Emmanuel.bujold@crchudequebec.ulaval.ca

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REFERENCES

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TO THE EDITORS: We read with interest your article on using electronic health record data to predict obstetrical and fetal complications.1 You referenced our work describing the development of an automated maternal early warning system.2 We agree that this report did not provide temporal data or performance characteristics.

However, we subsequently published the test characteristics of our automated system (AWOB, AlertWatch, LLC, Ann Arbor, MI) in predicting severely morbid postpartum hemorrhage (sPPH).3 Our electronic system was compared with a nurse-driven early warning system that used verified vital signs meeting select thresholds.3 Only data recorded after neonatal delivery were included in the performance analysis. In contrast to other studies, we defined a “true positive” as an alert at any point within 24 hours after a delivery complicated by sPPH, including alerts sent after sPPH was recognized. Alerts occurring after the recognition of sPPH can still hold clinical value. For example, an alert may identify a patient that remains inadequately resuscitated. Although the nurse-driven early warning system was more sensitive (75.0% [95% confidence interval (CI), 67.3–82.7] vs 60.8% [95% CI, 52.1–69.6]), this assumes that the nurse notified the clinical care team of the abnormal vital signs. The automated system detected 10 sPPH events which were missed by the nurse-driven system. Notably, 4 of these events were detected because the automated system used vital signs taken directly from the patient monitoring network before nursing validation into the electronic health record. Of clinical importance, the automated system is not subject to heuristic biases and will not hesitate to trigger if criteria are met. The automated system is also more sensitive and specific than the nurse-driven system.

We applaud your work and agree that automation of maternal early warning systems has the potential to improve maternal care.

Thomas T. Klumpner, MD
Joanna A. Kountanis, MD
Department of Anesthesiology
Department of Obstetrics and Gynecology
University of Michigan
1300 East Medical Center Drive
Ann Arbor, MI 48019-5048
klumpner@med.umich.edu

Kevin K. Tremper, PhD, MD
Department of Anesthesiology
University of Michigan
Ann Arbor, MI
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