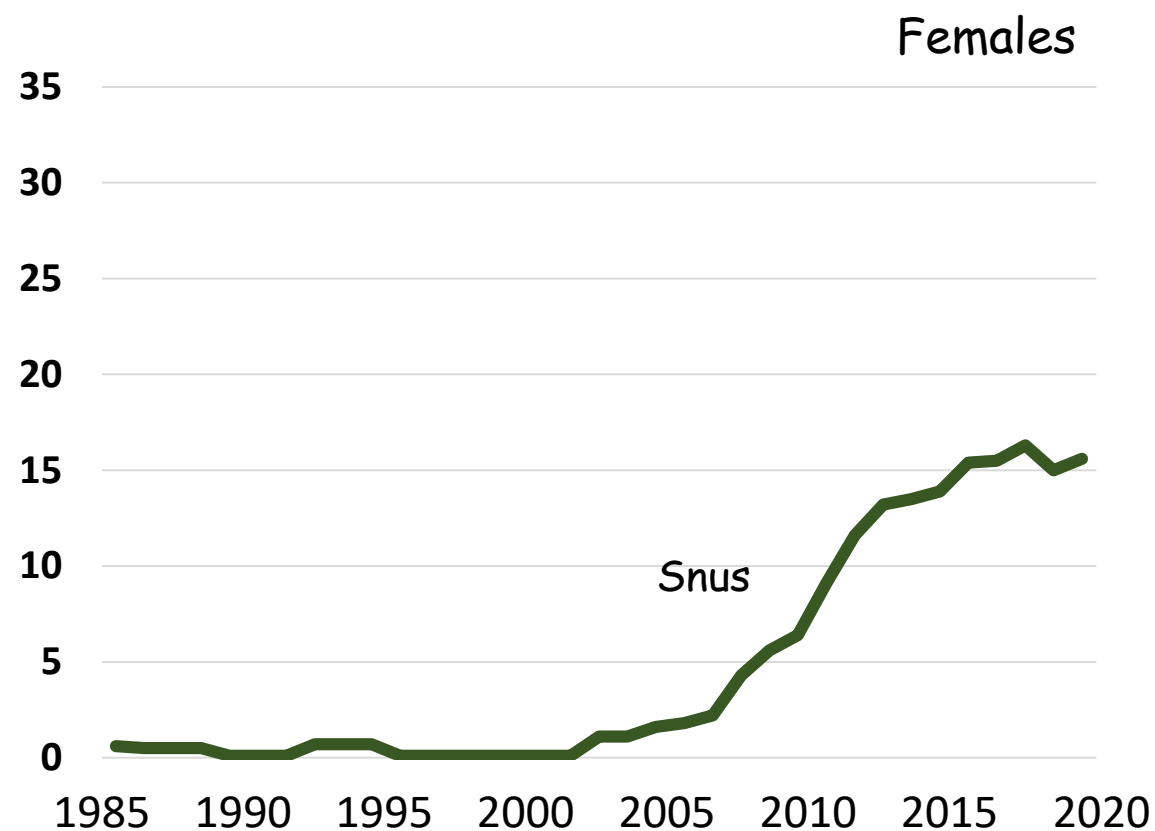
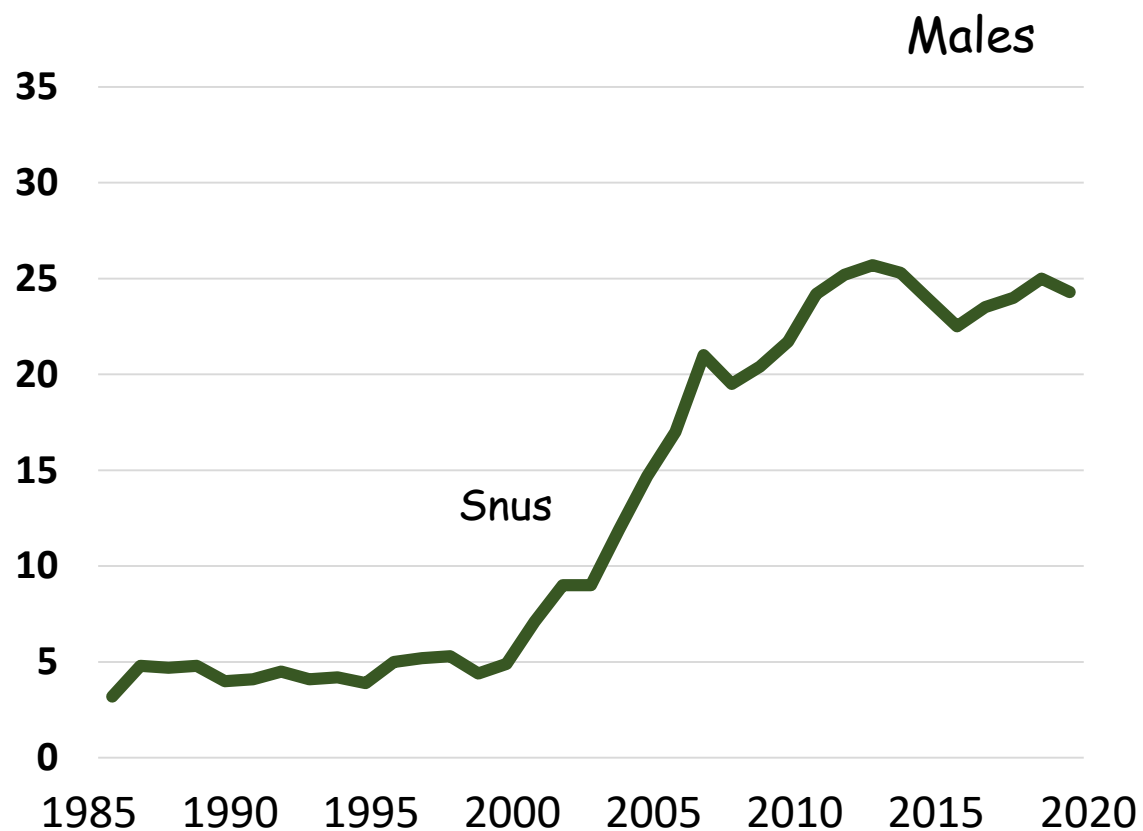


Addition?



# Norway: Daily use of snus 1985-2019

Persons aged 16-24 years  
Three yearly moving average



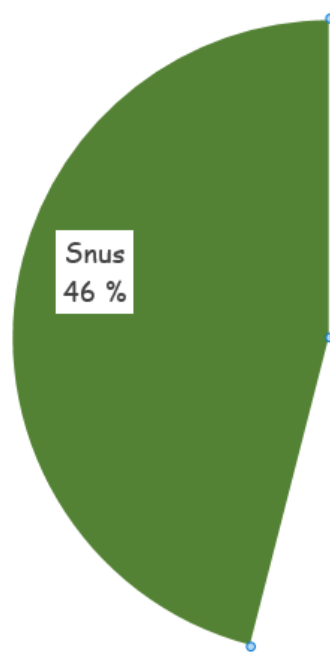
Who makes up the snus users?

2. Risk prone youth who otherwise would have started to smoke?

The 'diversion hypothesis'



("The Bad Guys")



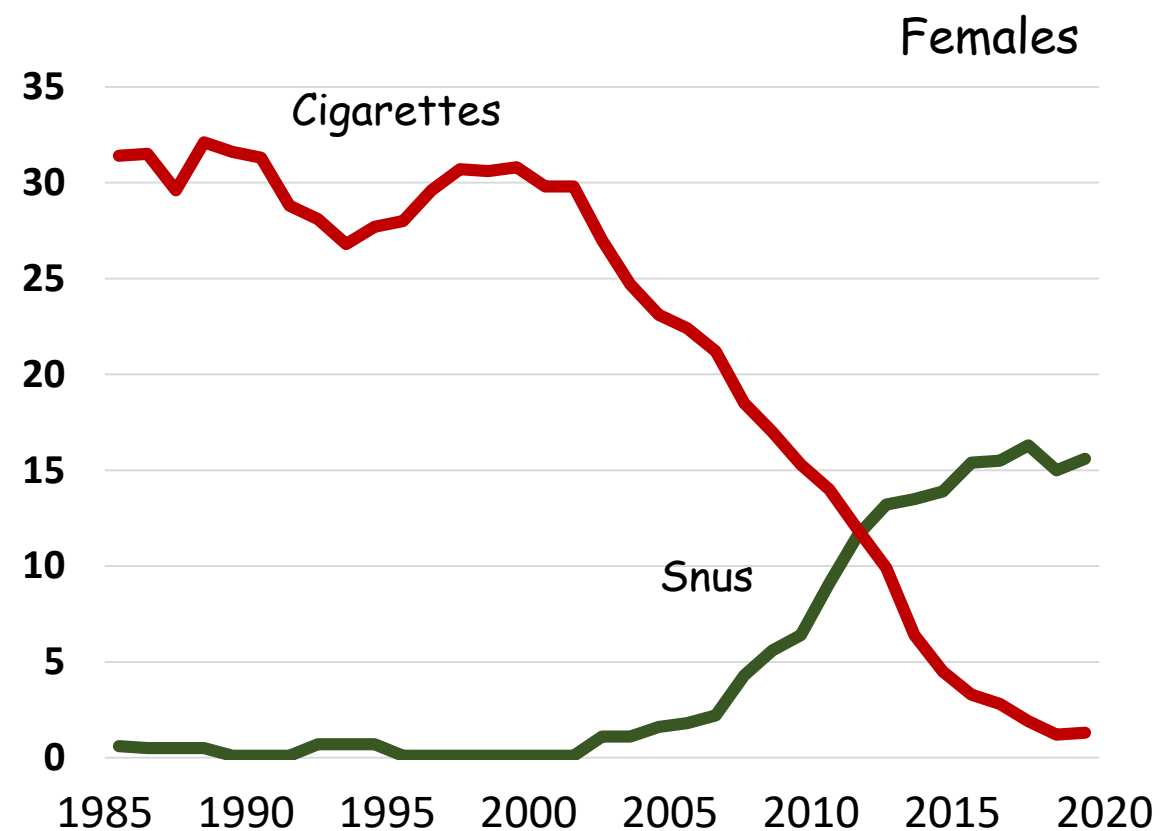
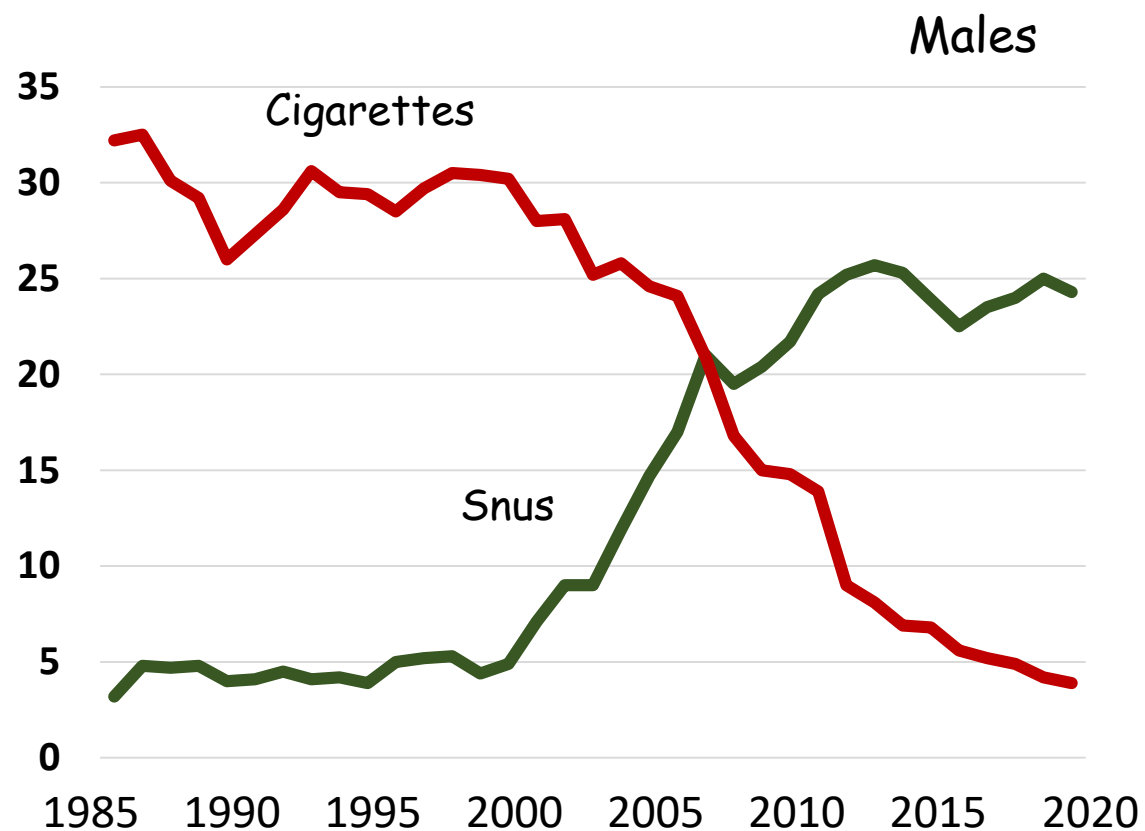
Diversion?



## Norway: Daily use of snus and cigarettes 1985-2019

Persons aged 16-24 years

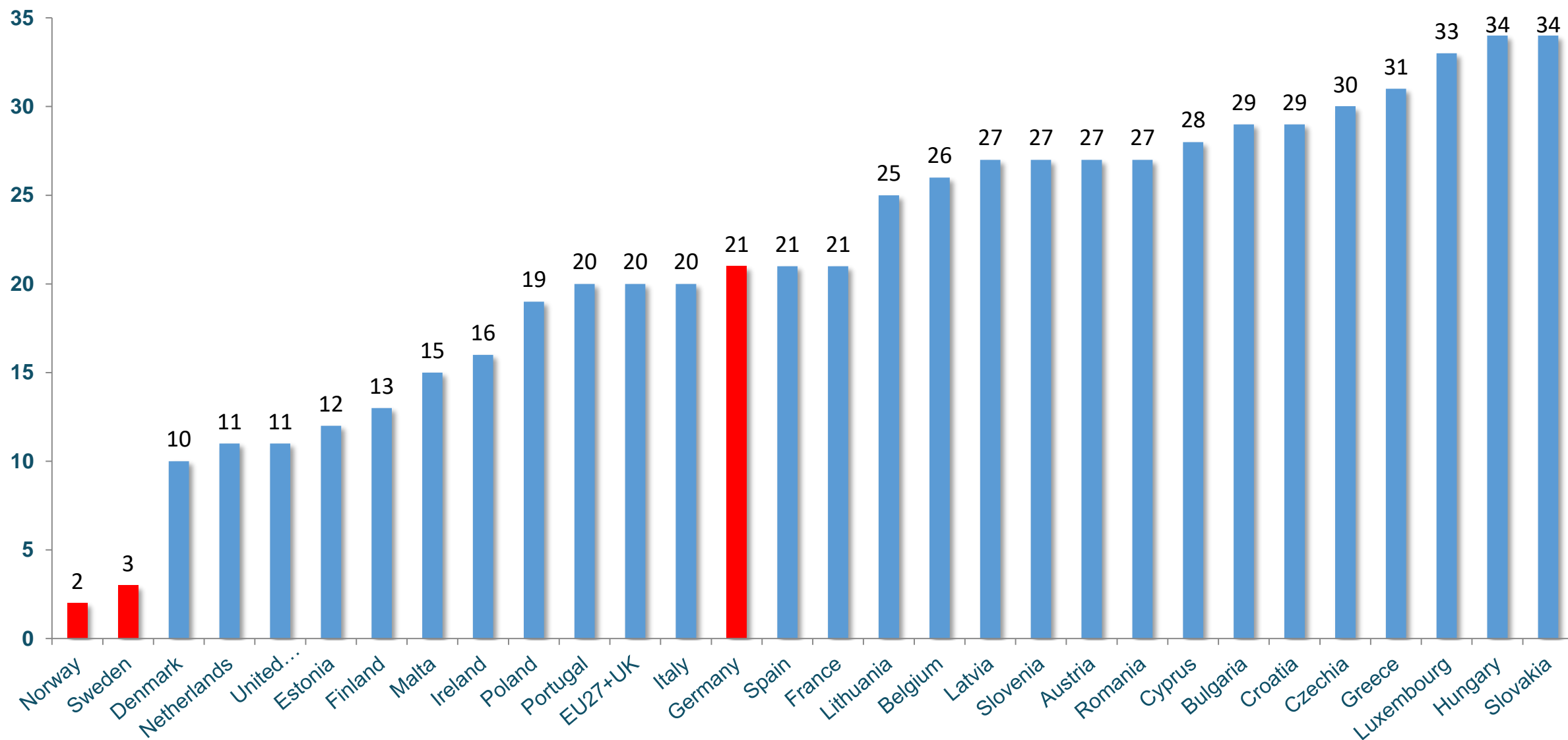
Three yearly moving average



Source: NIPH/Statistics Norway



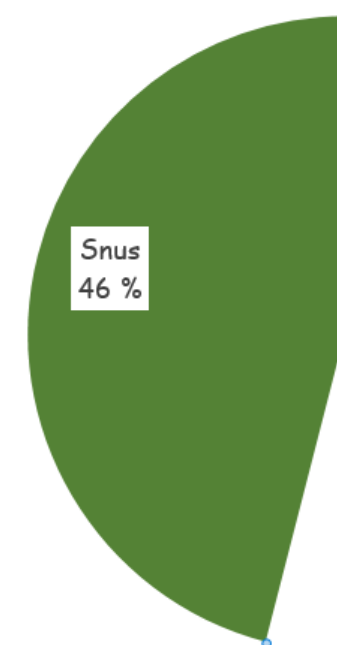
## Tobacco smokers in the age between 15 and 24 years, 2021



## Who makes up the snus users?

### 3. Established smokers?

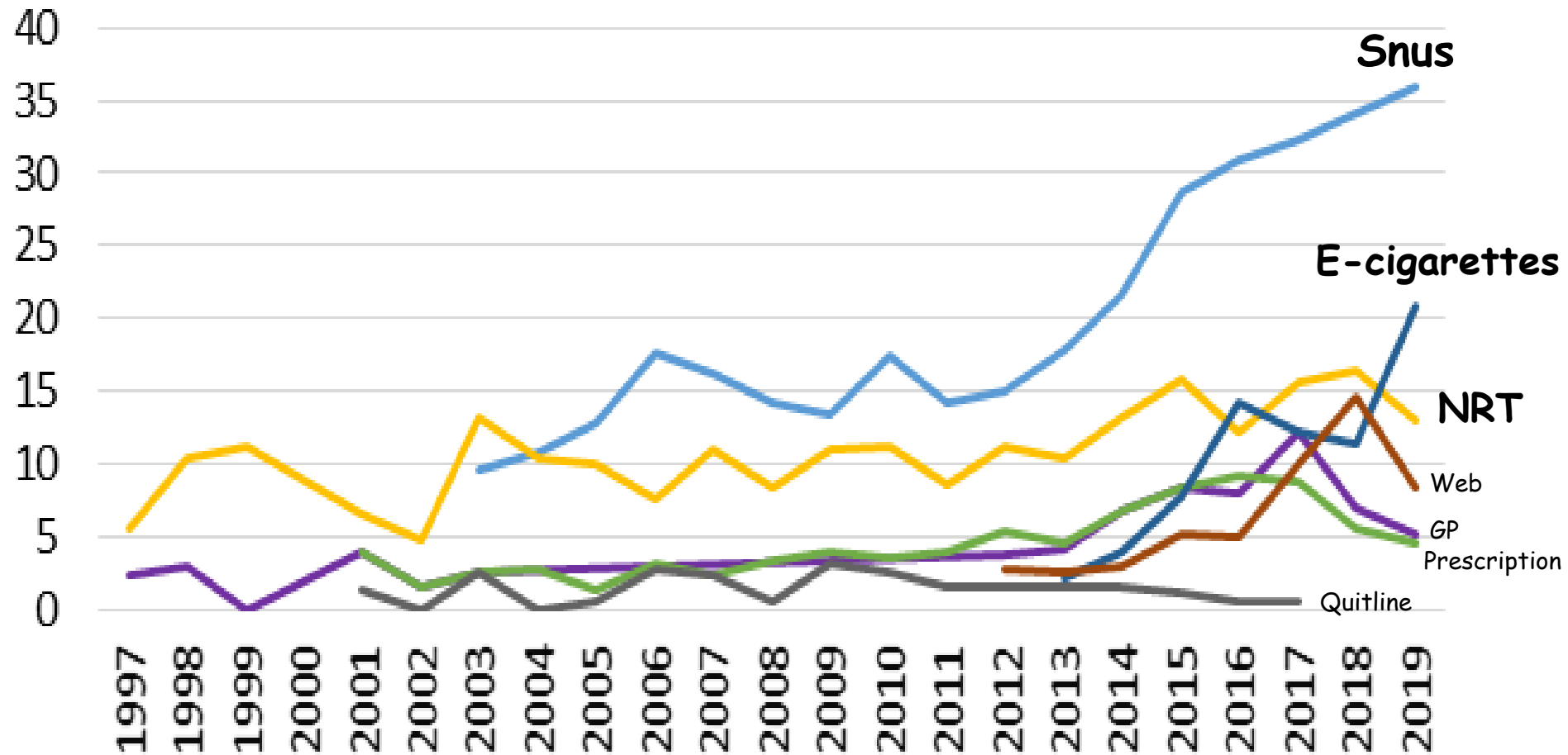
### The 'transition hypothesis'



Transition?



## Methods used for final smoking cessation by successful quitters\* 1997-2019



\* quit smoking during the last 10 years

Source: NIPH/Statistics Norway

Transition?



The majority of snus users are former or current smokers (Lund, Vedoy, Bauld 2016) (Lund I & Lund 2013)

Among current snus users who had quit smoking, 83% reported that snus was used in their final quit attempt (Lund, Vedoy, Bauld 2016)

Snus use associated with higher expectancy of being smoke-free in 5 years (Lund, Vedø, Bauld 2016)

Snus use associated with higher likelihood of quitting smoking within the first 5 years after snus initiation (Lund I & Christiansen 2019)

Quit-rate for smoking higher among snus users than non-users of snus (Lund, Scheffels, McNeil 2010, Lund & Lund 2013, Lund & McNeill 2013)

Accurate perceptions of risk difference increase the probability to use snus in smoking cessation (Lund 2012)

ADDICTION

SSA SOCIETY FOR THE STUDY OF ADDICTION

Short Report

Association between snus use over time and smoking cessation in Norwegian smokers

Ingeborg Lund, Solveig Glestad Christiansen

International Journal of  
Environmental Research and  
Public Health  
ISSN 1660-4601  
www.mdpi.com/journal/ijerph

Article

How Has the Availability of Snus Influenced Cigarette Smoking in Norway?

Ingeborg Lund and Karl Erik Lund \*

ADDICTION

RESEARCH REPORT

SSA SOCIETY FOR THE STUDY OF ADDICTION

doi:10.1111/add.13638

Do never smokers make up an increasing share of snus users as cigarette smoking declines? Changes in smoking status among male snus users in Norway 2003–15

Karl Erik Lund<sup>1</sup>, Tord Finne Vedø<sup>1</sup> & Linda Bauld<sup>2</sup>

Association Between Willingness to Use Snus to Quit Smoking and Perception of Relative Risk Between Snus and Cigarettes

[Karl Erik Lund](#), Ph.D.<sup>✉</sup>

Addiction

RESEARCH REPORT

doi:10.1111/j.1360-0443.2010.03122.x

The association between use of snus and quit rates for smoking: results from seven Norwegian cross-sectional studies

Karl E. Lund<sup>1</sup>, Janne Scheffels<sup>1</sup> & Ann McNeill<sup>2</sup>

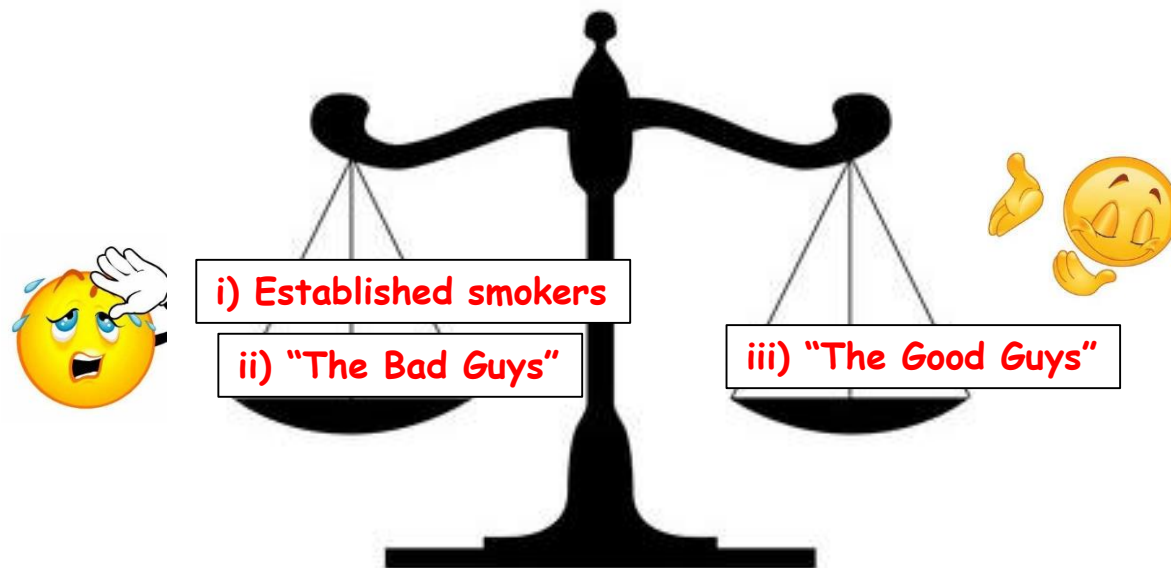
Nicotine & Tobacco Research, Volume 15, Number 3 (March 2013) 678–684

ORIGINAL INVESTIGATION

Patterns of Dual Use of Snus and Cigarettes in a Mature Snus Market

Karl Erik Lund PhD<sup>1</sup>, Ann McNeill PhD<sup>2</sup>

# How to weigh the pros and cons?



What will be the net-effect on public health from tobacco-harm-reduction policy?

## A conceptual framework for assessing the public health effects from snus and novel non-combustible nicotine products

Karl Erik Lund

Norwegian Institute of Public Health, Oslo, Norway

Tord Finne Vedøy

Norwegian Institute of Public Health, Oslo, Norway

### Abstract

**Objective:** The tobacco industry plans to base their future earnings on the production of non-combustible nicotine products. These might replace or come in addition to the more harmful cigarettes that historically have dominated the nicotine market in the Nordic countries. The authorities in each country must decide whether the products should have market access and, in that case, how strictly they should be regulated. Our aim is to present a framework that can assist the health authorities to make a regulation where benefits will outweigh the harms. **Method:** In a public health perspective, health gains from substitution must be weighed against the health loss from additional use. The main elements of the weighing will be based on the information about the absolute risk of the products, their relative risk compared to conventional cigarettes and how the users are composed according to smoking status. We apply the framework on snus as used in Norway – a product with an established usage pattern and epidemiologically assessed health risks. **Results:** The framework consists of (i) a comprehensive set of specific user patterns that may result in health deterioration and user patterns that may result in health benefits, (ii) an estimation of the number of people with health-augmenting and health-impairing user patterns, respectively, and (iii) an estimation of the degree of health deterioration or health benefit that will affect the persons with the different user patterns. **Conclusion:** The net effect on public health will appear

# The net effect from snus use on public health will depend on:

Never-smokers: What is the excess risk compared to non-use?

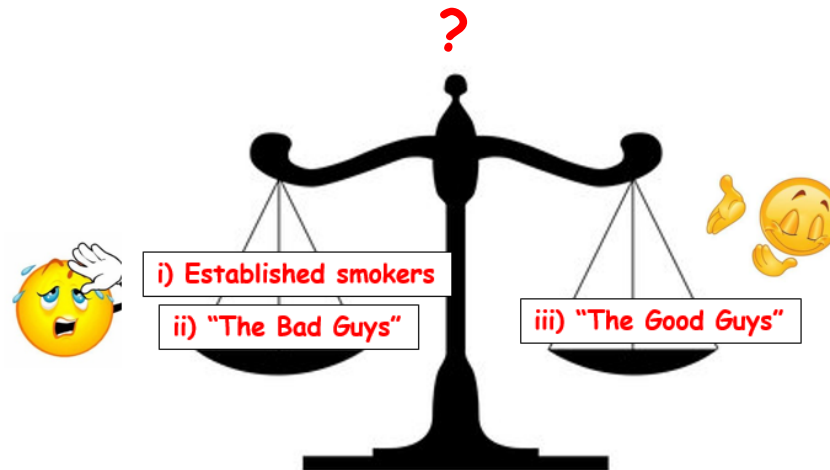
- Absolute risk

Smokers: What is the risk-reduction compared to continued smoking?

- Relative risk

What is the relationship between smokers and never-smokers in use of the products?

- User-configuration



## Risk-use equilibrium:

Given an anticipated risk difference in relation to cigarettes;

How many of the **iii) The Good Guys** will have to pick up e-cigarettes in order offset the health gain from each **i) Established smoker** or each of **ii) The Bad Guys** who start to vape instead of smoke cigarettes?






## Risk-use equilibrium

(See: Kozlowski et al 2001)

Harm from e- cigarettes in relation to tobacco cigarettes (%)		
1	1	100
2	1	50
5%	1	20
10	1	10
15	1	6,7
20	1	5
25	1	4

## Risk-use equilibrium

Harm from e-cigarettes in relation to tobacco cigarettes (%)	Number of otherwise smokers who replace cigarettes with e-cigarettes	
1	1	100
2	1	50
 5%	1	20
10	1	10
15	1	6,7
20	1	5
25	1	4

### Risk-use equilibrium

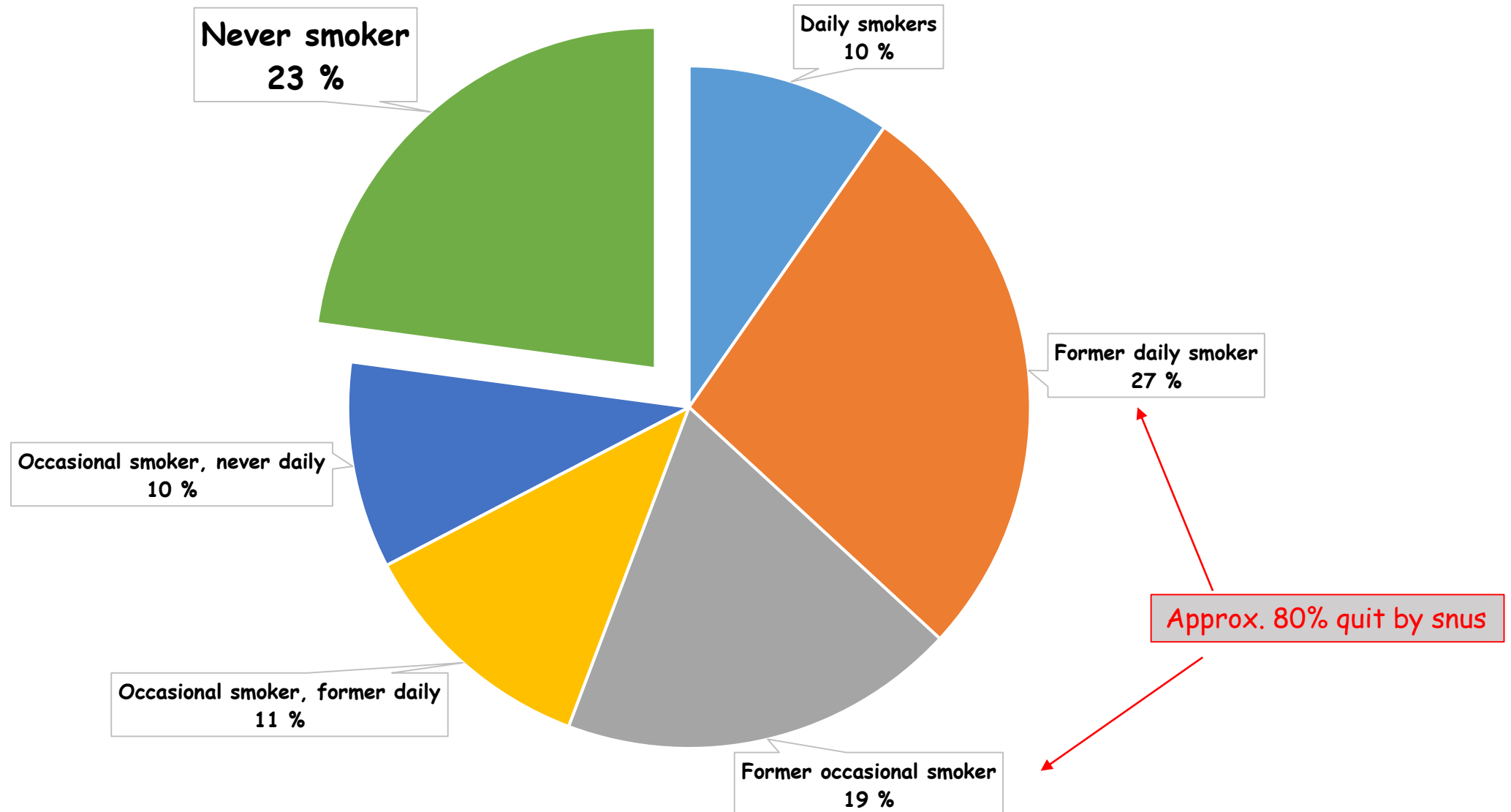
Harm from e-cigarettes in relation to tobacco cigarettes (%)	Number of otherwise smokers who replace cigarettes with e-cigarettes	Number of never-smokers required to take up e-cigarettes to balance out the public health effect
1	1	100
2	1	50
5%	1	20
10	1	10
15	1	6,7
20	1	5
25	1	4

Given that e-cigarettes makes up 5% of the risk from smoking;

If one otherwise smoker replace cigarettes with e-cigarettes, then 20 never-smokers will have to start vaping in order to balance out the positive public health effect from the one who switched



# Smoking status among current snus users (daily+occasional) Norway, pooled data 2015-2020, aged 15+, N= 9783 (males+females)



# Germany



- If all the remaining German smokers (20%) switched completely from cigarettes to snus.....
- ...and the entire adult population in Germany started to use snus.....
- ..the net public health effect would still be positive, provided that snus use makes up approximately 5% of the risks from smoking



## Death rates (age standardized) per 100,000 attributable to tobacco in 2019



	MEN	
	Sweden	EU average
All causes	72	128
Tracheal, bronchus & lung cancer	14	36
Ischemic heart disease	18	25
Stroke	4	8
COPD	9	17

## Death rates (age standardized) per 100,000 attributable to tobacco in 2019



	MEN		Women	
	Sweden	EU average	Sweden	EU average
All causes	72	128	<b>54</b>	<b>48</b>
Tracheal, bronchus & lung cancer	14	36	<b>13</b>	<b>12</b>
Ischemic heart disease	18	25	<b>10</b>	<b>9</b>
Stroke	4	8	<b>4</b>	<b>4</b>
COPD	9	17	<b>8</b>	<b>6</b>



# Conclusion

Based on the current knowledge of..

- the moderate risk of snus use relative to non-use (absolute risk)
- the huge risk difference between snus use and smoking (relative risk)
- the overrepresentation of ever smokers relative to never smokers in the snus user population,

..availability to snus has produced a net gain to public health



The combined numbers who have

- i) quit smoking for snus,
- ii) reduced smoking intensity by snus,
- iii) picked up snus instead of cigarettes

have outnumbered

- iv) snus users who otherwise would have been tobacco-free

Health gains from smoking cessation, smoking reduction and smoking substitution produced by snus, has more than out-weighted the (marginal) health loss in the fraction of never-smokers taking up snus



## A conceptual framework for assessing the public health effects from snus and novel non-combustible nicotine products

Karl Erik Lund   
Norwegian Institute of Public Health, Oslo, Norway

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**Objective:** The tobacco industry plans to base their future earnings on the production of non-combustible nicotine products. These might replace or come in addition to the more harmful cigarettes that historically have dominated the nicotine market in the Nordic countries. The authorities in each country must decide whether the products should have market access and, in that case, how strictly they should be regulated. Our aim is to present a framework that can assist the health authorities to make a regulation where benefits will outweigh the harms. **Method:** In a public health perspective, health gains from substitution must be weighed against the health loss from additional use. The main elements of the weighing will be based on the information about the absolute risk of the products, their relative risk compared to conventional cigarettes and how the users are composed according to smoking status. We apply the framework on snus as used in Norway – a product with an established usage pattern and epidemiologically assessed health risks. **Results:** The framework consists of (i) a comprehensive set of specific user patterns that may result in health deterioration and user patterns that may result in health benefits, (ii) an estimation of the number of people with health-augmenting and health-impairing user patterns, respectively, and (iii) an estimation of the degree of health deterioration or health benefit that will affect the persons with the different user patterns. **Conclusion:** The net effect on public health will appear



Implication: should the EU ban on snus be lifted?

The EU Snus Ban

~~Smoking~~  
kills

## Conflict of interest:

- employed by a *Government* entity answerable to the Ministry of Health and Care Services
- no ties to nicotine industry
- expert witness in 5 litigation cases against the tobacco industry

E-mail: [kelu@fhi.no](mailto:kelu@fhi.no)



Karl E. Lund (Ph.D.)