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Authors' reply

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We appreciate Dr Rebecca Parry's comment on our recent publication and thoughtful reflections on the implications of our findings [1,2]. We fully agree that *Clostridioides difficile* infection (CDI) remains a major public health concern and appreciate the reader's emphasis on the need for ongoing surveillance, particularly in the context of rising antibiotic use globally.

Antibiotic exposure prior to CDI-related hospitalizations is a critical factor in understanding infection risk. Although antibiotic stewardship plays a central role in prevention, the National Inpatient Sample (NIS) database does not include patient-level medication data, such as antibiotic type, timing or duration. As a result, we could not evaluate prescribing patterns preceding CDI events. Future studies leveraging prescription-linked or electronic health record data will be essential to address this important gap.

Similarly, while the question of whether hospital setting, such as intensive care unit vs. general ward, might influence CDI rates is clinically relevant, such granular information is not available in the NIS. However, our study did include data on length of hospital stay, and we observed that patients with secondary CDI had longer admissions and higher severity indicators, reflecting the more complex clinical context of these hospitalizations. We also agree that age-stratified data on CDI complications and mortality would be clinically informative. While our study reported overall trends in adverse outcomes and mortality, detailed subgroup analyses by age were outside the scope of the initial report. We appreciate this suggestion and are exploring further analyses that may provide these insights.

Finally, we acknowledge the concern raised regarding the racial disparities in CDI trends. As noted in our discussion, we observed a more rapid decline in CDI-related hospitalizations among White patients compared to Black patients. Although we adjusted for comorbidity burden using the Elixhauser Index, the NIS does not contain information on outpatient antibiotic exposure or socioeconomic factors that might help explain this disparity. We strongly agree that future work should focus on the structural and systemic contributors to these differences.

References

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2. Parry R. Reassessing *Clostridioides difficile* trends and racial disparities. *Ann Gastroenterol* 2025;**38**: in press.

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Conflict of Interest: None

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