Healthy life expectancy and lifetime medical costs of smokers and obese people
Pieter van Baal

Methods
Using a dynamic population model that calculates chronic disease incidence conditional on risk factor classes, we estimated (healthy) life expectancy and lifetime health care costs for three different cohorts: a cohort of smokers, a cohort of obese people, and a cohort of ‘healthy living’ people (defined as non-smoking with a BMI < 25).

Results
The smoking cohort has a 7.0 (6.9) lower (healthy) life expectancy and the obese cohort a 4.5 (4.6) lower (healthy) life expectancy compared with the ‘healthy’ living cohort. At all ages, per capita annual health care costs were lowest for ‘healthy’ people. Until age 60, average health care costs were highest for obese people. At older ages, smokers were most expensive in terms of annual costs per person. However, since health care costs increased rapidly from age 65 onwards, and healthy living people live longer than smokers and obese people, total lifetime costs were 26% (14%) lower for the cohort of smokers (obese people) compared with that of the ‘healthy living’ people.

Conclusions
Prevention of smoking leads to more health gains but also to more additional health care costs in life years gained. Since obesity is related to less lethal diseases than smoking, the ratio of cost savings in normal years to costs in life years gained is more favourable.

Smoking-related mortality (1987–1997) and current smoking prevalence in Belgium
Sabine Drieskens

Methods
The estimation of smoking-related mortality is based on the method developed by Petö et al. This method only requires the national age-sex-specific mortality rates from various causes, which are available for Belgium for the period 1987 until 1997.

Furthermore, the Belgian Health Interview Surveys (1997–2001–2004) have been used to measure the smoking prevalence according to age and sex.

Results
In Belgium, lung cancer mortality has the highest fraction attributable to smoking. This fraction was stable among men (around 95%) during the period 1987–1997, but it increased with 35.5% among women: from 45.3% [95% Confidence Interval (CI) 41.6–49.0] in 1987 to 61.4% (95% CI 58.2–64.3) in 1997.

Similarly, the fraction of COPD mortality attributable to smoking increased significantly among women: respectively, from 25.0% (95% CI 22.2–27.8) to 39.1% (95% CI 36.7–41.5).

As a whole, during the period of study the mortality attributable to smoking has decreased slightly among men while it has doubled among women.

The prevalence of current smokers was 27.6% in Belgium in 2004. The proportion of smokers among men is still higher than that of women, but, compared with 1997, the prevalence of men who smoked decreased by 12.4% while that of women did not change.

Conclusions
Smoking-related mortality is still a major public health problem in Belgium. Decreasing the smoking prevalence in the population, by implementing effective interventions and policies, should be a high public health priority. Preventing adolescents from initiating smoking should also be high in the agenda of public health interventions.

Quitting patterns among Swedish smokers reveal opportunities for increasing the efficiency of smoking cessation services: the Scania Public Health Survey 2004
Kontie Moussa

Methods
A total of 27 963 individuals between 18 and 80 years of age were assessed cross-sectionally in 2004 by the Scania Public Health Survey 2004. The response rate was 58%.

Results
In total, 26% of the men and 20% of the women reported having quit smoking. Moreover, 65% of male and 78% of female quitters stopped smoking without counselling assistance or NRT. Furthermore, 10% of men and 18% of women had quit by means of a combination of counselling and NRT. The proportion who had quit smoking but instead initiated snuff use was 25% among men and 5% among women. Individuals of young age, high educational level, being born in Sweden, and being single were more common among those who had quit smoking but initiated snuff use.
Conclusions
A great majority of the quitters had not used any support, although the risk of relapse is known to be much greater among this group. Smoking cessation services should, therefore, be made more available for increasing sustainable cessation. Monitoring quitting patterns in the population is important in order to optimize smoking cessation services.

Generation Oxygen—an interactive health promotion exhibition on smoking prevention for high-school students
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Issue
Tobacco smoking is the leading preventable death cause in the Western world. Scientific evidence shows that most smokers started during adolescence. Even if the majority of high-school students are non-smokers, trying smoking and becoming a daily smoker rise significantly between 11 and 15 years. Smoking prevention should give students means to resist peer and societal pressure in a relevant and attractive way and involve them directly.

Description
In 2004, a contest was set in a French region (Midi-Pyrénées): high-school students had to create a prevention document on tobacco for their peers. Based on drawings and texts from participants, a briefing was created and given to all 7th graders of Midi-Pyrénées (33,000) to be used in a civil education lesson. After a quantitative (2100 students; 158 teachers) and qualitative (150 students; 10 teachers) evaluation, it was decided to prosecute this action and was followed by an exhibition. ‘Generation Oxygen’ comprises informative posters based on topics and ideas from students’ proposals, reworked for the purpose: epidemiological data based on the Health Behaviour in School-aged Children (HBSC) international survey, medical information, costs of smoking, reasons why young people smoke or not … plus games and quizzes on tobacco. It is illustrated by colourful cartoons. Finally a sculpted ‘smoking dog’ allows the students to visualize tar.

Lessons
To create a dynamic around prevention campaigns takes a long time when different partners are involved.

It is very rewarding and powerful for students to see a tool based on their ideas and their taste. The interactivity and fun of the smoking dog is a good way to attract students’ attention and create a positive atmosphere for the health promotion session.

Conclusions
A step-by-step process has led to the conception of Generation Oxygen with space for evaluation. It is only though co-operative and long-term actions that health promotion can reach its goal: to improve tomorrow’s adults’ health.

A randomized controlled field trial of a school-based intervention to prevent children and adolescent tobacco use in Central-Southern Italy
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Objective
Experimental evaluation of a community programme to prevent tobacco use in children and adolescents.

Design
Five hundred and thirty-four children were randomly assigned to receive a school-based prevention programme (242) or no intervention (292). A total of 308 adolescents were randomly assigned to receive a school-based prevention programme (162) or no intervention (146).

Intervention
The community programme included (i) health facts and the effect of smoking; (ii) analysis of the mechanisms that lead children and adolescents to start smoking; and (iii) refusal skills training for dealing with the social pressures to smoke. A questionnaire was administered to estimate the effects before the intervention programme and after two years.

Main outcome measures
The prevalence of self-reported smoking and smokeless tobacco use in the week before assessment.

Results
In the Children arm of the study at the end of the trial the prevalence rate of smoking is stable in the intervention group, going from 18.3 to 18.8%, while a relevant increase can be observed in the control group, from 17.8 to 26.9% (P = 0.035). In Adolescent arm, the prevalence rates of smoking increase in both groups: in the intervention group from 16.9 to 29.4%, while in the control one from 18.5 to 33.4%.

Among reasons that induce to start smoking, in the experimental group there is a significant increase regarding the issues ‘Because smokers are fool’ (P = 0.004 for children; P < 0.001 for adolescents) and ‘Because smokers are irresponsible’ (P < 0.001 for both samples).

Conclusions
The results suggest that a school-based intervention on children tobacco use, based on the development of cognitive and behavioural aspects, can be effective. Smoking prevalence was significantly lower in children belonging to community intervention than in children not randomized to intervention after 1 year of intervention.

Enhancing public health systems’ capacity to induce policy change: lessons from tobacco control in Quebec
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Background
Despite repeated calls for achieving population health through healthy public policies, it is still unclear what enables public health systems to influence policy making. Applying contemporary approaches to policy analysis, we reflect on the experience of Québec’s public health system in successfully promoting the adoption of the Tobacco Act (1998).

Methods
This qualitative study used a case study design and content analysis. Data ware were collected through interviews (n = 37), newspapers articles (n = 569), and documents (n > 200) from public health agencies, NGOs, the Quebec National Assembly, and opponents to the legislative measures. Hypotheses formulation, data collection, and analysis were guided by the Advocacy Coalition Framework and Lemieux’s theorisation of coalition structuring. Changes within the tobacco policy subsystem were tracked over the 12 year period before the Tobacco Act.
Results
Quebec’s publicly funded public health directorates forged a coalition to pool their resources to implement a province-wide advocacy strategy. The strategy aimed to address the concerns raised by journalists, members of the National Assembly, and the business sector about the potential impacts of the bill on Quebec’s economy as well as the challenges made by the tobacco manufacturers. The coalition’s resources provided the momentum of the bill with a dedicated policy analysis capacity which enabled them to better grasp the opportunities at hand and allowed for swift and effective countermeasures towards the threats to the bill. The steadfastness and persistence of the coalition members were rooted in a set of mechanisms protecting them from possible backlash.

Conclusions
Building a permanent policy analysis capacity within public health systems is critical for seizing upcoming opportunities to influence the course of policy making. This study shows that policy advocacy can be performed even in the face of powerful opponents and without jeopardizing the agencies delivering public health services and programmes. Additional theoretically driven health promotion policy research is needed to improve advocacy strategies for healthy public policy.

Track C2: Workshop: Health economic evaluation of infectious disease control

Chairpersons: Mirjam Kretzschmar1*, Maarten Postma2, Alexander Krämer1
Organiser: M. Kretzschmar and A. Krämer, School of Public Health, Bielefeld, Germany

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Prevention and intervention in infectious diseases always have two types of effects: the direct effects on those being protected for example by vaccination and the indirect effects that are due to preventing further transmission and decreasing the infection risk for those who are not directly protected. Conventional methods in health economy use static models that follow cohorts of individuals over a certain time period without interaction between those individuals. For health economic evaluations in infectious disease control new methods have to be developed that are able to take the effects on infection transmission into account. In this workshop we plan to discuss the state-of-the-art of health economic evaluation of infectious disease control. These issues will be discussed on the basis of some studies that have been conducted using different types of models. In a panel discussion at the end we will summarise and discuss topics that are specific for evaluation of infectious disease control and will give an outlook into future research needs and their relevance for public health policy.

Is a catch-up hepatitis B vaccination campaign in Dutch high-risk adults cost-effective?
Ardine De Wit

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Background
Current hepatitis B (HBV) prevention policies in the Netherlands include screening of pregnant women and vaccination of children from endemic populations. In addition, a 4 year vaccination campaign in high-risk adults (sexual risk groups and hard-drug users) was initiated in 2002. The aim of this study was to determine the cost-effectiveness of this catch-up vaccination campaign in high-risk adults.

Methods
A dynamic model to estimate future incidence of HBV in the population was developed. This model describes horizontal, vertical, and sexual transmission of HBV. Also, an age-specific economic model estimating direct health care costs, life years lost from HBV infection, and quality of life consequences of HBV infection was constructed. Actual vaccination campaign data on the number of persons reached, the level of immunity from previous HBV infection, compliance with the three vaccinations scheme, and programme costs, including costs for outreach activities on locations where risk-groups cluster, were used.

Results
Approximately 55,000 persons from risk groups were reached. It is estimated that this 4 year vaccination campaign results in 1400–5300 infections prevented in The Netherlands, depending on assumptions on the level of sexual activity of vaccinees. Programme costs per person receiving at least one vaccination are €170. In the base-case analysis, cost per life-year gained are €4400–€24,000, and cost per QALY gained are €3600–€19,000, the lower numbers reflecting vaccination targeted at the core risk groups, the higher numbers reflecting a broader definition of risk groups.

Conclusions
The 4 year catch-up campaign was relatively cost-effective at a national level. The cost-effectiveness of continuation of the programme depends heavily on the amount and cost of (more expensive) outreach activities. It is important to target vaccination at individuals who contribute most to spread of the infection, i.e. those with many sexual partners.

Cost-effectiveness of nation-wide infant vaccination with the 7-valent pneumococcal conjugate vaccine in The Netherlands
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Introduction
As of 1 April 2006, pneumococcal vaccination was introduced in the Dutch National Immunization Program. Cost-effectiveness of this nation-wide infant vaccination with the 7-valent pneumococcal conjugate vaccine (PCV7) was estimated prior to introduction to support rationality of this decision.

Methods
We used a stochastic decision-tree analytic model to project the impact of infant vaccination with four doses of PCV7 on an annual cohort of infants born in The Netherlands. The base-case analysis also includes the beneficial effects on unvaccinated individuals (herd protection). Additional scenarios varying the number of doses, discount rate for health effects—life-years gained (LYG) and quality-adjusted life-years (QALY)