Demographic losses related to socio-economic inequalities in adult mortality in Lithuania: evidence from census-linked longitudinal data

Domantas Jasilionis
Max Planck Institute for Demographic Research, Rostock, Germany
Lithuanian Social Research Centre, Vilnius, Lithuania
e-mail: jasilionis@demogr.mpg.de

Vlada Stankuniene
Lithuanian Social Research Centre, Vilnius, Lithuania

Dmitri A. Jdanov
Max Planck Institute for Demographic Research, Rostock, Germany
New Economic School, Moscow, Russia

Vladimir M. Shkolnikov
Max Planck Institute for Demographic Research, Rostock, Germany
New Economic School, Moscow, Russia

Abstract

Introduction

Health status and mortality indirectly measure wellbeing in a society and also point to the fairness of distribution of wealth across socioeconomic groups and individuals. Increasing attention of scientists and policy makers for health inequality issues is related to both ethical dimensions of inequality and social and economic consequences of health inequalities. According to the recent study by Mackenbach, Meerding and Kunst (2011), at the EU level, elimination of health inequalities would allow to save about 15-20% of the health and social security budgets. According to their estimates, overall loss of GDP due to health inequalities may reach as much as about 1.4% (Mackenbach, Meerding ir Kunst, 2011). It is obvious that in countries with higher mortality and health inequalities (such as Lithuania) demographic and economic burden of inequality may be even higher. If compared to other members of European Union, Lithuania show a very unfavourable situation with male life expectancy at birth. Despite very recent significant improvements, the country is classified as the worst performing EU country according to this criterion. Previous research suggests that one of the most important determinants of such unfavourable situation in life expectancy in Lithuania concerns striking mortality differences by sociodemographic group.

Data and methods

The current study presents the comprehensive analysis of socio-economic differences in adult mortality in Lithuania using high quality census-linked longitudinal data covering entire adult population for the period 2001–2005. The study simultaneously uses three socioeconomic dimensions: education, economic activity status, and occupation. Socio-economic mortality

differentials are assessed using both traditional range-type measures (Poisson regression mortality rate ratios) and advanced Gini-type measures accounting for both mortality in all socio-economic groups and group-specific population weights. The public health burden attributable to socioeconomic mortality differentials is measured using the method of cause-specific population attributable fractions.

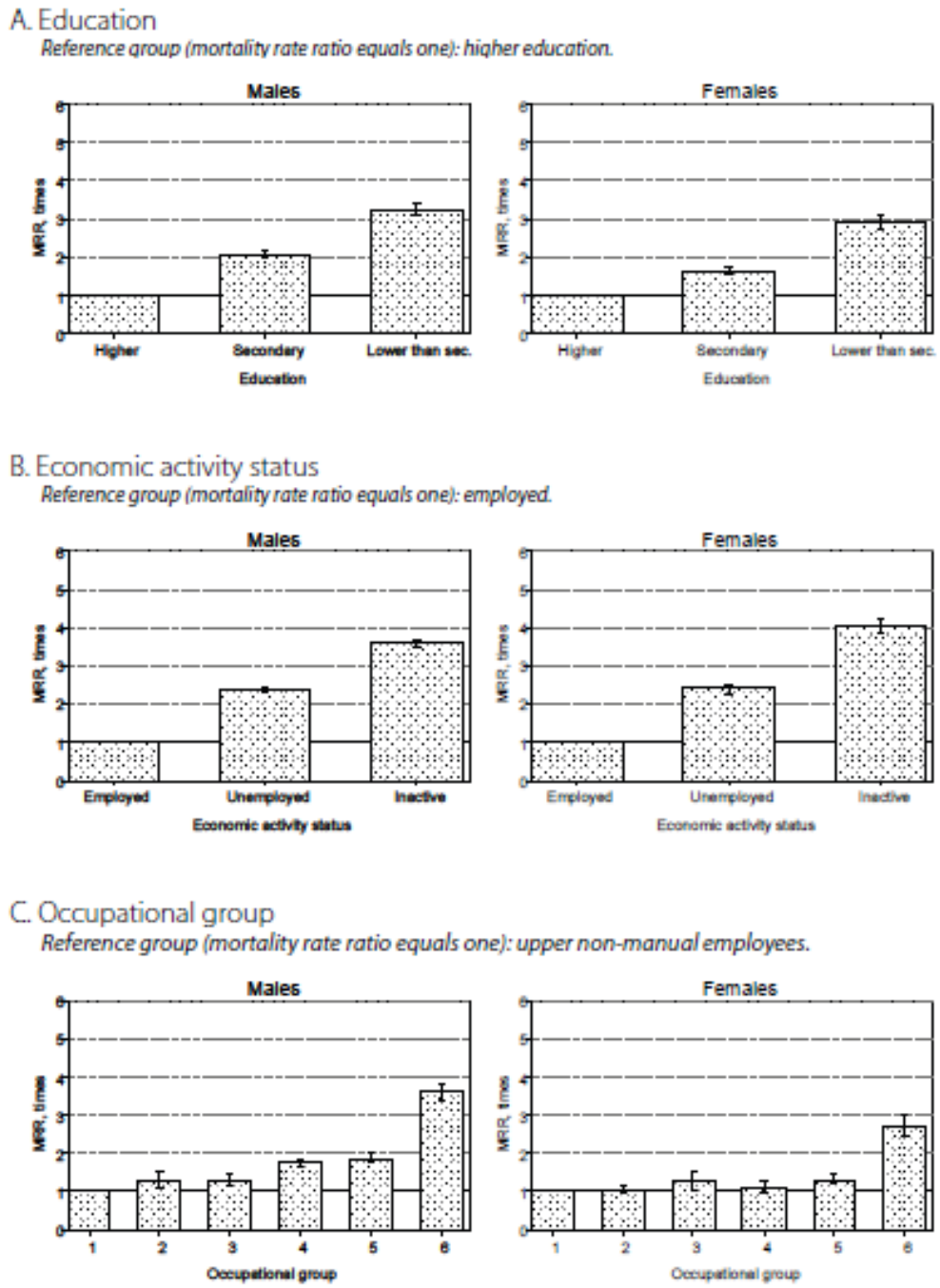
Results

The study found that distinctive features of the Lithuanian pattern of socioeconomic mortality differentials concern higher magnitude of mortality differentials and strikingly unfavourable health situation of farmers and farm workers. Differently from the 'old' EU member states, this group in Lithuania showed the worst mortality indicators if compared to other occupational groups. For the majority of causes of death, both relative and absolute mortality inequalities were higher than they are in the 'old' EU member states. The highest absolute demographic losses related to socioeconomic differences in adult mortality are attributable to excess mortality due to cardiovascular system diseases, external causes of death, digestive system diseases, and alcohol-related deaths. This suggests the striking prevalence of unhealthy life styles (smoking and alcohol consumption), poor psychosocial conditions, and lack of access to modern medical treatment and prevention among the lower socioeconomic groups at working ages in Lithuania.

Conclusion

These new findings on socio-economic differentials in adult mortality in Lithuania will allow to perform more objective judgments about the effectiveness of the existing public health policies and to create preconditions for designing and implementation of more effective programs devoted to reduction of demographic burden of inequalities.

Figure 1. Mortality rate ratios for all causes of death combined, by education, economic activity status, and occupational group. Males and females (aged 30–59), 2001–2005.



Occupational groups: 1 – upper non-manual employees; 2 – lower non-manual employees; 3 – self-employed persons; 4 – skilled manual workers; 5 – unskilled manual workers; 6 – farmers and farm labourers.

Table 1. Population attributable fractions (percentages) by socioeconomic variable and causes of death. Males and females (aged 30–59), 2001–2005.

	Education		Economic activity status		Occupational group	
	Males	Females	Males	Females	Males	Females
All causes of death	*51.8*	*37.9*	*35.2*	*40.8*	*66.9*	*56.5*
All dis. of the cardiovascular sys.	45.4	50.8	34.9	46.4	60.5	68.9
Ischaemic heart dis.	47.0	48.0	33.5	53.5	59.5	72.5
Cerebrovascular dis.	42.7	45.5	32.6	37.6	60.2	59.8
All other cardiovascular dis.	43.5	57.9	38.9	45.8	62.8	72.4
All neoplasms	47.4	15.1	26.6	25.7	54.4	24.4
Smoking-related cancers	63.3	18.8	28.8	34.8	74.4	45.1
All other neoplasms	41.2	13.1	25.7	20.9	46.2	20.4
Infectious dis.	69.4	72.7	67.6	65.8	95.0	83.1
Dis. of the respiratory sys.	78.3	66.2	56.3	55.7	88.6	87.5
Dis. of the digestive sys.	56.6	49.7	48.5	59.4	82.3	83.4
All external causes of death	54.5	51.4	30.3	42.6	69.1	70.7
Transport accidents	38.3	46.0	15.7	24.4	46.5	36.8
Suicide	61.0	45.2	24.9	39.1	68.7	67.2
Homicide	66.0	57.4	46.4	48.9	79.5	85.8
All other external causes of death	53.6	55.0	35.9	48.6	74.2	78.8
Alcohol-related causes of death	59.1	55.0	47.7	59.8	82.5	87.5
All other causes of death	49.6	40.9	50.4	63.8	78.8	77.2