Supplementary Appendix 1

Section S1: Calculations and Definitions for Prescribing Metrics

- DOT per 100 days was modeled using negative binomial regression with encounter-level Days of Therapy as outcome, and length of stay as an offset.

$$DOT_{ij} = \frac{\sum_{k=1}^{k} DaysOfTherapy_{ij}}{\sum_{k=1}^{k} PatientDays_{ij}} * 100$$

- AFD per 100 days was modeled using negative binomial regression with encounter-level Antimicrobial Free Days as outcome, and length of stay as an offset.

$$AFD_{ij} = \frac{\sum_{k=1}^{k} AntmicrobialFreeDays_{ij}}{\sum_{k=1}^{k} PatientDays_{ij}} * 100$$

- Spectrum Score was modeled using negative binomial regression with encounter-level ∑(*DOT x* ∗*SpectrumScore x*) ∑(DOTx∗SpectrumScorex) as outcome, and DOT as an offset.

$$SpecScore_{ij} = \frac{\sum_{k=1}^{k} \sum DOT_{drug_x} * SpecScore_{drug_x}}{\sum_{k=1}^{k} DOT_{ij}}$$

Appendix 1, as submitted by the authors. Appendix to: McIntyre MT, Saha S, Morris AM, et al. Physician antimicrobial prescribing and patient outcomes on general medical wards: a multicentre retrospective cohort study. *CMAJ* 2023. doi: 10.1503/cmaj.221732.

Section S2: Modified Antibacterial Spectrum Score calculation values(1, 2)

Drug Class	modified Antibacterial Spectrum Score
Amikacin	35.5
Amoxicillin	13.5
Amoxicillin-Clavulanate	29.5
Ampicillin	13.5
Azithromycin	12.25
Cefadroxil	19.25
Cefazolin	19.25
Cefixime	25.25
Ceftazidime	33.25
Ceftriaxone	25.25
Cephalexin	19.25
Ciprofloxacin	39.75
Clarithromycin	12.25
Clindamycin	10.75
Cloxacillin	4.25
Daptomycin	14.25
Doxycycline	38.75
Ertapenem	30.25
Erythromycin	12.25
Gentamicin	35.5
Levofloxacin	39.75
Linezolid	18
Meropenem	41.5
Metronidazole	4
Minocycline	38.75
Moxifloxacin	36.25
Nitrofurantoin	10
Penicillin	4
Piperacillin-tazobactam	42.25
Sulfamethoxazole-trimethoprim	33.5
Tetracycline	38.75
Tigecycline	49.75
Tobramycin	35.5
Vancomycin IV	13
Vancomycin PO	13
Vancomycin PR	13

Section S3

Bootstrapping Methodology for Confidence Interval Calculation of Physician Variability

For each physician at each hospital, 1000 random samples of size *n* were drawn from the encounters attributed to that physician without replacement, where *n* represents the total number of encounters attributed to that physician. For each random sample, antimicrobial prescribing measures were calculated as detailed above. The 2.5^{th} and 97.5^{th} percentiles of the 1000 sampled estimates provided the 95% confidence intervals.

References

1. Madaras-Kelly K, Jones M, Remington R, Hill N, Huttner B, Samore M. Development of an antibiotic spectrum score based on veterans affairs culture and susceptibility data for the purpose of measuring antibiotic de-escalation: a modified Delphi approach. Infect Control Hosp Epidemiol. 2014;35(9):1103-13.
2. McIntyre MT, Naik L, Bell CM, Morris AM. Development and Assessment of a Physician-Specific Antimicrobial Usage and Spectrum Feedback Tool. Open Forum Infect Dis. 2017;4(3):ofx124.

