

# BRIDGING DISPARITIES: THE CRUCIAL ROLE OF ICU REGISTRIES IN ADVANCING CRITICAL CARE RESEARCH IN LMICS

Diptesh Aryal, MD<sup>1,2</sup>

1. Nepal Intensive Care Research Foundation, Nepal
2. Birat Medical College Teaching Hospital, Nepal

ORCID : <https://orcid.org/0000-0002-1431-8293>

DOI : <https://doi.org/10.3126/bjhs.v8i2.59843>

## Citation

Bridging Disparities: The Crucial Role of ICU Registries in Advancing Critical Care Research in LMICs, Diptesh Aryal  
BJHS

In recent years, strides have been made in the field of critical care medicine, leading to improved outcomes for patients facing life-threatening conditions<sup>1</sup>. However, it is imperative to acknowledge the significant disparities in research and healthcare infrastructure, particularly in low and middle-income countries (LMICs). This editorial sheds light on the existing research gap, outlines research priorities, and emphasizes the pivotal role of ICU registries in bolstering research capacity, ultimately paving the way for enhanced care delivery in LMICs.

Low and middle-income countries face unique challenges in their healthcare systems, ranging from limited resources to a shortage of skilled healthcare professionals<sup>2</sup>. Despite these hurdles, LMICs bear a substantial burden of critical illness<sup>3</sup>. It is disheartening to note that research in LMIC ICU settings remains disproportionately low, exacerbating the already-existing disparities in healthcare outcomes. To bridge this gap, we must identify key research priorities that resonate with the healthcare landscape of LMICs. These priorities include understanding the epidemiology of critical illnesses, assessing the impact of socio-economic factors on patient outcomes, and exploring culturally sensitive approaches to patient care. Moreover, research should focus on interventions that are both feasible and cost-effective within resource-constrained settings<sup>4</sup>. Strengthening research capacity in LMICs necessitates collaborative efforts from local and international stakeholders. ICU registries serve as invaluable tools in collecting, managing, and analyzing critical care data. In LMICs, these registries play a pivotal role in augmenting research capacity. By aggregating data from diverse healthcare settings, ICU registries provide a comprehensive understanding of critical care outcomes, enabling evidence-based decision-making and fostering quality improvement initiatives.<sup>5,6</sup> To gauge the effectiveness of

interventions, it is imperative to define and measure relevant outcomes in LMIC ICU settings. These outcomes should encompass not only clinical markers but also patient-centered metrics such as quality of life, functional status, and psychological well-being. This holistic approach ensures that research in LMICs addresses the multidimensional aspects of critical care. Furthermore, ICU registries play a pivotal role in resource optimization. They facilitate the evaluation of resource utilization in LMIC ICUs, helping to streamline allocation and reduce wastage. Understanding the true cost of care is essential for informed policy-making and efficient resource allocation strategies. By leveraging the power of ICU registries, we can make informed decisions about resource allocation, ensuring that limited resources are deployed where they are needed most, thus maximizing the impact on patient care<sup>7</sup>. In addition, these registries foster collaboration among local and international stakeholders. They serve as a common platform that brings together academic institutions, governmental bodies, non-governmental organizations, and healthcare professionals. This collaborative effort is essential for strengthening research capacity in LMICs<sup>8</sup>. Through investment in training programs, mentorship initiatives, and access to research resources, we empower local researchers to drive meaningful advancements in critical care. In doing so, we lay the foundation for a more inclusive and equitable future for critical care medicine in LMICs, ultimately narrowing the gap in healthcare disparities.

By investing in research, we unlock the potential to transform critical care in LMICs, narrowing the gap in healthcare disparities. The path towards equitable critical care in LMICs is paved with research, collaboration, and a steadfast commitment to improving patient outcomes.



## REFERENCES

1. Morgan A. Long-term outcomes from critical care. *Surgery (Oxf)*. 2021;39(1):53-57. doi:10.1016/j.mpsur.2020.11.005
2. Kodali PB. Achieving Universal Health Coverage in Low- and Middle-Income Countries: Challenges for Policy Post-Pandemic and Beyond. *Risk Manag Healthc Policy*. 2023;16:607-621. Published 2023 Apr 6. doi:10.2147/RMHP.S366759
3. Rudd KE, Johnson SC, Agesa KM, et al. Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the Global Burden of Disease Study. *Lancet*. 2020;395(10219):200-211. doi:10.1016/S0140-6736(19)32989-7
4. Tirupakuzhi Vijayaraghavan BK, Gupta E, Ramakrishnan N, et al. Barriers and facilitators to the conduct of critical care research in low and lower-middle income countries: A scoping review. *PLoS One*. 2022;17(5):e0266836. Published 2022 May 5. doi:10.1371/journal.pone.0266836
5. Beane A, Salluh JIF, Haniffa R. What intensive care registries can teach us about outcomes. *Curr Opin Crit Care*. 2021;27(5):537-543. doi:10.1097/MCC.0000000000000865
6. Aryal D, Thakur A, Gauli B et al. Epidemiology of critically ill patients in intensive care units in Nepal: a retrospective observational study [version 1; peer review: 1 approved, 1 approved with reservations]. *Wellcome Open Res* 2023, 8:180 (<https://doi.org/10.12688/wellcomeopenres.19127.1>)
7. Soares, M., Bozza, F.A., Angus, D.C. et al. Organizational characteristics, outcomes, and resource use in 78 Brazilian intensive care units: the ORCHESTRA study. *Intensive Care Med* 41, 2149–2160 (2015). <https://doi.org/10.1007/s00134-015-4076-7>
8. Jawad I, Rahan S, Sigera C, et al. A scoping review of registry captured indicators for evaluating quality of critical care in ICU. *J Intensive Care*.