outside the scope of an ACP intervention. Hospital transfers, for instance, are also affected by physicians’ availability and the proximity of emergency departments, among other factors. Showing an ACP video to residents, as PROVEN did, might affect these outcomes but it is unlikely—or no rationale is given—that it can do so on its own, beyond the influence of other factors.

We propose 2 methodological developments to improve selection of ACP outcomes and their matching with interventions. First, we need to pay more attention to matching specific ACP interventions with appropriate outcomes for evaluating them. Mitchell et al1 chose their outcomes based on importance to stakeholders and possibility of assessment through secondary data. It may have been helpful to consider in greater depth which outcomes could realistically be changed by the PROVEN intervention specifically. A suitable strategy may be to first define the desired outcomes of the ACP intervention at hand, and then to map backward the pathway of intermediate steps and interventions needed to achieve these outcomes.4 This exercise should also consider the ceiling of accountability of the intervention; outcomes beyond that point are not the responsibility of the intervention alone.

Second, we need to engage in a consensus process, involving professionals, patients, and family, to define a minimum (ie, core) set of outcomes that are considered important and can realistically be changed by ACP. These should be used across all pragmatic ACP trials, alongside any specific outcomes for a particular intervention. This would help to ensure relevant outcomes that are comparable across trials and hence suitable for meta-analysis. Completing this methodological work may bring us considerably closer to determining the effectiveness of ACP in nursing homes.

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Editorial Note: This letter was shown to the corresponding author of the original article, who declined to reply on behalf of the authors.


Prediction Models for COVID-19 Need Further Improvements

To the Editor Liang and colleagues1 developed a prediction model and web-based calculator to estimate the probability of development of critical illness in hospitalized patients with coronavirus 2019 (COVID-19). The model could benefit treatment decision and resource optimization. However, we have several comments on this model.

First, some of the 24 patients with severe illness in the development cohort might have already developed critical illness at admission, according to one of the major criteria for defining severity by American Thoracic Society guideline, “respiratory failure requiring mechanical ventilation.”2,4-8 Therefore, these patients, if any, should be excluded from the development cohort. Otherwise, the model performance was upward biased.

Second, 3 continuous laboratory predictors (neutrophil-to-lymphocyte ratio, lactate dehydrogenase, and direct bilirubin) were included in the model naively without the normality and linearity assumptions having been first checked. Laboratory values are usually skewed and may have a J-shaped or U-shaped relationship with the outcome; thus log-transformation and exploration of nonlinear relationship are recommended steps that were missing in the model development.

Third, the process of variable selection is somewhat weird. A total of 19 of 72 variables were selected by Lasso regression first, and then 10 of the 19 variables were identified by logistic regression. It was not clearly reported how this further selection was done and the rationale of not using lasso regression to select out the final predictors directly in one step.

Fourth, the model was not evaluated for its calibration performance,3 such as calibration intercept and calibration slope. Although the area under the receiver operating characteristic curve was reported, it is a measure of concordance reflecting the ability of a model to rank patients from high to low probability but does not assess the ability of a model to assign an accurate probability of an event.4,5 Therefore, area under receiver operating curve alone is insufficient to evaluate the capability of a prediction model, and calibration measurements are needed to assess the accuracy of absolute risk estimates.

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Letters

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Corrections to Assessment of Variation in State Regulation of Generic Drug and Interchangeable Biologic Substitutions

To the Editor In the primary data file for the Original Investigation titled “Assessment of Variation in State Regulation of Generic Drug and Interchangeable Biologic Substitutions,” members of the study team discovered errors pertaining to the coding of policies for interchangeable biologic substitution relative to small-molecule generics, which resulted in the misclassification of some states. We therefore re-reviewed the statutes and regulations related to interchangeable biologic substitution, re-coded the results, and identified necessary corrections.

The corrected Table 2 and accompanying text show no differences in consent, refill, or cost rules for substitution of interchangeable biologics relative to small-molecule drugs. By contrast, 6 states made substitution permissible rather than mandatory; 8 states required additional patient notification; 45 states required additional physician notification; 1 state protected pharmacists from greater liability; and 19 states required US Food and Drug Administration rather than pharmacist determination of interchangeability.

We further re-reviewed the statutes and regulations related to small-molecule generic substitution and identified a small number of misclassifications. The corrected Figures 1 and 2 and accompanying text show that 31 states and Washington, DC, mandated patient notification independent of the drug’s packaging and that 23 states noted a right of patients to refuse substitution without requiring that they consent.

The identified errors do not affect the primary finding—that 45 states have imposed more stringent requirements for interchangeable biologic substitution—the interpretations of the results, or our conclusions that there is a need for optimizing state drug product selection laws to promote generic and interchangeable biologic substitution.

I confirm that we have identified no other errors in the article, data, or analyses. My coauthors and I apologize to the readers and editors of the journal for these errors and any confusion this has caused, and we have requested that the article be corrected.

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CORRECTION

Coding Errors Resulting in Some US State Misclassifications: In the Original Investigation titled “Assessment of Variation in State Regulation of Generic Drug and Interchangeable Biologic Substitutions,” published online August 31, 2020, misclassification of some US states resulted from coding errors in the primary data file. The identified errors do not affect the primary finding, interpretations of the results, or conclusions. The article has been corrected online, and the corresponding author has offered an explanation for the errors in a Letter to the Editor.


Error in Author Order of the Byline: In the article titled “Implications of Early Health Care Spending Reductions for Expected Spending as the COVID-19 Pandemic Evolves,” published online on November 9, 2020, there was an error in the author order of the byline. Ali Russo was the second, rather than the third author. This article was corrected online.


Errors in Group Information Supplement and End Matter: In the article titled “Effect of Tocilizumab vs Usual Care in Adults Hospitalized With COVID-19 and Moderate or Severe Pneumonia: A Randomized Clinical Trial,” published online on October 20, 2020, there were errors in the group information Supplement and the rendering of group information in the end matter. The group collaborators were previously not listed in PubMed and that has also been corrected. This article was corrected online.


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