

NICOTINE REDUCTION STRATEGY – THE PROMISE AND THE PERIL

Moderator & Introduction by Jack Henningfield

Presentations:

- Ray Niaura: State of the Science
David Levy: Modeling the Benefits and Risk
David Sweanor: Business and Economic Perspectives
Rolf Lutz: Industry perspectives

Discussants:

- Clive Bates: Public Health Perspectives, Risks & Unintended Consequences
Marina Trani: Industry Perspectives, Goals, and Practical Realities

*Rapid Fire Discussion: All Panelists & Audience
(please try to limit questions and comments to 1-2 minutes)*

Panel discussion:

NICOTINE REDUCTION STRATEGY – THE PROMISE AND THE PERIL

PMI perspective

Rolf Lutz

Director Product Policy

Philip Morris International

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Transformation to nicotine-free cigarettes?

PMI's ambition is that **smokers who would otherwise continue to smoke replace cigarettes** as soon as possible with **non-combustible products** (e.g. heated tobacco products, e-cigarettes, snus).

Proposals aimed at mandating nicotine-free cigarettes are in our view not a promising harm reduction strategy.



What is Nicotine?

Nicotine occurs naturally in tobacco.

Nicotine is addictive and not risk free.

Nicotine at high doses is toxic when swallowed or absorbed through the skin.

Smoking-related diseases, such as lung cancer, cardiovascular disease and emphysema, are caused primarily by inhaling harmful compounds formed when tobacco is burned, **not by nicotine.¹**



1) 2015 Public Health England: Electronic cigarettes

What is WHO's Nicotine Reduction Strategy¹? (mandating "nicotine-free cigarettes")



Nicotine content in tobacco blend [mg/g]



Nicotine yield in cigarette smoke ² [mg/cig]



18.8 mg/g

0.8 mg/cig



17.4 mg/g

0.1 mg/cig



Nicotine-free cigarettes

↓
< 0.4 mg/g

1) WHO Advisory Note: Global Nicotine Reduction Strategy
2) ISO smoking regime



Technologies to produce "nicotine-free" tobacco



Genetically modify (GM) tobacco plant

- Patents owned by 22nd Century Group Inc.
- Used in nicotine-free cigarettes for clinical trials and "Magic Zero"

Nicotine extraction

- Was used by PM USA in nicotine-free NEXT, Benson & Hedges and Merit launched in 1989
- Batch process / detrimental to taste

Hypothetical scenario

Estimated time & costs to implement¹



Canada cigarettes (27 bio.)



EU cigarettes (636 bio.)

GM tobacco

Approx. 20 years

Approx. 20 years

Extraction

Approx. 3 years

Approx. 5 years



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1) PMI estimates based on 2015 cigarettes volumes; **GM tobacco steps:** Licensing agreement; Transfer low nicotine modification to approx. 80 varieties for Canada / 220 varieties for the EU; Apply/Obtain GM regulatory approval in 8 countries (Canada) / 30 countries (EU); Breeding field trials; Crop growing; **Extraction:** derived from 1988 PM USA project; Investment of approx. 200 mio UD to denicotinize 9,500 tons (approx. 12 bio cigarettes) per annum

Experience with nicotine-free cigarettes to date



1989 - 1993

PM USA launched nicotine-free cigarettes NEXT, MERIT and Benson & Hedges in 1989, after investing more than 200 Mio USD.

Consumers missed the taste and satisfaction.



2003 - 2008

Vector Tobacco Inc. marketed Quest nicotine-free cigarettes in eight U.S. states.



2015

22nd Century Group launched “Magic Zero” in Spain, a nicotine-free cigarette produced with genetically modified tobacco.

Consumers did not accept the taste characteristics, “Magic Zero” sales were stopped.

Clinical trials

Most smokers did not like nicotine-free cigarettes. Non-compliance was common (panelists complemented test cigarettes with conventional cigarettes).



PMI's view on mandating nicotine-free cigarettes



- **Based on past experiences, it appears as a non promising harm reduction strategy.**
- **Still many unanswered questions/concerns: e.g. smokers may change their smoking behavior and “compensate“.**
- **Does not make sense to force products on consumers that remove the far less problematic substance nicotine, but still generate all harmful substances associated with smoking related diseases.**
- **Given the complete lack of consumer acceptance, mandated nicotine reduction, amounts to prohibition.**

Promising harm reduction strategies should be promoted.

PMI's ambition is that **smokers who would otherwise continue to smoke replace cigarettes** as soon as possible **with non-combustible products** (e.g. heated tobacco products, e-cigarettes, snus).



Thank you very much!





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