Reviewer's report

Title: Validation of the Chronic Disease Score-Infectious Disease (CDS-ID) for the Prediction of Hospital-Associated Clostridium difficile Infection (CDI) within a Retrospective Cohort

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Reviewer: Cassandra D Salgado

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Validation of the Chronic Disease Score-Infectious Disease (CDS-ID) for the Prediction of Hospital-Associated Clostridium difficile Infection (CDI) within a Retrospective Cohort

Thank you for the opportunity to review this interesting manuscript. It is very well written and provides helpful information regarding appropriate ways to control for confounders when assessing risk for CDI. I only had a few specific comments which I would consider minor essential:

1. Background, lines 51-53: Authors state, “The most common method to control for potential confounding by underlying comorbidity is to include a set of binary variables indicating the presence or absence of each individual comorbid condition of interest.” Please explain the limitations of using such an approach for controlling for confounders.

2. Background, line 75: Please change the word “know” to “known”.

3. Methods, lines 97-100: The authors state that “Briefly, patients were excluded if they had a history of CDI within 60 days prior to admission or if they developed CDI in the first 2 days of hospital stay, as infections developed during this time frame are considered to have been acquired in the community rather than in the hospital setting.” Were patients included if they developed CDI within 48 hours of admission but had been recently hospitalized and exposed to antibiotics.

4. Methods, line 117: The authors defined CDI as detection of C. difficile toxin in an unformed stool by enzyme immunoassay. There should be discussion regarding how this score is applicable when newer PCR based diagnostic tests are used.

5. Methods, lines 157-159: It was not clear to me why age was specifically chosen as the lone variable to assess the appropriateness of the score until the end of the paper in the discussion. Can the authors explain why this is used earlier in the paper?

6. The authors do a nice job of explaining the assessment of the models used to analyze the score.

7. Discussion, lines 310-312: The authors state they were not able to assess the performance of other co-morbidity scores on CDI. Why not- seems like the data is there?
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests