

IDENTIFICATION AND USE OF OPERATING ROOM EFFICIENCY INDICATORS: THE PROBLEM OF NOT PERFORMING THE RIGHT SEARCH WITHIN PUBMED

Drs. Fixler and Wright¹ should be commended for demonstrating that operating room (OR) performance indicator definitions vary in literature and among children's hospitals. Unfortunately, I do not agree with their conclusion that the most logical course would be for professional associations to agree upon and develop common metrics and definitions. Their conclusion is based on a limited review of papers that are not always relevant.

First, the Procedural Times Glossary has been the leading source for OR definitions since 1997.² Papers describing operational research in ORs use this glossary.³ A bibliography of papers concerning operational research within the OR can be found online (http://www.franklindexter.net/bibliography_TOC.htm).

Based on this evidence, I conclude that there are clear definitions for monitoring OR performance indicators. An additional conclusion is that hospitals continue to use their own definitions. This needs to be solved by sending surgeons, anesthesiologists and managers of ORs to courses where they can learn which indicators to use and how to use them.

Fixler and Wright call for us to use the OR resources in both an efficient and effective way. Here they make a mistake. Indeed, monitoring the operational performance of the OR may contribute to the use of OR resources in an efficient way. However, the call to use OR resources in an *effective* way is a faulty statement. According to the Institute of Medicine's Committee on Quality Health Care in America, effective care "is based on providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those

not likely to benefit (avoiding under-use and overuse, respectively)."⁴ Here the patient clinical parameters are of interest and not, for example, the utilization rate of the OR.

In conclusion, performing an accurate search in PubMed will show that the actual problem of agreed-upon definitions in literature, as described by the authors, does not exist.

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COMMENT ON "IDENTIFICATION AND USE OF OPERATING ROOM EFFICIENCY INDICATORS: THE PROBLEM OF DEFINITION"

It was with profound interest that we read the commentary written by Tamas Fixler and James G. Wright in

the August 2013 issue of the *Canadian Journal of Surgery*. The commentary deals with the identification and measurement of operating room (OR) performance indicators, addressing the variation among hospitals in terms of which indicators are collected and analyzed.

Common definitions among hospitals are essential for external benchmarking. Although the authors identified 8 indicators as the most critical for monitoring OR performance in 15 children's hospitals in Canada, definitions for these indicators vary in literature and across hospitals.

In the Netherlands, OR departments of all 8 university medical centres (UMCs) established a nationwide benchmarking collaboration in 2005 that is still active today. The objective of the collaboration is to improve OR performance by learning from each other through exchanging best practices. Each UMC provides records for all performed surgical cases to a central OR benchmark database. This extensive database, presently comprising more than 1 million surgical case records, is used to calculate key performance indicators related to the utilization of OR capacity. The database is also used for multicentre research on OR scheduling topics and OR efficiency.

At the start of this collaboration, a set of performance indicators, particularly from a utilization perspective, was identified. Next, data definitions of time periods and methods of registration, as well as definitions of performance indicators, were harmonized among all benchmarking participants, a process that took nearly 2 years. An independent data management centre enters the longitudinal data collection in the central OR benchmark database. This centre provides professional expertise by facilitating and processing data, and by performing reliability checks before data are deemed ready for analysis.

Our collaboration frequently meets to discuss data analysis results and explore processes and practices beyond the data. Through promoting dialogue among UMCs, a learning environment has been created.

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THE AUTHORS RESPOND

We thank Dr. Stepaniak for his interest in our commentary on the identification and use of operating room (OR) efficiency indicators. While the Procedural Times Glossary, developed by the Association of Anesthesia Clinical Directors (AACD), is a leading source of procedural time definitions in support of economic and efficiency analyses within the OR, this does not negate the fact that variable performance indicator definitions nonetheless exist in the body of OR efficiency literature. Moreover, despite the availability of leading sources of definitions such as the Procedural Times Glossary, differences in how hospitals define key OR performance indicators persist.

Furthermore, even the AACD's Procedural Times Glossary may not always be adequate if one wants to

ensure consistent performance indicator data collection across multiple hospitals. For example, the AACD defines "turnover time" as the "time from prior patient out of room to succeeding patient in room time for sequentially scheduled cases."¹ However, while this definition is clearly meant to exclude idle time between nonsequentially scheduled cases, it does not entirely address potential exclusions, such as delays between sequentially scheduled cases unrelated to room cleaning and preparation (e.g., patient arrives late); how these situations are handled varies significantly across hospitals and materially impacts how the indicator is collected.

Another example is the definition of "on-time starts," defined as the patient being in the OR at the scheduled time.¹ This does not consider, however, whether certain late starts should be excluded (e.g., owing to delayed access to postoperative beds, as is the case at some hospitals).

Thus, we do believe that there is room for professional associations to agree to develop common metrics and operational definitions, perhaps using the AACD's Procedural Times Glossary (or an equivalent source) as a starting point, closing any gaps from there.

Regarding Dr. Stepaniak's second point, while performance indicators may not contribute to the *effective* use of resources as defined by the Institute of Medicine's Committee on Quality Health Care in America, they may do so under another definition, such as the *Oxford English Dictionary*, which defines "effective" as "having an intended or expected effect." If using resources efficiently leads to the most patients having surgery in the best way

(i.e., on time starts, no delays, no cancellations), then use of OR performance indicators to monitor operational performance can indeed lead to the effective use of resources.

In addition, we also thank Dr. Kazemier and Ms. van Veen-Berkx for their interest in our commentary and note that the Dutch experience, whereby it took 2 years to harmonize OR performance indicator definitions and reporting across 8 university medical centres, speaks to the complexity of the undertaking and the continuing lack of universal standards for indicator definitions.

Moreover, some Canadian provinces have also had some success in harmonizing OR performance indicators, such as the OR Benchmarks Collaborative in Ontario. As our commentary has demonstrated, though, variable indicator definitions persist and harmonizing them nationally may be particularly challenging due to the provincial delivery of health care.

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