



Healthcare-associated infections and antimicrobial resistance in Canadian acute care hospitals, 2017–2021 – Supplemental material

Canadian Nosocomial Infection Surveillance Program

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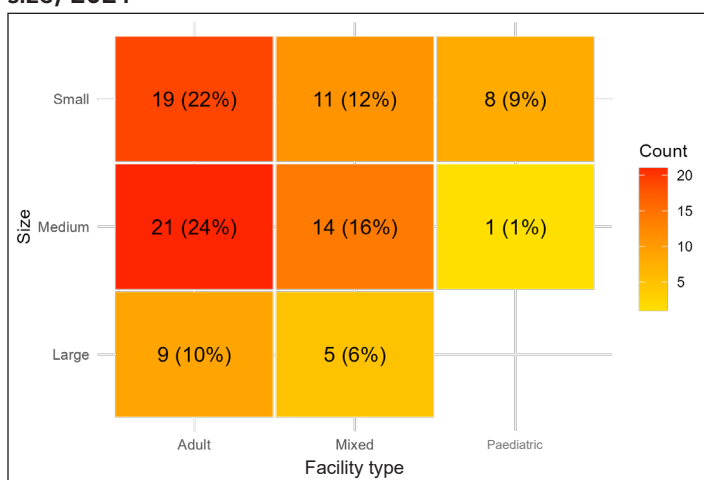
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Note: Hospital size categories: Small (1–200 beds), Medium (201–499 beds), Large (500+ beds)



Table S1.1: Cases and incidence rates of healthcare-associated and community-associated *Clostridioides difficile* infection by region, hospital type and hospital size, Canada, 2017–2021

| Cases and incidence rates | Year | | | | |
|-----------------------------------|-------|-------|-------|-------|-------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| HA-CDI | | | | | |
| National | | | | | |
| Number of HA-CDI cases | 2,968 | 2,808 | 2,662 | 2,628 | 2,505 |
| Rate per 1,000 patient admissions | 3.17 | 3.02 | 2.74 | 2.85 | 2.67 |
| Rate per 10,000 patient days | 4.19 | 3.95 | 3.62 | 3.85 | 3.54 |
| Number of reporting hospitals | 68 | 68 | 73 | 82 | 80 |
| West | | | | | |
| Number of HA-CDI cases | 1,177 | 1,082 | 1,041 | 960 | 890 |
| Rate per 1,000 patient admissions | 2.84 | 2.61 | 2.50 | 2.58 | 2.30 |
| Rate per 10,000 patient days | 3.81 | 3.57 | 3.34 | 3.44 | 2.98 |
| Central | | | | | |
| Number of HA-CDI cases | 1,236 | 1,181 | 1,185 | 1,223 | 1,169 |
| Rate per 1,000 patient admissions | 2.92 | 2.84 | 2.61 | 2.85 | 2.70 |
| Rate per 10,000 patient days | 3.96 | 3.70 | 3.55 | 3.77 | 3.56 |
| East | | | | | |
| Number of HA-CDI cases | 281 | 306 | 257 | 247 | 260 |
| Rate per 1,000 patient admissions | 2.81 | 3.04 | 2.56 | 2.08 | 2.17 |
| Rate per 10,000 patient days | 3.23 | 3.47 | 2.90 | 3.14 | 3.24 |
| North | | | | | |
| Number of HA-CDI cases | N/A | N/A | 0 | 0 | N/A |
| Rate per 1,000 patient admissions | N/A | N/A | 0 | 0 | N/A |
| Rate per 10,000 patient days | N/A | N/A | 0 | 0 | N/A |
| Hospital type | | | | | |
| Adult | | | | | |
| Number of HA-CDI cases | 1,891 | 1,836 | 1,713 | 1,762 | 1,692 |
| Rate per 1,000 patient admissions | 3.76 | 3.66 | 3.21 | 3.54 | 3.32 |
| Rate per 10,000 patient days | 4.45 | 4.30 | 3.86 | 4.18 | 3.89 |
| Mixed | | | | | |
| Number of HA-CDI cases | 992 | 884 | 846 | 766 | 720 |
| Rate per 1,000 patient admissions | 2.66 | 2.33 | 2.21 | 2.01 | 1.88 |
| Rate per 10,000 patient days | 3.84 | 3.44 | 3.23 | 3.26 | 2.92 |
| Paediatric | | | | | |
| Number of HA-CDI cases | 85 | 88 | 103 | 100 | 106 |
| Rate per 1,000 patient admissions | 1.41 | 1.88 | 1.82 | 2.39 | 1.99 |
| Rate per 10,000 patient days | 3.43 | 3.44 | 3.49 | 3.78 | 4.02 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of HA-CDI cases | 152 | 155 | 180 | 218 | 222 |
| Rate per 1,000 patient admissions | 2.53 | 2.62 | 2.25 | 2.21 | 2.24 |
| Rate per 10,000 patient days | 3.11 | 3.11 | 3.03 | 2.98 | 2.89 |



Table S1.1: Cases and incidence rates of healthcare-associated and community-associated *Clostridioides difficile* infection by region, hospital type and hospital size, Canada, 2017–2021 (continued)

| Cases and incidence rates | Year | | | | |
|-----------------------------------|-------|-------|-------|-------|-------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| HA-CDI (continued) | | | | | |
| Hospital size (continued) | | | | | |
| Medium (201–499 beds) | | | | | |
| Number of HA-CDI cases | 1,699 | 1,527 | 1,401 | 1,460 | 1,317 |
| Rate per 1,000 patient admissions | 3.04 | 2.85 | 2.51 | 2.98 | 2.63 |
| Rate per 10,000 patient days | 4.23 | 3.88 | 3.43 | 3.96 | 3.51 |
| Large (500+ beds) | | | | | |
| Number of HA-CDI cases | 1,162 | 1,126 | 1,081 | 950 | 979 |
| Rate per 1,000 patient admissions | 3.67 | 3.38 | 3.22 | 3.14 | 3.18 |
| Rate per 10,000 patient days | 4.51 | 4.22 | 4.05 | 3.95 | 3.83 |
| CA-CDI | | | | | |
| National | | | | | |
| Number of CA-CDI cases | 1,050 | 1,042 | 938 | 1,026 | 1,054 |
| Rate per 1,000 patient admissions | 1.38 | 1.37 | 1.17 | 1.32 | 1.39 |
| Rate per 10,000 patient days | 1.83 | 1.80 | 1.57 | 1.83 | 1.82 |
| Number of reporting hospitals | 57 | 57 | 62 | 71 | 69 |
| West | | | | | |
| Number of CA-CDI cases | 287 | 263 | 239 | 238 | 265 |
| Rate per 1,000 patient admissions | 1.19 | 1.08 | 0.99 | 1.05 | 1.12 |
| Rate per 10,000 patient days | 1.65 | 1.54 | 1.36 | 1.52 | 1.55 |
| Central | | | | | |
| Number of CA-CDI cases | 640 | 680 | 631 | 711 | 698 |
| Rate per 1,000 patient admissions | 1.51 | 1.64 | 1.39 | 1.66 | 1.61 |
| Rate per 10,000 patient days | 2.05 | 2.13 | 1.89 | 2.19 | 2.13 |
| East | | | | | |
| Number of CA-CDI cases | 123 | 99 | 68 | 77 | 91 |
| Rate per 1,000 patient admissions | 1.24 | 1.00 | 0.68 | 0.89 | 1.05 |
| Rate per 10,000 patient days | 1.42 | 1.12 | 0.77 | 0.98 | 1.13 |
| North | | | | | |
| Number of CA-CDI cases | N/A | N/A | 0 | 0 | N/A |
| Rate per 1,000 patient admissions | N/A | N/A | 0 | 0 | N/A |
| Rate per 10,000 patient days | N/A | N/A | 0 | 0 | N/A |
| Hospital type | | | | | |
| Adults | | | | | |
| Number of CA-CDI cases | 702 | 699 | 648 | 714 | 705 |
| Rate per 1,000 patient admissions | 1.80 | 1.79 | 1.55 | 1.78 | 1.72 |
| Rate per 10,000 patient days | 2.13 | 2.10 | 1.86 | 2.14 | 2.05 |
| Mixed | | | | | |
| Number of CA-CDI cases | 327 | 292 | 233 | 246 | 327 |
| Rate per 1,000 patient admissions | 1.02 | 1.00 | 0.82 | 0.98 | 1.10 |
| Rate per 10,000 patient days | 1.47 | 1.48 | 1.21 | 1.47 | 1.54 |



Table S1.1: Cases and incidence rates of healthcare-associated and community-associated *Clostridioides difficile* infection by region, hospital type and hospital size, Canada, 2017–2021 (continued)

| Cases and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| CA-CDI (continued) | | | | | |
| Hospital type (continued) | | | | | |
| Paediatric | | | | | |
| Number of CA-CDI cases | 21 | 13 | 17 | 13 | 22 |
| Rate per 1,000 patient admissions | 0.40 | 0.33 | 0.34 | 0.36 | 0.47 |
| Rate per 10,000 patient days | 1.00 | 0.61 | 0.67 | 0.57 | 0.97 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of CA-CDI cases | 66 | 48 | 47 | 78 | 87 |
| Rate per 1,000 patient admissions | 1.39 | 1.02 | 0.69 | 0.89 | 0.99 |
| Rate per 10,000 patient days | 1.59 | 1.14 | 0.92 | 1.17 | 1.25 |
| Medium (201–499 beds) | | | | | |
| Number of CA-CDI cases | 681 | 732 | 631 | 670 | 653 |
| Rate per 1,000 patient admissions | 1.31 | 1.47 | 1.22 | 1.47 | 1.41 |
| Rate per 10,000 patient days | 1.81 | 1.99 | 1.65 | 1.94 | 1.87 |
| Large (500+ beds) | | | | | |
| Number of CA-CDI cases | 303 | 262 | 260 | 278 | 314 |
| Rate per 1,000 patient admissions | 1.54 | 1.23 | 1.23 | 1.38 | 1.54 |
| Rate per 10,000 patient days | 1.95 | 1.57 | 1.58 | 1.88 | 1.96 |

Abbreviations: CA-CDI, community-associated *C. difficile* infection; *C. difficile*, *Clostridioides difficile*; HA-CDI, healthcare-associated *C. difficile* infection

Table S1.2: Antimicrobial resistance of healthcare-associated and community-associated *Clostridioides difficile* infection isolates^{a,b}, Canada, 2017–2021

| Antibiotic | Year | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| HA-CDI | | | | | | | | | | |
| Clindamycin | 115 | 21.9 | 225 | 47.4 | 173 | 39.3 | 45 | 15.9 | 54 | 13.8 |
| Moxifloxacin | 98 | 18.6 | 59 | 12.4 | 51 | 11.6 | 19 | 6.7 | 39 | 9.9 |
| Rifampin | 13 | 2.5 | 8 | 1.7 | 4 | 0.9 | 3 | 1.1 | 6 | 1.5 |
| Total number of isolates tested ^c | 526 | N/A | 475 | N/A | 440 | N/A | 284 | N/A | 392 | N/A |
| CA-CDI | | | | | | | | | | |
| Clindamycin | 34 | 22.7 | 82 | 52.6 | 48 | 37.5 | 17 | 21.5 | 10 | 6.8 |
| Moxifloxacin | 16 | 10.7 | 11 | 7.1 | 15 | 11.7 | 5 | 6.3 | 10 | 6.8 |
| Rifampin | 1 | 0.7 | 2 | 1.3 | 2 | 1.6 | 0 | 0 | 3 | 2.1 |
| Total number of isolates tested ^c | 150 | N/A | 156 | N/A | 128 | N/A | 79 | N/A | 146 | N/A |

Abbreviations: CA-CDI, community-associated *C. difficile* infection; *C. difficile*, *Clostridioides difficile*; HA-CDI, healthcare-associated *C. difficile* infection; N/A, not applicable

^a All *C. difficile* isolates from 2017 to 2021 submitted to National Microbiology Laboratory were susceptible to tigecycline and vancomycin, and metronidazole (for the exception of one resistant paediatric sample found in 2018)

^b CDI isolates are collected for resistance testing during the two-month period (March and April of each year) for adults (age 18 years and older) and year-round for children (age one year to younger than 18 years old) from admitted patients only

^c Total number reflects the number of isolates tested for each of the antibiotics listed above



Table S1.3: Number and proportion of common ribotypes of healthcare-associated and community-associated *Clostridioides difficile* infection cases^a, Canada, 2017–2021

| Ribotype | Year | | | | | | | | | |
|---------------|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| HA-CDI | | | | | | | | | | |
| RT106 | 59 | 11.2 | 60 | 12.6 | 80 | 18.2 | 42 | 14.8 | 49 | 12.5 |
| RT027 | 81 | 15.4 | 40 | 8.4 | 32 | 7.3 | 17 | 6.0 | 30 | 7.7 |
| RT014 | 40 | 7.6 | 44 | 9.3 | 46 | 10.5 | 22 | 7.7 | 40 | 10.2 |
| RT020 | 34 | 6.5 | 36 | 7.6 | 30 | 6.8 | 24 | 8.5 | 23 | 5.9 |
| RT002 | 23 | 4.4 | 29 | 6.1 | 26 | 5.9 | 11 | 3.9 | 24 | 6.1 |
| RT056 | 25 | 4.8 | 19 | 4.0 | 18 | 4.1 | 7 | 2.5 | 16 | 4.1 |
| RT015 | 12 | 2.3 | 18 | 3.8 | 21 | 4.8 | 10 | 3.5 | 18 | 4.6 |
| RT012 | 5 | 1.0 | 18 | 3.8 | 12 | 2.7 | 10 | 3.5 | 17 | 4.3 |
| RT078/126 | 17 | 3.3 | 10 | 2.1 | 9 | 2.1 | 12 | 4.2 | 13 | 3.4 |
| RT076 | 21 | 4.0 | 12 | 2.5 | 4 | 0.9 | 10 | 3.5 | 10 | 2.6 |
| RT629 | 5 | 1.0 | 13 | 2.7 | 8 | 1.8 | 8 | 2.8 | 14 | 3.6 |
| RT054 | 6 | 1.1 | 8 | 1.7 | 10 | 2.3 | 9 | 3.2 | 8 | 2.0 |
| RT057 | 14 | 2.7 | 13 | 2.7 | 3 | 0.7 | 3 | 1.1 | 7 | 1.8 |
| RT103 | 6 | 1.1 | 10 | 2.1 | 8 | 1.8 | 3 | 1.1 | 9 | 2.3 |
| RT001 | 1 | 0.2 | 12 | 2.5 | 6 | 1.4 | 7 | 2.5 | 8 | 2.0 |
| Other | 177 | 33.7 | 133 | 28.0 | 127 | 28.9 | 89 | 31.3 | 106 | 27.0 |
| Total | 526 | N/A | 475 | N/A | 440 | N/A | 284 | N/A | 392 | N/A |
| CA-CDI | | | | | | | | | | |
| RT106 | 22 | 14.7 | 25 | 16.0 | 23 | 18.0 | 12 | 15.2 | 16 | 11.0 |
| RT014 | 17 | 11.3 | 15 | 9.6 | 10 | 7.8 | 6 | 7.6 | 12 | 8.2 |
| RT020 | 13 | 8.7 | 12 | 7.7 | 12 | 9.4 | 3 | 3.8 | 12 | 8.2 |
| RT015 | 6 | 4.0 | 6 | 3.8 | 10 | 7.8 | 6 | 7.6 | 6 | 4.1 |
| RT056 | 3 | 2.0 | 14 | 9.0 | 4 | 3.1 | 4 | 5.1 | 4 | 2.7 |
| RT002 | 6 | 4.0 | 5 | 3.2 | 5 | 3.9 | 4 | 5.1 | 9 | 6.2 |
| RT012 | 7 | 4.7 | 6 | 3.8 | 4 | 3.1 | 4 | 5.1 | 2 | 1.4 |
| RT027 | 9 | 6.0 | 5 | 3.2 | 4 | 3.1 | 1 | 1.3 | 2 | 1.4 |
| RT078/126 | 3 | 2.0 | 1 | 0.6 | 2 | 1.6 | 5 | 6.3 | 6 | 4.1 |
| RT019 | 4 | 2.7 | 7 | 4.5 | 4 | 3.1 | 0 | 0 | 1 | 0.7 |
| RT629 | 1 | 0.7 | 4 | 2.6 | 4 | 3.1 | 1 | 1.3 | 5 | 3.4 |
| RT076 | 3 | 2.0 | 3 | 1.9 | 2 | 1.6 | 2 | 2.5 | 4 | 2.7 |
| RT001 | 0 | 0 | 3 | 1.9 | 3 | 2.3 | 2 | 2.5 | 5 | 3.4 |
| RT103 | 4 | 2.7 | 2 | 1.3 | 0 | 0 | 3 | 3.8 | 4 | 2.7 |
| RT137 | 2 | 1.3 | 2 | 1.3 | 1 | 0.8 | 3 | 3.8 | 3 | 2.1 |
| Other | 50 | 33.3 | 46 | 29.5 | 40 | 31.3 | 23 | 29.1 | 55 | 37.7 |
| Total | 150 | N/A | 156 | N/A | 128 | N/A | 79 | N/A | 146 | N/A |

Abbreviations: CA-CDI, community-associated *C. difficile* infection; *C. difficile*, *Clostridioides difficile*; HA-CDI, healthcare-associated *C. difficile* infection; N/A, not applicable

^a CDI isolates are collected for typing during the two-month period (March and April of each year) for adults (age 18 years and older) and year-round for children (age one year to younger than 18 years old from admitted patients only)



Table S2.1: Cases and incidence rates of healthcare-associated and community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infections by region, hospital type and hospital size, 2017–2021

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| HA-MRSA BSI | | | | | |
| National | | | | | |
| Number of HA-MRSA BSIs | 317 | 369 | 365 | 323 | 339 |
| Rate per 1,000 patient admissions | 0.32 | 0.37 | 0.35 | 0.32 | 0.33 |
| Rate per 10,000 patient days | 0.44 | 0.50 | 0.47 | 0.43 | 0.45 |
| Number of reporting hospitals | 65 | 62 | 69 | 81 | 78 |
| West | | | | | |
| Number of HA-MRSA BSIs | 136 | 181 | 163 | 149 | 143 |
| Rate per 1,000 patient admissions | 0.30 | 0.41 | 0.36 | 0.36 | 0.36 |
| Rate per 10,000 patient days | 0.43 | 0.57 | 0.49 | 0.48 | 0.47 |
| Central | | | | | |
| Number of HA-MRSA BSIs | 150 | 151 | 184 | 140 | 167 |
| Rate per 1,000 patient admissions | 0.33 | 0.35 | 0.38 | 0.30 | 0.34 |
| Rate per 10,000 patient days | 0.47 | 0.47 | 0.52 | 0.40 | 0.46 |
| East | | | | | |
| Number of HA-MRSA BSIs | 31 | 37 | 18 | 34 | 29 |
| Rate per 1,000 patient admissions | 0.30 | 0.35 | 0.17 | 0.25 | 0.23 |
| Rate per 10,000 patient days | 0.34 | 0.40 | 0.20 | 0.37 | 0.33 |
| North | | | | | |
| Number of HA-MRSA BSIs | N/A | N/A | 0 | 0 | N/A |
| Rate per 1,000 patient admissions | N/A | N/A | 0 | 0 | N/A |
| Rate per 10,000 patient days | N/A | N/A | 0 | 0 | N/A |
| Hospital type | | | | | |
| Adults | | | | | |
| Number of HA-MRSA BSIs | 200 | 242 | 217 | 203 | 209 |
| Rate per 1,000 patient admissions | 0.40 | 0.49 | 0.40 | 0.39 | 0.38 |
| Rate per 10,000 patient days | 0.49 | 0.59 | 0.49 | 0.46 | 0.45 |
| Mixed | | | | | |
| Number of HA-MRSA BSIs | 102 | 115 | 126 | 108 | 112 |
| Rate per 1,000 patient admissions | 0.24 | 0.27 | 0.30 | 0.25 | 0.28 |
| Rate per 10,000 patient days | 0.37 | 0.41 | 0.44 | 0.40 | 0.44 |
| Paediatric | | | | | |
| Number of HA-MRSA BSIs | 15 | 12 | 22 | 12 | 18 |
| Rate per 1,000 patient admissions | 0.18 | 0.18 | 0.28 | 0.20 | 0.24 |
| Rate per 10,000 patient days | 0.38 | 0.30 | 0.49 | 0.30 | 0.43 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of HA-MRSA BSIs | 18 | 19 | 20 | 24 | 40 |
| Rate per 1,000 patient admissions | 0.24 | 0.27 | 0.19 | 0.15 | 0.24 |
| Rate per 10,000 patient days | 0.30 | 0.33 | 0.28 | 0.27 | 0.43 |



Table S2.1: Cases and incidence rates of healthcare-associated and community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infections by region, hospital type and hospital size, 2017–2021 (continued)

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| HA-MRSA BSI (continued) | | | | | |
| Hospital size (continued) | | | | | |
| Medium (201–499 beds) | | | | | |
| Number of HA-MRSA BSIs | 186 | 194 | 176 | 152 | 176 |
| Rate per 1,000 patient admissions | 0.32 | 0.35 | 0.32 | 0.31 | 0.35 |
| Rate per 10,000 patient days | 0.47 | 0.50 | 0.44 | 0.41 | 0.48 |
| Large (500+ beds) | | | | | |
| Number of HA-MRSA BSIs | 113 | 156 | 169 | 147 | 123 |
| Rate per 1,000 patient admissions | 0.33 | 0.43 | 0.45 | 0.41 | 0.35 |
| Rate per 10,000 patient days | 0.42 | 0.55 | 0.56 | 0.51 | 0.42 |
| CA-MRSA BSI | | | | | |
| National | | | | | |
| Number of CA-MRSA BSIs | 253 | 359 | 451 | 480 | 453 |
| Rate per 1,000 patient admissions | 0.25 | 0.36 | 0.43 | 0.47 | 0.45 |
| Rate per 10,000 patient days | 0.36 | 0.50 | 0.59 | 0.65 | 0.61 |
| Number of reporting hospitals | 64 | 61 | 68 | 80 | 77 |
| West | | | | | |
| Number of CA-MRSA BSIs | 137 | 203 | 251 | 255 | 250 |
| Rate per 1,000 patient admissions | 0.31 | 0.45 | 0.55 | 0.62 | 0.62 |
| Rate per 10,000 patient days | 0.43 | 0.64 | 0.75 | 0.83 | 0.82 |
| Central | | | | | |
| Number of CA-MRSA BSIs | 100 | 147 | 192 | 192 | 168 |
| Rate per 1,000 patient admissions | 0.22 | 0.34 | 0.40 | 0.42 | 0.35 |
| Rate per 10,000 patient days | 0.33 | 0.48 | 0.57 | 0.58 | 0.49 |
| East | | | | | |
| Number of CA-MRSA BSIs | 16 | 9 | 8 | 32 | 35 |
| Rate per 1,000 patient admissions | 0.15 | 0.09 | 0.08 | 0.24 | 0.28 |
| Rate per 10,000 patient days | 0.17 | 0.10 | 0.09 | 0.34 | 0.40 |
| North | | | | | |
| Number of CA-MRSA BSIs | N/A | N/A | 0 | 1 | N/A |
| Rate per 1,000 patient admissions | N/A | N/A | 0 | 0.44 | N/A |
| Rate per 10,000 patient days | N/A | N/A | 0 | 1.64 | N/A |
| Hospital type | | | | | |
| Adults | | | | | |
| Number of CA-MRSA BSIs | 144 | 226 | 284 | 269 | 251 |
| Rate per 1,000 patient admissions | 0.29 | 0.46 | 0.52 | 0.51 | 0.46 |
| Rate per 10,000 patient days | 0.36 | 0.57 | 0.66 | 0.63 | 0.56 |
| Mixed | | | | | |
| Number of CA-MRSA BSIs | 98 | 114 | 147 | 198 | 184 |
| Rate per 1,000 patient admissions | 0.24 | 0.27 | 0.35 | 0.46 | 0.47 |



Table S2.1: Cases and incidence rates of healthcare-associated and community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infections by region, hospital type and hospital size, 2017–2021 (continued)

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| CA-MRSA BSI (continued) | | | | | |
| Hospital type (continued) | | | | | |
| Mixed (continued) | | | | | |
| Rate per 10,000 patient days | 0.36 | 0.41 | 0.52 | 0.74 | 0.73 |
| Paediatric | | | | | |
| Number of CA-MRSA BSIs | 11 | 19 | 20 | 13 | 18 |
| Rate per 1,000 patient admissions | 0.13 | 0.29 | 0.25 | 0.22 | 0.24 |
| Rate per 10,000 patient days | 0.28 | 0.47 | 0.45 | 0.32 | 0.43 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of CA-MRSA BSIs | 13 | 22 | 26 | 31 | 32 |
| Rate per 1,000 patient admissions | 0.21 | 0.32 | 0.24 | 0.19 | 0.20 |
| Rate per 10,000 patient days | 0.27 | 0.38 | 0.36 | 0.34 | 0.34 |
| Medium (201–499 beds) | | | | | |
| Number of CA-MRSA BSIs | 155 | 186 | 251 | 267 | 261 |
| Rate per 1,000 patient admissions | 0.27 | 0.34 | 0.45 | 0.54 | 0.52 |
| Rate per 10,000 patient days | 0.41 | 0.50 | 0.65 | 0.74 | 0.75 |
| Large (500+ beds) | | | | | |
| Number of CA-MRSA BSIs | 82 | 151 | 174 | 182 | 160 |
| Rate per 1,000 patient admissions | 0.24 | 0.41 | 0.46 | 0.51 | 0.46 |
| Rate per 10,000 patient days | 0.30 | 0.53 | 0.58 | 0.64 | 0.54 |

Abbreviations: CA-MRSA BSI, community-associated methicillin-resistant *S. aureus* bloodstream infection; HA-MRSA BSI, healthcare-associated methicillin-resistant *S. aureus* bloodstream infection; *S. aureus*, *Staphylococcus aureus*



Table S2.2: Antimicrobial resistance of healthcare-associated and community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infection isolates^{a,b,c}, Canada, 2017–2021

| Antibiotic | Year | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| HA-MRSA BSI | | | | | | | | | | |
| Erythromycin | 239 | 80.2 | 255 | 76.8 | 256 | 76.2 | 176 | 70.1 | 180 | 70.3 |
| Ciprofloxacin | 228 | 76.5 | 248 | 74.7 | 244 | 72.6 | 166 | 66.1 | 172 | 67.2 |
| Clindamycin | 141 | 47.3 | 166 | 50.0 | 160 | 47.6 | 87 | 34.7 | 93 | 36.3 |
| Tetracycline | 16 | 5.4 | 15 | 4.5 | 27 | 8.0 | 18 | 7.2 | 25 | 9.8 |
| Trimethoprim/sulfamethoxazole | 4 | 1.3 | 3 | 0.9 | 7 | 2.1 | 5 | 2.0 | 13 | 5.1 |
| Rifampin | 3 | 1.0 | 3 | 0.9 | 7 | 2.1 | 2 | 0.8 | 6 | 2.3 |
| Tigecycline | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.4 | 2 | 0.8 |
| Daptomycin | 2 | 0.7 | 0 | 0 | 1 | 0.3 | 2 | 0.8 | 3 | 1.2 |
| Total number of isolates tested ^d | 298 | N/A | 332 | N/A | 336 | N/A | 251 | N/A | 256 | N/A |
| CA-MRSA BSI | | | | | | | | | | |
| Erythromycin | 188 | 81.0 | 243 | 73.4 | 307 | 76.0 | 276 | 71.9 | 233 | 67.0 |
| Ciprofloxacin | 177 | 76.3 | 231 | 69.8 | 272 | 67.3 | 240 | 62.5 | 213 | 61.2 |
| Clindamycin | 85 | 36.6 | 110 | 33.2 | 122 | 30.2 | 122 | 31.8 | 83 | 23.9 |
| Tetracycline | 18 | 7.8 | 32 | 9.7 | 27 | 6.7 | 22 | 5.7 | 21 | 6.0 |
| Trimethoprim/sulfamethoxazole | 3 | 1.3 | 10 | 3.0 | 7 | 1.7 | 11 | 2.9 | 12 | 3.4 |
| Rifampin | 6 | 2.6 | 3 | 0.9 | 0 | 0 | 2 | 0.5 | 2 | 0.6 |
| Tigecycline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Daptomycin | 3 | 1.3 | 0 | 0 | 2 | 0.5 | 3 | 0.8 | 2 | 0.6 |
| Total number of isolates tested ^d | 232 | N/A | 331 | N/A | 404 | N/A | 384 | N/A | 348 | N/A |

Abbreviations: CA-MRSA BSI, community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infection; HA-MRSA BSI, healthcare-associated methicillin-resistant *Staphylococcus aureus* bloodstream infection; N/A, not applicable

^a Isolates with unknown case type were excluded from stratified analysis

^b All MRSA isolates from 2017 to 2021 submitted to National Microbiology Laboratory were susceptible to linezolid and vancomycin

^c In some years, the number of isolates tested for resistance varied by antibiotic

^d Total number reflects the number of isolates tested for each of the antibiotics listed above



Table S2.3: Number and proportion of select methicillin-resistant *Staphylococcus aureus* spa types (with corresponding epidemic types) identified^a

| Epidemic type | Year | | | | | | | | | |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| HA-MRSA BSI | | | | | | | | | | |
| t002 (CMRSA2) | 70 | 23.5 | 83 | 25.0 | 68 | 20.2 | 39 | 15.5 | 40 | 15.6 |
| t1508 (CMRSA7) | 6 | 2.0 | 16 | 4.8 | 6 | 1.8 | 15 | 6.0 | 13 | 5.1 |
| t008 (CMRSA10) | 75 | 25.2 | 98 | 29.5 | 95 | 28.3 | 72 | 28.7 | 69 | 27.0 |
| Other spa types ^b | 147 | 49.3 | 135 | 40.7 | 167 | 49.7 | 125 | 49.8 | 134 | 52.3 |
| Total number of isolates tested | 298 | N/A | 332 | N/A | 336 | N/A | 251 | N/A | 256 | N/A |
| CA-MRSA BSI | | | | | | | | | | |
| t002 (CMRSA2) | 26 | 11.2 | 41 | 12.4 | 40 | 9.9 | 33 | 8.6 | 14 | 4.0 |
| t1508 (CMRSA7) | 25 | 10.8 | 20 | 6.0 | 40 | 9.9 | 48 | 12.5 | 37 | 10.6 |
| t008 (CMRSA10) | 105 | 45.3 | 149 | 45.0 | 171 | 42.3 | 176 | 45.8 | 170 | 48.9 |
| Other spa types ^b | 76 | 32.8 | 121 | 36.6 | 153 | 37.9 | 127 | 33.1 | 127 | 36.5 |
| Total number of isolates tested | 232 | N/A | 331 | N/A | 404 | N/A | 384 | N/A | 348 | N/A |

Abbreviations: CA-MRSA BSI, community-associated methicillin-resistant *Staphylococcus aureus* bloodstream infection; HA-MRSA BSI, healthcare-associated methicillin-resistant *Staphylococcus aureus* bloodstream infection; N/A, not applicable

^a MRSA blood isolates are collected year-round

^b Other spa types from 2017 to 2021 include, but are not limited to t024 (CMRSA10), t574 (CMRSA10), t128 (CMRSA7) and t019 (USA1100)



Table S3.1: Number of vancomycin-resistant *Enterococcus* bloodstream infections incidence rates by region, hospital type and hospital size, 2017–2021

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| National | | | | | |
| Number of VRE BSIs | 154 | 242 | 241 | 223 | 246 |
| Rate per 1,000 patient admissions | 0.16 | 0.25 | 0.23 | 0.22 | 0.25 |
| Rate per 10,000 patient days | 0.23 | 0.33 | 0.30 | 0.30 | 0.33 |
| Number of reporting hospitals | 59 | 62 | 70 | 80 | 76 |
| West | | | | | |
| Number of VRE BSIs | 47 | 99 | 92 | 114 | 127 |
| Rate per 1,000 patient admissions | 0.13 | 0.25 | 0.21 | 0.29 | 0.32 |
| Rate per 10,000 patient days | 0.18 | 0.35 | 0.29 | 0.39 | 0.42 |
| Central | | | | | |
| Number of VRE BSIs | 106 | 142 | 149 | 107 | 119 |
| Rate per 1,000 patient admissions | 0.22 | 0.30 | 0.28 | 0.23 | 0.25 |
| Rate per 10,000 patient days | 0.32 | 0.40 | 0.39 | 0.30 | 0.34 |
| East | | | | | |
| Number of VRE BSIs | 1 | 1 | 0 | 2 | 0 |
| Rate per 1,000 patient admissions | 0.01 | 0.01 | 0 | 0.01 | 0 |
| Rate per 10,000 patient days | 0.01 | 0.01 | 0 | 0.02 | 0 |
| Hospital type | | | | | |
| Adult | | | | | |
| Number of VRE BSIs | 116 | 200 | 199 | 178 | 196 |
| Rate per 1,000 patient admissions | 0.23 | 0.37 | 0.34 | 0.33 | 0.35 |
| Rate per 10,000 patient days | 0.29 | 0.45 | 0.41 | 0.40 | 0.42 |
| Mixed | | | | | |
| Number of VRE BSIs | 37 | 38 | 31 | 42 | 50 |
| Rate per 1,000 patient admissions | 0.10 | 0.10 | 0.08 | 0.10 | 0.13 |
| Rate per 10,000 patient days | 0.16 | 0.16 | 0.12 | 0.17 | 0.21 |
| Paediatric | | | | | |
| Number of VRE BSIs | 1 | 4 | 11 | 3 | 0 |
| Rate per 1,000 patient admissions | 0.01 | 0.06 | 0.14 | 0.05 | 0 |
| Rate per 10,000 patient days | 0.03 | 0.10 | 0.25 | 0.07 | 0 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of VRE BSIs | 11 | 21 | 26 | 12 | 12 |
| Rate per 1,000 patient admissions | 0.15 | 0.28 | 0.24 | 0.08 | 0.08 |
| Rate per 10,000 patient days | 0.18 | 0.34 | 0.35 | 0.13 | 0.14 |
| Medium (201–499 beds) | | | | | |
| Number of VRE BSIs | 73 | 113 | 109 | 118 | 128 |
| Rate per 1,000 patient admissions | 0.13 | 0.21 | 0.19 | 0.23 | 0.26 |
| Rate per 10,000 patient days | 0.20 | 0.30 | 0.26 | 0.31 | 0.36 |
| Large (500+ beds) | | | | | |
| Number of VRE BSIs | 70 | 108 | 106 | 93 | 106 |
| Rate per 1,000 patient admissions | 0.22 | 0.29 | 0.28 | 0.28 | 0.30 |
| Rate per 10,000 patient days | 0.29 | 0.38 | 0.35 | 0.35 | 0.36 |

Abbreviation: VRE BSI, vancomycin-resistant *Enterococcus* bloodstream infections

**Table S3.2: Number of healthcare-associated vancomycin-resistant *Enterococcus* bloodstream infections^a and incidence rates by region, hospital type and hospital size, 2017–2021**

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| National | | | | | |
| Number of HA-VRE BSIs | 146 | 219 | 211 | 203 | 215 |
| Rate per 1,000 patient admissions | 0.16 | 0.23 | 0.20 | 0.21 | 0.22 |
| Rate per 10,000 patient days | 0.22 | 0.30 | 0.27 | 0.28 | 0.29 |
| Number of reporting hospitals | 59 | 62 | 70 | 80 | 76 |
| West | | | | | |
| Number of HA-VRE BSIs | 45 | 90 | 83 | 105 | 109 |
| Rate per 1,000 patient admissions | 0.12 | 0.23 | 0.19 | 0.27 | 0.27 |
| Rate per 10,000 patient days | 0.18 | 0.32 | 0.26 | 0.36 | 0.36 |
| Central | | | | | |
| Number of HA-VRE BSIs | 100 | 128 | 128 | 96 | 106 |
| Rate per 1,000 patient admissions | 0.21 | 0.27 | 0.24 | 0.21 | 0.23 |
| Rate per 10,000 patient days | 0.30 | 0.36 | 0.33 | 0.29 | 0.30 |
| East | | | | | |
| Number of HA-VRE BSIs | 1 | 1 | 0 | 2 | 0 |
| Rate per 1,000 patient admissions | 0.01 | 0.01 | 0 | 0.01 | 0 |
| Rate per 10,000 patient days | 0.01 | 0.01 | 0 | 0.02 | 0 |
| Hospital type | | | | | |
| Adult | | | | | |
| Number of HA-VRE BSIs | 110 | 186 | 173 | 158 | 169 |
| Rate per 1,000 patient admissions | 0.22 | 0.35 | 0.29 | 0.31 | 0.31 |
| Rate per 10,000 patient days | 0.28 | 0.42 | 0.36 | 0.37 | 0.36 |
| Mixed | | | | | |
| Number of HA-VRE BSIs | 35 | 29 | 27 | 42 | 46 |
| Rate per 1,000 patient admissions | 0.10 | 0.08 | 0.07 | 0.10 | 0.12 |
| Rate per 10,000 patient days | 0.15 | 0.12 | 0.10 | 0.17 | 0.19 |
| Paediatric | | | | | |
| Number of HA-VRE BSIs | 1 | 4 | 11 | 3 | 0 |
| Rate per 1,000 patient admissions | 0.01 | 0.06 | 0.14 | 0.05 | 0 |
| Rate per 10,000 patient days | 0.03 | 0.10 | 0.25 | 0.07 | 0 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of HA-VRE BSIs | 11 | 21 | 25 | 12 | 9 |
| Rate per 1,000 patient admissions | 0.15 | 0.28 | 0.23 | 0.08 | 0.06 |
| Rate per 10,000 patient days | 0.18 | 0.34 | 0.33 | 0.13 | 0.10 |
| Medium (201–499 beds) | | | | | |
| Number of HA-VRE BSIs | 70 | 104 | 93 | 108 | 108 |
| Rate per 1,000 patient admissions | 0.13 | 0.20 | 0.16 | 0.22 | 0.22 |
| Rate per 10,000 patient days | 0.19 | 0.27 | 0.22 | 0.30 | 0.30 |
| Large (500+ beds) | | | | | |
| Number of HA-VRE BSIs | 65 | 94 | 93 | 83 | 98 |
| Rate per 1,000 patient admissions | 0.20 | 0.26 | 0.25 | 0.25 | 0.28 |
| Rate per 10,000 patient days | 0.27 | 0.33 | 0.31 | 0.31 | 0.33 |

Abbreviation: HA-VRE BSI, healthcare-associated vancomycin-resistant *Enterococcus* bloodstream infections^a Includes all cases identified and have been acquired within Canadian Nosocomial Infection Surveillance Program (CNISP) hospitals and/or from any other healthcare exposure (non-CNISP hospitals, clinics, long-term care facility, etc.) as per the case definition in the Appendix



Table S3.3: Number and proportion of vancomycin-resistant *Enterococcus* bloodstream infections isolate types identified, 2017–2021

| Isolate type | Year | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| VanA, <i>Enterococcus faecium</i> | 110 | 95.7 | 178 | 97.3 | 172 | 99.4 | 127 | 95.5 | 130 | 90.9 |
| VanB, <i>Enterococcus faecium</i> | 5 | 4.3 | 1 | 0.5 | 1 | 0.6 | 4 | 3.0 | 13 | 9.1 |
| VanA and VanB, <i>Enterococcus faecium</i> | 0 | 0.0 | 1 | 0.5 | 0 | 0.0 | 1 | 0.8 | 0 | 0.0 |
| VanA, <i>Enterococcus faecalis</i> | 0 | 0.0 | 3 | 1.6 | 0 | 0.0 | 1 | 0.8 | 0 | 0.0 |
| Total number of isolates tested | 115 | N/A | 183 | N/A | 173 | N/A | 133 | N/A | 143 | N/A |

Abbreviation: N/A, not applicable

Table S3.4: Distribution of vancomycin-resistant *Enterococcus faecium* bloodstream sequence types, 2017–2021

| Sequence type | Year | | | | | | | | | |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| ST17 | 7 | 6.1 | 9 | 5.0 | 31 | 17.9 | 45 | 34.1 | 77 | 53.8 |
| ST18 | 6 | 5.2 | 3 | 1.7 | 4 | 2.3 | 2 | 1.5 | 0 | 0.0 |
| ST80 | 10 | 8.7 | 21 | 11.7 | 27 | 15.6 | 22 | 16.7 | 27 | 18.9 |
| ST117 | 18 | 15.7 | 25 | 13.9 | 18 | 10.4 | 15 | 11.4 | 10 | 7.0 |
| ST203 | 8 | 7.0 | 1 | 0.6 | 0 | 0.0 | 3 | 2.3 | 1 | 0.7 |
| ST412 | 8 | 7.0 | 8 | 4.4 | 1 | 0.6 | 2 | 1.5 | 0 | 0.0 |
| ST734 | 15 | 13.0 | 21 | 11.7 | 20 | 11.6 | 10 | 7.6 | 8 | 5.6 |
| ST1478 | 31 | 27.0 | 67 | 37.2 | 54 | 31.2 | 26 | 19.7 | 10 | 7.0 |
| Other ^a | 12 | 10.4 | 25 | 13.9 | 16 | 9.2 | 6 | 4.5 | 7 | 4.9 |
| Untypeable | 0 | 0.0 | 0 | 0.0 | 2 | 1.2 | 1 | 0.8 | 3 | 2.1 |
| Total number of isolates tested | 115 | N/A | 180 | N/A | 173 | N/A | 132 | N/A | 143 | N/A |

Abbreviation: N/A, not applicable

^a "Other" includes ST16, ST56, ST78, ST132, ST154, ST192, ST233, ST252, ST262, ST280, ST282, ST323, ST375, ST414, ST494, ST584, ST612, ST662, ST663, ST664, ST665, ST721, ST736, ST750, ST761, ST772, ST786, ST787, ST802, ST835, ST836, ST912, ST982, ST983, ST984, ST992, ST1032, ST1112, ST1113, ST1201, ST1265, ST1421, ST1424, ST1497, ST1587, ST1612, ST1692, ST1821, ST1824

Note: Four *E. faecalis* were not included because multilocus sequence typing (MLST) scheme is different

Table S4: Number of carbapenemase-producing *Enterobacterales* infections and incidence rates by region, hospital type and hospital size, 2017–2021

| Case and incidence rates | Year | | | | |
|-----------------------------------|------|------|------|------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| National | | | | | |
| Number of CPE infections | 20 | 36 | 50 | 41 | 55 |
| Rate per 1,000 patient admissions | 0.02 | 0.04 | 0.06 | 0.05 | 0.06 |
| Rate per 10,000 patient days | 0.03 | 0.06 | 0.08 | 0.06 | 0.08 |
| Number of reporting hospitals | 52 | 51 | 59 | 75 | 77 |
| West | | | | | |
| Number of CPE infections | 14 | 21 | 21 | 12 | 27 |
| Rate per 1,000 patient admissions | 0.04 | 0.06 | 0.06 | 0.04 | 0.07 |
| Rate per 10,000 patient days | 0.06 | 0.09 | 0.08 | 0.05 | 0.10 |
| Central | | | | | |
| Number of CPE infections | 5 | 15 | 28 | 26 | 27 |
| Rate per 1,000 patient admissions | 0.01 | 0.04 | 0.06 | 0.06 | 0.06 |
| Rate per 10,000 patient days | 0.02 | 0.05 | 0.09 | 0.08 | 0.08 |
| East | | | | | |
| Number of CPE infections | 1 | 0 | 1 | 3 | 1 |
| Rate per 1,000 patient admissions | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 |
| Rate per 10,000 patient days | 0.02 | 0.00 | 0.01 | 0.03 | 0.01 |
| Hospital type | | | | | |
| Adult | | | | | |
| Number of CPE infections | 15 | 27 | 38 | 30 | 41 |
| Rate per 1,000 patient admissions | 0.03 | 0.06 | 0.07 | 0.06 | 0.08 |
| Rate per 10,000 patient days | 0.04 | 0.07 | 0.09 | 0.07 | 0.09 |
| Mixed | | | | | |
| Number of CPE infections | 5 | 8 | 8 | 10 | 13 |
| Rate per 1,000 patient admissions | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 |
| Rate per 10,000 patient days | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 |
| Paediatric | | | | | |
| Number of CPE infections | 0 | 1 | 4 | 1 | 1 |
| Rate per 1,000 patient admissions | 0.00 | 0.02 | 0.06 | 0.02 | 0.02 |
| Rate per 10,000 patient days | 0.00 | 0.03 | 0.11 | 0.03 | 0.03 |
| Hospital size | | | | | |
| Small (1–200 beds) | | | | | |
| Number of CPE infections | 1 | 2 | 7 | 3 | 1 |
| Rate per 1,000 patient admissions | 0.01 | 0.03 | 0.08 | 0.02 | 0.01 |
| Rate per 10,000 patient days | 0.02 | 0.05 | 0.13 | 0.04 | 0.01 |
| Medium (201–499 beds) | | | | | |
| Number of CPE infections | 6 | 10 | 18 | 19 | 24 |
| Rate per 1,000 patient admissions | 0.01 | 0.03 | 0.04 | 0.05 | 0.05 |
| Rate per 10,000 patient days | 0.02 | 0.04 | 0.06 | 0.06 | 0.07 |
| Large (500+ beds) | | | | | |
| Number of CPE infections | 13 | 24 | 25 | 19 | 30 |
| Rate per 1,000 patient admissions | 0.04 | 0.07 | 0.07 | 0.06 | 0.10 |
| Rate per 10,000 patient days | 0.05 | 0.09 | 0.09 | 0.08 | 0.12 |

Abbreviation: CPE, carbapenemase-producing *Enterobacterales*

Table S5: Number and proportion of main carbapenemase-producing pathogens identified^a

| Pathogen | Year | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
| | n | % | n | % | n | % | n | % | n | % |
| <i>Klebsiella pneumoniae</i> | 51 | 25.4 | 66 | 28.2 | 57 | 21.3 | 48 | 19.5 | 51 | 17.7 |
| <i>Escherichia coli</i> | 60 | 29.9 | 54 | 23.1 | 83 | 31.1 | 83 | 33.7 | 69 | 24 |
| <i>Enterobacter cloacae</i> complex ^b | 39 | 19.4 | 44 | 18.8 | 60 | 22.5 | 54 | 22 | 64 | 22.2 |
| <i>Acinetobacter baumannii</i> | 14 | 7.0 | 6 | 2.6 | 5 | 1.9 | 1 | 0.4 | 4 | 1.4 |
| <i>Serratia marcescens</i> | 3 | 1.5 | 7 | 3.0 | 3 | 1.1 | 4 | 1.6 | 1 | 0.3 |
| <i>Citrobacter freundii</i> | 16 | 8 | 18 | 7.7 | 40 | 15 | 39 | 15.9 | 49 | 17 |
| <i>Klebsiella oxytoca</i> | 11 | 5.5 | 11 | 4.7 | 12 | 4.5 | 5 | 2 | 20 | 6.9 |
| Others | 7 | 3.5 | 28 | 12 | 7 | 2.6 | 12 | 4.9 | 30 | 10.4 |
| Total number of isolates tested | 201 | N/A | 234 | N/A | 267 | N/A | 246 | N/A | 288 | N/A |

Abbreviation: N/A, not applicable

^a Includes data for all isolates submitted^b *Enterobacter cloacae* complex includes *Enterobacter cloacae* and other *Enterobacter* spp. but excluding *E. aerogenes*