



REVIEW

CRITICALLY ILL PATIENTS IN AFRICA

In Africa as elsewhere, growing attention is being focused on critically ill patients. The Critical Care Asia Africa initiative aims to systematize the use of computerized clinical registries, adapting intensive care registries to low-resource hospitals to provide epidemiological and clinical data in real time.

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THE CHALLENGE OF CARING FOR CRITICALLY ILL PATIENTS

Critical illness is defined as a state of health characterized by severe impairment of vital organ function and a high risk of imminent death, a situation that arises very often in African hospitals¹. Obstetric emergencies, severe malaria, trauma, postoperative complications and sepsis are all potentially reversible conditions that can be very difficult to manage in Africa due to a lack of intensive care units. Here too, though, there is now a growing focus on critically ill patients and the identification of simple, effective, low-cost interventions to treat them²⁻³.

THE CRITICAL CARE ASIA AFRICA INITIATIVE

Doctors with Africa CUAMM has joined the challenge. In September 2020 we were one of the organizations to join Critical Care Africa Asia (CCAA), an international initiative aimed at creating a mutual assistance network through the use of a digital platform-based critical care registry, a sort of computerized clinical registry. Although registries have been given little consideration in the clinical evidence hierarchy, things are now changing. The CCAA project involves an initial focus on four groups of patients: women with obstetric complications, pediatric patients with severe clinical situations, newborns with complications and surgical patients. The platform is currently active in seven African countries⁴ and eight Asian ones⁵, and is coordinated by an interdisciplinary group of clinicians and researchers from the University of Oxford. Doctors with Africa CUAMM joined the project with two pediatric wards in Sierra Leone's Pujehun Hospital and South Sudan's Rumbek Hospital, an intermediate care obstetric unit at Princess Christian Maternity Hospital in Freetown, Sierra Leone, and two neonatal intensive care units at hospitals in Wolisso, Ethiopia, and Beira, Mozambique.

NOTES

¹ Adhikari NKJ, Fowler RA, Bhagwanjee S, Rubenfeld GD. Critical care and the global burden of critical illness in adults. *Lancet Lond Engl* 2010; 376: 1339–46

² Losonczy LI, Papali A, Kivlehan S, et al. White Paper on Early Critical Care Services in Low Resource Settings. *Ann Glob Health* 2021; 87: 105

³ Schell CO, Khalid K, Wharton-Smith A, et al. Essential Emergency and Critical Care: a consensus among global clinical experts. *BMJ Glob Health* 2021; 6: e006585

⁴ Pisani L, Waweru-Siika W, Sendagire C, Beane A, Haniffa R. Critically ill

THE VALUE OF DATA IN AFRICA

What is the point of experimenting with the implementation of an intensive care registry in the hospitals supported by Doctors with Africa CUAMM? First, to accurately describe the specific population in question, understanding their epidemiological characteristics and underlying clinical conditions. The data will be used to understand how critically ill patients are currently being managed. For example, by examining the registry data at the Princess Christian Maternity Hospital we saw that at the time of admission, obstetric patients with complications affected by sickle cell anemia presented a level of severity similar to that of patients not affected by this blood disorder, yet their mortality was more than twice as high. Second, the interpretation of registry data are expected to help guide local quality improvement initiatives through the reassessment of post-intervention data. In the example described above, for example, the local team's response was to improve triage by administering a rapid sickle cell anemia test to patients at the time of admission; work is also underway to optimize access to transfusions by severely anemic patients. Outcome and process data will be reevaluated in upcoming months. Third, an intensive care registry will make possible clinical trials at the local, national or international levels known as registry-embedded trials. One concrete example involves the well-known RECOVERY and REMAP-CAP randomized evaluation studies of COVID-19 therapies carried out by various CCAA teams using the same platform⁶. Other observational analyses involving the participation of CUAMM's Africa-based sites are also underway, and efforts are being made to understand how to carry out randomized studies as well.

The initial phase of the project has shown how an intensive care registry can be adapted to a low-resource hospital to provide epidemiological and clinical data in real time. Both now and in the future, the challenge will be to promote the use of such patient-level data to concretely improve clinical processes in a sustainable manner.

COVID-19 patients in Africa: it is time for quality registry data. *Lancet Lond Engl* 2021; 398: 485–6

⁵ CRIT CARE ASIA. Establishing a critical care network in Asia to improve care for critically ill patients in low- and middle-income countries. *Crit Care Lond Engl* 2020; 24: 608

⁶ CRIT Care Asia, Hashmi M, Beane A, Murthy S, Dondorp AM, Haniffa R. Leveraging a Cloud-Based Critical Care Registry for COVID-19 Pandemic Surveillance and Research in Low- and Middle-Income Countries. *JMIR Public Health Surveill* 2020; 6: e21939