

Selected factors of the regional mortality differentials in the Czech Republic

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The decrease in the intensity of overall mortality is clearly apparent from the increase in life expectancy at birth of both men and women in the Czech Republic. At the same time, differences between regions continue to exist without any significant convergence. The main problem that arises from these empirical observations is to determine the reason for stable divergence of the regional distribution of mortality in the Czech Republic. The possible way to handle this issue is to conduct the analysis of the underlying components of divergence, such as lifespan disparity, in order to reveal possible correlations with the spatial structure of divergence.

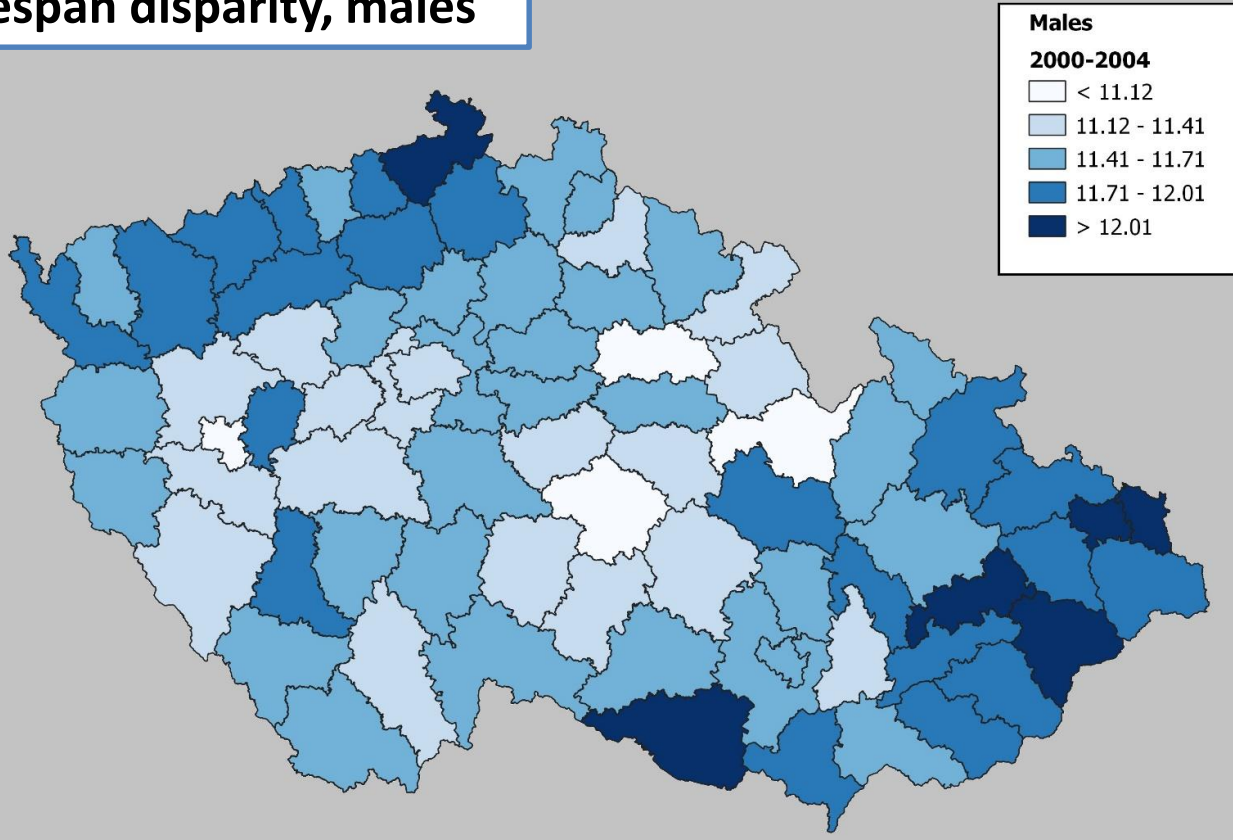
Life expectancy and life disparity by district, males, 2000-2004

Lifespan disparity is in fact a measure of life years lost due to the death of an individual. Although it can be calculated by various methods, we are using the formula known as e-dagger here:

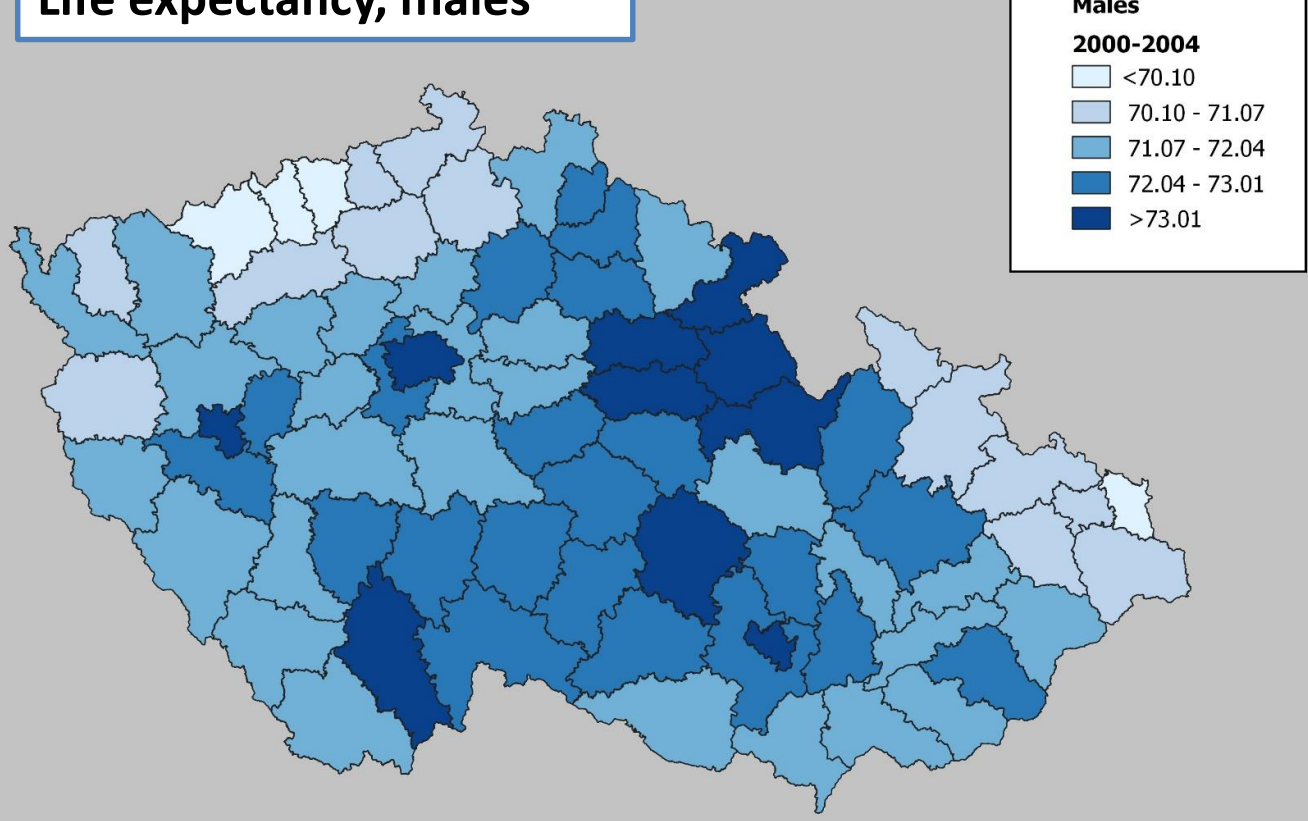
$$e_{0,t}^{\dagger} = -\int_0^{\infty} S(a,t) \ln S(a,t) da$$

During the period 2000-2004 we observe a moderate level of divergence in life disparity and life expectancy. The lowest life expectancy at birth, below 70 years, was in the Chomutov (69.13), while the highest lifespan disparity was observed in Karviná (12,3).

Lifespan disparity, males



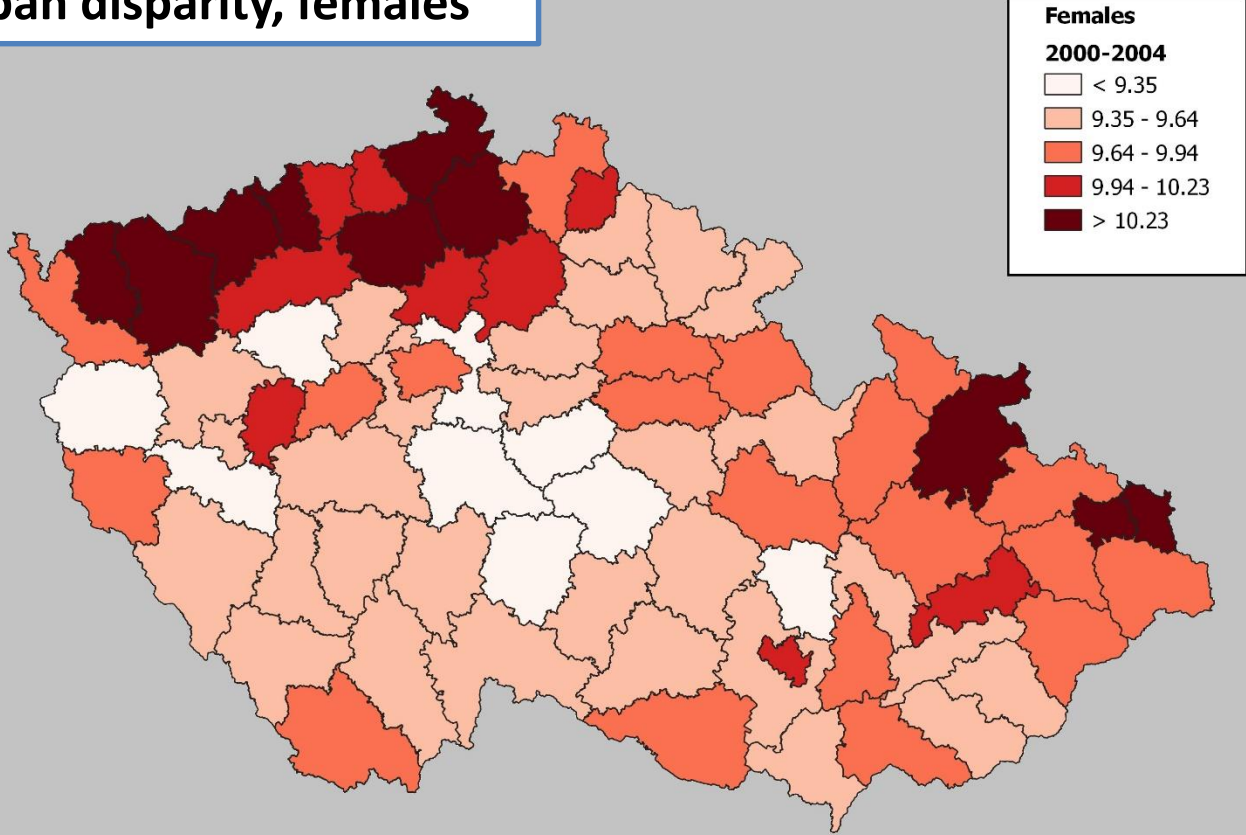
Life expectancy, males



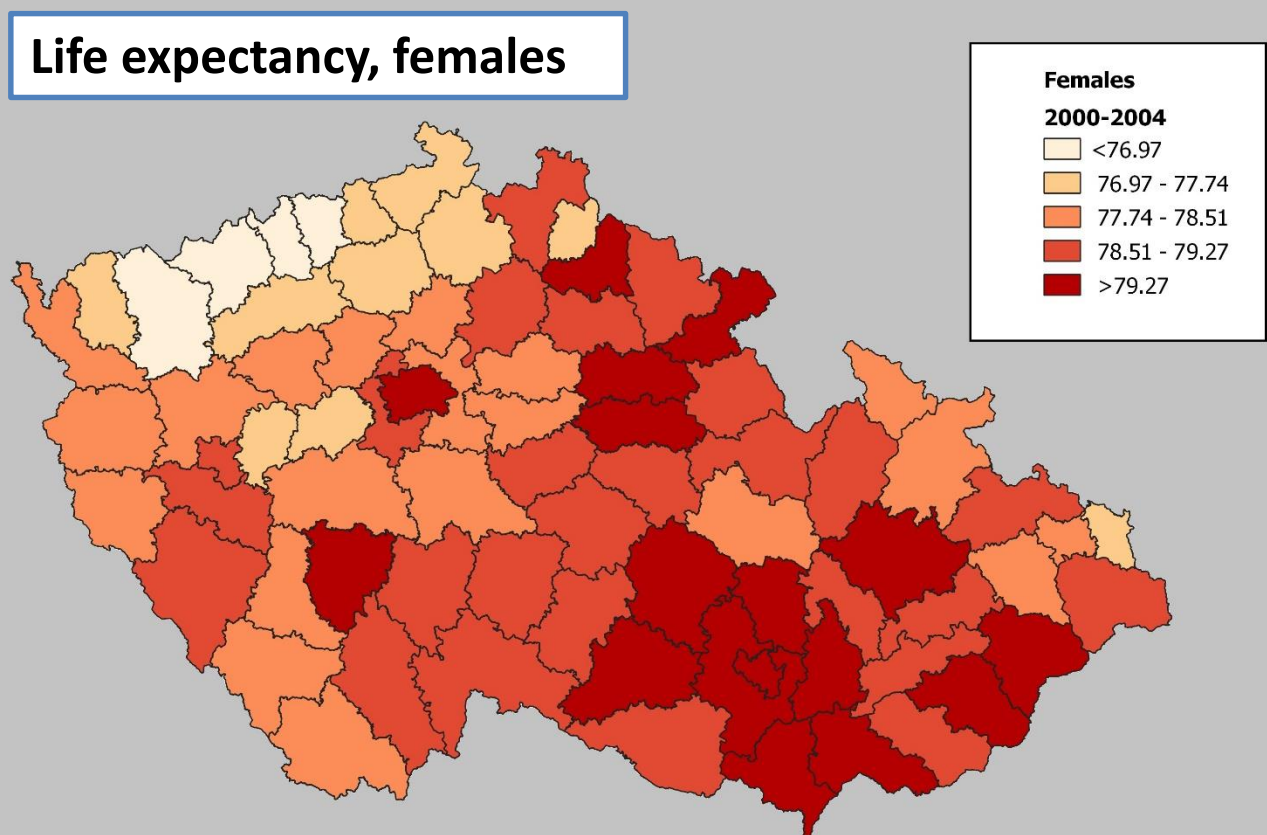
Life expectancy and life disparity by district, females, 2000-2004

Lifespan disparity and life expectancy are known as mutually connected measures, but in practice we can see that their patterns do not copy each other in the opposite manner. Although higher life expectancy normally means lower lifespan variation, we can observe that this pattern is not obvious from the period 2000-2004. The highest life expectancy at birth among females was recorded in the districts of Břeclav (80.04), at the same time lifespan disparity measure is average for this district (8,9).

Lifespan disparity, females



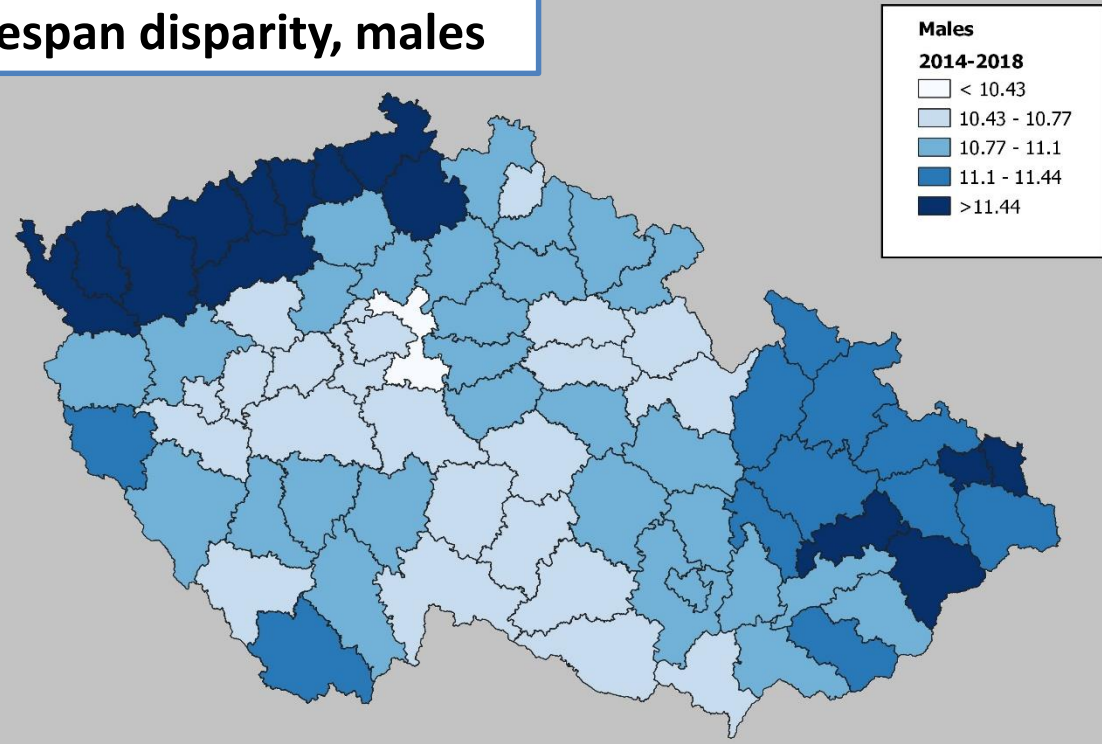
Life expectancy, females



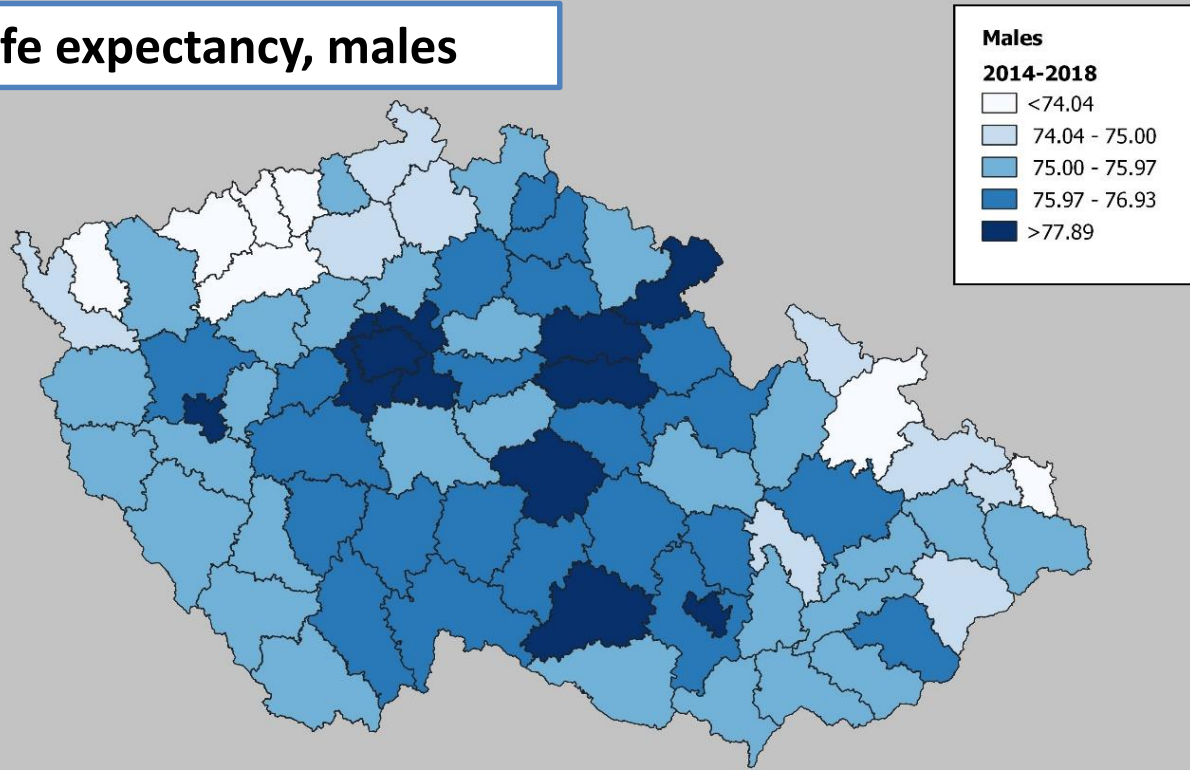
Life expectancy and life disparity by district, males, 2014-2018

In the period 2014-2018 we can observe that despite significant mortality improvement, the values of lifespan disparity actually increased in some districts. We can see clearly a pattern of the increased lifespan disparity among the north-western regions of the Czech Republic. The highest life expectancy at birth among males in 2014-2018 was in the districts of Prague (77.89) and Hradec Králové (77.80). At the same time the lowest life disparity can be observed in the district Praha-východ (10,1) and the highest in Cheb (11.78).

Lifespan disparity, males



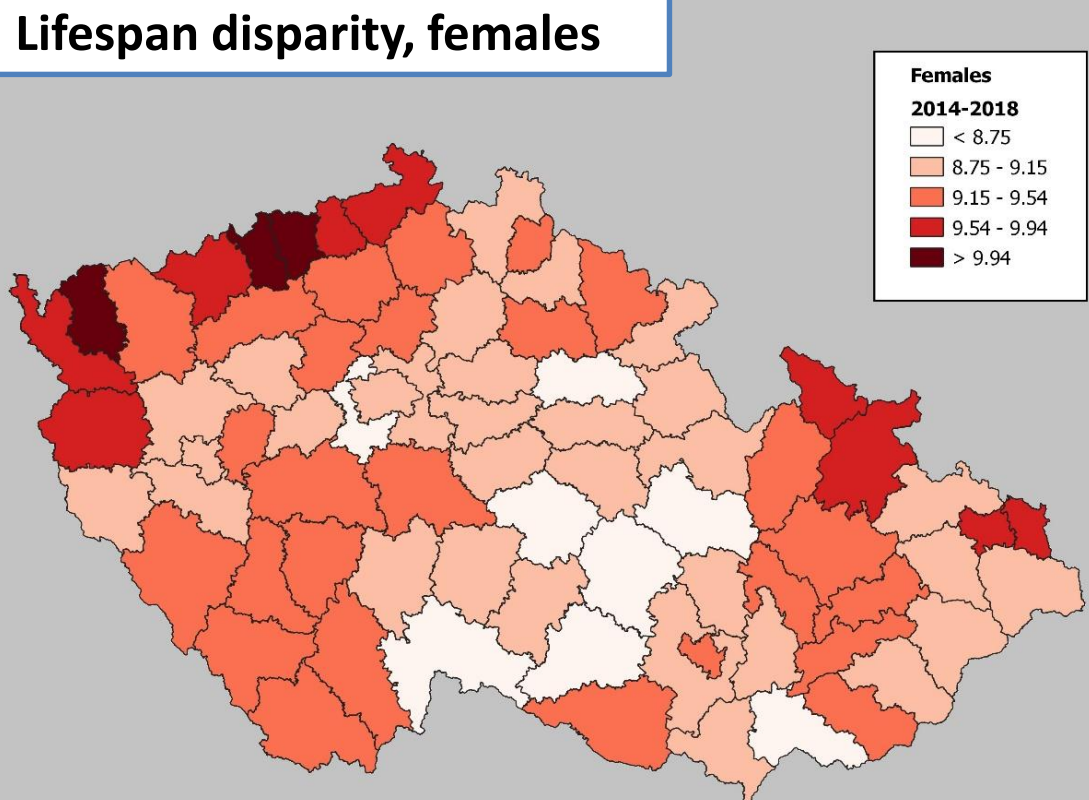
Life expectancy, males



Life expectancy and life disparity by district, females, 2014-2018

The same pattern can be observed also from the lifespan disparity measured for females in 2014-2018. Despite the fact that life expectancy was on the rise in all the districts, lifespan disparity doesn't copy this pattern in the opposite way. The highest life expectancy at birth among females was in the districts of Třebíč (83.17), Hradec Králové (82.90) and Jihlava (82.82). The lowest life expectancy at birth was in the Teplice (79.06) and Most (78.80) districts. The lowest life disparity was observed in Havlíčkův Brod (8.36) and Benešov (8.62), while the highest lifespan disparity was in the district Most (10.33).

Lifespan disparity, females



Life expectancy, females

