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CORRESPONDENCE

The potential for anesthesiologist practice feedback to reduce postoperative vomiting in an academic centre

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To the Editor,

Updated *Guidelines* encourage each department to systematically monitor the quality of anesthetic care delivery.[1] Our experience with postoperative vomiting (POV), a quality outcome of key relevance to patient and provider, is delineated through the use of an annual performance report created for each staff anesthesiologist at our tertiary care hospital.[2] Using pre-, intra-, and postoperative data available from our Anesthesia Information Management System (AIMS), and coordinated by our Quality and Patient Safety Committee of the Department of Anesthesiology and Pain Medicine, the annual report provides feedback to each staff anesthesiologist regarding perioperative clinical care processes and outcomes. The individual anesthesiologist's data are presented with overall department averages for comparison. Local research ethics board approval of our quality assurance data outcomes for publication was obtained in December 2018.

In four years of experience with the annual performance report, we observed an increase in the proportion of patients administered antiemetic therapy, including dexamethasone (49.6% [12,829/25,862] in 2014 *vs* 61.5% [15,602/25,379] in 2017; $P < 0.001$) and ondansetron (67.7% [17,521/25,862] in 2014 *vs* 72.7% [18,450/25,379] in 2017; $P < 0.001$). In addition to these changed process measures, POV at our centre declined each successive year (2.3% in 2014 *vs* 1.8% in 2017; $P < 0.001$) (Figure). The reduction in POV occurred in the context of a small increase in the proportion of patients who received general anesthesia (73.0% in 2014 *vs* 73.8% in 2017; $P = 0.005$). The percentage of female patients (56.0% in 2014 *vs* 55.8% in 2017; $P = 0.56$) remained consistent as well. The type of anesthetic and patient sex are consistently and accurately recorded for each case in the AIMS. Detailed risk adjustment for other POV-relevant variables (e.g., motion-sickness, smoking status, and past POV) was not practical given incomplete documentation within the quality improvement data available from our AIMS. A Chi-squared test was used to compare data over the years. The number of patients undergoing surgery remained consistent, ranging from 25,000–26,700 per year.

Each anesthesiologist at our hospital receives their performance report near the time of the annual in-person reappointment meeting between the staff anesthesiologist and the clinical department head. As previously presented in the *Journal*, the majority (> 65%) of our staff anesthesiologists "agreed" or "strongly agreed" that the performance report "influenced practice" and "aided in professional development."[2] Taken together, it is possible

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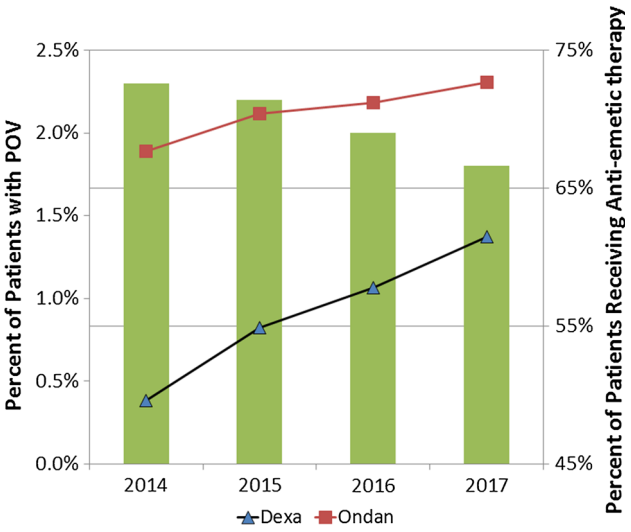

Figure Percent of main operating room patients with postoperative vomiting (POV) and treatment given over four years at an academic health sciences centre. The POV rates were significantly different between 2014 and 2017 (Chi-square, $P < 0.001$)

that the annual performance review data, which includes personal and group performance values, may affect clinical decisions the anesthesiologists make in their future practice (such as antiemetic administration) that may facilitate improved clinical outcome such as reduced POV rates. However, given limitations with our data source, causation of the reduced POV rates cannot be attributed to any specific action.

Our observations are congruent with a systematic review noting that audit and feedback to clinicians may result in "potentially important improvements in professional practice."[3] However, the observation reported in this letter conflicts with findings of another recent cluster randomized-controlled trial from our group that showed no effect of audit and feedback of temperature management performance by anesthesiologists.[4] It is important to note that the focus of feedback is different in this letter (e.g., POV and antiemetic administration *vs.* temperature management) from that addressed by Boet *et al.*,[4] and that the effect size of the feedback can be affected by the clinical behaviour targeted with the intervention.[3] In addition, feedback may be more effective when the source is a supervisor or colleague, it is provided more than once, and it includes measurable targets.[3] Of note, the aforementioned characteristics are present when conducting the annual performance feedback to our anesthesiologists.

In summary, although no causation can be identified from our data, annual anesthesiologist performance feedback in an academic tertiary care setting over a four-year period was associated with an increased use of antiemetics and a decline in POV experienced by patients.

Conflicts of interest None declared.

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