Editor—I read with interest the meta-analysis of Oliver and colleagues regarding risk assessment for emergency laparotomy, particularly on the absence of information on the performance of the ICNARC risk prediction model for this group of patients.

North Bristol NHS Trust (NBT) has a 48 bed general and neurotrauma intensive care unit. Mortality risk prediction and status at hospital discharge for 91 patients in a 16 month time period, undergoing emergency laparotomy and subsequently admitted to critical care at NBT, were extracted from local NELA and Wardwatcher databases. Unfortunately local NELA input is not yet 100% complete, so it is acknowledged that this does not represent all emergency laparotomies admitted to ICU in the time. A free online ROC curve calculator (www.vassarstats.net) was used to determine the area under the curve (AUC) for each model. The AUC for POSSUM (pre-operative calculation) was 0.7361 and that for POSSUM (post-operative calculation) was 0.7165. The AUC for the ICNARC model was 0.8729. The ICNARC model appears to have better discrimination than POSSUM for emergency laparotomy patients admitted to critical care.

In another cohort of emergency laparotomy patients in the same hospital, a troponin elevated more than three times the upper limit of normal, was associated with a likelihood ratio of death in ICU of 3.2. This is consistent with the known association between troponin elevation and mortality after non-cardiac surgery.

These local quality improvement projects serve to illustrate two points made in the article. First that current models’ performance can be improved and second that routinely available objective items are preferred to subjective ones. I would disagree with their conclusions that the model best placed for the UK is APACHE II. Given the wealth of population specific data in the Case Mix Programme and now being collected in NELA, plus the fact that the Emergency Laparotomy Collective requires all emergency laparotomies to be admitted to critical care, means that the ICNARC model should be the preferred one. If necessary calibration with NELA data with or without novel additions such as troponin should be use to tailor the model for the laparotomy population.

Declaration of interest
None declared.

References
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