
What is the Role of Benchmarking for Intensive Care?



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Although the evaluation of a single intensive care unit (ICU) over time can produce insightful results, self-reflection can lead to excessive optimism or criticism. Benchmarking against other ICUs can provide ICU staff and hospital managers with a broader view and clearer perspectives of targets for improvement. This approach is now used among hospital networks as well as in national registries providing both open and blinded comparisons.

You might also like: [Benchmarking: Lessons Learnt](#)

Direct comparisons of mortality among institutions (using [funnel plots](#)) and indirect comparisons against a risk-adjustment model have proven useful to identify targets for quality improvement.

Since 2012 the [European Society of Intensive Care Medicine](#) has recommended the use of a set of specific quality indicators, including standardised mortality ratio (SMR), ICU readmission rate within 48 h of ICU discharge, and rates of catheter-related bloodstream infections and unplanned extubations.

ICU efficiency is also valuable for benchmarking. ICU efficiency can be achieved by using the severity-adjusted [SAPS 3](#) resource, a measure that estimates the average amount of resources used per surviving patient in a specific ICU [the standardized resource use (SRU)]

A complementary approach to benchmarking is to evaluate process of care measures, namely the adherence to evidence-based practices that are associated with improved outcomes. The rates of adherence to “standards of care” (e.g., low tidal volume ventilation in acute respiratory distress syndrome, prophylaxis against thromboembolism, early recognition and treatment of sepsis) may be ascertained and compared among ICUs. This should be done with caution and not to demonstrate the superiority of one over the other, but to act as actionable data that will result in the implementation of plan-do-check-act (PDCA) cycles and hopefully improved outcomes.

Although imperfect, severity- adjusted mortality rates and SMRs will continue to be used and refined. Evaluation of processes of care and compliance with commonly accepted practices offer an alternative approach to benchmarking, providing actionable data. It is hoped that widespread implementation of searchable electronic medical records and expansion of databases populated by automated data abstraction will lead to reliable intra- and inter-institutional comparisons, ultimately resulting in improved patient care.

Jorge Salluh, is a Critical Care physician, Professor of the Postgrad program at the Federal University of Rio de Janeiro and a senior researcher at the D'OR Institute in Brazil. He is also the co-founder of Epimed solutions, a web-based quality and performance program for ICUs.

What is your top management tip?

In the use of quality indicators for ICU management, keep it “SMART” - **S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**imely.

What would you single out as a career highlight?

Development and wide implementation of [Epimed Solutions](#), a web-based real-time ICU performance evaluation system. It is all evidence-based and with a strong link to our group's research and publications.

If you had not chosen this career path you would have become a...?

In medicine, probably working on low-resource settings. Outside medicine, a journalist or economist.

What are your personal interests outside of work?

Music and literature.

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