Assessing rates of co-resistance and patient outcomes in multidrug-resistant Pseudomonas aeruginosa

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Corresponding Author(s): Aisling Caffrey, University of Rhode Island College of Pharmacy

Review Timeline:

| Event                     | Date          |
|---------------------------|---------------|
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| Accepted                  | August 4, 2022|

Editor: Sen Pei

Reviewer(s): The reviewers have opted to remain anonymous.

Transaction Report:

(Note: With the exception of the correction of typographical or spelling errors that could be a source of ambiguity, letters and reports are not edited. The original formatting of letters and referee reports may not be reflected in this compilation.)

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July 20, 2022

Dr. Aisling R Caffrey
University of Rhode Island College of Pharmacy
Pharmacy Practice
7 Greenhouse Road
Kingston, RI 02881

Re: Spectrum02336-22 (Assessing rates of co-resistance and patient outcomes in multidrug-resistant Pseudomonas aeruginosa)

Dear Dr. Aisling R Caffrey:

Thank you for transferring your manuscript to Microbiology Spectrum. I have assessed the revised manuscript and the response to reviewers' comments. I would like to invite a revised manuscript to clarify some details in the statistical analysis.

The authors have addressed the comments from the two reviewers. Due to data limitation, several questions from the first reviewer cannot be directly addressed in the analysis other than acknowledging them as limitations. However, I still think this large-scale multi-center study contributes to the understanding of MDR P. aeruginosa in healthcare settings, providing study limitations are clearly communicated. Before acceptance of the manuscript, I suggest the authors to clarify several details in the statistical analysis. 1. A more detailed description of the statistical model should be presented, e.g., the response and covariates used in the model. 2. When comparing the clinical outcomes of patients with and without MDR, were any confounders controlled? 3. How did the authors deal with the cutoff of length of stay due to death in hospital?

Thank you for submitting your manuscript to Microbiology Spectrum. When submitting the revised version of your paper, please provide (1) point-by-point responses to the issues raised by the reviewers as file type "Response to Reviewers," not in your cover letter, and (2) a PDF file that indicates the changes from the original submission (by highlighting or underlining the changes) as file type "Marked Up Manuscript - For Review Only". Please use this link to submit your revised manuscript - we strongly recommend that you submit your paper within the next 60 days or reach out to me. Detailed instructions on submitting your revised paper are below.

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Sincerely,

Sen Pei
Editor, Microbiology Spectrum

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Reviewer comments:
Preparing Revision Guidelines
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Thank you for submitting your paper to Microbiology Spectrum.
Before acceptance of the manuscript, I suggest the authors to clarify several details in the statistical analysis.

1. A more detailed description of the statistical model should be presented, e.g., the response and covariates used in the model.

   Response: We have revised our statistical analysis section to clearly identify the dependent variables (clinical outcomes), independent variables of interest (resistance patterns), and methods for selecting other covariates (confounders) included in the models.

2. When comparing the clinical outcomes of patients with and without MDR, were any confounders controlled?

   Response: We apologize the comparison groups were not clearer. We have updated the abstract and statistical analysis section to clarify this. All patients in our analysis had MDR P. aeruginosa. The first resistance pattern assessed was MDR P. aeruginosa strains with and without co-resistance to carbapenems and extended-spectrum cephalosporins and piperacillin-tazobactam (with CARB/ESC/PT resistance versus susceptible to CARB, ESC, and/or PT). The second resistance pattern assessed was MDR P. aeruginosa strains with and without co-resistance to carbapenems and extended-spectrum cephalosporins and fluoroquinolones (with CARB/ESC/FQ resistance versus susceptible to CARB, ESC, and/or FQ). We have updated the statistical analysis section to clarify the assessment and control of confounders. The list of confounder controlled for can be found in the footnote of Table 3, and this information has been added to the statistical analysis section.

3. How did the authors deal with the cutoff of length of stay due to death in hospital?

   Response: For patients that died during the admission, the date of death was considered the end of the hospital stay. We have added this information to the Methods section.
August 4, 2022

Dr. Aisling R Caffrey
University of Rhode Island College of Pharmacy
Pharmacy Practice
7 Greenhouse Road
Kingston, RI 02881

Re: Spectrum02336-22R1 (Assessing rates of co-resistance and patient outcomes in multidrug-resistant Pseudomonas aeruginosa)

Dear Dr. Aisling R Caffrey:

Thanks for revising the manuscript to address my questions. I appreciate the authors' efforts in improving the manuscript.

Your manuscript has been accepted, and I am forwarding it to the ASM Journals Department for publication. You will be notified when your proofs are ready to be viewed.

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Thank you for submitting your paper to Spectrum.

Sincerely,

Sen Pei
Editor, Microbiology Spectrum

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Supplemental Table 1: Accept