

# Improving Health in Central and Eastern Europe

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It is essential to understand from the outset that *Health* is not *Sickness*, nor is it simply the absence of sickness. Public Health is not simply about the health situation in individuals, but essentially about the *Health of Populations*. Finally, it has to be understood that humans cannot live forever, and that while the aim is to live longer and longer, it is vitally important that this increased life expectancy is not simply lived in sickness, but is lived as healthy life expectancy and with a good quality of life.

Zatonski (*HEM – Closing the Gap – Reducing Premature Mortality. Baseline for Monitoring Health Evolution Following Enlargement, Warsaw 2008*) has performed a truly important study demonstrating the 7-year difference in life expectancy in males between the 10 new accession countries to the European Union from Central and Eastern Europe (EU-10) and the original 15 countries of western, southern and northern Europe (EU-15) [1]. The difference in life expectancy in females was five years. Closer examination reveals substantial differences in certain diseases and conditions, for example: cardiovascular mortality is 5 times higher in Bulgarian females than in French females; lung cancer among Hungarian males is nearly 4 times more frequent than amongst Swedish males; the death rates from liver cirrhosis in Hungarian or Romanian males are more than 10 times higher than in males from the Netherlands or from Greece; and, fatal injuries among males in the Baltic States (Lithuania, Latvia, Estonia) are about 7-fold higher than in the Netherlands and the United Kingdom.

## WHAT IS NEEDED

For some diseases and conditions, the causes of the differences between the EU-10 and the EU-15 are known. However, there is a clear need to know more about the risk factors for premature death in Central and Eastern Europe. A major concern remains the high mortality rates in middle age (35-69) particularly in males, throughout Central and Eastern Europe [2]. This results in lowering overall life expectancy and the loss of many years of life expectancy by the male populations. Many of these premature deaths may well be preventable by the adoption of an appropriate health policy.

There is also a clear need to have a system in place to monitor changes in biomarkers of health and health determinants in order to monitor change and the early signs of the impact of health policy. While several health policies have been put in place by governments in the region to reduce mortality rates and to improve health, it may take many years to see the decreases in mortality associated with the implementation of these policies. Indeed, if the policies do not have the desired effect on mortality reduction, many years may be wasted following a flawed policy.

There is a clear need for capacity building in many areas of medical science in Central and Eastern Europe. Many, if not all, countries in Central and Eastern Europe lag behind other countries of Western and Northern Europe in terms of their infrastructure in science and biotechnology.

Investigating the causes of chronic disease and monitoring changes in health status in Central and Eastern Europe.

## IMMEDIATE PRIORITIES

It is necessary to establish a cohort of males and females in the 10 EU countries of Central and Eastern Europe. This cohort should be large in each country and constructed and developed to the most modern standards possible. It is essential that each study subject should complete a lifestyle questionnaire at recruitment to the study and provide a blood sample. The blood sample will be prepared in a standard way and stored in a Biological Resource Centre created in each country [3].

In each country a national Biological Resource Centre should be created according to the Guidelines recently established following a consultative process. Each study will require ethical clearance, and each study subject shall be required to provide informed consent to participate. Each study subject will require to be followed-up for major health events by every possible manner, both passive and active. Details of follow-up shall be developed, taking the individual national situations into account.

In this manner, a cohort shall be established to seek to identify risk factors for cancer, cardiovascular disease, premature mortality, and other common diseases throughout Central and Eastern Europe. Once such causes are established, preventive programs and policies can be developed to reduce or eliminate their impact on the population.

In addition, it is proposed to undertake an annual *Examination of the Health of the Population* in each country. In each country, a stratified sample of 10,000 males and females (stratified on factors such as age, urban/rural residence, socioeconomic status) to monitor changes in biomarkers of health and health outcomes in response to changes in the lifestyle of the population, response to health care policy, and in the delivery of health care. Each subject would undergo a general medical examination and have a blood sample drawn, some of which would be for analysis and some stored in the Biological Resource Centre. Medical biomarkers such as blood pressure, blood lipids, blood sugar, lung function, and serum markers of exposures to - e.g. arsenic in the environment - could be measured.

## THE PONS STUDY

The PONS study has been established successfully in Poland and should act as the perfect pilot study for what is necessary in Central and Eastern Europe. Other articles in this journal outline many key aspects of this study.

The participation rate was high due in no small part to the manner in which the study was advertised locally to the population, and explained carefully to each potential participant. The care taken over the validity of the questionnaire was evident and all aspects of patient confidentiality and overall ethical approval were handled in an exemplary manner. The algorithm for the blood sampling and storage was conducted to the highest standards of the Biobanking and Biomolecular Resources Research Infrastructure (BBMRI), a multi-national pioneering effort to coordinate biobanks across Europe ([www.bbMRI.eu](http://www.bbMRI.eu)).

It is now essential that this pioneering study in the entire region of Central and Eastern Europe continues to be developed and then expanded to the other countries in the

region. It is only through this approach that the causes of the disparities in life expectancy and healthy life expectancy between the EU-10 and the EU-15 can be identified, and steps then taken to reduce this important disparity [4].

## REFERENCES:

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