



*Northern Dimension*  
Partnership in Public Health  
and Social Well-being

## **Northern Dimension Partnership in Public Health and Social Well-being**

### **Healthy Lifestyles – Corner Stone of Public Health Why we need noncommunicable disease prevention and control ?**

**Background thematic document  
8<sup>th</sup> Partnership Annual Conference PAC-8 Side-Event  
24 November 2011, Saint Petersburg, Russian Federation**

This thematic paper provides a background on the lifestyles' impact on the biggest public health threat in Northern Dimension area, noncommunicable diseases. Their risk-factors consist of smoking, harmful use of alcohol, excess and wrong type food, insufficient physical activity and workplace exposures leading into premature cardiovascular disease, obstructive pulmonary disease and cancer, obesity, diabetes type-2, and other diseases. This information is largely based on the recent publications of WHO "Global status report on noncommunicable diseases 2010", "Global status report on alcohol and health 2011" and data-bases of the World Health Organization, EU and OECD.

## **Acknowledgements**

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- Expert Group on Alcohol and Substance Abuse (ASIA EG)
- Expert Group on Non-Communicable Diseases related to Lifestyles and Social and Work Environments (NCD EG)
- Expert Group on Primary Health and Prison Health Systems (PHS EG)
- Task Group on Indigenous Mental Health, Addictions and Parenting (MISHAP TG)
- Task Group on Occupational Safety and Health (OSH TG)

As the coordinator of this work it is my pleasure to thank all those colleagues who have provided their valuable input to this work.

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## 1. Introduction

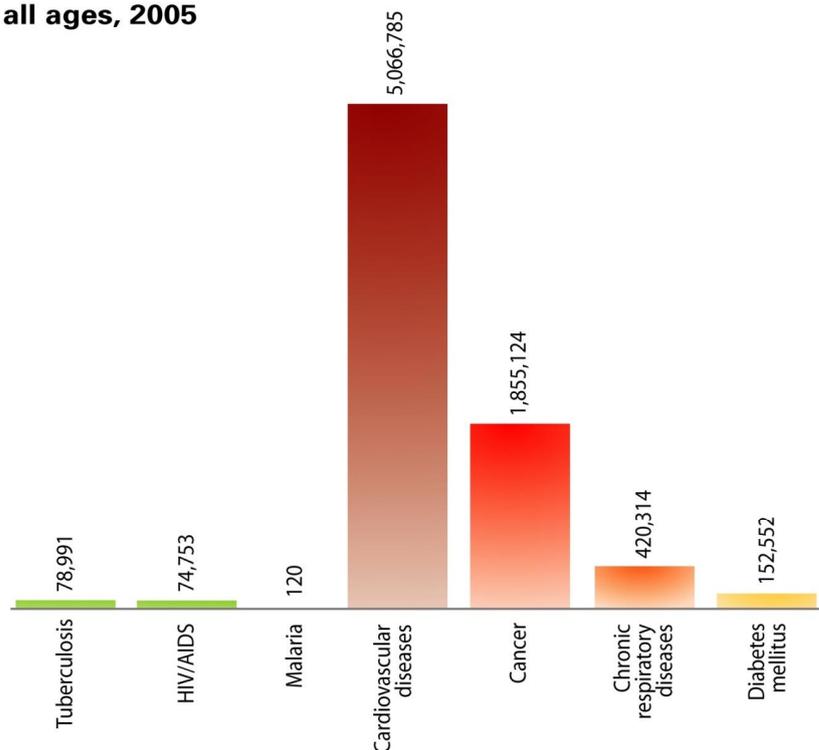
Human life is invaluable and an indivisible human right. Yet, from an economic point of view, one still can calculate a price to human life lost prematurely. Wasting human capital lowers GDP and slows down its growth. It is estimated that a 5-year advantage in life-expectancy leads to up to 0.5 % higher annual GDP growth rate<sup>1</sup>, whereas the lowering effect of chronic diseases on countries' GDP can be as high as 7 %<sup>2</sup>.

The biggest premature killers of our time, cardiac- and other vascular-diseases, cancer, chronic respiratory diseases, diabetes, liver-cirrhosis, suicides, accidents, violence, etc., are to a great extent preventable or at least their occurrence can be shifted forward to an older age by the way we behave and live.

The leading risk factors causing the vast burden of disease in Europe are known. Those include tobacco and alcohol use, nutrition-related risks - including obesity, high blood pressure, high cholesterol and high blood glucose, low fruit and vegetable intake, and insufficient physical inactivity and workplace exposures. Differences in the distribution of the risks and of the burden of ill health show significant gradients between males and females, different age groups and between East and West of the European Region.

### Main killer-diseases in the WHO European Region

**Projected deaths by cause in WHO European Region, all ages, 2005**



Source: *Preventing chronic diseases. A vital investment*. Geneva, World Health Organization, 2005 ([http://www.who.int/chp/chronic\\_disease\\_report/en/](http://www.who.int/chp/chronic_disease_report/en/)).

The causality of noncommunicable diseases and conditions is complex and multi-factorial. Effective measures that can prevent noncommunicable diseases in the first place, shift their occurrence, where possible, to older age, or reduce disability and death, include both

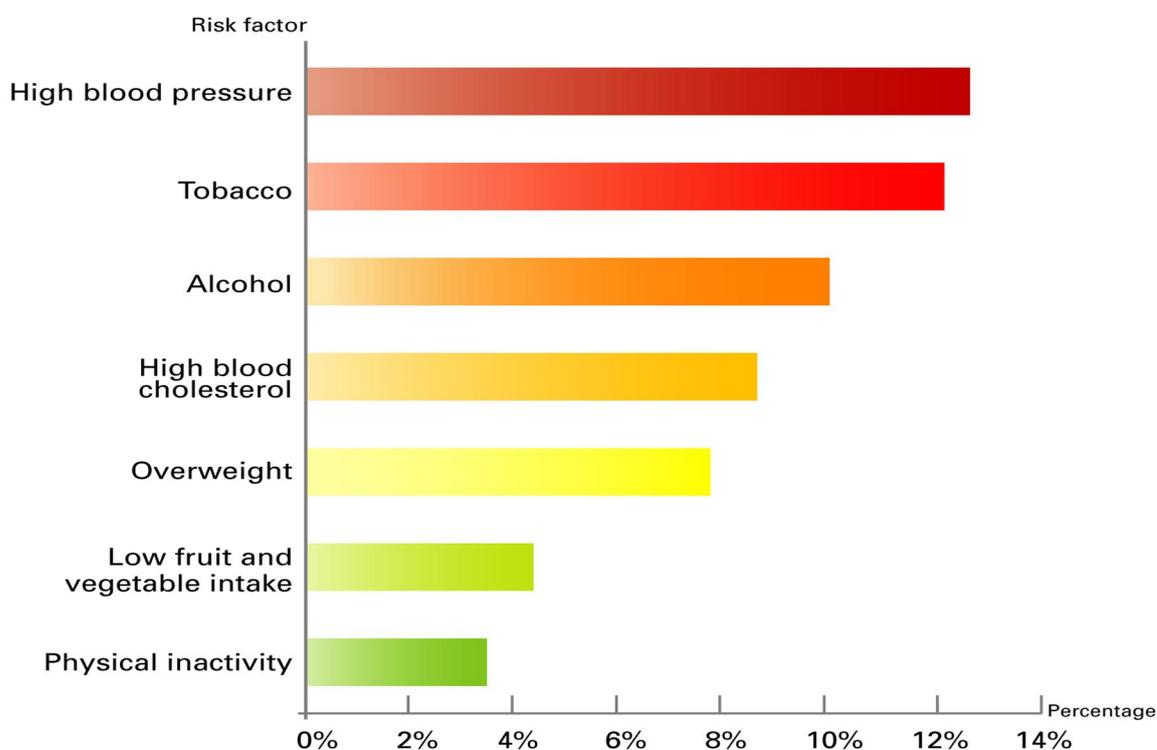
<sup>1</sup> WHO report, Barro, 1996

<sup>2</sup> Suhrcke & Urban, 2006

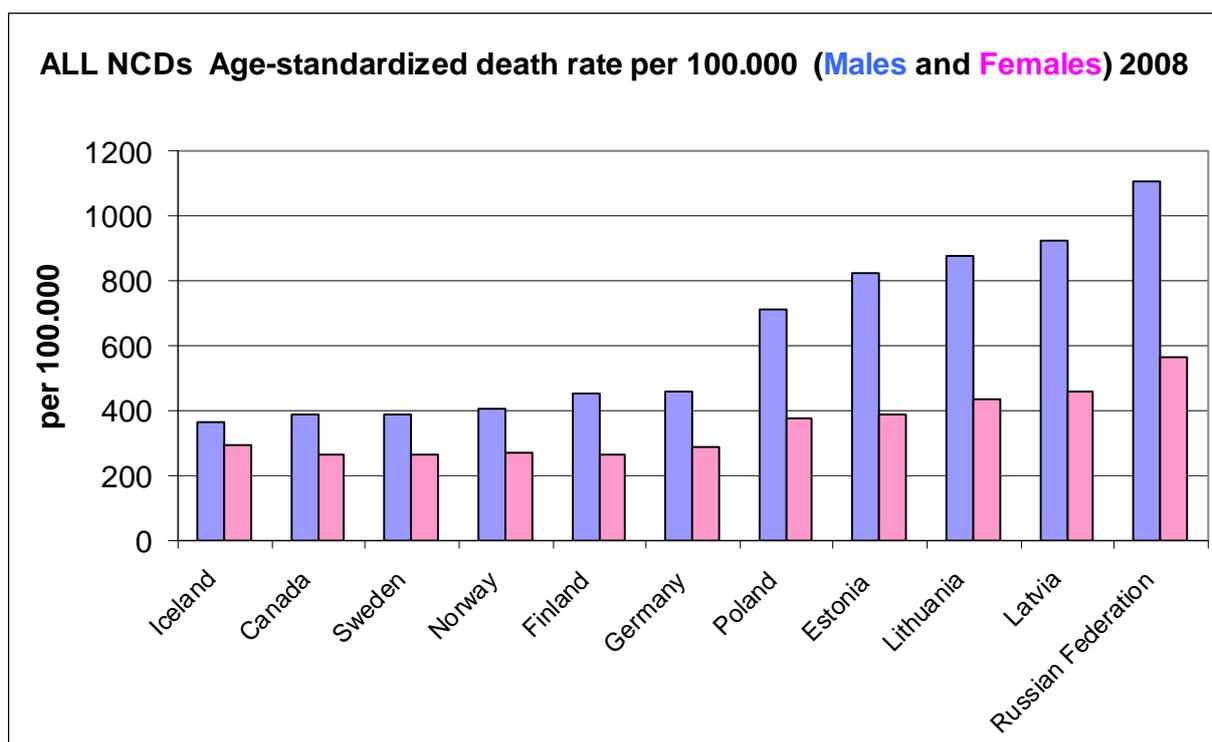
interventions at the population level and at an individual level. Primary prevention consists of community-, school- and workplace-based health promotion programmes addressing knowledge about risks and promoting healthy behaviour, but also interventions within and outside of the health sector that create a physical and social environment conducive to healthy behaviour.

## The main causes are known

**Proportion of total disease burden (DALYs) attributable to seven leading risk factors in the WHO European Region, 2000**

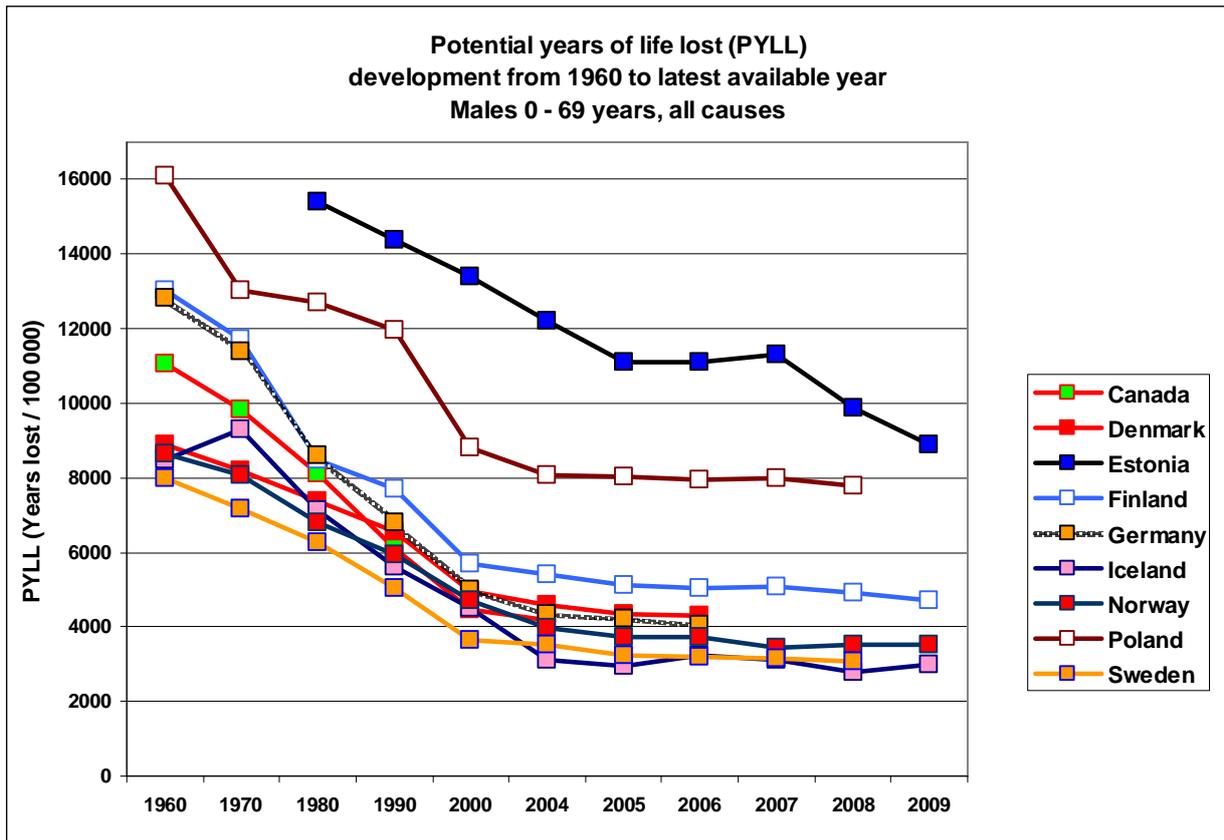


Source: *The world health report 2002 - Reducing risks, promoting healthy life*

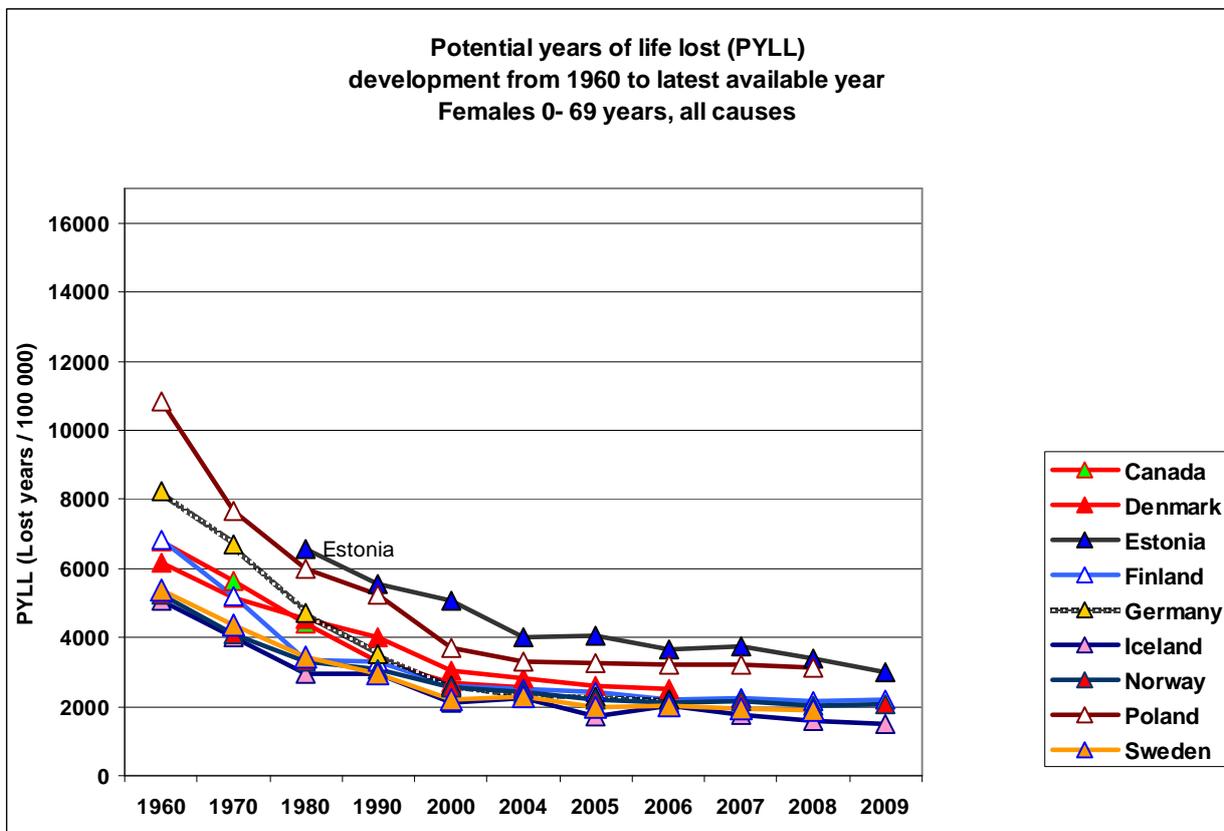


Source: Global status report on noncommunicable diseases 2010  
World Health Organization

The potential years of life lost (PYLL) rate describes the number years lost due to premature death in a population. From a social and national economic point of view, this is equal to loss of human capital/resources. The rate is calculated on the basis of the difference between the age at death and the expected length of life, and it is determined by the cause of death according to the ICD-10. The method reviews the time of death in relation to pre-defined life expectancy. The rate is age-standardized and expressed as a sum of all deaths per 100,000 person-years. The analyses of Potential Years of Life Lost (PYLL) in target populations have been systematically used by OECD and World Bank for monitoring of progress in "human capital" and the wellbeing of the population concerning all preventable premature causes of death, of which the majority links with noncommunicable diseases. It provides supplementary information for planning and decision-making for health policies. The differences in wellbeing between countries and regions are affected by various factors: genes, lifestyles, living and working environments, catastrophes, health policies in a country or region, various functions of different sectors of the society and practiced social and health policies. The potential years of life lost rate offers the possibility to compare, monitor and evaluate the wellbeing of population internationally between municipalities, sub-regions, regions and countries. It has proven to be a practical and effective tool to motivate local decision makers to better implement health in all their policies and monitor the progress.



Source: OECD 2011 (Canada, Denmark, Estonia, Finland, Germany, Iceland, Norway, Poland, Sweden) [NB: PYLL-data from Russia and Latvia not available]



Source: OECD 2011 (Canada, Denmark, Estonia, Finland, Germany, Iceland, Norway, Poland, Sweden) [NB: PYLL-data from Russia and Latvia not available]

## 2. Harmful use of alcohol

Alcohol is the causal factor in about 60 different types of diseases and conditions, and a co-factor in some 200 more, including injuries, mental and behavioural disorders, gastrointestinal conditions, cancers, cardiovascular diseases, immunological disorders, lung diseases, skeletal and muscular diseases, reproductive disorders and harm during pregnancy, including an increased risk of prematurity, low-birth-weight, and congenital malformations (Fetal Alcohol Syndrome), which is known to be today the most common form of mental retardation among children in the Nordic Countries. For most conditions, alcohol increases the risk in a dose dependent manner: the higher alcohol consumption, the greater the risk. It has been established that moderate alcohol consumption gives some protective effect particularly some heart deceases for some age groups. This is however under discussion, mainly by questioning the reference group of non- drinker.

Alcohol is the leading factor of death in males in ages 15-59, mainly due to alcohol poisoning, liver cirrhosis, cardiovascular diseases, and injuries and violence. WHO has now classified alcohol as 1<sup>st</sup> degree carcinogenic substance and placed it in the same category with asbestos. Breast cancer and gastro-intestinal cancers are more common among alcohol users. For cancers there is no safe lower limit for the risk linked to alcohol.

Globally, 6.2% of all male deaths are attributable to alcohol, compared to 1.1% of female deaths. Men outnumber women four to one in weekly episodes of heavy drinking – which most probably is the reason to their much higher death and disability rates. Abstinence is also much rarer among men.

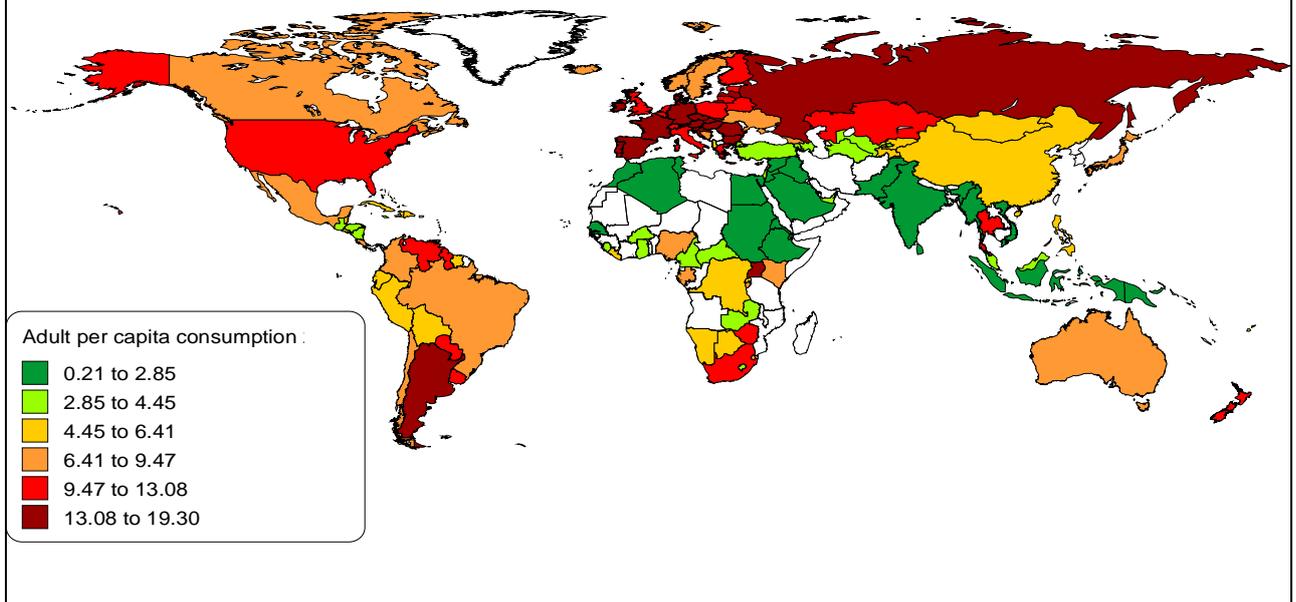
Women have traditionally used much less alcohol than men, and still the proportion of abstainers among women is quite high in many countries. FAS (Fetal Alcohol Syndrome) is the most common congenital (birth) defect among newborns in our societies caused by alcohol used by women during their pregnancy.

Europe is the heaviest drinking region in the world with 320 000 young people between the age of 15 - 29 dying from alcohol-related causes, resulting in 9% of all deaths in that age group. About 20% of people over the age of 15 report heavy episodic drinking at least once a week. We also have the highest proportion of total ill-health and premature death due to alcohol in the world. Overall, it is estimated that 55 million people in the EU drink alcohol to harmful levels, and of these individuals, 23 million are considered to be addicted to alcohol.

The overall social cost of alcohol, in the EU only, is estimated to be €125 billion per year, or about 1.3% of the EU's GDP, and this figure is most likely gravely underestimated. For instance, in Finland (5 million inh.) the total cost of alcohol related harm is estimated to be about 6 billion € per year. In comparison, the amount of tax collected for the sale of alcoholic beverages is about 1 billion € per year, thus the annual net loss is about 5 billion €. In Sweden (9 million inh.) it has been calculated that direct and indirect expenses of unhealthy lifestyles cost about 12 billion € every year.

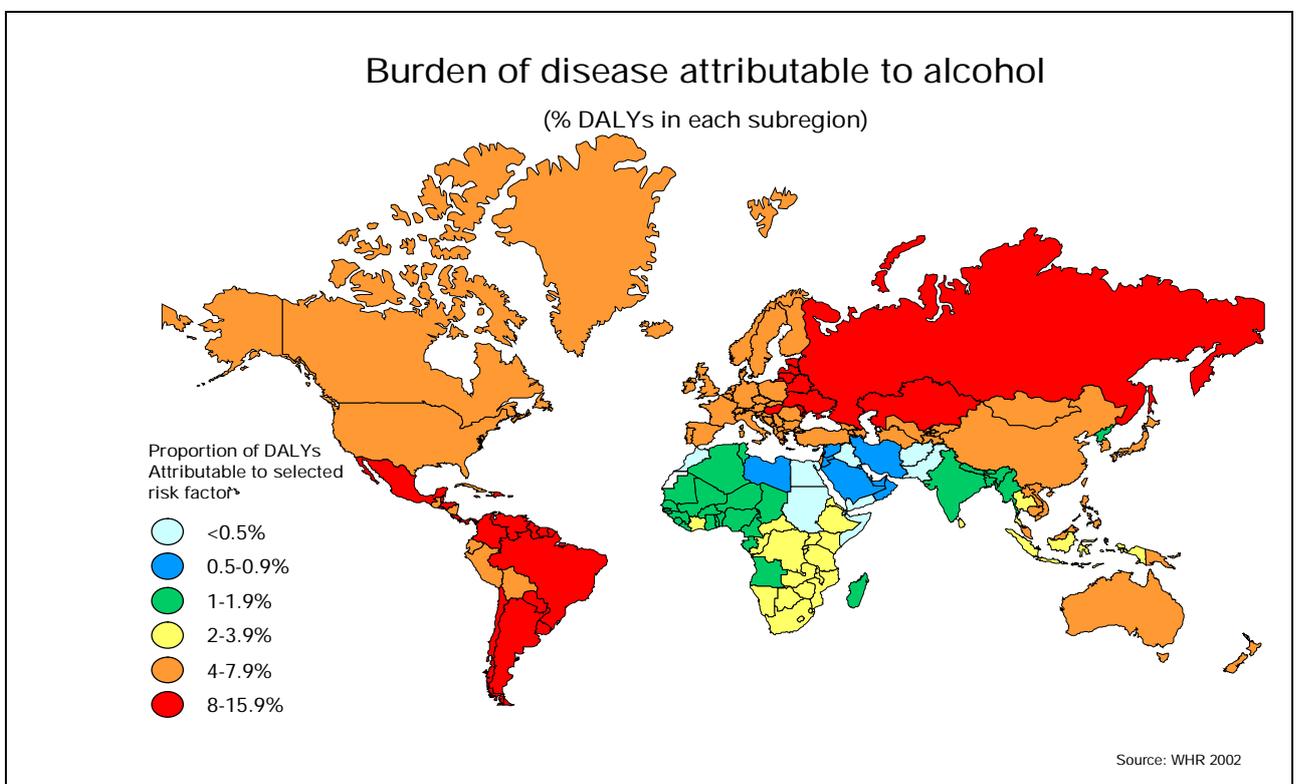
There is a close relationship between the national per capita consumption and the prevalence of alcohol related harm including alcohol dependence. At the same time there are tendencies to a change in drinking patterns related to age, gender, frequency of drinking occasions, and quantities of consumption per drinking occasion. These are all factors that influence the level of harm. While average alcohol consumption has been decreasing in the EU, in some countries the proportion of youth and young adults with hazardous consumption patterns has increased where as in other countries the consumption among the young has decreased while we see an increase in the adult and even elderly population. Under-age (=children's) "binge-drinking" and high frequency drinking overall may have long-term adverse health effects and also increase the risk of social harm.

### Adult per capita consumption in litre pure alcohol 2005



Source: The Global Health Risks (WHO 2009)

### Burden of disease attributable to alcohol (% DALYs in each subregion)

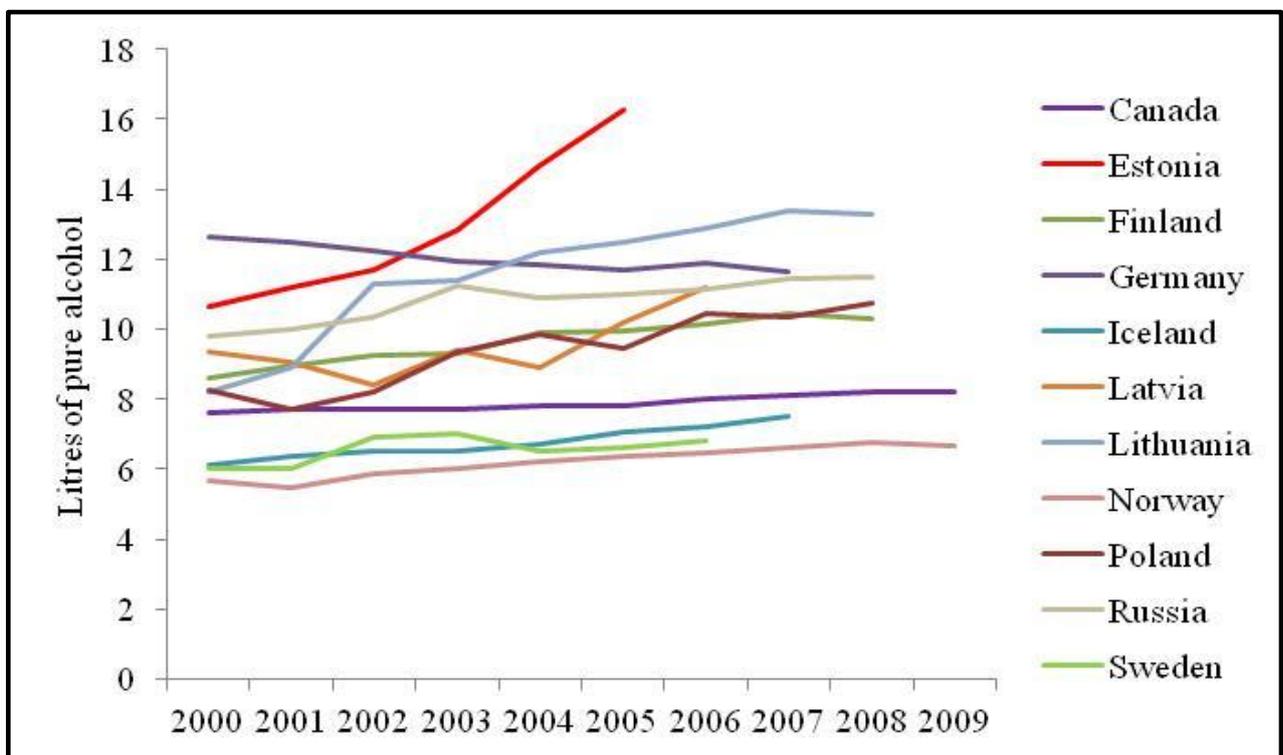


Source: WHR 2002

Source: The Global Health Risks (WHO 2009)

Over years alcohol consumption patterns in Europe have been divided into two parts: the northern dry area, where beer consumption is relatively high due to consumption on weekends and outside meals, and the southern, or Mediterranean, wet area, where wine is usually consumed at meals.

Based on previous described patterns, ND area countries can be divided as follows: the Central European pattern – Germany and Poland; the Northern Europe pattern – Estonia, Finland, Latvia, Lithuania, Norway, Russia and Sweden. According to WHO results (WHO 2011a), there are significant differences between the patterns, but no significant similarities inside the pattern. Recorded adult per capita consumption has increased in most of the ND area countries over period 2000–2009 (Figure 1). Bigger increase has been in Baltic countries, in Poland and in Russia. In Estonia the recorded adult per capita consumption was 10,7 litres of pure alcohol in 2000 and in 2005 it was already 16,2 litres. Also in Lithuania the consumption increased significantly – 8,2 litres in 2000 and 13,3 in 2008. In Nordic countries the consumption has staid quite stable



Recorded adult per capita consumption in general population (age 15+) in Northern Dimension area, 2000–2009. (WHO. Global Information System on Alcohol and Health. Geneva: WHO; 2011a)

### 3. Tobacco use

Tobacco use continues to be the leading global cause of preventable death. It kills nearly 6 million people and causes huge economic damage worldwide each year. According the WHO “Global status report on alcohol and health 2011”. If current trends continue, by 2030 tobacco will kill more than 8 million people worldwide each year, with 80% of these premature deaths among people living in low- and middle-income countries”.

Tobacco use now causes 1 in 6 of all NCD deaths. Tobacco use potentiates the harmful effect of workplace exposure, and vice versa. Furthermore, up to 1 in 5 deaths from tuberculosis would be avoided if TB patients did not smoke. This means that more than 15,000 people lose their lives every day because they used tobacco, and this does not include the more than 1,000 who die daily from passive smoking<sup>1</sup>.

In spite of clear evidence about the dangers of tobacco use, many tobacco users still misjudge the full extent of the risk to themselves and others. While a large number of people know in general terms that tobacco use is harmful to their health, many aspects of tobacco use have not been adequately explained and as a result are not well understood by most tobacco users. Many users are uninformed of the harmful chemicals in tobacco products and tobacco smoke. They often do not know that smoking also causes cancers other than lung cancer as well as heart disease, stroke, and many other diseases.

The intense addictive nature of tobacco is also not widely acknowledged. Many people still believe that tobacco use is just a habit and has nothing to do with addiction. They often do not fully realize how quick they become addictive to nicotine, and think that will quit smoking easily

Tobacco use impedes economic and social development. One half of smokers die from their tobacco use, and half of these deaths occur in economically productive middle years – from 35 to 69<sup>2</sup>. Progress towards achieving MDGs (UN Millennium Development Goals), including goals on gender equity and maternal and child health, is also troubled by tobacco use. Although globally fewer women use tobacco than do men, especially in low income countries, they and their children are likely to be exposed to passive smoke, which is responsible for at least 600,000 deaths each year among non-smokers. Nearly half of these deaths occur among women and over a quarter among children under the age of five. Children and infants are especially vulnerable to the effects of Passive smoke. As for the pregnant women exposed to second-hand smoke, they are at higher risk of preterm birth, and the growth of the baby in the womb can also be limited.

A unique feature of the tobacco pandemic is that after more than half a century of research and analysis, it is now well known how to reduce this burden. Not only that, but there is an internationally negotiated, legally binding package of evidence-based tobacco control measures, the WHO Framework Convention on Tobacco Control (FCTC) to which more than 170 WHO Member States are Parties, accounting for more than 85% of the global population. Since 2003, the FCTC has played a major role in accelerating the adoption of effective tobacco control policies around the world.

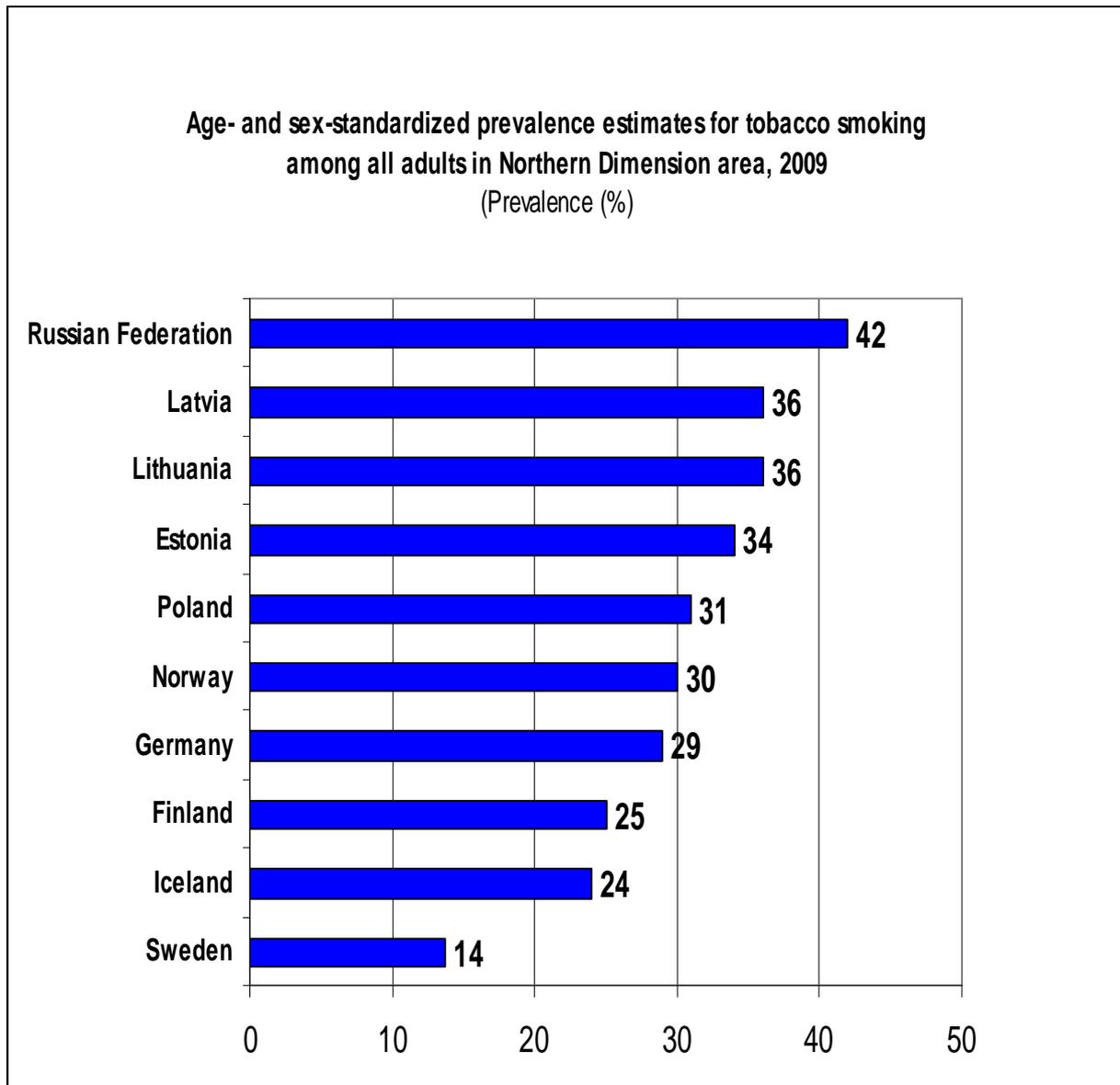
Reduction in tobacco related diseases, disability and death has rapidly gone down everywhere where consumption has dropped. This also resulted in reduction of Health-care costs and productivity increase. As a result, Government revenues have also increased. It is a good example what wise public policies, public opinion change and health education together can do. The successful implementation of FCTC shows that most effective interventions are

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<sup>1</sup> Oberg M, Maritta JS, Woodward A, et al. (2010) Worldwide burden of disease from exposure to second-hand smoke: A retrospective analysis of data from 192 countries. *The Lancet*. Published Online November 26, 2010 DOI:10.1016/S0140-6736(10)61388-8.

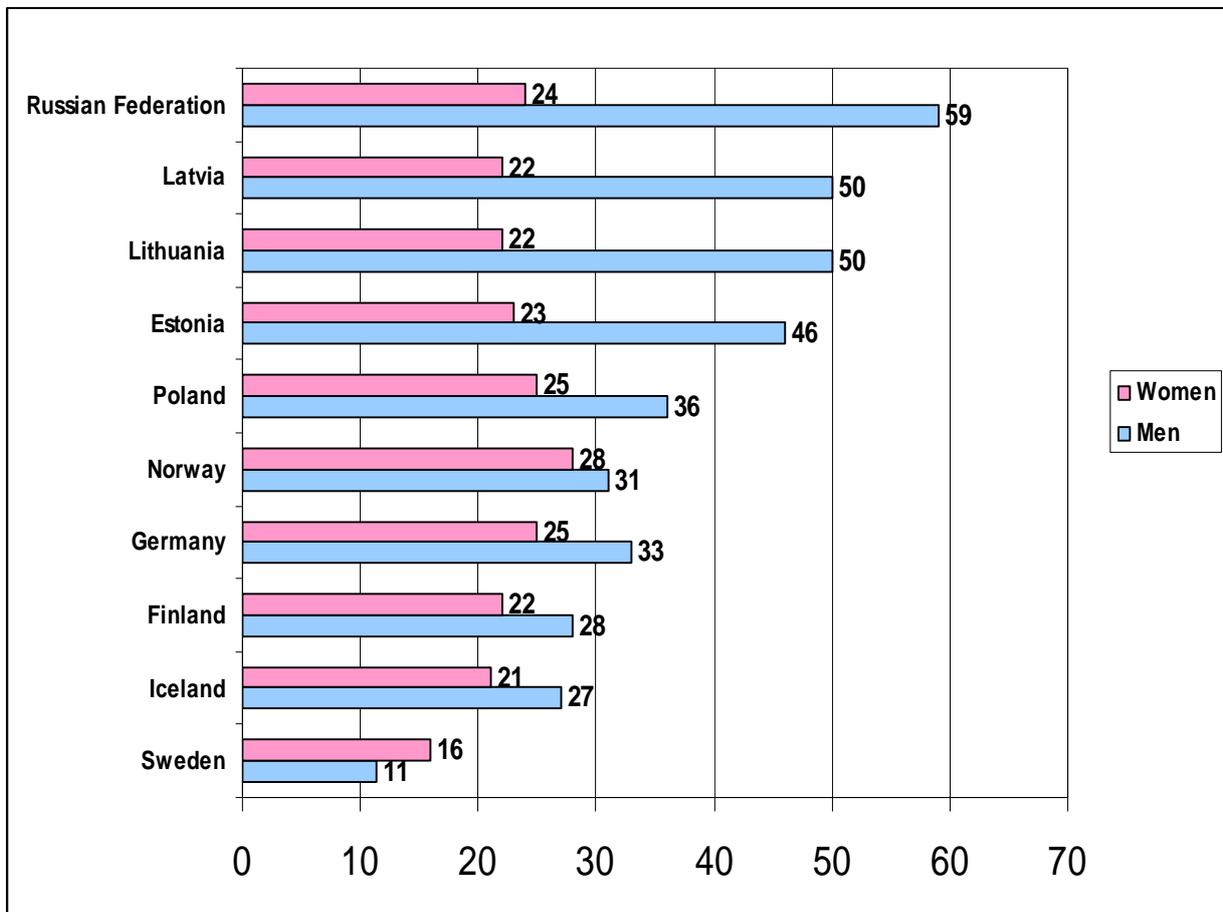
<sup>2</sup> Guindon GE et al. The cost attributable to tobacco use: a critical review of the literature. Geneva, World Health Organization, 2006

mutually reinforcing and that a comprehensive strategy is required to reduce the global burden of disease caused by tobacco use.



Source: WHO-EURO, 2011

**Age-standardised prevalence estimates for tobacco smoking  
among men and women in Northern Dimension area 2009**  
Prevalence (%)



Source: WHO-EURO, 2011

“Snooze” (chewing tobacco) is a special unfortunate tobacco product in the Northern Dimension context. Presently it can be legally sold in Sweden but not in other EU Member States and it is aggressively marketed and smuggled to neighbouring countries in the Northern Dimension area. It is a product which is strongly advertised as a harmless smoke-free product, and it is spreading among young generation, boys and girls alike. In Sweden the consumption of snooze has tripled in 30 years.

In 2008 the leaders of 5 Nordic public health institutions (Lars-Erik Holm, Socialstyrelsen, Sweden; Jesper Fisker, Sundhedstyrelsen, Denmark; Björn-Inge Larsen, Helsedirektoratet, Norway; Pekka Puska, National Public Health Institute, Finland; Sigurdur Gudmundsson Hälsoöndirektoratet, Iceland) have jointly crystallized<sup>1</sup> the problem as follows: The use of “snooze” increases reversible and irreversible changes in oral mucous membranes, causes pancreatic, esophageal and stomach cancer, increases the risk of fatal infarctions and brain insults, and raises blood pressure.” The five Nordic public health leaders urged for strong additional input to preventive work. This action still waits to be started. It is a myth that “snooze” would have any positive impact on smoking.

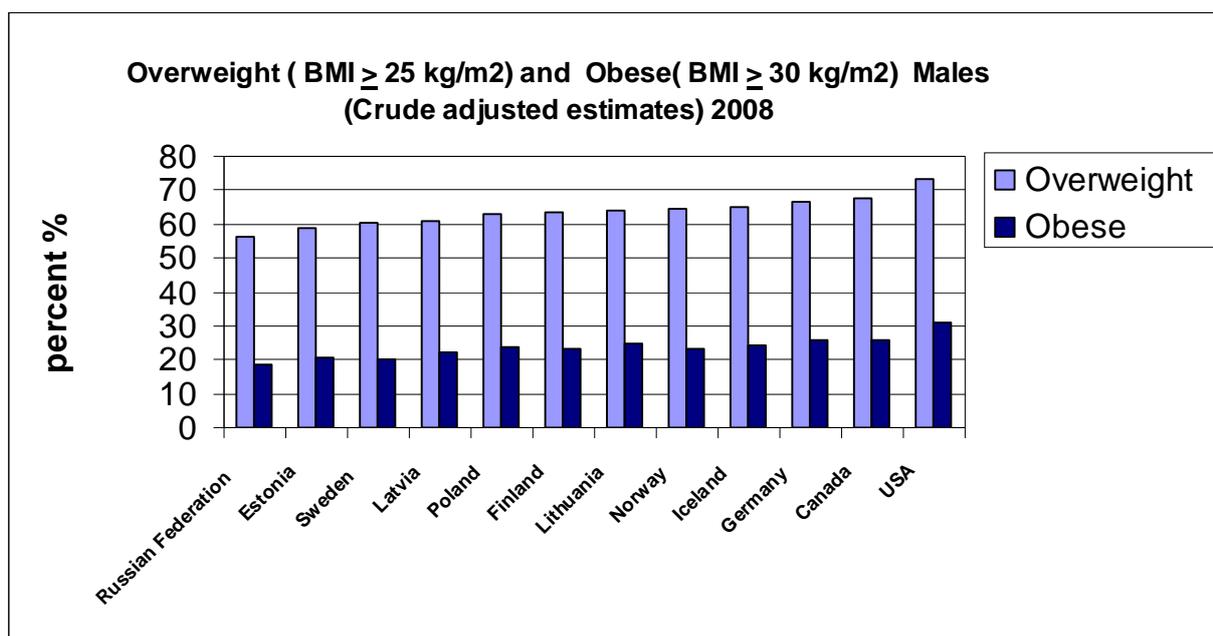
<sup>1</sup> Suomen Lääkärilehti SLL 48 4186-4187 2008

## 4. Overweight and Obesity

The prevalence of overweight started to grow in 1970s and 1980s when the markets for food and energy increased and food became cheaper in relation to the working time needed to acquire it. In addition socio-cultural factors, environment, the increasing use of cars had an impact on increase of obesity. In 2008 in the world there were 1.46 billion at least overweight and 500 million obese people. In the United States the prevalence of obesity is the highest: one third of children are obese. In some countries obesity among children has leveled up or even decreased, but obesity among adult population continues in all countries, including NDPHS region. Obesity is the risk-factor for diabetes, vascular diseases, and several types of cancer, and leads into functional disturbances, disability and inability to work. It is estimated that obesity causes about 2-6% of total health care expenditure.

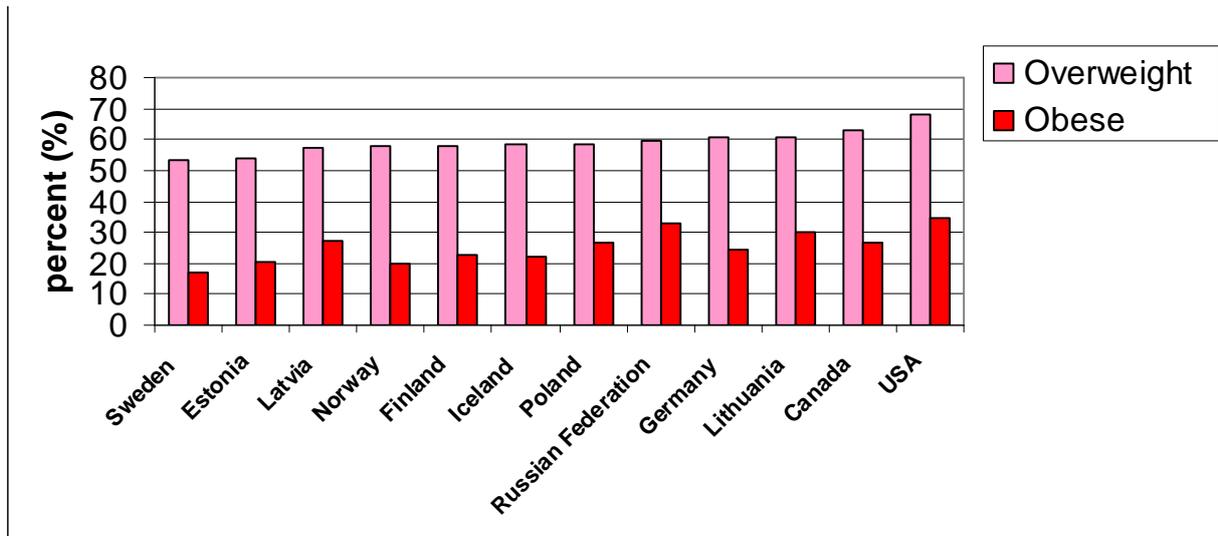
There is strong evidence that e.g. through reducing children's TV or computer time, they loose weight. We also have strong positive evidence to reduce children's obesity through family-focused interventions. For adults evidence supports programs combining nutrition counseling and increased physical activity.

Interventions focusing on individuals alone will not turn the trend. Broad policy measures are needed increasing the price of harmful food-products (e.g. sugar and salt) and lowering the price of health promotive ingredients (e.g. fruit and vegetables). Involving food industry and making them as partner in the process is important.



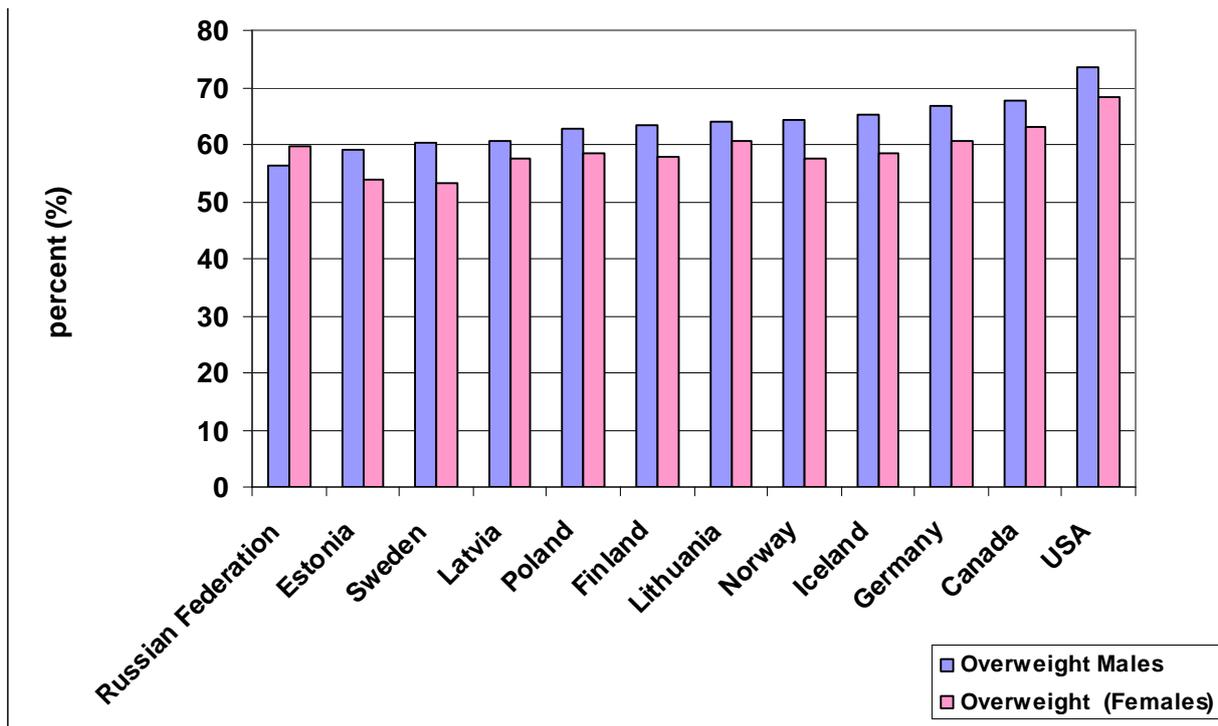
Source: Global status report on noncommunicable diseases 2010, World Health Organization

**Overweight ( BMI > 25 kg/m<sup>2</sup>) and Obese ( BMI > 30 kg/m<sup>2</sup>) Females  
(Crude adjusted estimates) 2008**



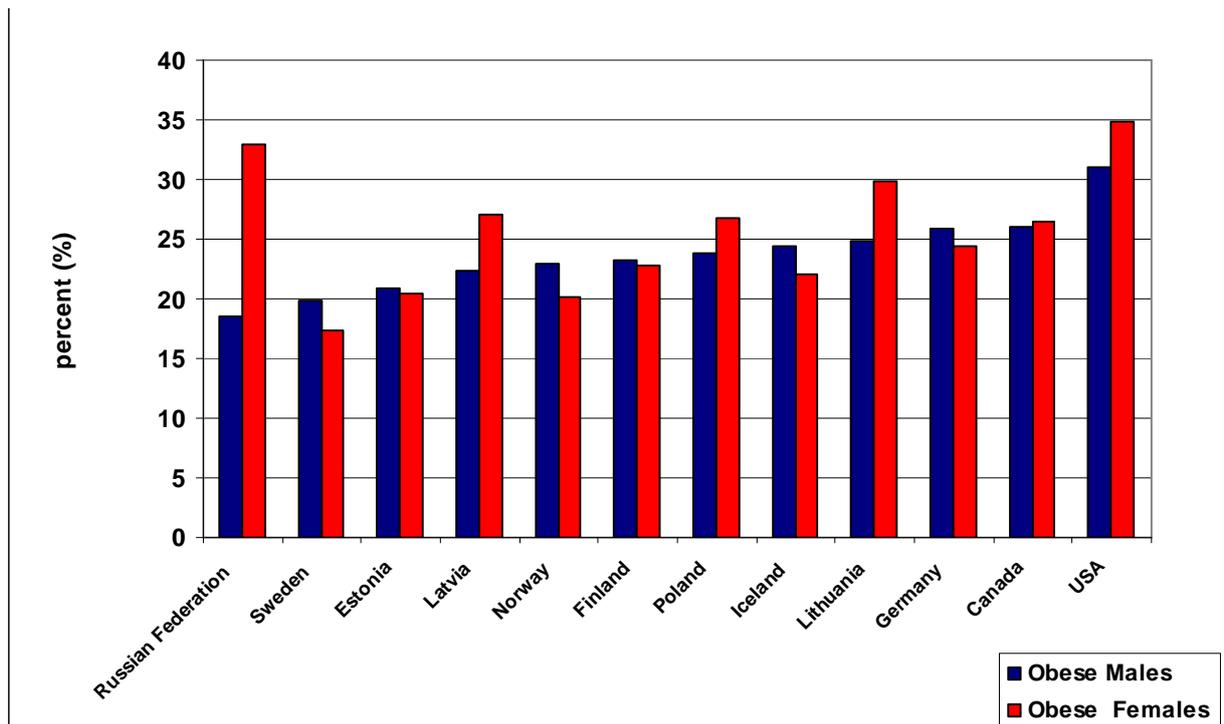
Source: Global status report on noncommunicable diseases 2010  
World Health Organization

**Overweight ( BMI ≥ 25 kg/m<sup>2</sup>) Males and Females  
(Crude adjusted estimates) 2008**



Source: Global status report on noncommunicable diseases 2010  
World Health Organization

**Obese ( BMI  $\geq$  30 kg/m<sup>2</sup>) Males and Females  
(Crude adjusted estimates) 2008**



Source: Global status report on noncommunicable diseases 2010 World Health Organization

## 5. Physical inactivity

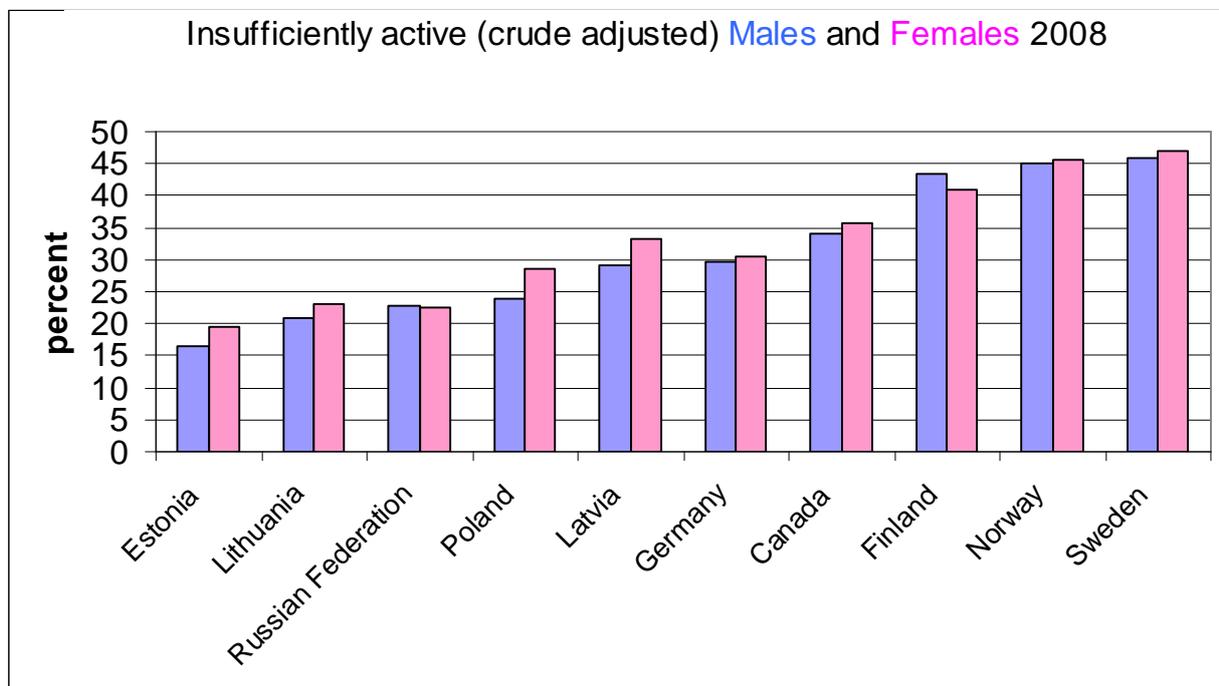
Insufficient physical activity is the fourth leading risk factor for mortality. Approximately 3,2 million deaths each year are attributable to insufficient physical activity, People who are insufficiently physically active have 20-30% increased risk of all-cause mortality compared to those who engage in at least 30 minutes of moderate intensity physical activity on most days of the week.

Participation in 150 minutes moderate physical activity each week is estimated to reduce the risk of ischemic heart disease by approximately 30%, the risk of diabetes by 27%, and the risk of breast or colon cancer by 21-25%. Additionally physical activity lowers the risk of stroke, hypertension and depression. It is a key determinant in energy expenditure and thus fundamental to energy balance and weight control.

Latest scientific evidence has shown that even less physical activity significantly improves the quality and well-being of life, not just reduces mortality.

Globally, 31% of adults aged 15 years or older were insufficiently active. In Northern Dimension area insufficient physical activity ranges from about 20%% in Estonia to about 45% in Sweden. The prevalence of insufficient physical activity rose according to the level of country income. High income countries had more than double the prevalence compared to the medium-income countries.

Adequate levels of physical activity can best be achieved through enabling environment, and it is influenced by policies and practices in sectors such as transport, sport, education, environment, urban design, and by external forces such as industry and media. Hence it is critical to engage all stakeholders as part of the solution.



Source: Global status report on noncommunicable diseases 2010 World Health Organization

## 6. Primary Health Care – challenges and opportunities to promote healthy lifestyles and prevent and control noncommunicable diseases

An increase in the prevalence of non-communicable diseases and an increased need for health care services is a challenge for all countries in ND region. Health care expenditures are increasing rapidly, and even relatively wealthy countries often cannot afford to meet the increasing population needs and guarantee the accessibility of good quality health services in compliance with the population expectations and needs.

Role of primary health care (PHC) for prevention and management of NCDs in the community and for more efficient use of overall health care resources brought as close as possible to where people live and work was emphasised for the first time 33 years ago at the WHO Alma-Ata Conference in 1978. In the WHO Report 2008 “**Primary health care now more than ever**”, it was stated that broad support for the vision set forth 30 years ago in the Alma Ata’s values has not always easily translated into effective transformation of health care systems.

International experience brings more and more scientific evidence that those countries which neglected the Alma-Ata declaration and did not introduce into health system characteristics of strong primary health care get more problems in regard to growing expenditure in the health care sector, worse population health, less equity in health, and less satisfaction with the overall health care. Research in both developed and developing countries revealed that stronger primary health care leads to better health outcomes with regards of better NCD prevention and management, including total mortality rates, heart disease mortality rates, earlier detection of cancers, such as colorectal cancer, breast cancer, uterine/cervical cancer, and melanoma. The opposite is the case for higher specialist supply, which is associated with worse outcomes.

Scientific evidence exist that well-organized primary health care team can apply very effective interventions in modifying such NCD risk factors like smoking, risky alcohol consumption, unhealthy diet and low physical activity. Still, such interventions are not sufficiently used in primary health care, family doctors and nurses in ND countries often lack special attitudes and skills on how to apply health promotion models and motivational counseling techniques in different settings (e.g. schools, community, and workplace).

Quality of primary health care with regards of NCD prevention and management are unequal when compare between the countries of ND region and within the countries between different practices. Inequalities also exist in regard to accessibility of health care services for different social groups. To address the burden of chronic diseases, special attention is needed for specific vulnerable population groups, like workers in small and micro enterprises, migrants, ethnic minorities, people with disabilities, ex-prisoners etc., who usually have higher prevalence of NCD risk factors and hence higher prevalence of NCDs. Strong community oriented primary health care could be very efficient in addressing health needs of these population groups.

Among primary health care professionals such competences as holistic modelling, better consideration of social and environmental determinants of health and health inequality, teamwork, comprehensive problem- solving in multiprofessional teams including social-workers should be strengthened. Another challenge for health systems is increasing number of patients with high co-morbidity, i.e. with several chronic diseases at the same time. Diagnosis-centered care of specialists is often inappropriate and inefficient without well-coordinated, continuous patient-centered care provided by family doctor/ general practitioner.

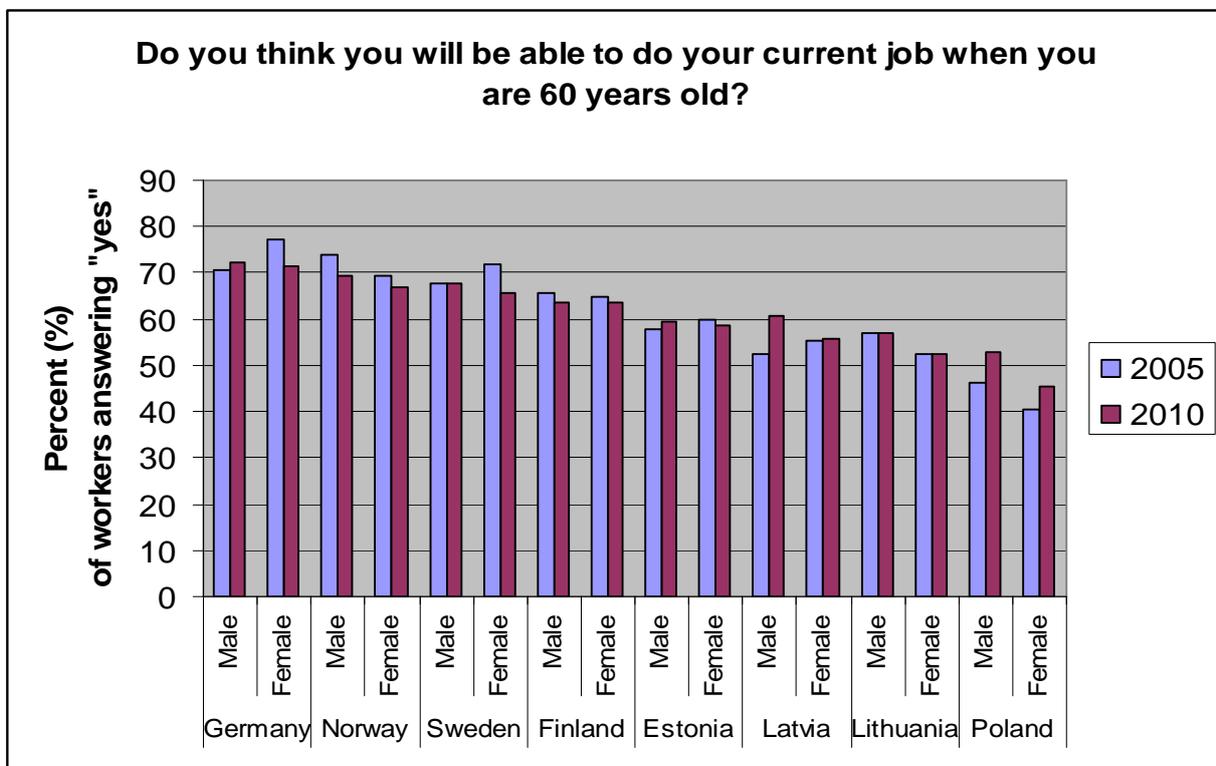
Primary Health Care and Prison Health Systems EG of the NDPHS initiated a flagship project “Improvement of Public Health by promotion of equitably distributed, high quality primary health care” (IMPRIM) which partly addresses above mentioned gaps in PHC quality by

training of PHC professionals in motivational counseling and teamwork, development of transnational strategy for professional development of PHC, and piloting new quality indicators and payment schemes, which provide incentives for PHC providers to increase focus towards health promotion and disease prevention in the community.

Further initiatives through international and national project activities are needed to identify and disseminate models of good PHC practices with effective interventions in addressing NCD risk factors. Policy measures are needed to strengthen comprehensive, continuous community oriented and patient centered primary health care, so that PHC doctors and nurses could apply tools that allows people to become partners in managing their own health and community based health promotive structures, rather than the traditional approach where people are passive consumers of healthcare. PHC- team should be responsible for the health of whole population in a community, through seamless and continuous care tackling also determinates of ill-health, rather than limiting themselves only to advice to individual patient and addressing problems at the moment of consultation.

## 7. Health at Work – challenges and opportunities to promote healthy lifestyles and prevent and control noncommunicable diseases

The workers represent half of the whole population, and are major contributors to the economic sustainability in the NDPHS countries. Unfortunately, more than 300,000 persons die of work-related diseases in the WHO European Region every year, mostly from NCDs. Although the fatal work-related accidents show a decreasing trend, the fatal work-related diseases do not, resulting in the economic loss of 4-5% of GDP. Working condition and work organization substantially contribute to the burden of neoplastic, cardiovascular, musculoskeletal and mental disorders. More than 311 million DALYs (Disease Adjusted Life Years) lost from lung cancer are attributed to occupational and other types of environmental exposure (e.g., asbestos) in the WHO European Region. Every year about 20 000 DALYs were lost from leukaemia. Approximately 42 % of chronic obstructive pulmonary disease is attributed to occupational and environmental causes. According to the European Working Conditions Survey, 30-60% of workers in NDPHS countries do not think they can do their current job when they are 60 years old. There exists a big variation in workers' perceived sustainable work ability between the NDPHA countries.



Source: European Working Conditions Survey:  
[http://www.eurofound.europa.eu/surveys/smt/ewcs/ewcs2010\\_07\\_07.htm](http://www.eurofound.europa.eu/surveys/smt/ewcs/ewcs2010_07_07.htm)

In the 21<sup>st</sup> century, NCDs became the leading causes of morbidity, disability and mortality among the working population. Employers carry a burden of absenteeism, presenteeism, decreased productivity and high employee turnover, while individuals and their families face reduced income, early retirement, increased reliance on welfare support and a burden of health care costs. For these reasons, the workplace is considered an important setting for delivery of essential public health interventions and for health promotion aiming at prevention and control of NCDs.

Work-related stress and mental disorders are associated with high risks of cardiovascular disease, cancer and diabetes. In Germany, it has been estimated that during 2002, 18 million working days were lost because of depression, which was estimated to have cost employers some €1.6 billion. In NDPHS countries, mental health problems have become one of the

leading causes of sick leaves and early retirement. In Germany, for instance, mental illness is now the main reason for occupational disability, causing more than 30 % of cases. Almost every third early retirement is related to mental issues. With the recent economic recession, the burden of mental illnesses poses even greater challenges to both employed and unemployed populations in the NDPHS countries.

The World Health Assembly resolution, **Global Plan of Action on Workers' Health 2008-2017** recommended that health promotion and prevention of NCDs should be further stimulated in the workplace, in particular by advocating healthy diet and physical activity among workers, encouraging smoking cessation, paying attention to harmful and hazardous alcohol use, and promoting mental and family health at work. Such measures include also integrated management of chemicals at the workplace, elimination of second-hand tobacco smoke from all indoor workplaces. Following the commitments of FCTC (WHO Framework Convention of Tobacco Control) smoke-free workplace is an essential step towards preventing NCDs at the workplace. **Healthy workplaces: a global model for action** was launched by WHO as a coherent framework applicable to all workplaces.

The WHO/Europe Action plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases (2011–2016) acknowledged that workplace health promotion designed not just to prevent disease but also to optimize employee well-being can benefit employees and employers. Improved conditions of work, with mechanisms to allow people to influence the design and improvement of their work, lead to healthier, safer and thereby more productive workplaces.

The WHO and World Economic Forum joint report “**Preventing Noncommunicable Diseases in the Workplace through Diet and Physical Activity (2008)**” provides the current state of knowledge regarding use of the workplace as a setting for NCDs prevention; key elements of successful workplace health promotion programmes focusing on diet and physical activity, and potential roles for different stakeholders in the development and implementation of these programmes.

WHO, EU and OECD publication “**Global status report on noncommunicable diseases 2010**” recommends multi-component programmes promoting physical activity in the workplace: provide space for fitness and signs to encourage the use of stairs; involve workers in programme planning and implementation; involve families through self-learning programmes, newsletters, festivals, etc.; and provide individual behaviour change strategies and self-monitoring. Companies should also adopt and strengthen programmes to improve the health and well-being of their employees through workplace health promotion and specific NCD prevention schemes. Virtually all industries can help to reduce pollution and promote healthy lifestyles.

For cancer control, health interventions should include the reduction of exposure to environmental and occupational carcinogens. Examples of good practices include bans on the use of asbestos to reduce mesothelioma and lung cancer, and more strict regulation for occupational hygiene and worker protection. In **the Parma Declaration on Environment and Health (2010)**, the ministers of environment and health committed to develop national programme for elimination of asbestos-related diseases in collaboration with WHO and ILO by 2015. Vaccination against hepatitis B is essential prevention measure for healthcare workers to prevent liver cirrhosis and cancer. Companies should also adopt and strengthen programmes to improve the health and well-being of their employees through workplace health promotion and specific NCD prevention schemes. Virtually all industries can help to reduce pollution and promote healthy lifestyles.

Occupational health services and primary health care can identify people at risk of NCDs for primary and secondary prevention at an early stage. In the NDPHS Strategy on Health at Work, “Healthy Life – Healthy Work” adopted by Partnership Annual Conference in 2007, the partnership resolved that “**countries aim at joint activities in the field of workplace health**”

**promotion in order to reduce the prevalence of communicable and NCDs” and that “a closer collaboration between primary health care and occupational health services needs to be established and developed in every country, not forgetting the need for competence and capacity building”.** Among the NDPHS members, Canada, Finland, Germany, Iceland, Norway, and Sweden, have a strong tradition of workers’ health protection and promotion. OSH TG is implementing the NDPHS Strategy on Health at Work in collaboration with the Baltic Sea Network on Occupational Health and Safety for the dissemination of good practices of governance for NCD prevention and control at the workplace among the NDPHS countries. Joint efforts for comparing prerequisites for successful implementation have been initiated in line with the priorities of the WHO Global Plan of Action on Workers' Health.

## **8. Indigenous populations in Northern Dimension area – challenges and opportunities to promote healthy lifestyles and prevent and control noncommunicable diseases**

Indigenous communities in the Northern Dimension area carry distinct features, but at the same time share certain similarities. It is important to recognize this heterogeneity in order to avoid a stereotypical picture of the health status and problems of Indigenous people. The impact of colonialism on the health of Indigenous people, however, provides an overarching framework and potential for further investigation.

Only 50 years ago the health and disease pattern among Arctic populations - with the Scandinavian Sami as a possibly exception - was characterized by a very high morbidity and mortality from acute and chronic infections as well as accidents and high rates of child mortality. Since then a dramatic changes in society and in life style has been seen hand in hand with a new disease pattern that has included increases in suicides, alcohol and abuse related conditions and tobacco related diseases. Recent years have also seen increases in chronic non communicable diseases such as diabetes, heart diseases and other life style related diseases.

As a result, non-communicable diseases today pose a significant challenge to community wellness. Many of today’s diseases are related and connected to social conditions and are not evenly distributed across the population within countries in the Northern Dimension. Social cohesion and distribution of resources within the Arctic societies therefore is of uttermost importance to not least the upcoming generation.

### ***Challenges: General***

Indigenous communities across the northern dimension share many challenges, yet there are also unique challenges observed within each community. For instance, indigenous communities in Canada have many inherent strengths, including connections to traditional cultures and extended family networks. But many of these communities also face high unemployment, remoteness from health services, social and economic marginalization, and the loss of traditional language and culture. The legacy of residential schools has been traumatic for Canada’s Aboriginal population. Many of the 80,000 former students alive today are coping with the loss of culture and language. Others are suffering from the after-effects of trauma, resulting from physical, sexual and emotional abuse.

As for the Sami, there are small differences in disease patterns compared to the majority populations in Norway and Sweden. There is very little research in Finland and Russia comparing Sami population with the majority populations in these countries. The Sámi in Russia (less than 3000) in contrast to the Sámi in Fennoscandinavia have high rates of suicides, violent deaths and alcohol consumption/ alcoholism.

In Finland, there are relatively high rates of substance abuse, suicides (especially among Skolt Sami males) and emerging complex issues, such as youth illicit drug use, sexual harassment, family violence and concurrent mental health problems. In Norway, suicide rate among Sami is moderate or low compared to other indigenous peoples in the Northern regions and slightly higher than the majority population in Northern<sup>1</sup>. Self-reported suicide attempts among Sami youth is 10.5% and among Norwegian youths 9.2%<sup>2</sup>. As an indication of growing problems, there are high rates of child protection interventions in some regions. There is little research made on these topics, but it is presumed that the assimilation politics, residence and boarding schools and the rapid socio-cultural changes together with genetic factors are potential factors behind these features.

There is no ethnic registration of Sami or other ethnic groups in patient journals or health registers in Norway; this creates a great challenge for epidemiological studies and research. Some studies have been done on cancer, cardiovascular diseases, suicide, psychiatry, alcohol and drug abuse, but data collected on incidence of many different diseases wasn't considered sound data. Among Sámi men in Norway, mortality statistics appears to show that they have a lower mortality rate in cardiovascular diseases. This is in spite of the fact that the transition from traditional to contemporary lifestyle has been going on already for decades. However, among Sámi women the mortality rate of cardiovascular diseases and more specifically Stroke is significantly higher than that of the general population. Also mortality from cancer (e.g., colon, lung, malignant lymphoma, prostate, breast) is lower among the Sámi compared to majority population.

However, there are significant differences between different Sámi population groups. The Skolt Sámi had high cancer mortality (oesophagus and stomach cancer). It is presumed that a physically active lifestyle together with the traditional diet (rich in reindeer meat and fish) would protect the Sámi from these diseases<sup>3</sup>. On the other, hand the total amount of people entitled to special refunds on medicines for psychosis (in those aged 18-64, as % of total population of the same age), in Ohcejohka, which is the only municipality with Sámi majority, is greater than average in Lapland and in Finland<sup>4</sup>. The persistent lack of Sámi language personnel in health promotion, health care and therapy is an ongoing concern.

### ***Challenges: Substance Use and Abuse***

Alcohol and drug use is a common theme across Indigenous populations in the Northern Dimension. In Canada, First Nations adults are two to three times more likely to consume five or more drinks on a single occasion and have a four to six times greater risk for alcohol-related harms. As well, Aboriginal youth have a two to six time greater risk for every alcohol-related problem than non-Aboriginal Canadians of the same age. They are also more likely to use all types of illegal drugs than non-Aboriginal youth and to start using substances at a much younger age.

In Greenland alcohol influences the social health in many families and many adults report having experienced alcohol-related problems in their childhood home. Binge drinking is common and in the last population survey 36 % of Greenlandic males and 25 % of females above 18 years of age had potentially harmful use of alcohol.

The total consumption of alcoholic beverages in Finland has been growing (10,4 litre 100% a per capita). In the Northernmost remote municipalities the consumption rate is higher than average (tourism, borderline trade, local consumption). No updated statistical information of ethnic differences in alcohol consumption<sup>5</sup>.

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<sup>1</sup> Norway suicidal behaviour among Saami in Arctic Norway; Ann C. Silviken 2007

<sup>2</sup> Silviken & Kvernmo 2007

<sup>3</sup> Sotkanen 2010; Soininen & Pukkala 2008

<sup>4</sup> Sotkanen 2010

<sup>5</sup> Näyhä & Hassi 1993; compare to Larsson 1993, Larsson & Saglie 1996, Spein 2007, Kaiser et al. 2009, Jacobsson & Omma 2011

There is a great need for more detailed scientific knowledge on the impacts of lifestyles on the health of Sámi. Interestingly, there seems to be less alcohol abuse/alcoholism among Sámi in Northern Norway compared to the majority population and less drug abuse<sup>1</sup>.

### ***Challenges: Diet and Nutrition***

There are also significant challenges related to diet and nutrition in Indigenous populations across the Northern Dimension. For instance, diabetes was almost unknown among Aboriginal people in Canada prior to the 1940s. Since then, dramatic changes in lifestyle have contributed to high rates of diabetes in all age groups. Diabetes has been diagnosed in Aboriginal children as young as five. Current rates for diabetes among First Nations people on reserve are 3.8 times higher than the general population. The prevalence of diabetes, cardiovascular, and other chronic diseases among Inuit is lower than national averages. However, there are concerns that these rates will rise significantly in the future, as risk factors (such as smoking, glucose intolerance, physical inactivity, unhealthy eating patterns, and obesity) among Inuit are high.

In Greenlanders as well as other Arctic indigenous populations is the use of traditional foods significant important culturally and socially, and these foods are regarded by many people as more healthy than imported foods. Although today only about 25 % of the caloric intake comes from local foods. For nearly a quarter of a century we have been aware of the Arctic dilemma: The conflict between the health benefits from the high content of unsaturated fat in marine mammals and their content of pollutants whose health effects have not yet been fully established. In youth especially young men have a high intake of “junk food” and most people have a higher than recommended intake of sugar in candy, soft drinks and cakes as well as of fat. Together with a general decrease in physical activity in the population a foundation for reaching overweight and obesity is given. Today about 29 % of men and 40 % of Greenlandic women are overweight and about 20% in both genders are obese.

Food security is a concern in many Indigenous communities in Canada. Food insecurity has been associated with a number of health issues, including diabetes, heart disease, physical limitations and mental health problems. Among Indigenous populations, associations have been shown between food insecurity and poor self-rated general and mental health, high stress, and cigarette smoking. Food insecurity is much higher among Indigenous households than non-Indigenous households in Canada. Key contributing factors include poverty, unemployment, environmental changes, and the high cost and limited availability of nutritious foods.

Obesity is also a concern among Canada's Indigenous population, as rates of obesity are significantly higher among Indigenous children and youth than among the general Canadian population, and Indigenous children are becoming obese at a very young age. For example, 59% of children aged 3-11 and 42% of 12-17 year olds living in communities located on a reserve are either overweight or obese. This is considerably higher than the 27% of boys and 25% of girls aged 2-17 years considered overweight or obese in the general Canadian population.

### ***Challenges: Tobacco***

As for tobacco use, in 2002 the prevalence of smoking among First Nations (57%) and Inuit (66%) was more than double the rate for the rest of Canada (23%). More recent data indicates that smoking prevalence rates among First Nations (59%) and Inuit (58%) remain high in comparison to the rest of Canada (17%). In Greenland the amount of smokers has been

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<sup>1</sup> International Journal of Circumpolar Health (IJCH 2008 67(1), substance use among young indigenous Sami – a summary of findings from the North Norwegian Youth Study, Spein AR

relatively stable in the last 10 years and about 65 % of all adults smoke with about 12 % been heavy smokers.

### ***Opportunities***

A significant opportunity for Sami is the project- based service production and development of culturally sensitive methods by SámiSoster (NGO), including the development of culturally sensitive social support forms for Sami families with children, and for youth, health promotion and counseling material in Sami language, and culturally sensitive substance abuse work.

Since 2002 there has been a specifically defined appropriation for improving the availability of health and social services in Sami language. It is allocated by the Sami Parliament to Sami Homeland municipalities (children's daycare, language nests, Elders' care)

Evidence demonstrates that for Indigenous communities in Canada the most effective approaches to deal with many non-communicable diseases are community based, rooted firmly in traditional culture, and take a holistic approach to healing at the individual, family and community levels. Team-based approaches to healing, that include traditional and mainstream approaches, show promise.

To address mental health and addictions challenges collaboratively and respectfully in Canada, the First Nations and Inuit Mental Wellness Advisory Committee has brought together key Indigenous and non-Indigenous partners to develop a strategic action plan to improve the mental health outcomes of First Nations and Inuit. An Inuit-specific mental wellness plan has also been developed, called "Alianait", an Inuktitut word signifying an expression of joy.

## **9. In conclusion, time for urgent political action is now!**

All the risk factors and conditions mentioned above represent a tremendous public health agenda. Gaining health in this area means delaying the start of non-communicable and chronic diseases and conditions, adding years of disability-free life and preventing avoidable deaths. It requires a concerted action by multiple sectors and stakeholders, a life-long, patient-focused approach in managing health and diseases, addressing social divide and other determinants of health, empowering communities and individuals to acquire and maintain healthier lifestyles and adjusting the capacity of the health care systems to provide timely, effective and cost-efficient primary, secondary and tertiary prevention services. Determined and urgent political action is necessary that will promote and advance the much needed changes.

## ANNEX

### Proposed NCD Targets and Indicators (work in process)

Indicator name		Target 2025 (2016)	Data source(s)
1	Premature mortality from cardiovascular diseases, cancer, diabetes, and chronic respiratory disease from age 30 to 70	15 % relative decline ( ? )	Civil registration system, with medical certification of causes of death allowing also PYLL (potential years of life lost calculations), or surveys with verbal autopsy
2	Prevalence of diabetes mellitus among persons aged 25+	10% relative reduction ( ? )	Survey (with biomarkers)
3	Prevalence of raised blood pressure among persons aged 15+	20% absolute reduction ( ? )	Survey (with biomarkers)
4	Prevalence of current daily smoking among persons aged 15+	25% relative reduction in all ND partnership countries, and below 20% prevalence in all ND partnership countries ( ? )	Survey
5	Prevalence of obesity	No increase compared to 2010 levels ( ? )	Survey
6	Prevalence of physical inactivity	10% relative reduction ( ? )	Survey
7	Prevalence of raised total cholesterol among persons 25+	20% relative reduction ( ? )	Survey (with biomarkers)
8	Primary care management of cardiovascular risks	50% reduction in coverage gap ( ? )	Survey (with biomarkers)
9	Coverage of cervical cancer screening	50% reduction in coverage gap ( ? )	Survey
10	Comprehensive tobacco control measures that protect the entire population, including high tobacco product tax, large pictorial health warning labels, comprehensive smoke-free legislation, and bans on all forms of tobacco advertising, promotion and sponsorship.	100% of ND partnership countries have implemented all 4 of these components ( ? )	Policy review
11	Regulation and controls on the reduction of salt and replacement of trans fatty acids with PUFA in manufactured food.	100% of ND partnership countries have implemented these components ( ? )	Policy review
12	Comprehensive alcohol controls including taxation and pricing policies decreasing affordability of alcohol; comprehensive and legal binding restrictions on alcohol advertising and marketing of alcoholic beverages; comprehensive restrictions of access to alcoholic beverages.	100% of ND partnership countries with comprehensive alcohol policies implemented ( ? )	Policy review

## NDPHS Partners

Partner Countries	Partner Organizations
 Canada	 Barents Euro-Arctic Council
 Estonia	 Baltic Sea States Sub-regional Cooperation
 Finland	 Council of the Baltic Sea States
 Germany	 International Labour Organisation
 Iceland	 International Organization for Migration
 Latvia	 <b>norden</b> Nordic Council of Ministers <small>Nordic Council of Ministers</small>
 Lithuania	 Joint United Nations Programme on HIV/AIDS
 Norway	 World Health Organization
 Poland	
 Russia	
 Sweden	
 <b>European Commission</b>	

