Comparison of Estimated Variable Costs Is a Surrogate for Actual Cost Experience

To the Editor.—Macario et al. derived cost equations from the best available monetary estimates of variables thought to be associated with the use of face masks, laryngeal mask airways, and endotracheal tubes. Their analysis detects the primary determinants of costs with different airway management techniques and explains possible cost tradeoffs among such variables as neuromuscular blocking drugs, laryngeal mask reuse rates, durations of surgery, and airway complications. This type of cost analysis is a good tool for evaluating clinical practices, but it is a surrogate for actual cost experience. The best evaluations should result from determining and comparing actual costs in large patient populations. Many hospitals and integrated health delivery networks are accumulating detailed cost data, including direct, indirect, total, and activity-based costs. Examining these databases may allow us to value our anesthetic practices by knowing their associated outcomes and total costs.

Cost experiences can differ from expectations, especially as we broaden our point of view from the individual to the health delivery network or society as a whole. For instance, laparoscopic techniques for cholecystectomy were expected to reduce the costs for surgical treatment of gall bladder disease but have increased them overall. Perhaps with accumulated cost data, Macario et al. will find that the average cost for aspiration pneumonia exceeds their estimate of $1,350; our average hospital cost associated with this diagnosis (ICD-9 code 50700) is $16,088. If the costs of complications associated with one technique are very high, it will not be the best value. As Orkin observed in his description of value-based anesthesia care, no costs are obvious. The outcomes and costs of our anesthetic choices should be measured. When the insights provided by theoretical analyses such as that done by Macario et al. are combined with actual cost experiences, anesthesiologists will be closer to knowing which clinical practices are worth their costs and to delivering value-based anesthesia care.

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(In Accepted for publication September 22, 1995.)

In Reply.—Johnstone correctly states that our study does not replace analyses of actual costs experienced by different providers using the laryngeal mask airway (LMA). Although we incorporated some actual monetary expenditures (e.g., dental injury), a more precise cost profile for the LMA could result from a randomized clinical trial comparing different airway management techniques. Alternatively, relevant clinical and economic data may be available from administrative databases maintained by integrated health delivery networks. Each of these methodologies benefits from a study like ours because our study identifies the key variables that need to be measured.

Certainly, the costs factored into an economic analysis of medical practice vary depending on the point of view (e.g., patient, provider, payer, society) that the analysis takes. Because we were motivated to do the study to improve operating room efficiency, our analysis took the perspective of the provider (hospital). If the analysis had been conducted from the point of view of the society, for instance, other less tangible costs, such as those related to productivity losses due to succinylcholine myalgias or sore throat from tracheal intubation, would have been included.

Johnstone states that the average cost at his hospital for aspiration pneumonia is $16,088. Even if this figure represents true hospital costs and not charges, an insight from our analysis was that the overall results are not sensitive to changes in costs for aspiration pneumonia. This is because the incidence of clinically significant pneumonia requiring treatment in healthy outpatients is extremely low.

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(In Accepted for publication September 22, 1995.)