

Since the early 90s health status of Poles is gradually improving, but the process has not progressed as quickly as one would expect. In Poland and other EU countries, the existence of the health inequalities trend towards worsening in subpopulations of less socio - economic privileged was noted. However, the differences in health due to the uneven distribution of resources and the health risks are possibly avoidable by carrying out knowledge-based health interventions.

The proposed research project involves the study of determinants of health inequalities and puts the task of verifying the hypothesis of a multidimensional relationship between variations in mortality and its determinants of socio-economic and environmental character using cumulative indices - the index of inequality. The starting point of the proposed research is the fact that the inequalities in health are a dynamic phenomenon, which is arranged and develops over time and in a particular territory. Despite numerous studies carried out in developed countries in the world, mechanisms of dynamic diversity of health inequalities in Poland are still poorly understood. The majority of Polish research on the subject was described by the relationship between mortality and socio - economic and environmental factors excluding changes over time. There is therefore a clear need for studies that will serve to more fully identify mechanisms dynamics of health inequalities.

The aim of the project is to assess the dynamics of differences in total mortality and mortality due to the main causes (cardiovascular and respiratory diseases, neoplasms and external causes) depending on the socio-economic status and environmental conditions in Poland based on the analysis of 66 subregions in six-year period 2010-2015.

In the project the differentiation of total mortality and mortality due to the main causes will be described (cardiovascular and respiratory diseases, neoplasms and external causes) using standardized mortality rates by sex and age groups (15-24, 25-64, ≥ 65). Estimation of mortality trends over time (2010-2015) will help assess the geographical diversity of mortality in the analysed period. Next, the relationship between the socio - economic components and environmental conditions and the total mortality and mortality due to the main causes will be assessed. With the use of synthetic deprivation indicators (standard and created for analysis) the territorial distribution of poverty in Poland will be assessed, its change over time and the impact of these changes on the observed trends in mortality. Scheduled multi-dimensional models allow for independent evaluation of the impact of subregion characteristics on mortality after taking into account traditional risk factors for deaths related to lifestyle, such as smoking, alcohol consumption and diet.

The innovative nature of the project is based on the use of cumulative deprivation index and the concentration index evaluating changes in health inequalities and their determinants in time. Research perspective adopted in the framework of this project on the one hand extends the existing scientific achievements related to the phenomenon of health inequalities in Poland, on the other hand corresponds to an unfavourable demographic dynamics, which can influence the direction of changes in health status and economic feasibility impact on them. The project will contribute to the development of methods for the study of health inequalities using advanced statistical and econometric measures and provide information which will take into account changes in health inequalities in time depending on changes in their determinants, which will allow capturing their complexity and specificity.

Conducting studies on the dynamics of health inequalities is extremely important in Poland, not only because of the lower level of prosperity but also because of the weak condition of the health care system, which after a period of political change often does not respond to the existing health needs of society. In addition, an aging population will cause a decrease in economic growth, which would deepen the problems with the financing of health services. These arguments show the need to conduct research, the results of which may assist in determining priorities for effective interventions aimed at health inequalities reduction in areas where there is no improvement in health status and mortality reduction.

The conducted study may provide important evidence on the causes of the dynamics of health inequalities, which can be the basis for a more rational health policy planning. We hope that the project will contribute to a better understanding of the mechanisms of the dynamics of health inequalities and that the knowledge gained will result in a future reduction of social costs resulting from the reduction of premature deaths.