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Comments on: A Model to Predict Central-Line-Associated Bloodstream Infection Among Patients With Peripherally Inserted Central Catheters: The MPC Score

To the Editor—We read the article by Herc et al[1] with great interest. Although the methodology and results of the study were very interesting, we think some methodological issues should be noted.

The results demonstrate that area under the curve (AUC) for peripherally inserted central catheter (PICC) dwell times at 6, 10, 14 and 21 days were 0.70, 0.75, 0.77, and 0.80, respectively.[1] The authors point out that the central-line-associated bloodstream infections (CLABSI) risk model at dwell time of 21 days has good prediction performance because the AUC value at 21 days wasat its maximum.[1] To us the most important concern is that the difference between the AUC at 14 and 21 days is negligible (0.77 vs 0.80). In other words, the CLABSI risk model at dwell times of 14 and 21 days may have the same prediction performance. We recommend that the authors try to test the statistical comparison of AUCs with available statistical methods[2,3] because empirical comparisons of AUCs may be misleading.

Although AUC analysis can produce all possible discriminative thresholds, the results of AUC analyses can be hardly translated into clinical practice.[4] Net benefit methods are alternative approaches of receiver operating characteristic curve (ROC) analysis; these methods can better clarify the prediction performance of a PICC-CLABSI risk-prediction tool.

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