

Prevalence of Critical Illness at Moi Teaching and Referral Hospital in Western Kenya

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Rationale:

Despite the disproportionate burden of critical illness in low- and middle-income countries (LMICs), access to intensive care units (ICUs) remains limited. At Moi Teaching and Referral Hospital (MTRH), a public referral hospital in Western Kenya serving over 24 million people, critically ill patients are often managed in general wards without close monitoring due to insufficient ICU space. While qualitative evidence suggests a significant need for increased ICU capacity, the actual demand is unknown.

Methods:

This mixed-methods study quantified the prevalence of critical illness, defined as a National Early Warning Score (NEWS) greater than six, among adults presenting and admitted to MTRH between November 2024 and June 2025. Participants were enrolled from the emergency department and all general wards during three separate 24-hour periods. Adults with NEWS > six were followed for outcome, ICU admission, and subsequent NEWS at 7, 14, 21, and 28 days. Key informant interviews with healthcare providers directly involved in the care of critically ill patients explored workflows, perceptions of critical illness, and barriers to ICU expansion.

Results:

Of 1,274 patients enrolled, 187 (14.7%) had a NEWS > six. Six (3.2%) were admitted to an ICU and 33 (17.6%) died by day 28. Most critically ill patients were identified in the internal medicine wards (50.3%), general surgery wards (15.5%), and emergency department (12.3%). Preliminary qualitative findings among 6 key informants suggest nursing and bed shortages are the primary barriers to ICU transfer. Other factors include reliance on ambulance transport, proximity of the ICU, dialysis, and imaging facilities, and the absence of standardized protocols for critical illness assessment and transfer.

Conclusion:

This study may help inform resource planning, ICU capacity building, and the development and implementation of protocols to improve recognition, management, and transfer of critically ill patients at MTRH and similar referral hospitals in sub-Saharan Africa.