

Production loss and sick leave caused by antibacterial resistance – a register-based cohort study

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Online Appendix

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Table A1 Akaike Information Criterion (AIC) and Schwarz's Bayesian Information Criterion (BIC) to test the relative goodness-of-fit of TPM model specifications

TPM model specifications	Obs.	AIC	BIC
Model 1	704,115	1,036,683	1,036,798
Model 2	704,115	1,024,211	1,024,349
Model 3	704,115	1,023,357	1,023,518
Model 4	704,115	1,016,693	1,016,922

Table A2 Sensitivity analysis: First and second part of TPM on total days of LTSL

	SA: TPM Model 5	SA: TPM Model 6	SA: TPM Model 7	SA: TPM Model 8
Part 1: Odds ratio (OR)				
Antibiotic resistance	1.46*** (0.06)	1.51*** (0.06)	1.43*** (0.06)	2.23*** (0.10)
Age	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)
Female sex	1.04** (0.01)	1.02 (0.01)	1.02 (0.01)	1.09*** (0.01)
Year	0.97*** (0.00)	0.97*** (0.00)	0.97*** (0.00)	0.97*** (0.00)
Charlson index		0.86*** (0.00)	0.86*** (0.00)	0.87*** (0.00)
At least two infections at once			2.01*** (0.06)	0.93* (0.03)
Bloodstream infection				2.74*** (0.06)
Pneumonia				2.75*** (0.06)
Skin and soft tissue infection				1.65*** (0.04)
Urinary tract infection (reference case)				–
Constant	2.18e+25*** (1.82e+26)	1.10e+28*** (9.09e+28)	3.82e+28*** (3.17e+29)	2.36e+24*** (1.96e+25)
Part 2: Incidence Rate Ratios (IRR)				
Antibiotic resistance	1.81*** (0.12)	1.70*** (0.11)	1.68*** (0.11)	1.66*** (0.12)
Age	1.02*** (0.00)	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)
Female sex	0.92*** (0.02)	0.93*** (0.02)	0.93*** (0.02)	0.95** (0.02)
Year	1.04*** (0.01)	1.05*** (0.01)	1.05*** (0.01)	1.04*** (0.01)
Charlson index		1.28*** (0.01)	1.28*** (0.01)	1.28*** (0.01)
At least two infections at once			1.29*** (0.05)	1.27*** (0.07)
Bloodstream infection				1.06 (0.04)
Pneumonia				0.84*** (0.04)
Skin and soft tissue infection				1.03 (0.05)
Urinary tract infection (reference case)				–
Constant	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Observations	704,115	704,115	704,115	704,115

Exponentiated coefficients; Standard errors in parentheses

First part: Logistic regression, Second part: Negative Binomial regression. SA=Sensitivity analysis

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A3 Sensitivity analysis: Marginal effects from TPM on total days of LTSL

	SA: TPM Model 5	SA: TPM Model 6	SA: TPM Model 7	SA: TPM Model 8
Antibiotic resistance	7.22** (0.58)	7.06** (0.61)	6.58** (0.62)	9.66** (0.64)
Age	0.19** (0.01)	0.17** (0.01)	0.17** (0.01)	0.15** (0.01)
Female sex	-0.41* (0.20)	-0.44* (0.19)	-0.41* (0.19)	0.16 (0.19)
Year	0.06 (0.07)	0.13* (0.06)	0.12 (0.06)	0.13* (0.06)
Charlson index		0.86** (0.08)	0.83** (0.08)	0.89** (0.08)
At least two infections at once			7.01** (0.39)	1.33** (0.51)
Bloodstream infection				7.64** (0.38)
Pneumonia				5.80** (0.39)
Skin and soft tissue infection				3.81** (0.40)
Urinary tract infection (reference case)				—
Observations	704,115	704,115	704,115	704,115

Standard errors in parentheses. SA=Sensitivity analysis

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A4 Sensitivity analysis: First and second part of TPM with Poisson regression on net days of LTSL

	SA: TPM Model 9	SA: TPM Model 10	SA: TPM Model 11	SA: TPM Model 12
Part 1: Odds ratio (OR)				
Antibiotic resistance	1.46*** (0.06)	1.51*** (0.06)	1.43*** (0.06)	2.23*** (0.10)
Age	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)
Female	1.04** (0.01)	1.02 (0.01)	1.02 (0.01)	1.09*** (0.01)
Year	0.97*** (0.00)	0.97*** (0.00)	0.97*** (0.00)	0.97*** (0.00)
Charlson index		0.86*** (0.00)	0.86*** (0.00)	0.87*** (0.00)
At least 2 simultaneous infections			2.01*** (0.06)	0.93* (0.03)
Bloodstream infection				2.74*** (0.06)
Pneumonia				2.75*** (0.06)
Skin and soft tissue infection				1.65*** (0.04)
Urinary tract infection (reference case)				—
Constant	2.18e+25*** (1.82e+26)	1.10e+28*** (9.09e+28)	3.82e+28*** (3.17e+29)	2.36e+24*** (1.96e+25)
Part 2: Incidence Rate Ratios (IRR)				
Antibiotic resistance	1.95*** (0.14)	1.73*** (0.12)	1.69*** (0.12)	1.68*** (0.13)
Age	1.02*** (0.00)	1.01*** (0.00)	1.01*** (0.00)	1.01*** (0.00)
Female	0.88*** (0.02)	0.88*** (0.02)	0.89*** (0.02)	0.91*** (0.02)
Year	1.04*** (0.01)	1.05*** (0.01)	1.04*** (0.01)	1.04*** (0.01)
Charlson index		1.22*** (0.01)	1.22*** (0.01)	1.22*** (0.01)
At least 2 simultaneous infections			1.30*** (0.06)	1.19** (0.08)
Bloodstream infection				1.11* (0.05)
Pneumonia				0.83*** (0.04)
Skin and soft tissue infection				1.13* (0.06)
Urinary tract infection (reference case)				—
Constant	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Observations	704,115	704,115	704,115	704,115

Exponentiated coefficients; Standard errors in parentheses

First part: Logistic regression, Second part: Poisson regression. SA=Sensitivity analysis

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A5 Sensitivity analysis: Marginal effects from TPM with Poisson regression on net days of LTSL

	SA: TPM Model 9	SA: TPM Model 10	SA: TPM Model 11	SA: TPM Model 12
Antibiotic resistance	5.93*** (0.47)	5.33*** (0.47)	4.90*** (0.47)	7.18*** (0.49)
Age	0.15*** (0.01)	0.13*** (0.01)	0.13*** (0.01)	0.11*** (0.01)
Female	-0.59*** (0.17)	-0.62*** (0.16)	-0.59*** (0.16)	-0.14 (0.16)
Year	0.06 (0.06)	0.08 (0.05)	0.07 (0.05)	0.06 (0.06)
Charlson index		0.39*** (0.04)	0.37*** (0.04)	0.40*** (0.04)
At least 2 simultaneous infections			5.19*** (0.33)	0.63 (0.42)
Bloodstream infection				5.87*** (0.31)
Pneumonia				4.20*** (0.33)
Skin and soft tissue infection				3.32*** (0.34)
Urinary tract infection (reference case)				—
Observations	704,115	704,115	704,115	704,115

Standard errors in parentheses

First part: Logistic regression, Second part: Poisson regression. SA=Sensitivity analysis

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$