

Appendix A1: Heteroscedasticity of error terms

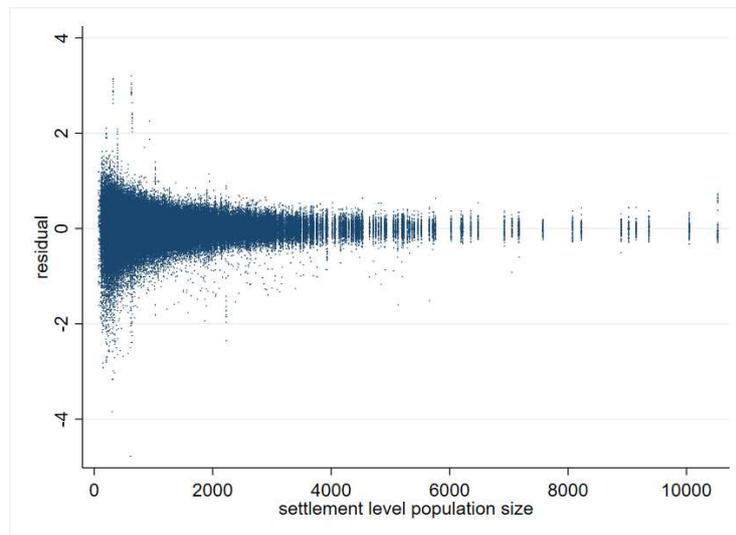


Figure A1: Distribution of the residuals of equation (1), with the logarithm of per capita antibiotic DOT as outcome variable

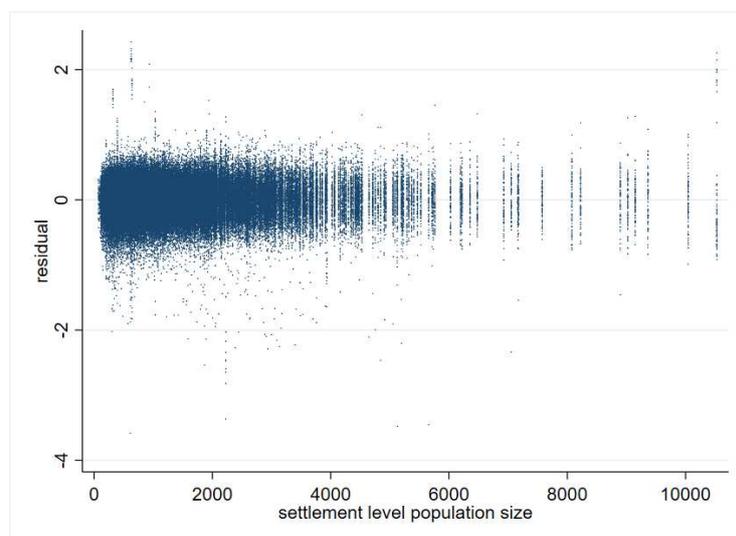


Figure A2: Distribution of the weighted residuals of equation (1), with the logarithm of per capita antibiotic DOT as outcome variable

Appendix A2: Settlement level determinants of unfilled practices

Restricting the analysis to villages, we estimate a linear model to determine the factors that influence the ratio of unfilled practices among all practices covering a given settlement.

According to Table A1, the ratio of unfilled practices substantially increases with the young-age and old-age ratio (population aged 0-5 and 60+ divided by the total population, respectively) and with the rate of unemployment (population registered as unemployed divided by the population aged 18-59). Unfilled GP positions are less frequent in villages with a larger population. The ratio of the population with prescription exemption certificate is positively related to the ratio of unfilled practices.¹ Altogether this analysis suggests that unfilled general practices are less common in the more affluent villages.

	ratio of unfilled general practices	
log of population size	-0.0161***	[0.00520]
age 0-5 ratio	1.145***	[0.428]
age 60 plus ratio	0.229**	[0.0953]
unemployment rate	0.368***	[0.0900]
prescription exemption rate	0.243*	[0.145]
year effects	Yes	
number of observations	13,739	
number of settlements	2,320	
mean of outcome variable	0.079	

Cluster-robust standard errors in brackets with clustering on the micro regional level, *** p<0.01, ** p<0.05, * p<0.1

Settlement-year level NHIFA and T-STAR data,
weighted by the population of settlements, years: 2010-2015

Table A1: Linear regression of unfilled general practices on settlement characteristics

¹ We use the latter indicator as a composite measure of disadvantaged status, as eligibility to such certificate is based on income and health care need.

Appendix A3: Further statistics of antibiotic use

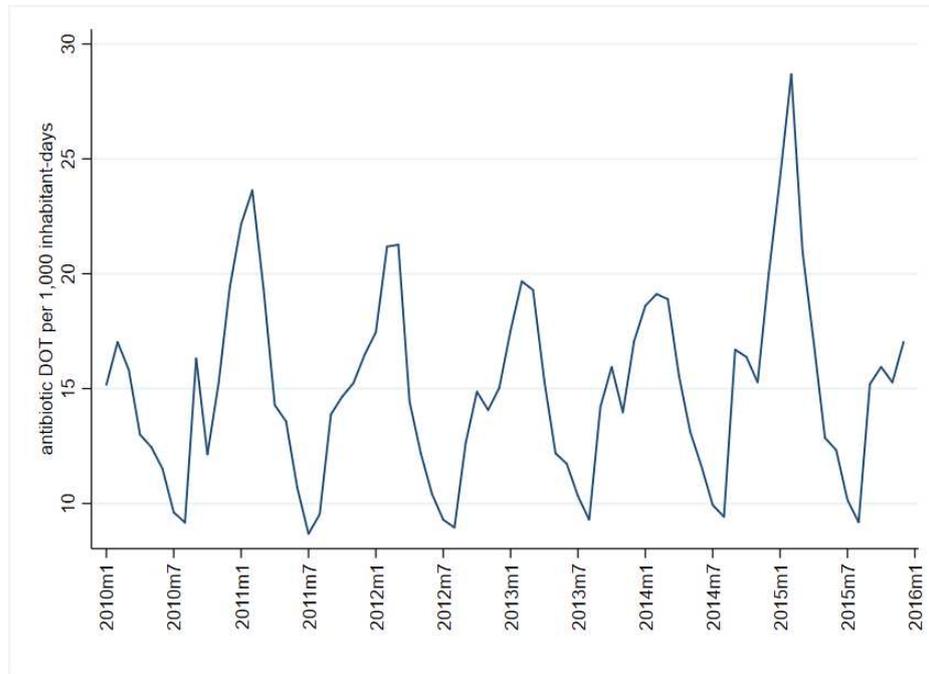


Figure A3: Time pattern of antibiotic DOT per 1,000 inhabitant-days (data source: NHSC)

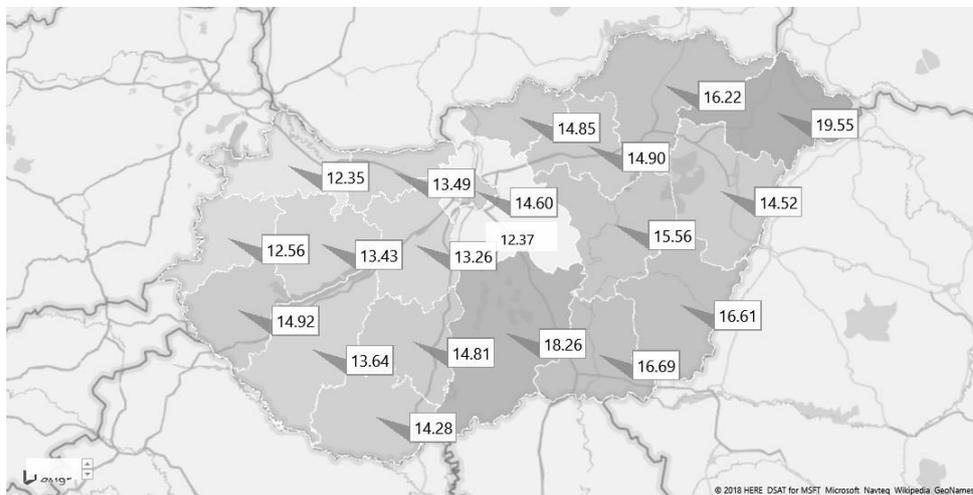


Figure A4: Average antibiotic DOT per 1,000 inhabitant-days by county (data source: NHIFA, year 2015; the figure was prepared by the authors)