

Brazilian ICUs: Discover the World's Largest National Intensive Care Registry

The organization of a single database of structured clinical data is essential for analyzing clinical outcomes and care processes for critically ill patients in the country. It enables the assessment of the efficiency and performance of intensive care units (ICUs) in a setting of increasing complexity of care and rising costs of intensive care delivery, while also supporting the implementation of quality improvement processes through benchmarking.

A country's intensive care database is referred to as a "national ICU registry." Such registries were established in high-income countries more than 20 years ago and, more recently, have been successfully implemented in Latin America and Asia. Registries are a rich source of information for conducting multicenter clinical research, supporting clinical decision-making processes, and monitoring endemic and epidemic diseases, as well as infections caused by resistant microorganisms.

Thus, national registries contribute to understanding the epidemiology, case mix, and outcomes of ICU patients. In addition to promoting quality improvement across countries, they also generate valuable information for healthcare management and public health policymaking.

In 2015, the Brazilian Intensive Care Medicine Association (*Associação de Medicina Intensiva Brasileira – AMIB*), in partnership with Epimed Solutions, launched the **Brazilian ICUs** program (*UTIs Brasileiras*), which uses the Epimed Monitor ICU system as its database. Hospital participation in the program is voluntary and provides access to the free version of Epimed Monitor, which includes essential indicators for surveillance and quality improvement processes in intensive care.

Since 2009, the system's database has experienced steady growth and currently includes more than 2,600 ICUs in Brazil and more than 30,000 intensive care beds, accounting for more than 10 million monitored admissions. The geographic distribution of participating ICUs encompasses units from public and private hospitals across all five regions of Brazil.

The Brazilian ICUs program aims to obtain reliable epidemiological data on ICUs in Brazil by using the same structured database across different healthcare facilities to generate standardized, real-time indicators. These data help support the management of participating ICUs while making aggregated information available to healthcare professionals, patients, families, policymakers, and society at large.

In addition, the structured database of the Epimed Monitor ICU system used in the Brazilian ICUs program is currently being expanded throughout Latin

America and the Iberian Peninsula through the [Ibero-American ICUs](#) program, a partnership between FEPIMCTI, intensive care societies and colleges in countries across the region, and Epimed Solutions.

The objective of the Ibero-American ICUs program is to implement intensive care registries in these countries using the same database. The existence of a single structured database across the region will enable collaboration in research, surveillance, and health policy initiatives, while also facilitating international benchmarking.

Although the Epimed Monitor ICU database was initially designed for ICU quality and performance analysis, the system has evolved to encompass other important functionalities for ICU management, epidemiology, and public health. In addition to enabling benchmarking and providing data on trends in bed occupancy and resource utilization, the system is useful at the bedside, supporting the adoption of best practices in patient care and the management of public and private hospitals and hospital networks.

Another relevant aspect of the Epimed Monitor database is its usefulness in multicenter observational studies, as demonstrated by the numerous publications that have used it as a data source. Examples include multicenter collaborative research projects such as ORCHESTRA, [LOGIC](#), and COVID-19 RDSL, which have contributed to improving our understanding of the epidemiology of critical illnesses in Brazil and worldwide.

Epimed Monitor also provided relevant information to support the response to the COVID-19 pandemic, not only for research purposes but also for identifying patterns in cases and outcomes, as well as trends throughout the pandemic. It enabled the characterization of case mix, clinical outcomes, and resource utilization in intensive care, helping managers of public and private hospitals make informed decisions.