

## **Public Health . European Program Health policy and health care systems**

Many epidemiological studies find a range of health outcomes (eg, mortality) to be consistently related to provided policy. This is made possible by identifying and affecting risk factors directly connected with some health outcomes. The results in health outcomes might be related to many different policies at the same time. The conceptual model of the determinants of health inequalities of the World Health Organization (WHO) concludes the influence of the main aspects that affect inequalities in health, the majority of them being outside the health sector. Following this conclusion and considering the factors that affect equity in health and well-being, it is necessary to reinforce the need for considering the concept of “Health in All Policies.” Based on the WHO reports and evidence-based literature, we identified four key risk factors that are strictly connected with cardiovascular disease (CVD) mortality; they are also in big part related to public health policy: tobacco and alcohol consumption, diet and physical activity, the socioeconomic background, and health care system effectiveness. Tobacco use is the second leading global risk for mortality (9%); it is one of the most important risk factors concerning CVD and accounted for 18% of deaths in high-income countries.<sup>6</sup> There is strong evidence of relations between smoking and CVD. Generally non-smokers live many years longer and they are free of CVD longer than smokers, but at the end of their lives, non-smokers will have lived longer with CVD. According to the WHO, alcohol consumption is mentioned as the third most dangerous risk factor for population health, responsible for 9% of total global burden of diseases (GBD) and traumas. WHO estimated economic costs of the alcohol problems as 2% to 3% of the gross domestic product (GDP) and it takes the third place for the world disability adjusted life years (DALY; 5%). There are strong associations between the prevalence of obesity and physical inactivity and the increase of CVD in the population; for example, 45-year-old obese men with no CVD survived a few years less than their normal weight counterparts, whereas, for women, the difference was even longer. Obesity before middle age is related to a reduction in the number of years lived free of CVD. Economic conditions result in a diet quality, which contributes to the health status of a population. In analyses of large group of countries, positive associations were observed between higher income inequality and mean body mass index (BMI), obesity prevalence, and between coronary heart disease (CHD) mortality rates. Physical activity positively influences health conditions. Frequent physical activity results in lower heart rate and reduces the incidence of arrhythmia and rapid cardiac arrest, so it is significant in terms of life expectancy for men and women free of CVD. This effect is already seen at moderate

levels of physical activity, and the gains in CVD-free life expectancy are twice as large at higher activity levels. According to WHO recommendations, adults aged 18 to 64 years should undertake at least 150 minutes of moderate intensity aerobic physical activity throughout the week, or undertake at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week, or a combination of moderate- and vigorous-intensity activity. Income conditions, social status, quality of work, education, unemployment, social exclusion, and poverty are the most representative elements of the socioeconomic determinants of health. Various international research confirms the impact of social capital on health, and a particularly strong relationship between gross national product (GNP) per capita and life expectancy.<sup>16</sup> Per capita income and the structure of health expenditures financed by the government are strongly associated with better health outcomes. Better health outcomes of population could be achieved mainly by the implementation of health promotion programs, effective legislation (ie, tax regulations, smoking cessation support, limitations), and active public health policy on central, regional, and local levels. The implementation of professional programs for the prevention and management of diseases is a crucial element of effective health policy. New technologies and evidence-based guideline implementation for medical treatment and primary care are necessary. Health promotion and education activity, especially addressed to the most vulnerable groups of society, to reduce the health and social inequalities should be one of key targets for decision makers. Bottom-up policy risk assessment model may provide policy makers with an effective approach to population health management, in evaluating policies and to determine their potential, current and future impacts on public health. The general scheme of relations analyzed in this case study is presented in Figure below. Causal pathway diagrams are also a visual way of presenting the multi-causal relationships between a policy, program or intervention, and health effects.

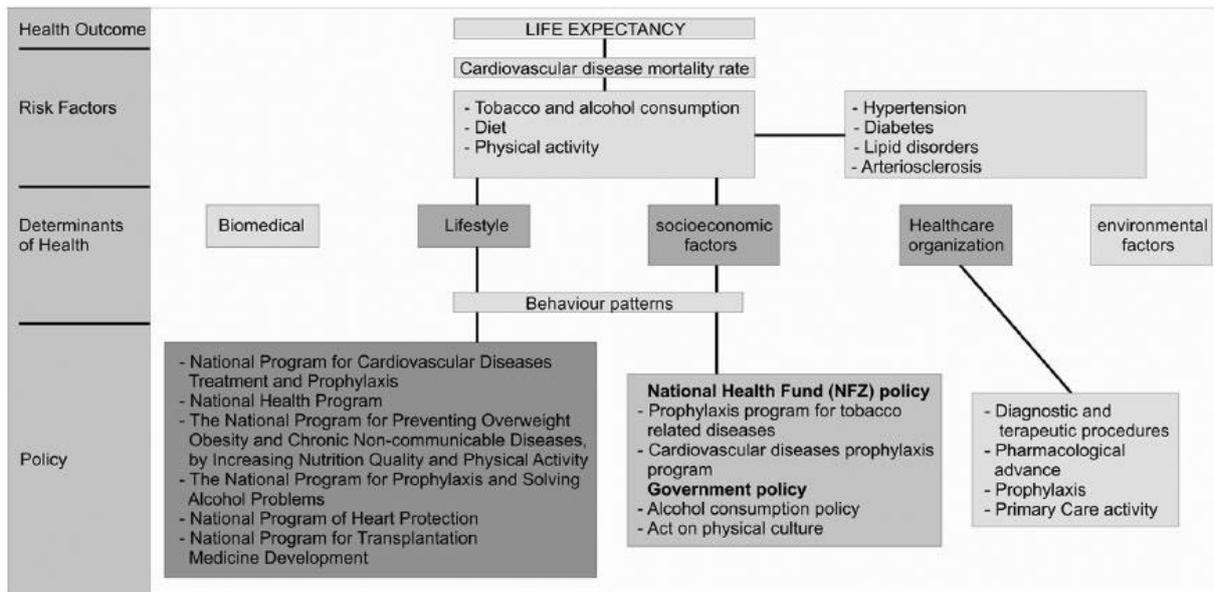


Fig. The relation between health policy and health outcomes - the effectiveness of health system (example-case study)