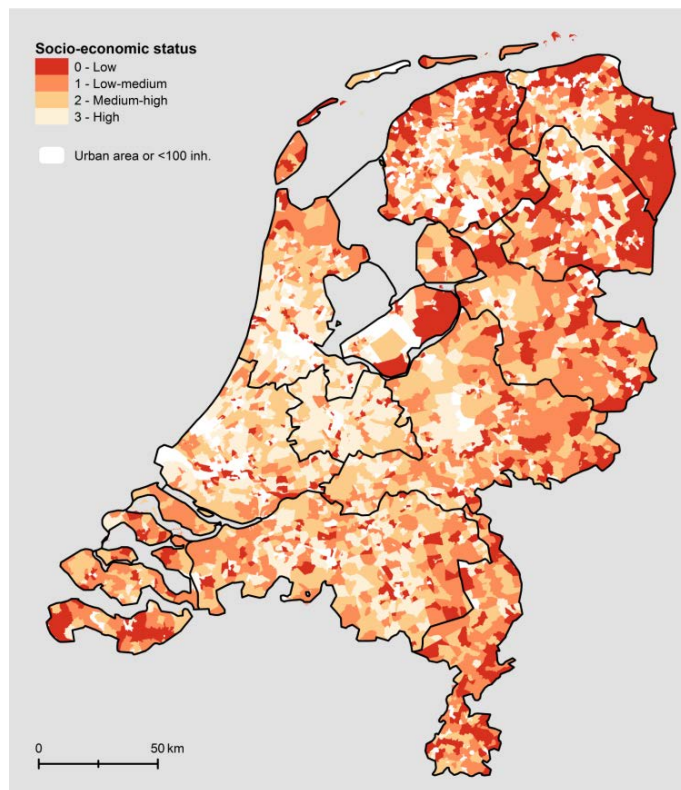
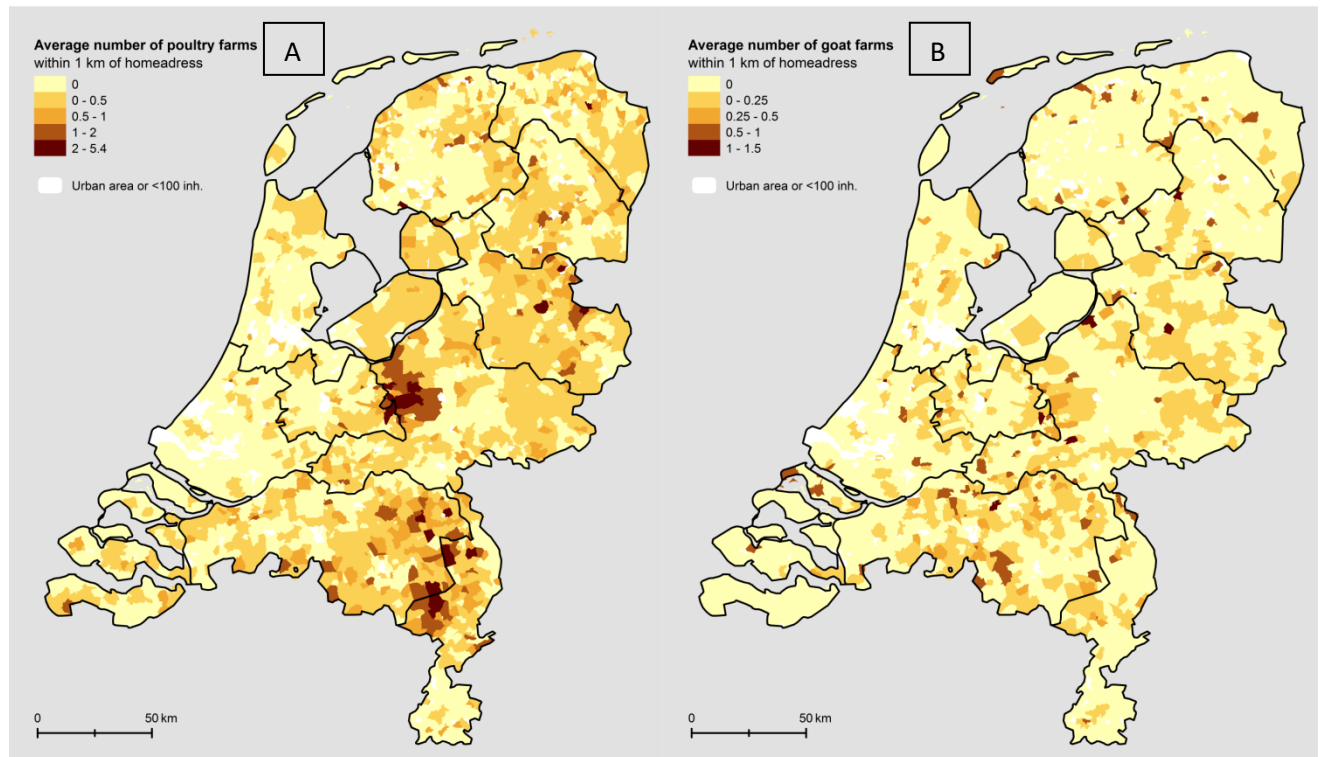


## Supplementary Materials



**Figure S1.** Socio-economic status score at 4-digit postal code level in The Netherlands in 2014 (0: low (score < -0.22), 1: low-medium ( $-0.22 \leq \text{score} < 0.42$ ), 2: medium-high ( $0.42 \leq \text{score} < 0.96$ ) and 3: high (score  $\geq 0.96$ )). Urban areas and areas with less than 100 inhabitants are displayed in white.



**Figure S2.** Average number of livestock farms within 1 km of home address in the Netherlands in 2015. **A.** poultry farms. **B.** Goat farms. Urban areas and areas with less than 100 inhabitants are displayed in white.

**Table S1.** Associations between presence of poultry and goat farms and antibiotic use per type of antibiotic from negative binomial regression, stratified by season

	Winter months <sup>§</sup>		Other months <sup>§</sup>	
<b>Poultry farm presence</b>	<b>Crude ratio* [95%CI]</b>	<b>Adjusted ratio** [95%CI]</b>	<b>Crude ratio [95%CI]</b>	<b>Adjusted ratio [95%CI]</b>
Amoxicillin	1.09*** [1.05-1.13]	1.06 [1.03-1.09]	1.07 [1.03-1.10]	1.04 [1.01-1.07]
Doxycycline	1.15 [1.10-1.20]	1.10 [1.06-1.15]	1.16 [1.11-1.21]	1.11 [1.06-1.16]
Co-amoxiclav	1.09 [1.05-1.14]	1.05 [1.02-1.09]	1.07 [1.04-1.11]	1.05 [1.02-1.08]
Nitrofurantoin	1.06 [1.02-1.11]	1.00 [0.97-1.05]	1.07 [1.02-1.12]	1.00 [0.96-1.05]
<b>Goat farm presence</b>	<b>Crude ratio [95%CI]</b>	<b>Adjusted ratio [95%CI]</b>	<b>Crude ratio [95%CI]</b>	<b>Adjusted ratio [95%CI]</b>
Amoxicillin	1.04 [1.00-1.09]	1.01 [0.97-1.05]	1.04 [1.00-1.09]	1.02 [0.99-1.06]
Doxycycline	1.08 [1.02-1.14]	1.04 [0.99-1.09]	1.06 [1.00-1.12]	1.02 [0.97-1.08]
Co-amoxiclav	1.05 [1.00-1.10]	1.02 [0.98-1.06]	1.00 [0.96-1.05]	0.98 [0.95-1.02]
Nitrofurantoin	1.09 [1.03-1.16]	1.04 [0.98-1.10]	1.08 [1.03-1.15]	1.03 [0.98-1.09]

In all models, PC4 was included as random factor. CI: Confidence Interval; PC4: 4-position Postal Code.

\* Exponential of the estimate; \*\* Corrected for SES, age, gender, smoking and presence of goat/poultry farms;

\*\*\* Interpretation ratio: the amoxicillin use was 9% higher in the UDPs with poultry farms; <sup>§</sup> Winter months: November to March; other months: April to October.

**Table S2.** Associations between presence of poultry and goat farms and antibiotic use per type of antibiotic from negative binomial regression, for livestock dense area only.

<b>Poultry farm presence</b>	<b>Crude ratio* [95%CI]</b>	<b>Adjusted ratio** [95%CI]</b>
Amoxicillin	1.07*** [1.03-1.11]	1.06 [1.03-1.10]
Doxycycline	1.07 [1.02-1.13]	1.05 [1.00-1.10]
Co-amoxiclav	1.07 [1.03-1.12]	1.05 [1.01-1.09]
Nitrofurantoin	1.09 [1.03-1.15]	1.00 [0.95-1.05]
<b>Goat farm presence</b>	<b>Crude ratio [95%CI]</b>	<b>Adjusted ratio [95%CI]</b>
Amoxicillin	1.04 [1.00-1.08]	1.01 [0.98-1.05]
Doxycycline	1.02 [0.97-1.08]	1.00 [0.95-1.05]
Co-amoxiclav	1.03 [0.98-1.08]	1.00 [0.96-1.04]
Nitrofurantoin	1.09 [1.02-1.16]	0.96 [0.90-1.01]

In all models, PC4 was included as random factor. CI: Confidence Interval; PC4: 4-position Postal Code.

\* Exponential of the estimate; \*\* Corrected for SES, age, gender, smoking and presence of goat/poultry farms;

\*\*\* Interpretation ratio: the amoxicillin use was 7% higher in the UDPs with poultry farms.

**Table S3.** Associations between presence of poultry and goat farms and antibiotic use per type of antibiotic from negative binomial regression, for female gender only.

<b>Poultry farm presence</b>	<b>Crude ratio* [95%CI]</b>	<b>Adjusted ratio** [95%CI]</b>
Amoxicillin	1.06*** [1.03-1.09]	1.04 [1.01-1.07]
Doxycycline	1.12 [1.07-1.17]	1.09 [1.05-1.13]
Co-amoxiclav	1.09 [1.05-1.13]	1.06 [1.03-1.10]
Nitrofurantoin	1.08 [1.04-1.13]	1.03 [1.00-1.07]
<b>Goat farm presence</b>	<b>Crude ratio [95%CI]</b>	<b>Adjusted ratio [95%CI]</b>
Amoxicillin	1.02 [0.98-1.06]	1.02 [0.98-1.06]
Doxycycline	1.02 [0.97-1.07]	1.01 [0.99-1.06]
Co-amoxiclav	0.99 [0.95-1.04]	0.97 [0.93-1.01]
Nitrofurantoin	1.09 [1.03-1.15]	1.04 [1.00-1.08]

In all models, PC4 was included as random factor. CI: Confidence Interval; PC4: 4-position Postal Code.

\* Exponential of the estimate; \*\* Corrected for SES, age, gender, smoking and presence of goat/poultry farms;

\*\*\* Interpretation ratio: the amoxicillin use was 6% higher in the UDPs with poultry farms.