### Appendix 1. Antimicrobial agents used in antimicrobial susceptibility tests and n (%) of resistant isolators in the nine years.

|                          | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------------------|------|------|------|------|------|------|------|------|------|
| Total                    | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 17   | 13   |
| Meropenem                | 3    | 12   | 6    | 3    | 8    | 13   | 15   | 13   | 10   |
| Resistant, n (%)         | 1 (33.3) | 10 (83.3) | 4 (66.7) | 2 (66.7) | 8 (100.0) | 12 (92.3) | 10 (66.7) | 12 (92.3) | 9 (90.0) |
| Imipenem                 | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 17   | 13   |
| Resistant, n (%)         | 3 (100.0) | 11 (91.7) | 6 (100.0) | 4 (100.0) | 7 (87.5) | 13 (100.0) | 16 (100.0) | 17 (100.0) | 13 (100.0) |
| Amoxicillin-clavulanate  | 2    | 3    | 3    | 2    | 3    | 1    | 4    | 6    |      |
| Resistant, n (%)         | 2 (100.0) | 2 (66.7) | 3 (100.0) | 2 (100.0) | 2 (100.0) | 3 (100.0) | 1 (100.0) | 4 (100.0) | 6 (100.0) |
| Ampicillin-sulbactam     | 3    | 8    | 4    | 3    | 7    | 11   | 14   | 15   | 4    |
| Resistant, n (%)         | 3 (100.0) | 6 (75.0) | 4 (100.0) | 3 (100.0) | 5 (71.4) | 9 (81.8) | 9 (64.3) | 12 (80.0) | 4 (100.0) |
| Ciprofloxacin            | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 16   | 8    |
| Resistant, n (%)         | 1 (33.3) | 10 (83.3) | 4 (66.7) | 3 (75.0) | 8 (100.0) | 11 (84.6) | 11 (68.8) | 14 (87.5) | 7 (87.5) |
| Amikacin                 | 3    | 12   | 6    | 4    | 8    | 13   | 15   | 9    | 9    |
| Resistant, n (%)         | 1 (33.3) | 8 (66.7) | 4 (66.7) | 0 (0.0) | 6 (75.0) | 8 (61.5) | 7 (46.7) | 7 (22.2) | 6 (66.7) |
| Aztreonam                | 2    | 7    | 5    | 4    | 3    | 7    | 11   | 7    | 5    |
| Resistant, n (%)         | 1 (50.0) | 5 (71.4) | 4 (80.0) | 3 (75.0) | 3 (100.0) | 6 (85.7) | 6 (54.5) | 6 (85.7) | 5 (100.0) |
| Piperacillin             | 3    | 12   | 6    | 3    | 8    | 13   | 15   | 7    |      |
| Resistant, n (%)         | 1 (33.3) | 9 (75.0) | 5 (83.3) | 2 (66.7) | 7 (87.5) | 12 (92.3) | 10 (66.7) | 5 (71.4) |      |
| Piperacillin-tazobactam  | 3    | 12   | 6    | 4    | 7    | 13   | 15   | 14   | 13   |
| Resistant, n (%)         | 1 (33.3) | 9 (75.0) | 4 (66.7) | 3 (75.0) | 7 (100.0) | 12 (92.3) | 8 (53.3) | 11 (78.6) | 12 (92.3) |
| Gentamicin               | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 16   |      |
| Resistant, n (%)         | 1 (33.3) | 9 (75.0) | 5 (83.3) | 0 (0.0) | 6 (75.0) | 10 (76.9) | 11 (68.8) | 14 (87.5) |      |
| Cefepime                 | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 17   | 13   |
| Resistant, n (%)         | 1 (33.3) | 10 (83.3) | 4 (66.7) | 3 (75.0) | 8 (100.0) | 12 (92.3) | 11 (68.8) | 16 (94.1) | 11 (84.6) |
| Cefotaxime               | 3    | 9    | 5    | 2    | 8    | 9    | 1    |      |      |
| Resistant, n (%)         | 2 (66.7) | 8 (88.9) | 4 (80.0) | 2 (100.0) | 8 (100.0) | 9 (100.0) | 1 (100.0) |      |      |
| Ceftazidime              | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 17   | 13   |
| Resistant, n (%)         | 2 (66.7) | 10 (83.3) | 5 (83.3) | 3 (75.0) | 8 (100.0) | 12 (92.3) | 11 (68.8) | 16 (94.1) | 12 (92.3) |
| Levofoxacin              | 3    | 12   | 6    | 4    | 8    | 13   | 16   | 17   | 13   |
| Resistant, n (%)         | 1 (33.3) | 9 (75.0) | 4 (66.7) | 3 (75.0) | 7 (87.5) | 10 (76.9) | 6 (37.5) | 9 (52.9) | 10 (76.9) |
| Polymyxin                | 3    | 12   | 6    | 3    | 8    | 10   | 1    |      |      |
| Resistant, n (%)         | 1 (33.3) | 2 (16.7) | 1 (16.7) | 0 (0.0) | 1 (12.5) | 0 (0.0) | 0 (0.0) |      |      |
| Ampicillin               | 2    | 3    | 3    | 3    | 2    | 5    |      |      |      |
| Resistant, n (%)         | 2 (100.0) | 2 (66.7) | 3 (100.0) | 3 (100.0) | 2 (100.0) | 5 (100.0) |      |      |      |
| Trimethoprim-sulfamethoxazole | 3 | 9 | 5 | 3 | 8 | 12 | 14 | 17 | 12 |
| Resistant, n (%)         | 1 (33.3) | 2 (22.2) | 1 (20.0) | 0 (0.0) | 6 (75.0) | 7 (58.3) | 7 (50.0) | 5 (29.4) | 2 (16.7) |
| Tetracycline             | 3    | 9    | 4    | 2    | 7    | 9    | 1    |      |      |
| Antibiotic          | Resistant, n (%) | 1 (33.3) | 6 (66.7) | 2 (50.0) | 0 (0.0) | 6 (85.7) | 6 (66.7) | 1 (100.0) |
|---------------------|------------------|----------|----------|----------|---------|----------|----------|-----------|
| Chloramphenicol     | Resistant, n (%) | 2        | 4        | 4        | 2       | 3        | 3        | 1         |
| Ceftizoxime         | Resistant, n (%) | 0 (0.0)  | 2 (50.0) | 1 (25.0) | 0 (0.0) | 0 (0.0)  | 0 (0.0)  | 1 (100.0) |
| Cefoxitin           | Resistant, n (%) | 2 (100.0)| 3 (75.0) | 3 (75.0) | 3 (100.0)| 2 (66.7) | 6 (100.0)| 9 (100.0) |
| Tobramycin          | Resistant, n (%) | 2 (100.0)| 3 (75.0) | 3 (75.0) | 3 (100.0)| 2 (66.7) | 6 (100.0)| 9 (100.0) |
| Nitrofurantoin      | Resistant, n (%) | 2 (100.0)| 1 (100.0)| 3 (75.0) | 15 (93.8)| 14 (87.5)| 4 (100.0)|           |
| Ceftriaxone         | Resistant, n (%) | 8        | 17       | 8        |         |          |          |           |
| Cefuroxime          | Resistant, n (%) | 8        | 17       | 8        |         |          |          |           |
| Cefotetan           | Resistant, n (%) | 8        | 16       |          |         |          |          |           |
| Tobramycin          | Resistant, n (%) | 2 (100.0)| 1 (100.0)| 3 (75.0) | 15 (93.8)| 14 (87.5)| 4 (100.0)|           |
| Nitrofurantoin      | Resistant, n (%) | 8 (100.0)| 16 (94.1)| 8 (100.0)|         |          |          |           |
| Cefuroxime          | Resistant, n (%) | 8 (100.0)| 16 (94.1)| 8 (100.0)|         |          |          |           |
| Cefotetan           | Resistant, n (%) | 8        | 16       |          |         |          |          |           |
## Appendix 2. The antimicrobial resistance and treatment of different groups

| Initial empirical treatment | Group A (n=41) | Group B (n=12) | Group C (n=39) |
|-----------------------------|----------------|----------------|----------------|
| Meropenem (n=30) | Meropenem (n=9) | Meropenem | |
| Trimethoprim-sulfamethoxazole (n=2) | | | |
| Ceftazidime (n=2) | Levofoxin (n=1) | | |
| Piperacillin sulbactam (n=2) | Ceftazidime (n=1) | | |
| Cefoperazone Sulbactam (n=1) | Multiple (n=1) | Etimicin (n=1) | |
| Multiple (n=1) | | | |

| Judgment | Group A (n=41) | Group B (n=12) | Group C (n=39) |
|----------|----------------|----------------|----------------|
| Active (n=16) | | Same-type active (n=1) | |
| Untested (n=1) | | Other untested (n=3) | |
| Inactive (n=19) | Inactive (n=10) | Same-type inactive (n=9) | |

| Adjusted empirical treatment | Group A (n=41) | Group B (n=12) | Group C (n=39) |
|-----------------------------|----------------|----------------|----------------|
| Piperacillin sulbactam to meropenem (n=2) | | Meropenem to tigecycline (n=3) | |
| Meropenem to etimicin (n=1) | | Meropenem to Meropenem/sulbactam (n=2) | |
| Meropenem to cefoperazone sulbactam (n=1) | Levofoxin+ceftazidime to meropenem (n=1) | Meropenem to polymyxin (n=2) | |
| Meropenem to trimethoprim-sulfamethoxazole (n=1) | | Meropenem to cefoperazone sulbactam (n=1) | |

| Judgment | Group A (n=41) | Group B (n=12) | Group C (n=39) |
|----------|----------------|----------------|----------------|
| Active (n=17) | | Same-type active (n=2) | |
| Other untested (n=1) | | Other untested (n=10) | |
| Same-type inactive (n=1) | Inactive (n=10) | Same-type inactive (n=7) | |
| Inactive | | Inactive | |
| Initial targeted treatment | Active (n=29) | Same-type active (n=1) | Other untested (n=3) | Inactive (n=7) | Same-type inactive (n=4) | Inactive (n=5) | Adjusted targeted treatment | Meropenem to polymyxin (n=3) | Meropenem to tigecycline (n=4) | Meropenem to tigecycline + etimicin (n=2) | Meropenem to etimicin (n=1) | Meropenem to cefoperazone sulbactam + meropenem/sulbactam (n=1) |
|---------------------------|---------------|------------------------|---------------------|---------------|-------------------------|---------------|-----------------------------|-----------------------------|--------------------------------|---------------------------------|--------------------------------|------------------------------------------------------------------|
| Meropenem (n=20)         |               |                        |                     |               |                         |               | Meropenem (n=12)           |                |                                |                                |                                | Meropenem to tigecycline (n=2) |                                                |
| Trimethoprim-sulfamethoxazole (n=10) |               |                        |                     |               |                         |               | Meropenem (n=11)           |                |                                |                                |                                | Meropenem to etimicin (n=1) |                                                |
| Levofoxacin (n=2)       |               |                        |                     |               |                         |               | Tigecycline (n=1)         |                |                                |                                |                                | Meropenem to cefoperazone sulbactam + meropenem/sulbactam |                                                |
| Judgment | Active (n=39) | Inactive (n=7) | Same-type active (n=6) | Other untested (n=28) | Same-type inactive (n=3) |
|----------|---------------|---------------|-----------------------|----------------------|------------------------|
|          |               |               |                       |                      |                        |

Group A: Cases received active antimicrobial agents as the antimicrobial agents with the highest priority;

Group B: Cases received inactive antimicrobial agents as the antimicrobial agents with the highest priority;

Group C: Cases received untested antimicrobial agents as the antimicrobial agents with the highest priority.

Same-type active or inactive: meropenem and imipenem, amikacin and etimicin, and tetracycline and tigecycline were seen as same-type antimicrobial agents in this study, respectively. If an antimicrobial agent was active or inactive, and another antimicrobial agent was untested, the another antimicrobial agent was seen as a same-type active or
inactive antimicrobial agent.