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Prescribing With Precision: Aligning CURB-65 scores with Antibiotic Protocol in Community Acquired Pneumonia

[1]Dr Akshayaa Kumar Aggarawal, [2]Dr Vikrant Raosaheb Ghadge, [3]Dr Mohammad Akram

[1-3]Walsall Manor Hospital

Corresponding Author: Dr Akshayaa Kumar Aggarawal

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Abstract

Background: Community-acquired pneumonia (CAP) remains a significant cause of morbidity and mortality, particularly among older adults. The CURB-65 severity score is a validated tool to guide empirical antibiotic therapy in CAP. This clinical audit aimed to evaluate the adherence to CURB-65-based antibiotic prescribing guidelines at a UK hospital and to assess the impact of audit-feedback interventions on prescribing behaviour.

Methods: A prospective two-cycle audit was conducted at Walsall Manor Hospital. Each cycle included 50 adult patients admitted with suspected or confirmed CAP. Empirical antibiotic prescriptions were assessed for compliance with hospital guidelines based on CURB-65 scores. Compliance was categorized as correct, higher-grade (overtreatment), or lower grade (under treatment). Interventions between cycles included educational sessions and enhanced access to local guidelines. Data were analysed using chi-square and t-tests.

Results: Antibiotic administration in the ward was similar between cycles, with 90.0% (n = 45) of patients receiving antibiotics in Cycle 1 and 96.0% (n = 48) in Cycle 2 (p = 0.240). Guideline-concordant antibiotic use improved from 58.0% (n = 29) in Cycle 1 to 68.0% (n = 34) in Cycle 2, although this was not statistically significant (p = 0.300). Among the 37 patients who received non-concordant antibiotics, the majority were over treated with higher-grade regimens-85.7% (n = 18) in Cycle 1 and 87.5% (n = 14) in Cycle 2. Under treatment was minimal and comparable between cycles (14.3% vs. 12.5%; p = 0.875).

Conclusion: Audit-feedback interventions led to a modest improvement in adherence to CURB-65-guided antibiotic prescribing, particularly by reducing under treatment. However, overtreatment remained prevalent, highlighting a persistent clinical tendency toward broad-spectrum antibiotic use. Multifaceted interventions targeting clinician education and decision support may

enhance guideline adherence and promote antimicrobial stewardship.

Keywords: Acute Medical Units, Community-acquired pneumonia, CURB-65

Introduction

Community-acquired pneumonia (CAP) is a leading cause of morbidity and mortality globally, especially among older adults and individuals with chronic comorbidities [1]. Despite advancements in antimicrobial therapy and diagnostic technologies, effective initial management of CAP continues to depend heavily on timely risk stratification and appropriate empiric antibiotic selection [2]. Delayed or inappropriate antibiotic therapy has been consistently linked to adverse outcomes, including prolonged hospital stays, increased rates of intensive care admission, and higher mortality [3].

To standardize care and improve clinical outcomes, several clinical scoring systems have been developed to assess CAP severity and guide treatment decisions. Among them, the CURB-65 score-based on five parameters: Confusion, Urea >7 mmol/L, Respiratory rate ≥30/min, Blood pressure (systolic <90 mmHg or diastolic ≤60 mmHg), and age ≥65 years-has emerged as a validated tool recommended by the British Thoracic Society (BTS) and NICE guidelines [4,5]. This score helps clinicians stratify patients into low, moderate, or high-risk categories, thereby informing decisions about hospital admission and the intensity of therapy required.

The British Thoracic Society recommends oral antibiotics such as amoxicillin or doxycycline for adults with low-severity community-acquired pneumonia (CAP), defined by a CURB-65 score of 0-1. For patients with higher scores, intravenous broad-spectrum antibiotics-such as co-amoxiclav combined with doxycycline or ceftriaxone-based regimens-are advised, along with consideration for critical care referral in severe cases [5]. These recommendations align with those of the American Thoracic Society, which also suggests initiating treatment with oral antibiotics for mild infections and escalating to intravenous therapy for more severe presentations [6]. Using CURB-65 to guide treatment decisions supports appropriate care by preventing both under-treatment of serious cases and unnecessary use of broad-spectrum antibiotics in mild cases, reinforcing the principles of antimicrobial stewardship [7].

However, guideline adherence in real-world clinical settings remains inconsistent. Previous audits and retrospective studies have shown variable compliance with recommended empirical therapies, often due to incomplete documentation of CURB-65 scores, unavailability of initial lab parameters (particularly urea), or clinical overcompensation due to fear of deterioration [8]. Emergency departments (EDs) and Acute Medical Units (AMUs) are particularly susceptible to this variability, given the rapid turnover, diagnostic uncertainty, and reliance on empirical judgment pending full workup [9].

This clinical audit assessed adherence to CURB-65-guided antibiotic prescribing for community-acquired pneumonia (CAP) at a UK district hospital. By comparing two audit cycles, it evaluated improvements following targeted interventions and identified cases of over- or under treatment relative to local guidelines. Considering growing antimicrobial resistance, the audit underscores the need for consistent use of clinical scoring to guide therapy and enhance antimicrobial stewardship.

Material and Methods

Study Design

This was a prospective clinical audit conducted at Walsall Manor Hospital, United Kingdom. The first cycle of the audit was between October and December 2024 and the second cycle between February and April 2025. The primary objective was to evaluate whether empirical antibiotic prescriptions for patients with community-acquired pneumonia (CAP) aligned with local hospital guidelines based on the British Thoracic Society's CURB-65 severity scoring system. The audit adhered to the hospital's Quality Improvement Protocols (QIP) and aimed to identify areas for clinical practice enhancement.

Sample Population

The audit involved a total of 100 adult patients, with 50 patients included in each audit cycle. These individuals presented to the Emergency Department (ED) with either suspected or confirmed community-acquired pneumonia (CAP) and were subsequently admitted to the Acute Medical Unit (AMU).

Inclusion criteria for the audit required patients to be 18 years or older, have a clinical and radiological diagnosis of CAP, and possess complete data on CURB-65 score components as well as records of antibiotic administration.

Patients were excluded if they had healthcare-associated or hospital-acquired pneumonia, incomplete documentation of the CURB-65 variables or missing antibiotic records, or if they were treated as outpatients.

Data Collection

The data was taken prospectively from the patients file and clinical examination. Each patient's CURB-65 score was calculated based on documented values of mental status, blood urea, respiratory rate, blood pressure, and age at presentation. The empirical antibiotics administered at the point of admission were recorded and compared to the Walsall Manor Hospital Microbiology guidelines for CAP severity-based treatment. [Figure 1]

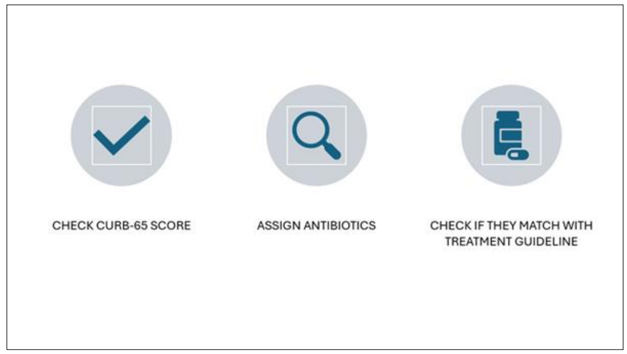

Figure 1: The principle of Audit

Antibiotic compliance was categorized into three groups: Correct, indicating that the antibiotic choice was in accordance with guideline recommendations based on the patient's CURB-65 score; Higher grade, where broader-spectrum or intravenous antibiotics were used despite not being required; and Lower grade, which referred to the use of narrower-spectrum or inappropriate antibiotic agents that did not align with the recommended guidelines.

Treatment Guidelines

The treatment guidelines start with the calculation of CURB-65 score for the suspected Community Acquired Pneumonia (CAP) by the following [Table 1].

Table 1: CURB 65 Score

Symptom	Parameter	Points
Confusion	Present / absent	1

Urea	>7mmol/L	1
Respiratory Rate	≥30/min	1
Blood Pressure	SBP <90mmHg, diastolic ≤60mmHg	1
Age	≥65 years	1
Total score	___________	_______________

This scoring tool assesses the severity of illness based on five clinical parameters. Each criterion scores 1 point if present.

The CURB-65 score is the British Thoracic Society's (BTS) recommended severity rating tool for community-acquired pneumonia (CAP), designed to estimate the 30-day mortality risk in adults with pneumonia. The risk of death is stratified into three categories based on the score: a score of 0-1 indicates low risk, with less than a 3% mortality risk; a score of 2 represents intermediate risk, with a 3 to 15% mortality risk; and scores between 3 and 5 indicate high risk, with mortality exceeding 15% Table [2].

Treatment decisions are guided by these risk levels: patients scoring 0-1 may be suitable for home treatment, those with a score of 2 should be considered for hospital referral, and patients with scores with 3 or above are deemed high risk and require urgent hospital admission. This scoring system helps clinicians determine the appropriate level of care, from outpatient management to intensive inpatient treatment [Table 2].

Table 2: Risk and Treatment plan by BTS

Score	Risk	Treatment plan
0-1	Low risk (< 3% mortality risk)	Home treatment
2	Intermediate risk (3 - 15 % mortality risk)	Hospital referral
≥3	High risk (> 15% mortality risk)	Hospital admission

The hospital has established comprehensive, evidence-based guidelines for antibiotic therapy in the management of various infectious diseases. Specifically, for the management of pneumonia, the Microbiology Department has outlined a standardized treatment protocol to guide clinicians in selecting the most appropriate antibiotic regimen. This protocol aims to optimize patient outcomes, reduce the risk of antimicrobial resistance, and promote the rational use of antibiotics. The recommended treatment plan for pneumonia is detailed below [Table 3].

Table 3: Hospital antibiotics guidelines

Score	First line	Second line
0-1	Amoxicillin 500 gm PO TDS	Doxycycline 100 mg PO BD
2	Amoxicillin 1 gm IV TDS	Doxycycline 100 mg PO BD
≥3	Co Amoxiclav 1.2 gm IV TDS + Doxycycline 100 mg PO BD	Ceftriaxone 2 gm IV BD + Doxycycline 100 mg BD

Severe CAP requiring critical care	Piperacillin Tazobactam 4.5 gm IV TDS + Doxycycline 200 mg PO OD	Ceftriaxone 2 gm IV TDS and Doxycycline 200 mg PO OD

Intervention Strategies

Following the first cycle, the team implemented several measures to drive improvement. A collaborative effort was made to ensure better outcomes, achieved through the following actions [Figure *2*]:

Educational Session

Following the completion of the first cycle of the audit, an educational session was organized and conducted within the Acute Medical Unit (AMU) department. This session was aimed at disseminating the findings of the audit and raising awareness among the medical staff, particularly junior doctors. The session served as a platform to discuss the observed gaps and areas for improvement in clinical practice, based on the audit results. Active participation from junior doctors was encouraged to promote engagement and ensure that they understood the significance of adhering to evidence-based practices.

Guideline Accessibility

To improve adherence to standard protocols, updated treatment guidelines were made readily accessible by placing a printed copy of the guidelines form in the clerking room, where doctors typically initiate patient assessments. This strategic placement ensured that the information was visible and available at the point of care, thereby supporting informed clinical decision-making. By making the guidelines more accessible, the initiative aimed to reinforce best practices and encourage consistency in the management of patients.

Medication review

The doctors working in the AMU department were asked to review the prescribed antibiotics upon the patient's arrival. This step was intended to ensure that the choice of antibiotics was appropriate and aligned with current treatment guidelines. Any necessary changes to the medication were to be made promptly, based on clinical judgment and updated recommendations.

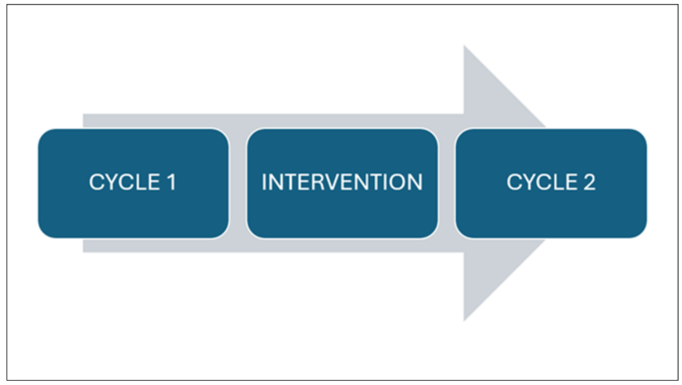

Figure 2: Aim of the Audits

Outcomes

The primary outcome of the audit was to assess the rate of compliance with community-acquired pneumonia (CAP) antibiotic guidelines, specifically in relation to patients' CURB-65 scores.

The secondary outcomes included evaluating the frequency of higher-grade antibiotic prescribing (use of broader-spectrum or intravenous antibiotics than recommended), the frequency of lower-grade or subtherapeutic antibiotic use (use of narrower-spectrum or inappropriate agents), and the change in compliance percentage between the first and second audit cycles. These outcomes collectively aimed to measure the effectiveness of antibiotic prescribing practices and identify areas for improvement in adherence to clinical guidelines

Quantitative Data Analysis

Data were analysed using Microsoft Excel. Descriptive statistics were used to calculate frequencies and percentages for categorical variables (e.g., correct vs.

incorrect antibiotic use). Compliance rates were compared between audit cycles, and patterns of non-compliance (over-treatment vs. under-treatment) were assessed. Inferential statistical tests were not applied due to the limited sample size and the descriptive nature of the audit. The level P < 0.05 was considered as the cutoff value or significance.

Ethical Considerations

This project was conducted as part of an internal clinical audit initiative and followed local hospital governance protocols. Ethical approval from a formal Institutional Review Board (IRB) was not required, as the audit did not involve experimental interventions or the collection of identifiable patient information. All data were anonymized during collection and analysis to maintain patient confidentiality.

Results

The study was conducted in two cycles with each cycle having 50 patients. A detailed analysis has been described below covering important aspects from the study.

Gender and Age distribution

*I*n Cycle 1, 21 participants (42.0%) were female and 29 (58.0%) were male. In Cycle 2, the distribution shifted to 28 females (56.0%) and 22 males (44.0%). A Chi-square test was conducted to evaluate the statistical significance of this difference, yielding a Chi-square value of 1.961 and a corresponding p-value of 0.161. As the p-value exceeds the conventional threshold of 0.05, the difference in gender distribution between the two cycles is not statistically significant [Table *4*].

Table 4: Gender distribution across Cycle 1 and Cycle 2

Gender parameter	Cycle 1	Cycle 2	Chi-square test (p-value)
Female	21 (42.0%)	28 (56.0%)	1.961 (0.161)
Male	29 (58.0%)	22 (44.0%)	
Total	50 (100.0%)	50 (100.0%)	

Data are presented as number of patients (n) and percentage (%) for each score category. Statistical analysis was performed using the Chi-square test. A p-value less than 0.05 (p < 0.05) was considered statistically significant.

The mean age of participants in Cycle 1 was 67.94 years (SD = 20.05), compared to 72.24 years (SD = 14.62) in Cycle 2. An independent samples t-test was conducted to assess whether this difference was statistically significant. The analysis yielded a t-statistic of -1.225 with an associated p-value of 0.223. As the p-value exceeds the conventional threshold of 0.05, the difference in mean age between the two cycles is not statistically significant [Table *5*].

Table 5: Comparison of age between Cycle 1 and Cycle 2

Parameter	Cycle 1 (mean ± SD)	Cycle 2 (mean ± SD)	t-statistic (p-value)
Age (in years)	67.94 ± 20.05	72.24 ± 14.62	-1.225 (0.223)

Values are presented as mean ± standard deviation (SD). Statistical analysis was performed using the independent sample t-test. A p-value less than 0.05 (p < 0.05) was considered statistically significant.

Laboratory parameters

The mean white blood cell (WBC) count was 13,090.60 ± 531 cells/µL in Cycle 1 and 11,962.00 ± 373 cells/µL in Cycle 2. This difference was not statistically significant (t = 0.979, p = 0.330). In contrast, C-reactive protein (CRP) levels were significantly higher in Cycle 1 (137.22 ± 113.66 mg/L) compared to Cycle 2 (79.26 ± 70.70 mg/L), with the difference reaching statistical significance (t = 3.053, p = 0.003) [Table *6*].

Table 6: Comparison of inflammatory markers between Cycle 1 and Cycle 2

Parameter	Cycle 1 (mean ± SD)	Cycle 2 (mean ± SD)	Test value (p-value)
WBC	13090.60±531	11962.00±373	t: 0.979 (0.330)
CRP	137.22 ± 113.66 mg/L	79.26 ± 70.70 mg/L	t: 3.053 (0.003)

Data are expressed as mean ± standard deviation (SD). Statistical analysis was conducted using the independent sample t-test. A p-value less than 0.05 ($p < 0.05$) was considered statistically significant.

CURB 65 score distribution

The distribution of CURB-65 scores among patients was similar between Cycle 1 and Cycle 2 with the score ranging from 0 to 3. In Cycle 1, scores were distributed as follows: 0 (18.0%), 1 (42.0%), 2 (30.0%), and 3 (10.0%). In Cycle 2, the distribution was 0 (16.0%), 1 (38.0%), 2 (28.0%), and 3 (18.0%). Hence, there was a slightly higher proportion of patients with a score of 3 in Cycle 2 with 9 (18.0%) patients compared to Cycle 1 with 5 (10.0%) patients. A Chi-square test indicated no statistically significant difference in CURB-65 score distribution between the two cycles (χ^2 = 1.336, p = 0.721), suggesting comparable severity of illness across groups [Table *7*].

Table 7: Distribution of CURB-65 scores across Cycle 1 and Cycle 2

Parameter		Cycle 1	Cycle 2	Chi square value (p-value)
CURB-65 Score	0	9 (18.0%)	8 (16.0%)	Chi: 1.336 (0.721)
	1	21 (42.0%)	19 (38.0%)	
	2	15 (30.0%)	14 (28.0%)	
	3	5 (10.0%)	9 (18.0%)	
Total		50(100%)	50(100%)	

Data are presented as number of patients (n) and percentage (%) for each score category. Statistical comparison between cycles was conducted using the Chi-square test. A p-value less than 0.05 ($p < 0.05$) was considered statistically significant.

Antibiotics administration

Antibiotic administration in the ward was evaluated across two audit cycles. In Cycle 1, 45 patients (90.0%) received antibiotics during their ward stay, compared to 48 patients (96.0%) in Cycle 2. The proportion of patients who did not receive antibiotics was 5 (10.0%) in Cycle 1 and 2 (4.0%) in Cycle 2. Chi-square analysis revealed no statistically significant difference in antibiotic administration between the two cycles (χ^2 = 1.382, p = 0.240), indicating comparable practices Table [8].

Table 8: Antibiotic Administration during Cycle 1 and Cycle 2

Parameter		Cycle 1	Cycle 2	Test value (p-value)
Antibiotics received in ward	Not received	5 (10.0%)	2 (4.0%)	Chi: 1.382 (0.240)
	Received	45 (90.0%)	48 (96.0%)	
Total		50 (100%)	50 (100%)	

Values are expressed as number of patients (n) and percentage (%). The difference in distribution between the cycles was assessed using the Chi-square test. A p-value less than 0.05 ($p < 0.05$) was considered statistically significant.

The appropriateness of antibiotic prescribing, based on CURB-65-guided recommendations, was also compared. In Cycle 1, 29 patients (58.0%) received appropriate antibiotics, while 21 patients (42.0%) were incorrectly treated. In Cycle 2, appropriate prescribing increased to 34 patients (68.0%), with 16 (32.0%) treated inappropriately. This improvement was not statistically significant ($\chi^2 = 1.073$, $p = 0.300$) [Table *9*].

Table 9: Appropriateness of Antibiotic Prescribing Based on CURB-65 Score

Parameter		Cycle 1	Cycle 2	Test value (p-value)
Guideline-concordant antibiotics	Incorrect	21 (42.0%)	16 (32.0%)	Chi: 1.073 (0.300)
	Correct	29 (58.0%)	34 (68.0%)	
Total		50 (100%)	50 (100%)	

Values are expressed as number of patients (n) and percentage (%). The difference in distribution between the cycles was assessed using the Chi-square test. A p-value less than 0.05 ($p < 0.05$) was considered statistically significant.

Among the 37 patients across both cycles who received non-guideline-concordant antibiotics (21 in Cycle 1; 16 in Cycle 2), the majority were prescribed higher-grade antibiotics. In Cycle 1, 18 patients (85.7%) received higher-spectrum regimens compared to 14 patients (87.5%) in Cycle 2. The use of lower-grade antibiotics was minimal and similar in both cycles: 3 patients (14.3%) in Cycle 1 and 2 patients (12.5%) in Cycle 2. The difference in antibiotic deviation patterns was not statistically significant ($\chi^2 = 0.025$, $p = 0.875$) [Table *10*].

Table 10: Antibiotic Deviation Patterns Among Patients Receiving Non-Guideline-Concordant Treatment (n = 37)

Parameter		Cycle 1	Cycle 2	Chi square (p-value)
Antibiotic Deviation	Lower grade antibiotics	3 (14.3%)	2 (12.5%)	0.025 (0.875)
	Higher grade antibiotics	18 (85.7%)	14 (87.5%)	
Total (non-concordant cases)		21	16	

Values are reported as number of patients (n) and percentage (%). The Chi-square test was used to compare distributions between groups. A p-value less than 0.05 ($p < 0.05$) was considered statistically significant.

Compliance with antibiotic guidelines based on CURB-65 scores improved from 58.0% in Cycle 1 to 68.0% in

Cycle 2, although the difference was not statistically significant.

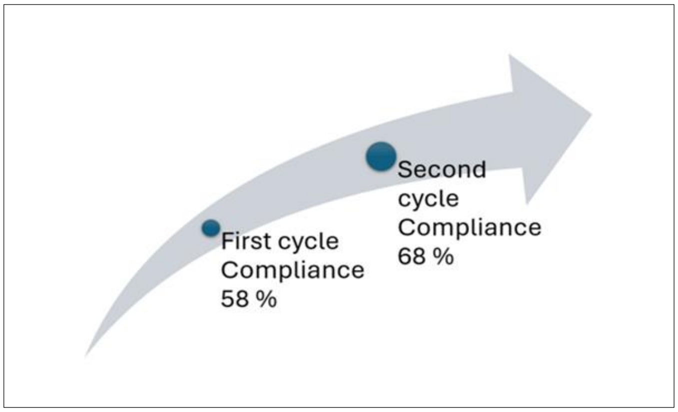

Figure 3: Antibiotics compliance

These findings indicate a modest improvement in adherence to CURB-65-guided antibiotic protocols following audit feedback, particularly in reducing instances of under-treatment. However, overtreatment remained prevalent in both cycles, underscoring a continued clinical preference for broader-spectrum antibiotic coverage.

Discussion

This clinical audit evaluated adherence to local antibiotic prescribing guidelines for community-acquired pneumonia (CAP), employing the CURB-65 severity score across two audit cycles. The analysis revealed a modest yet clinically relevant improvement in compliance, increasing from 58% in the first cycle to 68% in the second. While this change did not reach statistical significance, it suggests that targeted audit feedback and heightened clinician awareness may contribute to improved guideline adherence.

Across both cycles, the majority of patients had CURB-65 scores between 0 and 2, consistent with mild to moderate pneumonia typically observed in older adults. Despite this, a considerable proportion of patients were prescribed antibiotics exceeding the recommended spectrum based on severity scoring. Notably, overtreatment accounted for more than 85% of non-compliant cases in both cycles, indicating a persistent clinical preference for broad-spectrum or intravenous antibiotics. Contributing factors likely include diagnostic uncertainty, delayed availability of laboratory data-particularly urea-and concern about clinical deterioration.

White blood cell (WBC) counts stayed about the same in both treatment cycles. However, Cycle 2 showed a clear drop in C-reactive protein (CRP) levels, which suggests that patients may have had less severe inflammation. Even so, doctors did not reduce antibiotic use, especially in patients with low CURB-65 scores (0-1), who likely had milder illness. This mismatch shows that habits and hospital policies can strongly influence how antibiotics are prescribed-sometimes more than the actual condition of the patients. As reported by Grace et al., even with improved access to diagnostic tools and documentation, deeply rooted clinical norms, rigid reimbursement structures, and limited trust in decision-support systems continue to challenge efforts to optimize prescribing behaviour [10].

Under treatment was uncommon (<15% in both cycles), suggesting a tendency toward overtreatment in acute settings like EDs and AMUs. This cautious approach likely stems from the urgency of early intervention and limited clinical information at presentation. May et al. highlighted that ED clinicians prioritize rapid diagnosis, empirical therapy, culture collection, and follow-up-though this fast-paced environment increases the risk of broad-spectrum antibiotic overuse and missed diagnostics [8].

These findings are consistent with previous literature. A UK-based audit by Lim et al. (2003) reported inconsistent application of CURB-65 and poor adherence to British Thoracic Society (BTS) guidelines, with over prescription representing the predominant deviation. This supports the broader observation that severity-based scoring tools are frequently underutilized, and that overtreatment is commonly perceived as the safer clinical choice, despite potential adverse consequences [4].

International evidence further reinforces this trend. In an audit conducted at Mercy University Hospital in Ireland, Delaney and Jackson (2020) found that only 48% of empiric antibiotic prescriptions adhered to national guidelines. Notably, full compliance was achieved only when CURB-65 scores were documented, underscoring the pivotal role of documentation in enhancing adherence to evidence-based practice [11].

Limitation of the Study

While the study benefits from a reasonably sized sample, several important limitations must be acknowledged. First, antibiotic prescribing in the Emergency Department is not solely guided by the CURB-65 score, as serum urea levels-an essential component of the score-are not always available at the time of initial assessment. This delay often necessitates postponing full severity evaluation until the patient is admitted to the Acute Medical Unit (AMU), potentially affecting early treatment decisions.

Second, the study does not include radiological data, such as chest radiographs, which are routinely used in clinical practice. Although imaging findings are not incorporated into the CURB-65 scoring algorithm, they play a critical role in guiding antibiotic choice and clinical management. Their exclusion may therefore limit the study's ability to fully capture the rationale behind certain prescribing decisions.

Furthermore, the absence of blood-based inflammatory markers, such as C-reactive protein (CRP) and procalcitonin, represents a notable gap. These biomarkers provide valuable information regarding systemic inflammation and are particularly useful in identifying cases of sepsis or severe infection in patients with otherwise low CURB-65 scores. Their omission restricts the assessment of clinical acuity and may underestimate the appropriateness of some prescribing choices.

Finally, patient comorbidities were not consistently accounted for in the analysis. Factors such as a history of cerebrovascular disease (which may predispose to aspiration pneumonia) or recent chemotherapy (associated with immunosuppression and neutropenia) can substantially influence both diagnosis and antimicrobial management. The lack of systematic evaluation of such variables limits the study's ability to contextualize non-adherence to guideline-based therapy.

Suggestion by the Study

Despite its limitations, this audit highlights the critical role of structured severity scoring tools-particularly CURB-65-in guiding evidence-based antimicrobial therapy. To enhance adherence to prescribing guidelines, several key interventions are recommended.

Firstly, the integration of CURB-65 calculators into electronic health records (EHR), prescribing platforms, and triage systems should be prioritized. Embedding automated scoring tools and mandating documentation of severity assessments prior to antibiotic initiation could streamline clinical workflow and reinforce adherence to guidelines.

Secondly, targeted clinician education remains essential. Educational initiatives should emphasize the risks associated with antibiotic overuse, including resistance, adverse effects, and increased healthcare costs, while promoting the principles of antimicrobial stewardship. Incorporating real-time, pharmacist-led audits with immediate feedback on inappropriate prescriptions has also shown promise in reinforcing appropriate prescribing behaviours.

Future quality improvement efforts should adopt a multifaceted approach, addressing both individual knowledge gaps and systemic barriers to adherence. Evidence from international audits in Ireland and Vietnam has demonstrated that relatively simple interventions, such as checklist-based prompts and mandatory severity score documentation fields, can lead to significant improvements in compliance when consistently applied [11,12].

Conclusion

In conclusion, this audit highlights a persistent gap between guideline-based antibiotic recommendations and real-world prescribing practices for community-acquired pneumonia (CAP). Although some improvements in documentation were observed following audit feedback, a high rate of overtreatment remained. These findings emphasize the need for structured interventions and ongoing audit cycles to better align clinical practice with evidence-based protocols, thereby supporting antimicrobial stewardship in acute care settings.

Based on the study, two key recommendations are proposed: first, to ensure accurate calculation of the CURB-65 score and adherence to the corresponding treatment guidelines for each patient; and second, to routinely review the drug chart and consider adjusting the treatment plan as patients transition from the Emergency Department to the Acute Medical Unit (AMU). Implementing these measures aims to enhance patient care by promoting consistent clinical scoring and timely modifications to treatment based on updated assessments within the hospital.

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