



MODIFIED EARLY WARNING SCORE IN PREDICTING CLINICAL OUTCOMES AMONG ADULT INPATIENTS IN RESOURCE-LIMITED HOSPITALS IN CAMEROON: A MULTICENTRE CROSS-SECTIONAL STUDY

Jude Balan¹, Peace Njideka Iheanacho^{2*}, Constance Okoh³, Madu Obiageli⁴, Olive Udunma Chijioko⁵, Nneka Ubochi⁶, Maranatha Anudu⁷, Echezona Nelson Dominic Ekechukwu⁸

¹Department of Nursing Sciences, Ebonyi State University, Abakaliki

^{2*}Department of Nursing Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria

³Ebonyi State University, Abakaliki

⁴Department of Nursing Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria

⁵Department of Health Administration and Management Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria

⁶Department of Nursing Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria

⁷Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria

⁸Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Occupational and Environmental Health Unit, Institute of Public Health, College of Medicine, University of Nigeria, LANCET Physiotherapy, Wellness, and Research Centre, Enugu, Nigeria.

*Corresponding author:

Dr. (Mrs) Peace Iheanacho

Peace.iheanacho@unn.edu.ng

Abstract

Background: Early recognition of clinical deterioration remains a major challenge in low-resource healthcare settings where intensive care services are limited. The Modified Early Warning Score (MEWS) is a simple bedside tool based on physiological parameters that may facilitate early identification of critically ill patients. This study assessed the effectiveness of MEWS in predicting clinical outcomes among adult inpatients in hospitals in Bamenda, Cameroon.

Methods: A multicentre cross-sectional analytical study was conducted in four hospitals in Bamenda, Cameroon. A total of 330 patients admitted to medical and surgical wards were enrolled. Vital signs including systolic blood pressure, heart rate, respiratory rate, temperature, and level of consciousness were monitored and used to calculate MEWS. Clinical outcomes assessed included discharge home improved, unplanned intensive care unit (ICU) admission, initiation of higher-level

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care, and mortality. Associations between MEWS and outcomes were evaluated using chi-square tests and logistic regression analyses.

Results: Forty-seven patients (14.2%) had a MEWS ≥ 5 . Patients with infectious diseases were significantly more likely to develop critical MEWS scores than those with non-infectious diseases (16.7% vs. 12.6%, $p=0.029$). Among patients with MEWS ≥ 5 , 51.1% experienced an unfavourable outcome. Compared with patients whose MEWS was <5 , those with MEWS ≥ 5 had substantially higher odds of mortality (OR=33.65; 95% CI: 6.42–1276.31), ICU admission (OR=11.22; 95% CI: 3.85–32.67), and initiation of higher-level care (OR=7.48; 95% CI: 3.02–18.52), all $p<0.001$.

Conclusions: MEWS effectively predicts adverse clinical outcomes among ward patients in resource-limited hospitals. Routine implementation of MEWS may facilitate early identification of deteriorating patients and improve clinical decision-making where critical care resources are scarce.

Keywords: Modified Early Warning Score; Clinical deterioration; Intensive care; Mortality; Critical illness; Cameroon; Resource-limited settings

Introduction

Critical illness remains a major contributor to morbidity, mortality, and healthcare expenditure worldwide.¹ Despite remarkable advances in medical science and critical care medicine, preventable deaths continue to occur among hospitalized patients due to delayed recognition and management of physiological deterioration.² The burden of critical illness is particularly pronounced in low- and middle-income countries (LMICs), where healthcare systems frequently face challenges related to inadequate infrastructure, shortages of skilled healthcare personnel, limited diagnostic capacity, and insufficient critical care resources.³ Consequently, many patients who develop acute physiological instability while hospitalized are not identified early enough to receive timely interventions, resulting in avoidable complications, prolonged hospital stays, intensive care unit (ICU) admissions, and death.⁴

In sub-Saharan Africa, the challenge of managing critically ill patients is further compounded by constrained healthcare budgets and uneven distribution of specialized services.⁵ Intensive care facilities are often scarce, and where available, they may be overwhelmed by patient demand. Furthermore, continuous electronic monitoring systems commonly used in high-income settings are frequently unavailable or inaccessible.⁶ As a result, healthcare providers often rely heavily on routine bedside observations to assess patient status. Clinical experience has repeatedly demonstrated that patients who suffer cardiac arrest, respiratory failure, septic shock, or other serious adverse events rarely deteriorate suddenly without warning. Rather, measurable physiological abnormalities usually emerge hours before catastrophic outcomes occur. This recurring observation suggests that systematic monitoring of physiological parameters could provide an opportunity to identify high-risk patients before irreversible deterioration develops.

The recognition that physiological decline follows identifiable patterns led to the development of Early Warning Score (EWS) systems.⁷ These tools were designed to translate routinely collected vital signs into objective measures of patient risk, thereby supporting clinical decision-making and facilitating timely intervention. Among the various scoring systems developed, the Modified Early Warning Score (MEWS) has gained widespread acceptance because of its simplicity, affordability, and ease of implementation.⁸ MEWS combines key physiological indicators—including systolic blood pressure, heart rate, respiratory rate, body temperature, and level of consciousness—into a cumulative score that reflects the degree of physiological derangement. Higher scores indicate greater instability and a correspondingly increased likelihood of adverse clinical outcomes.

Evidence from numerous studies conducted across Europe, North America, Asia, and selected African countries has consistently demonstrated that elevated MEWS values are associated with increased risks of mortality, unplanned ICU admission, cardiac arrest, and prolonged hospitalization.⁹ These findings collectively suggest that physiological abnormalities captured by MEWS are not merely isolated clinical observations but may represent measurable indicators of worsening disease severity. Furthermore, the ability of MEWS to predict adverse outcomes using readily obtainable bedside measurements makes it particularly attractive for resource-constrained settings where advanced monitoring technologies may not be available. From these observations, it can reasonably be inferred that healthcare systems with limited resources stand to benefit substantially from the implementation of reliable and inexpensive early warning mechanisms.

However, although evidence supporting the utility of MEWS is growing globally, important contextual differences may influence its predictive performance across populations and healthcare environments. Variations in disease patterns, patient demographics, staffing levels, healthcare-seeking behavior, and availability of emergency response systems may affect how accurately MEWS identifies patients at risk of deterioration. Findings from high-income countries therefore cannot automatically be generalized to hospitals operating under markedly different clinical and resource conditions. Within Central Africa, and particularly in Cameroon, empirical evidence regarding the effectiveness of MEWS remains extremely limited. The absence of locally generated data creates uncertainty regarding its applicability and predictive accuracy in this setting.

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Given the substantial burden of critical illness, the persistent challenges associated with early recognition of patient deterioration, and the growing international evidence supporting the use of physiological early warning systems, there is a compelling need to evaluate MEWS within the Cameroonian healthcare context. Generating such evidence could inform clinical practice, strengthen patient monitoring strategies, and contribute to improved allocation of limited critical care resources. This study therefore assessed the effectiveness of the Modified Early Warning Score in predicting clinical outcomes among adult inpatients admitted to hospitals in Bamenda, Cameroon.

Methods

Study design: This was a multi-centre cross-sectional analytical hospital-based study conducted in four hospitals in Bamenda, Cameroon.¹⁰

Study setting: The study was conducted in four healthcare facilities in Bamenda, Cameroon, namely the Regional Hospital Bamenda, Nkwen Baptist Hospital, Bamenda III District Hospital, and St. Blaise Catholic Hospital. These institutions comprise both referral and district-level healthcare facilities and provide a broad spectrum of medical services to the population of the North-West Region of Cameroon. Their inclusion enabled the study to capture patient outcomes across different levels of healthcare delivery, thereby enhancing the representativeness of the findings within the regional healthcare context.

Participants: All eligible adult patients admitted to medical and surgical wards during October–November 2022 were included. Patients discharged on the first day of data collection and paediatric or obstetric postoperative patients admitted to mixed surgical wards were excluded.

Sample size and sampling: A total of 330 patients were enrolled. Sample size estimation using Cochran's formula yielded a minimum requirement of 323 participants. Consecutive recruitment of all eligible admissions was undertaken.¹¹

Data collection: Vital signs, including systolic blood pressure, heart rate, respiratory rate, body temperature, and level of consciousness assessed using the AVPU (Alert, Voice, Pain, Unresponsive) scale, were recorded twice daily for a maximum period of three days. For each participant, the highest Modified Early Warning Score (MEWS) documented during the observation period was retained for subsequent analysis. Clinical outcomes evaluated in the study included discharge from the hospital with clinical improvement, in-hospital mortality, unplanned admission to the intensive care unit (ICU), and the initiation of higher-level interventions such as oxygen therapy, cardiopulmonary resuscitation, haemodialysis, and other advanced supportive treatments.

Ethical approval: Ethical clearance was obtained from the Cameroon Baptist Convention Health Services Institutional Review Board, with additional administrative approvals from participating institutions. An informed consent waiver was granted because the study involved routine vital-sign monitoring.¹²

Statistical analysis: Data were analysed using SPSS version 21. Descriptive statistics summarized participant characteristics. Chi-square tests and multivariable logistic regression analyses were used to evaluate associations between MEWS and clinical outcomes. Statistical significance was set at $p < 0.05$.

Results

Socio-demographic, Health System, and Clinical Characteristics

A total of 330 patients were enrolled in the study. Females constituted a slight majority of the participants (50.3%, $n = 166$), while males accounted for 49.7% ($n = 164$). The largest proportion of respondents were aged 21–40 years (36.4%, $n = 120$), followed by those aged 41–60 years (30.3%, $n = 100$). Participants aged over 100 years represented the smallest age category, accounting for only 0.6% ($n = 2$) of the study population. Regarding healthcare facility

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characteristics, the majority of participants were admitted to Level 1 health facilities (90.0%, n = 297), whereas only 10.0% (n = 33) were managed in Level 2 facilities. Most admissions were to medical wards (67.8%, n = 223), with surgical admissions accounting for 32.2% (n = 107). Non-infectious diseases predominated, representing 60.3% (n = 199) of all diagnoses, while infectious diseases accounted for 39.7% (n = 131).

Assessment of clinical parameters showed that most patients had systolic blood pressure values within the range of 101–199 mmHg (71.8%, n = 237), while 26.4% (n = 87) had values between 81 and 100 mmHg. Respiratory rates were predominantly within the 21–29 breaths/minute category (49.7%, n = 164), closely followed by 15–20 breaths/minute (46.1%, n = 152). Most participants had normal body temperatures ranging from 35°C to 38.4°C (90.0%, n = 297), with only 10.0% (n = 33) presenting with temperatures above 38.4°C. With respect to cardiovascular status, over two-thirds of participants (67.3%, n = 222) had heart rates between 51 and 100 beats per minute, while 19.4% (n = 64) had heart rates ranging from 101 to 110 beats per minute. Elevated heart rates of 111–129 beats per minute and ≥ 130 beats per minute were observed in 10.3% (n = 34) and 3.0% (n = 10) of participants, respectively. Concerning neurological status, the vast majority of patients were alert on assessment (91.2%, n = 301), whereas 6.7% (n = 22) responded only to voice, 0.3% (n = 1) responded to pain, and 1.8% (n = 6) were unresponsive as shown in table 1.

**Table 1: Socio-demographic, Health System, and Clinical Characteristics of Study
Participants (N = 330)**

Variable	Characteristic	Frequency (n)	Percentage (%)
Gender	Male	164	49.7
	Female	166	50.3
Age Group (years)	≤ 20	18	5.5
	21–40	120	36.4
	41–60	100	30.3
	61–80	72	21.8
	81–100	18	5.5
	> 100	2	0.6
Health Structure Level	Level 1	297	90.0
	Level 2	33	10.0
Unit of Admission	Medical	223	67.8
	Surgical	107	32.2
Type of Disease	Non-infectious	199	60.3
	Infectious	131	39.7
Systolic Blood Pressure (mmHg)	101–199 (0)	237	71.8
	81–100 (1)	87	26.4
	71–80 and ≥ 200 (2)	5	1.5
	< 70 (3)	1	0.3
Respiratory Rate (breaths/min)	9–14 (0)	4	1.2
	15–20 (1)	152	46.1
	21–29 (2)	164	49.7
	≥ 30 (3)	10	3.0
Temperature (°C)	35–38.4 (0)	297	90.0
	> 38.4 (2)	33	10.0
Heart Rate (beats/min)	51–100 (0)	222	67.3
	101–110 (1)	64	19.4
	111–129 (2)	34	10.3
	≥ 130 (3)	10	3.0
Level of Consciousness (AVPU)	Alert (A)	301	91.2

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	Voice (V)	22	6.7
	Pain (P)	1	0.3
	Unresponsive (U)	6	1.8

Burden of critical illness

Burden of Critical illness defined in this study as the proportion of patients in the ward with a MEWS score of 5 and above. In this study 47 patients (14.24%) had a MEWS score of 5 and above, of which 10.61% (n = 35) were admitted in the medical wards while 3.64% (n = 12) were admitted in the surgical ward as shown in figure 1. Stratifying according to the disease, MEWS score of 5 and above was observed in 7.8% (n = 25) noninfectious patients compared to 6.7% (n = 22) infectious patients as shown in figure 2. Specifically, likelihood of having a MEWS score of 5 and above was higher in patients with infectious (22/132; 16.67%) as compared to those with non-infectious diseases (25/198; 12.63%).

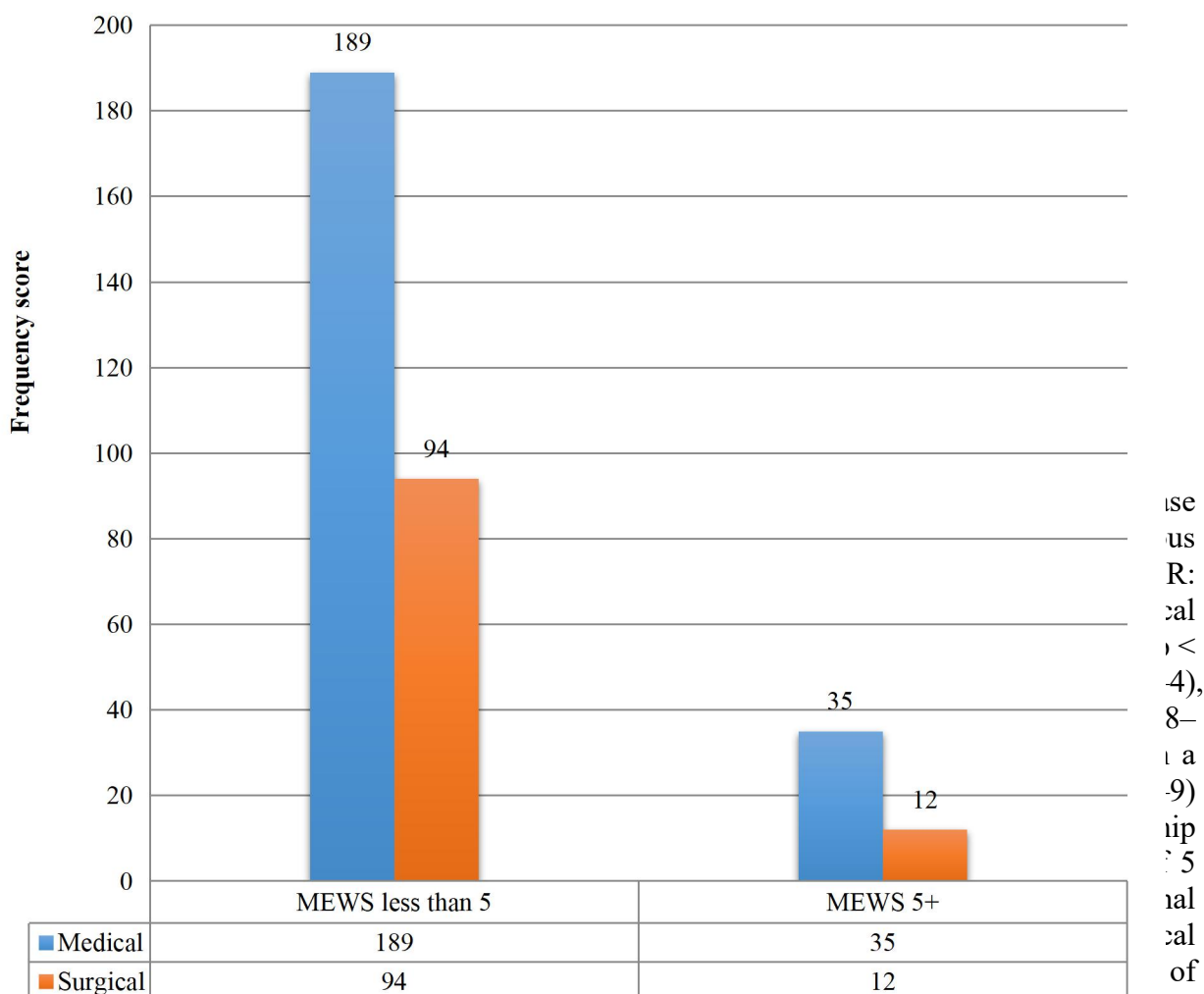


Figure 1: MEWS score according to the unit in which the patient is admitted

Variables	Categories	Freq (%)	MEWS SCORE		
			Mean Rank	Median (IQR)	P value
Type of disease	Non infectious	198 (60.0)	155.58	2 (1 – 4)	0.017*

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	Infectious	132 (40.0)	180.38	3 (2 – 6)	
<i>Systolic blood pressure (mm/Hg)</i>	101 - 199	237 (71.8)	145.90	2 (2 – 4)	0.0001*
	81 - 100	87 (26.40)	209.92	3 (2 – 4)	
	71 – 80 ; ≥ 200	05 (01.50)	289.60	5 (4 – 5)	
	< 70	01 (00.30)	325.50	8 (8 – 9)	
<i>Heart rate (bt/min)</i>	51 - 100	222 (67.3)	122.82	2 (2 – 4)	0.0001*
	101 - 110	64 (19.40)	227.66	3 (3 – 5)	
	111 - 129	34 (10.30)	282.24	4 (3 – 6)	
	≥ 130	10 (03.00)	318.20	7 (5 – 9)	
<i>Respiratory(c/min)</i>	9 - 14	04 (01.21)	110.63	1 (1 – 3)	0.0001*
	15 - 20	152 (46.1)	103.95	2 (1 – 3)	
	21 - 29	164 (49.7)	214.80	2 (2 – 4)	
	≥ 30	10 (03.00)	314.35	5 (5 – 7)	
<i>Temperature (0C)</i>	35 - 38.4	295 (89.4)	150.54	2 (1 - 4)	0.0001*
	>38.4	34 (10.30)	290.50	4 (4 – 6)	

*-Statistically significant at 0.05 significance level

Association between Patients' Parameters and Clinical Outcomes

There was a significant associations between several physiological parameters and patients' clinical outcomes. Systolic blood pressure was significantly associated with outcome ($\chi^2 = 8.38$, $p = 0.038$). The proportion of patients with an unfavourable outcome increased as blood pressure decreased, reaching 100% among the patient with systolic blood pressure <70 mmHg, compared with 13.9% among those with normal systolic blood pressure (101–199 mmHg). Heart rate demonstrated a strong association with clinical outcome ($\chi^2 = 49.04$, $p < 0.001$). Unfavourable outcomes increased progressively from 8.6% among patients with heart rates of 51–100 beats/minute to 80.0% among those with heart rates ≥ 130 beats/minute. Temperature was also significantly related to outcome ($\chi^2 = 17.47$, $p < 0.001$). Patients with fever ($>38.4^\circ\text{C}$) experienced a substantially higher proportion of unfavourable outcomes (39.4%) compared with those with normal temperatures (12.1%). Level of consciousness showed the strongest association with outcome ($\chi^2 = 66.57$, $p < 0.001$). While only 10.3% of alert patients had unfavourable outcomes, 50.0% of patients responding to voice and all patients responding only to pain or who were unresponsive experienced unfavourable outcomes. Respiratory rate was significantly associated with outcome ($\chi^2 = 16.40$, $p = 0.001$). Patients with respiratory rates ≥ 30 cycles/minute had the highest proportion of unfavourable outcomes (50.0%). In contrast, type of disease was not significantly associated with clinical outcome ($\chi^2 = 0.24$, $p = 0.62$), with similar proportions of unfavourable outcomes among patients with infectious (16.0%) and non-infectious diseases (14.1%) as shown in table3.

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Variable	Category	Type of Outcome: n (%)		χ^2	p-value
		Unfavourable	Favourable		
Systolic Blood Pressure (mmHg)	101–199	33 (13.9)	204 (86.1)	8.38	0.038*
	81–100	13 (14.9)	74 (85.1)		
	71–80, ≥ 200	2 (40.0)	3 (60.0)		
	<70	1 (100.0)	0 (0.0)		
Heart Rate (beats/min)	51–100	19 (8.6)	203 (91.4)	49.04	$<0.001^*$
	101–110	11 (17.2)	53 (82.8)		
	111–129	11 (32.4)	23 (67.6)		
	≥ 130	8 (80.0)	2 (20.0)		
Temperature ($^{\circ}\text{C}$)	35–38.4	36 (12.1)	261 (87.9)	17.47	$<0.001^*$
	>38.4	13 (39.4)	20 (60.6)		
Level of Consciousness (AVPU)	Alert (A)	31 (10.3)	270 (89.7)	66.57	$<0.001^*$
	Voice (V)	11 (50.0)	11 (50.0)		
	Pain (P)	1 (100.0)	0 (0.0)		
	Unresponsive (U)	6 (100.0)	0 (0.0)		
Respiratory Rate (cycles/min)	9–14	1 (25.0)	3 (75.0)	16.40	0.001*
	15–20	13 (8.6)	139 (91.4)		
	21–29	30 (18.3)	134 (81.7)		
	≥ 30	5 (50.0)	5 (50.0)		
Type of Disease	Non-infectious	28 (14.1)	172 (85.9)	0.24	0.620
	Infectious	21 (16.0)	109 (84.0)		

Significant at $p < 0.05$.

AVPU: A = Alert, V = Responds to Voice, P = Responds to Pain, U = Unresponsive.

MEWS Predictors of Clinical Outcomes

Tables 4 present the multinomial logistic regression analysis examining the predictive ability of MEWS categories (1–8) for clinical outcomes, using MEWS 9 as the reference category. Overall, only a few MEWS categories demonstrated statistically significant associations with patient outcomes. For favourable outcomes, patients with a MEWS of 3 were significantly more likely to be discharged home improved compared with those with a MEWS of 9 (OR = 2.82, $p = 0.001$). No other MEWS category showed a significant association with discharge home improved. Regarding mortality, significant associations were observed for MEWS scores of 7 ($p = 0.001$) and 8 ($p = 0.001$), indicating that these scores were important predictors of death when compared with the reference category. No significant associations with mortality were found for MEWS scores 1–6. For unplanned ICU admission, significant associations were identified for MEWS scores of 1 ($p = 0.050$), 6 ($p = 0.007$), 7 ($p = 0.005$), and 8 ($p = 0.046$). The strongest associations were observed among patients with MEWS scores of 7 and 8, suggesting an increased likelihood of requiring intensive care as MEWS increased

Table 4: Predictive Ability of MEWS (1–8) for Clinical (Reference category: MEWS=9)

MEWS	Clinical Outcome	p-value	OR (95% CI)
1	Discharged home improved	0.911	1.379 (0.005–387.2)

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MEWS	Clinical Outcome	p-value	OR (95% CI)
	Death	0.999	30.766 (0.001–46.9)
	Unplanned ICU admission	0.050*	0.46 (0.0001–1.512)
2	Discharged home improved	0.904	1.411 (0.005–384.8)
	Death	0.999	0.865 (0.001–34.15)
	Unplanned ICU admission	0.068	0.005 (0.0001–1.47)
3	Discharged home improved	0.001*	2.82 (0.003–228.2)
	Death	0.842	1.510 (0.015–1.95)
	Unplanned ICU admission	0.101	1.009 (0.02–2.523)
4	Discharged home improved	0.995	1.08 (0.003–34.4)
	Death	0.227	2.83 (1.80–3.87)
	Unplanned ICU admission	0.102	1.05 (0.57–15.83)
5	Discharged home improved	0.861	0.599 (0.002–84.40)
	Death	0.995	2.16 (1.07–18.9)
	Unplanned ICU admission	0.101	0.52 (0.02–3.81)
6	Discharged home improved	0.633	0.248 (0.001–76.22)
	Death	0.996	2.91 (1.68–68.11)
	Unplanned ICU admission	0.007*	1.72 (0.98–8.86)
7	Discharged home improved	0.341	0.062 (0.01–18.87)
	Death	0.001*	1.93 (0.08–14.27)
	Unplanned ICU admission	0.005*	0.007 (0.001–4.26)
8	Discharged home improved	0.281	1.03 (0.99–18.42)
	Death	0.001*	0.036 (0.001–3.33)
	Unplanned ICU admission	0.046*	1.10 (1.00–2.81)

Discussion

This multicentre study evaluated the utility of the Modified Early Warning Score (MEWS) in predicting clinical outcomes among adult inpatients in resource-limited hospitals in Cameroon. The findings demonstrate that MEWS is a valuable predictor of patient deterioration, with higher scores being significantly associated with adverse outcomes including mortality, unplanned intensive care unit (ICU) admission, and the need for higher-level care. These results provide important evidence supporting the applicability of MEWS in low-resource healthcare settings where advanced monitoring systems and critical care resources remain limited.¹³

A major finding of this study was that approximately one in seven hospitalized patients had a critical MEWS score of five or above. This prevalence suggests a substantial burden of critical illness within general medical and surgical wards. Deductively, since MEWS is designed to identify physiological instability before overt clinical collapse occurs, the observed proportion of patients with elevated scores indicates that a significant number of ward patients may require closer monitoring and timely intervention. Inductively, the findings imply that hidden clinical deterioration may be more common than is routinely recognized in resource-constrained hospitals, where staffing shortages and competing clinical demands often limit continuous patient surveillance. The burden observed in this study is comparable to reports from several low- and middle-income countries where delayed recognition of deterioration contributes substantially to preventable morbidity and mortality.¹⁴⁻¹⁶

Patients with infectious diseases were significantly more likely to develop critical MEWS scores than those with non-infectious conditions. This finding is biologically plausible because infectious diseases frequently trigger systemic inflammatory responses that manifest as fever

Among all physiological parameters examined, level of consciousness demonstrated the strongest association with unfavourable outcomes. All patients who were unresponsive or responsive only to painful stimuli experienced adverse outcomes. This finding underscores the prognostic importance of neurological status in hospitalized patients.²² Altered consciousness frequently reflects severe systemic illness, cerebral hypoperfusion, sepsis-associated encephalopathy, or advanced organ dysfunction. The result suggests that healthcare workers should treat any deterioration in mental status as a high-priority warning sign requiring immediate evaluation and intervention. Similar observations have been reported in studies evaluating both MEWS and the National Early Warning Score (NEWS), where neurological deterioration consistently emerges as one of the strongest predictors of mortality.^{23,24}

The predictive analysis further demonstrated that higher MEWS categories were associated with increasingly adverse clinical outcomes. Patients with MEWS scores of 7 and 8 showed significant associations with mortality and unplanned ICU admission, while those with lower scores generally experienced more favourable outcomes. Deductively, these findings are consistent with the theoretical basis of early warning systems, which assume that greater physiological derangement corresponds to increased risk of clinical deterioration.²⁵ Inductively, the observed gradient of risk suggests that MEWS may serve not only as a screening tool but also as a practical triage instrument for prioritizing scarce healthcare resources. In environments where ICU beds, monitoring equipment, and specialist personnel are limited, identifying patients at greatest risk can facilitate more efficient allocation of available resources.

An important implication of these findings relates to health system strengthening in resource-limited settings. Unlike sophisticated monitoring technologies, MEWS relies on simple bedside measurements that are routinely obtainable even in hospitals with limited infrastructure. The significant predictive relationships observed in this study suggest that widespread implementation of MEWS could enhance early recognition of deterioration without requiring substantial financial investment. Such an approach may be particularly valuable in sub-Saharan Africa, where healthcare systems frequently face shortages of critical care capacity.²⁶ Integrating MEWS into routine ward assessments could enable earlier clinical review, more timely escalation of care, and potentially prevent avoidable deaths.

Several limitations should be acknowledged. First, the cross-sectional design limits causal inference regarding the relationship between MEWS and clinical outcomes.²⁷ Second, the study was conducted within a single geographical region of Cameroon, which may limit generalizability to other healthcare settings.²⁸ Third, some MEWS categories contained relatively few patients, resulting in wide confidence intervals for certain estimates. Finally, outcomes were assessed over a relatively short observation period, and longer-term patient outcomes were not evaluated. Despite these limitations, this study provides some of the first multicentre evidence from Cameroon demonstrating the effectiveness of MEWS in predicting adverse clinical outcomes. The inclusion of multiple hospitals and diverse patient populations enhances the relevance of the findings to similar resource-constrained settings. Future prospective cohort studies should evaluate the impact of routine MEWS implementation on mortality reduction, ICU utilization, response times, and healthcare costs. Additionally, studies exploring barriers and facilitators to implementation could support successful integration into routine clinical practice. Overall, the findings indicate that MEWS is a practical, reliable, and clinically meaningful tool for identifying hospitalized patients at risk of deterioration. Routine use of MEWS may strengthen patient monitoring systems, improve clinical decision-making, and contribute to better outcomes in resource-limited healthcare environments.

Conclusion

This study demonstrated that the Modified Early Warning Score (MEWS) is an effective tool for identifying adult inpatients at risk of clinical deterioration in resource-limited hospitals in Cameroon. Approximately one in seven patients exhibited critical illness, as indicated by a MEWS of 5 or above. Elevated MEWS scores were significantly associated with adverse clinical outcomes, including mortality, unplanned intensive care unit admission, and the need for higher-level care. Furthermore, key physiological abnormalities such as hypotension, tachycardia, tachypnoea, fever, and altered consciousness were strongly associated with both higher MEWS values and unfavourable outcomes. These findings confirm that MEWS provides a simple, objective, and low-cost method for recognizing patient deterioration and prioritizing clinical interventions in settings where advanced monitoring technologies and critical care resources are limited. Based on these findings, routine implementation of MEWS is recommended across medical and surgical wards in resource-constrained hospitals to facilitate early detection of clinical deterioration and timely escalation of care. Additionally, healthcare institutions should provide regular training for nurses and physicians on MEWS assessment, interpretation, and response protocols to maximize its effectiveness. Future prospective studies should evaluate the impact of integrating MEWS into routine clinical practice on patient outcomes, healthcare resource utilization, and mortality reduction in Cameroon and similar low-resource settings.

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