Supplementary Material

Title
Modelling and Simulation of the Effect of Targeted Decolonisation on Incidence of Extended-Spectrum Beta-Lactamase-Producing Enterobacterales Bloodstream Infections in Haematological Patients

Authors: Stefanie Döbele†, Fulvia Mazzaferri†, Tamara Dichter1, Gerolf de Boer3, Alex Friedrich3, Evelina Tacconelli1,2
† Equally contributing authors

Affiliations:
1 Department of Internal Medicine I, DZIF Partner site, Tübingen University Hospital, Otfrid-Müller-Str. 10, 72076, Tübingen, Germany
2 Infectious Diseases Section, Department of Diagnostic and Public Health, University of Verona, Piazzale L.A. Scuro 10, 37134, Verona, Italy
3 University of Groningen, University Medical Center Groningen, Department of Medical Microbiology and Infection Control, Hanzeplein 1, 9700RB Groningen, The Netherlands

Corresponding author:
Fulvia Mazzaferri
Infectious Diseases Section, Department of Diagnostic and Public Health, University of Verona, Verona, Italy
Piazzale L.A. Scuro 10, 37134, Verona, Italy
fulvia.mazzaferri@univr.it
**Table S1.** Statistically significant differences ($p$ value <0.05) in ESBL-E BSI incidence between the universal SDD arm and the control group in the single parameter analysis (pivot table)

| Time interval between SDD and chemotherapy (days) | ESBL-E prevalence | Duration of neutropenia (days) | Prophylaxis with quinolones | P value |
|-------------------------------------------------|-------------------|--------------------------------|----------------------------|---------|
| 1                                               | 0.29              | 3                              | No                         | 0.0024  |
| 1                                               | 0.29              | 6                              | Yes                        | 0.0012  |
| 1                                               | 0.29              | 6                              | No                         | 0.0002  |
| 1                                               | 0.29              | 9                              | Yes                        | 0.0038  |
| 1                                               | 0.29              | 9                              | No                         | 0.000002|
| 1                                               | 0.29              | 12                             | No                         | 0.0010  |
| 1                                               | 0.29              | 12                             | Yes                        | 0.0188  |
| 1                                               | 0.29              | 15                             | No                         | 0.0111  |
| 1                                               | 0.29              | 15                             | Yes                        | 0.00004 |
| 7                                               | 0.29              | 3                              | No                         | 0.0151  |
| 7                                               | 0.29              | 3                              | Yes                        | 0.00002 |
| 7                                               | 0.29              | 6                              | No                         | 0.0118  |
| 7                                               | 0.29              | 6                              | Yes                        | 0.0001  |
| 7                                               | 0.29              | 9                              | No                         | 0.00001 |
| 7                                               | 0.29              | 9                              | Yes                        | 0.00034 |
| 7                                               | 0.29              | 12                             | No                         | 0.00005 |
| 7                                               | 0.29              | 15                             | Yes                        | 0.0100  |
| 7                                               | 0.29              | 15                             | No                         | 0.0001  |
| 28                                              | 0.29              | 3                              | Yes                        | 0.0249  |
| 28                                              | 0.29              | 3                              | No                         | 0.0008  |
| 28                                              | 0.29              | 6                              | No                         | 0.0266  |
| 28                                              | 0.29              | 6                              | Yes                        | 0.00005 |
| 28                                              | 0.29              | 9                              | No                         | 0.0306  |
| 28                                              | 0.29              | 9                              | Yes                        | 0.0001  |
| 28                                              | 0.29              | 12                             | no                         | 0.0161  |
| 28                                              | 0.29              | 12                             | Yes                        | 0.0005  |
| 28                                              | 0.29              | 15                             | no                         | 0.0142  |
| 28                                              | 0.29              | 15                             | Yes                        | 0.0002  |

BSI, bloodstream infection; ESBL-E, extended-spectrum beta-lactamase-producing Enterobacteriales; SDD, selective digestive decontamination
Table S2. Efficacy of universal SDD vs. placebo in reducing ESBL-E BSI incidence depending on neutropenia duration (columns) and ESBL-E prevalence at hospital admission (rows).

| P values (mean) | Neutropenia duration (days) |
|-----------------|-----------------------------|
| ESBL-E prevalence | 3  | 6  | 9  | 12 | 15 | Total |
| 0.29             | 0.008 | 0.007 | 0.008 | 0.003 | 0.004 | 0.005 |

BSI, bloodstream infection; ESBL-E, extended-spectrum beta-lactamase-producing Enterobacterales; SDD, selective digestive decontamination

Table S3. Efficacy of universal SDD vs. placebo in reducing ESBL-E BSI incidence depending on the time interval between SDD and chemotherapy (columns) and the ESBL-prevalence at hospital admission (rows).

| P values (mean) | Time interval between SDD and chemotherapy (days) |
|-----------------|-----------------------------------------------|
| ESBL-E prevalence | 1  | 7  | 28 | Total |
| 0.29             | 0.001 | 0.006 | 0.011 | 0.006 |

BSI, bloodstream infection; ESBL-E, extended-spectrum beta-lactamase-producing Enterobacterales; SDD, selective digestive decontamination