**Table 1** Parameter estimates from the main effects and the interaction term in a linear quantile regression for 3 quantiles in 3 different models.

| Percentile	Variable	Parameter estimates		
		Model 1	Model 2	Model 3
20th percentile	South-North axis	**-0.77**	**-0.03**	**-0.70**
	Log (Inhabitants)	**1.41**	**1.65**	**1.52**
	South-North axis * Log (Inhabitants)	**0.17**	**0.01**	**0.15**
50th percentile	South-North axis	**-1.01**	**-0.05**	**-1.00**
	Log (Inhabitants)	0.31	0.69	0.50
	South-North axis * Log (Inhabitants)	**0.25**	**0.01**	**0.24**
80th percentile	South-North axis	**-0.85**	**-0.04**	**-1.01**
	Log (Inhabitants)	-0.30	-0.18	-0.42
	South-North axis * Log (Inhabitants)	**0.21**	**0.01**	**0.25**

Bold figures are estimates that are significantly different from zero at the $\alpha=0.05$ level. Parameter estimates for intercept and interactions with year investigated are omitted. Model 1: Municipalities ranked along latitude. Model 2: Municipalities ranked along latitude in 19 intervals. Model 3: Municipalities ranked along latitude in 19 intervals.

Antibiotic consumption in Norwegian municipalities
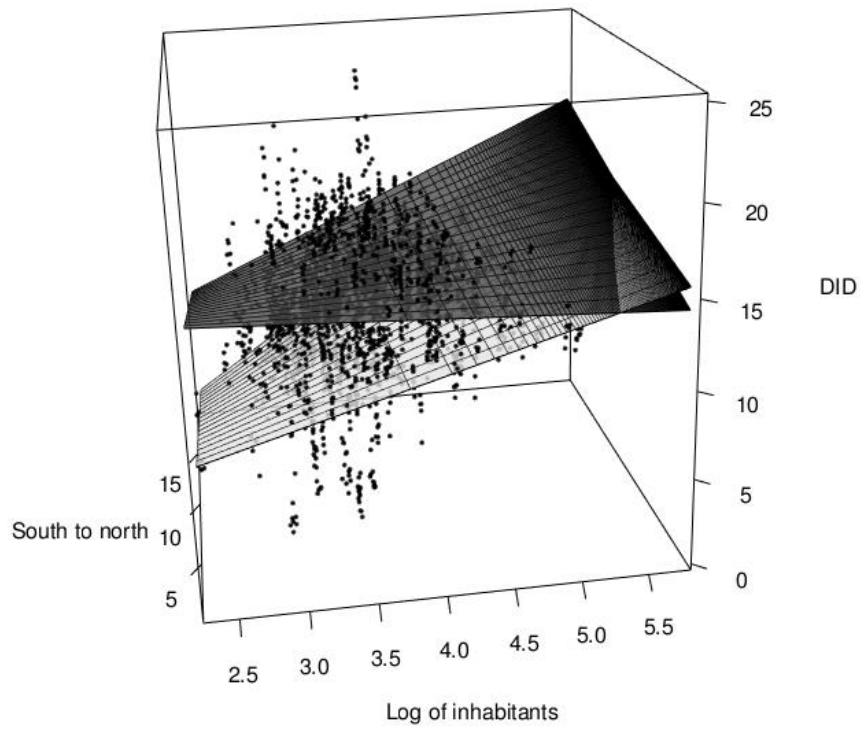
Figure 1 age-adjusted municipality defined daily dose/1000 inhabitants/day of antibiotics from 2004 to 2010 (black dots) with regression surfaces for the year 2010 superimposed on the data. The topmost surface represents estimates for the 80th percentile and the lowest the 20th percentile. The twisting of the surface reflects the interaction of latitude and population size in a linear quantile regression model.
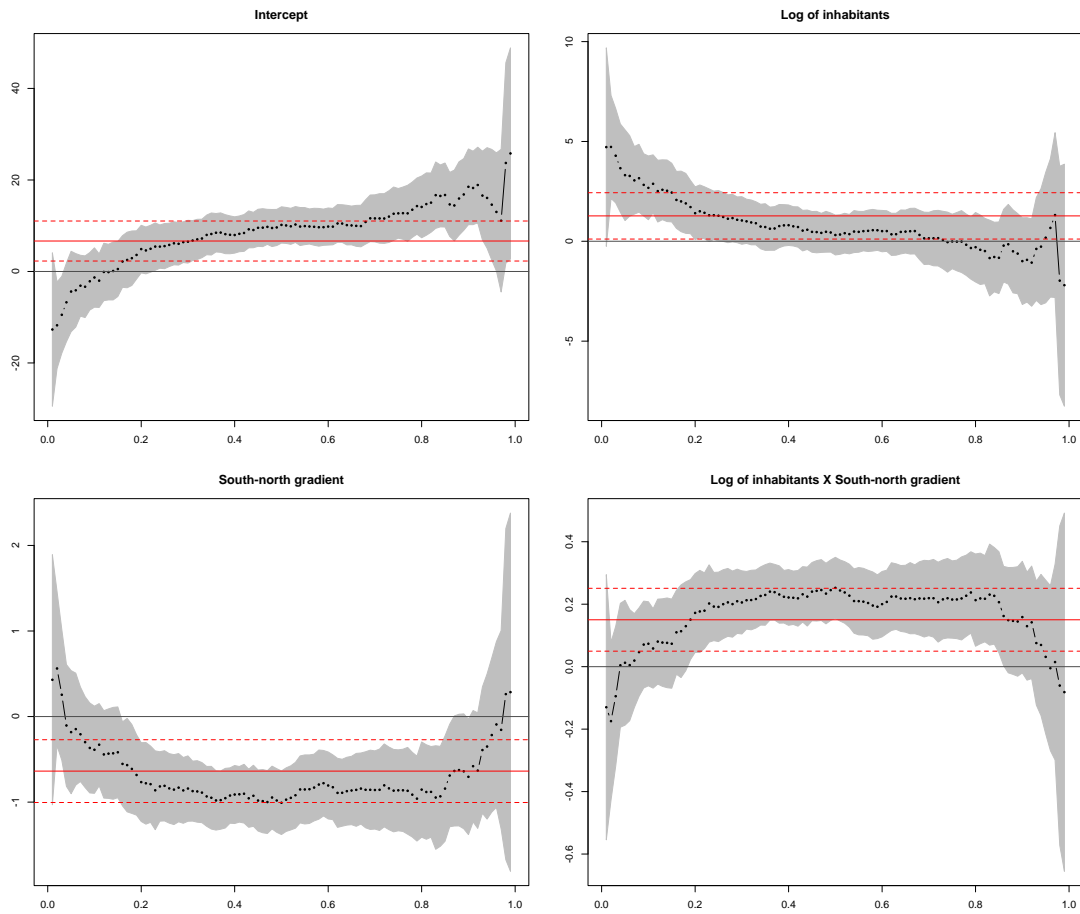
Figure 2 Parameter estimates for the intercept, main effects and the interaction term between in quantile regression analysis. The estimates are from the reference year 2004, and the data are for the Norwegian Prescription Registry. Dotted lines represent the parameter estimate for each percentile from 1 to 99; grey areas represents 95% confidence band. Solid black line is drawn at y=0; red solid line illustrates parameter estimate of ordinary least squares method with dashed lines as 95% confidence band around the estimate.