

## References

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### In Reply:

We thank Dr. Poeran and coworkers for their interest and commentary regarding our recent publication.<sup>1</sup> As is correctly identified, patients identified as having obstructive sleep apnea (OSA) in observational cohorts based on the diagnostic codes will often be misclassified. Therefore, some of these patients will truly have OSA, whereas others will not. Although we agree that health administrative data collected in different jurisdictions (in this case, Canada *vs.* the United States) may not be entirely equivalent, on the basis of our work and the validation studies of other diagnostic codes for other medical conditions,<sup>2,3</sup> we do feel that caution is rightly warranted when interpreting any study relying on exposures that have not been compared with a gold standard to determine their accuracy and reliability. Although Dr. Poeran and coworkers suggest that the bias inherent in such measurements is most likely directed toward the null (*i.e.*, decreasing the effect of OSA on adverse outcomes), our findings suggest that this may not always be the case. As described in our study, true positives (people correctly identified as having OSA by a diagnostic code) appeared to have a higher perioperative risk than false negatives (people who truly had OSA but who were not identified as having OSA by a diagnostic code), as evidenced by higher severity of OSA, higher prevalence of male gender, and higher prevalence of diabetes. Therefore, the people identified as having OSA by these diagnostic codes may be more likely to have adverse postoperative outcomes independent of their OSA status. This would bias the results of health administrative data studies away from the null (*i.e.*, increasing the effect of OSA on adverse outcomes).

Ultimately, without validation studies proving the accuracy and reliability of exposures and outcomes (the core components of observational research), significant uncertainty

exists in interpreting the results of any investigation using health administrative data. Indeed, as supported by our work, its accompanying editorial,<sup>4</sup> and the comments of Dr. Poeran and coworkers, more validation studies are needed to fully harness the potential of “big data.”

## Competing Interests

The authors declare no competing interests.

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## Keeping It Clean: Appropriate Hospital Attire

### To the Editor:

While I have the utmost regard for my many friends and colleagues at the Brigham and Women's Hospital, I must point out that on the cover of the November 2015 issue of *ANESTHESIOLOGY*, there appear to be several dozen of them wearing their scrubs outside the operating room, in violation of the regulations of both The Joint Commission and, I am sure, the Massachusetts Department of Public Health. I will give all involved the benefit of the doubt and assume that they changed into new scrubs before returning to the operating room.

## Competing Interests

The author declares no competing interests.

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