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Unscheduled care

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This monthly current awareness bulletin aims to highlight relevant reports and peer-reviewed literature in emergency and unscheduled care. The bulletin focuses on efforts to improve patient flow, reduce waiting times and alternative care models.

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References

Bicen H., and Butun, A. (2026) 'The Effects of Emergency Department Overcrowding on Safety Attitudes of Healthcare Staff: A Cross-Sectional Observational Study.' *Emergency and Critical Care Medicine* (pagination), Date of Publication: 2026.

Introduction: - Overcrowding in the emergency departments (EDs) has many negative effects on patients, healthcare staff, and the healthcare system.

Overcrowding in ED can negatively affect the safety attitudes of healthcare staff. This study aimed to examine the relationship between ED overcrowding and the safety attitudes of healthcare staff.

Method(s): - This cross-sectional descriptive study included 336 healthcare staff working in the EDs of 4 hospitals located in the southeast of Turkiye. Data were collected between February 16, 2024, and March 30, 2024. Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY), and the significance level was determined as $P < 0.05$.

Result(s): - As a result of 43 days of data collection, the National Emergency Department Overcrowding Scale score was determined as "extremely busy but not overcrowded" for 21 days, "overcrowded" for 17 days, and "severely overcrowded" for 5 days. As the National Emergency Department Overcrowding Scale score increased, the scores of teamwork climate ($r: -0.236$), safety climate ($r: -0.248$), job satisfaction ($r: -0.254$), perceptions of management ($r: -0.302$), and working

conditions ($r: -0.348$) decreased significantly ($P < 0.001$). Doctors and experienced staff had higher safety attitude scores. All subdimension scores decreased on days when crowding increased. ED overcrowding negatively affects the safety attitudes of healthcare staff. In particular, critical subdimensions such as teamwork, safety recognition, and job satisfaction weaken as crowding increases.

Conclusion(s): - This study revealed that overcrowding in the EDs has a significant effect on the safety attitudes of healthcare staff and that healthcare systems should develop multidisciplinary solutions to this problem.

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Brady M., et al. (2026) '[Artificial Intelligence Technology Enhancing Emergency Department Triage: An Integrative Review.](#)' *Computers, Informatics, Nursing* : C/I/N (pagination), Date of Publication: 24 Aug 2026.

Accurate triage is vital in emergency departments, where misidentification delays care, increases morbidity and mortality, and strains resources, particularly amidst overcrowding. Despite advances, gaps persist in understanding the role of artificial intelligence tools across diverse settings and their integration into clinical workflows. The aim of this integrative review was to evaluate artificial intelligence's potential to enhance triage efficiency and accuracy, guided by the Technology Acceptance Model (TAM) and Systems Thinking Approach. CINAHL, PubMed, Ovid Medline, EBSCOhost, and IEEE Xplore were searched, identifying 283 articles, refined to 20 through exclusions for duplicates, abstracts, and relevance. Retrospective cohort designs predominated, complemented by cross-sectional, prospective, and observational studies spanning global contexts. The key message was that artificial intelligence tools significantly outperformed traditional triage methods like the Emergency Severity Index (ESI). Findings revealed artificial intelligence predicted critical outcomes (eg, mortality, intensive care unit admissions), reduced mistriage rates, and leveraged diverse data (structured and unstructured), though challenges like limited generalizability and data quality remain. These insights advance health care informatics by highlighting the need for enhanced electronic health record systems and training, offering a pathway to optimize ED resource allocation and patient outcomes. Future research should focus on multicenter validations and real-time implementations to fully realize the transformative potential of artificial intelligence in emergency care.

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Bunting D., and Joshi, G. (2026) '[Ambulatory Surgery: Procedure Selection and Emergency Ambulatory Surgery.](#)' *Current Anesthesiology Reports* 16(1) (pagination), Article Number: 25. Date of Publication: 01 Dec 2026.

Purpose of Review: This review examines the principles, implementation, and future development of ambulatory surgical procedures selection including Surgical Same-Day Emergency Care (SDEC) - emergency surgery performed on outpatient basis. It explores how ambulatory pathways can improve patient outcomes, healthcare

efficiency, and sustainability while maintaining safety, and identifies organisational and clinical factors required for successful implementation. Recent Findings: Recent research demonstrates increasing adoption of ambulatory surgery across a widening range of elective and emergency procedures. Advances in peri-operative care, enhanced recovery programmes, minimally invasive surgery, virtual wards, and consultant-led pathways have enabled safe same-day discharge for selected patients. Emerging evidence supports SDEC models in reducing admissions, improving patient satisfaction, and optimising resource utilisation.

Summary: Ambulatory surgery and SDEC provide effective strategies for addressing growing healthcare demand and constrained inpatient capacity. Successful implementation depends on careful patient selection, multidisciplinary working, rapid diagnostics, and continuous performance monitoring. Future research should focus on expanding indications, refining patient selection, and evaluating long-term outcomes and system-level impacts.

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Cui L., et al. (2026) '[Diagnostic Accuracy of Large Language Models for Emergency Department Triage: A Systematic Review and Meta-Analysis.](#)' *BMC Emergency Medicine* 26(1) (pagination), Article Number: 228. Date of Publication: 01 Dec 2026.

Objective: Large language models (LLMs) have shown potential in the field of emergency department (ED) triage. However, a comprehensive evaluation of their diagnostic performance and a comparison with triage nurses have not been extensively explored. To systematically evaluate the comparative triage accuracy of LLMs versus triage nurses in ED, assess their performance in identifying patients assigned to the highest-acuity triage category by the reference standard.

Method(s): A systematic search was conducted in CNKI, Wanfang, VIP, CBM, PubMed, Embase, Web of Science, and Cochrane Library databases from inception to March 2025. Two researchers independently screened and evaluated the quality of the selected studies and conducted meta-analyses using RevMan 5.4 and Stata 16.0.

Result(s): A total of 11 studies were included, involving 3088 real or simulated ED cases. The pooled odds ratio (OR) for LLM triage accuracy was 0.65 (95% CI: 0.32-1.34; I² = 97%). For identifying patients assigned to the highest-acuity triage category by the reference standard, LLMs demonstrated a pooled sensitivity of 61% (95% CI: 48%-73%) and specificity of 97% (95% CI: 88%-99%), with statistically significant differences ($p < 0.05$). The pooled area under the curve (AUC) was 0.82 (95% CI: 0.78-0.85). These estimates reflect concordance with triage category by the reference standard rather than discrimination of outcome-anchored physiological acuity. No significant publication bias was detected by Deeks' funnel plot asymmetry test.

Conclusion(s): Current LLMs demonstrate moderate discriminatory performance for identifying patients assigned to the highest-acuity triage category by the reference standard, but have limited sensitivity for these cases. LLMs may have potential as adjunctive support tools, but further prospective evaluation with patient-centered and safety-critical outcomes is required before implementation can be considered.

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Department of Health and Social Care. (2026) Managing the flow of patients through hospital from A&E.

Erdem P., et al. (2026) 'Comparison of the Performance of ChatGPT Plus, Gemini Pro, and Experienced Nurses in Pediatric Emergency Triage using Physician Reference Assessment: A Prospective Observational Study.' *Journal of Pediatric Nursing* 90, 128–135.

AIM: We aimed to evaluate the performance of ChatGPT Plus and Gemini Pro, two large language model-based artificial intelligence (AI) tools, to predict actual triage levels of patients in the pediatric emergency department and compare them with the decisions of experienced nurses. DESIGN AND METHODS: This single-center, prospective observational study was conducted between September 15 and October 15, 2025. Nurses received standardized refresher training on the Emergency Severity Index (ESI) before data collection. A triage nurse assessed each patient while a pediatric emergency medicine physician simultaneously determined the gold-standard triage level; AI triage levels were recorded by a separate researcher. Patients were classified as emergent (ESI-1 and 2), urgent (ESI-3), or non-urgent (ESI-4 and 5). Agreement was evaluated using the Quadratic Weighted Kappa (kappa_w) coefficient.

RESULT(S): A total of 378 patients were included. While near-perfect agreement was observed between the physician and nurses, agreement for ChatGPT Plus and Gemini Pro was moderate (kappa_w 0.892, 0.586, and 0.544, respectively). The nurses had a higher triage accuracy than AI tools (92% compared to 65% for ChatGPT Plus and 63% for Gemini Pro, $p < 0.001$). AI tools showed a tendency toward under-triage of emergent patients and over-triage of both urgent and non-urgent patients ($p = 0.038$ and $p < 0.001$).

CONCLUSION(S): These findings demonstrate that general AI tools are not yet sufficiently accurate to classify pediatric cases and cannot replace experienced nurses. IMPLICATIONS TO PRACTICE: Future hybrid AI models incorporating real-time clinical observations and age-specific physiological parameters may enhance applicability of these technologies in pediatric emergency triage.

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Kim T., et al. (2026) 'Enhancing the use of Home Hospital in the Emergency Department: A Nurse Practitioner-Led Quality Improvement Project.' *Journal of*

Emergency Nursing (pagination), Date of Publication: 2026.

Introduction: Emergency department crowding contributes to adverse patient outcomes and resource strain. Home Hospital, which delivers hospital-level care in a patient's home, can reduce inpatient volume while maintaining quality and safety. Although Home Hospital programs offer a viable solution to these systemic pressures, a recognized gap exists between program availability and actual use by emergency department providers.

Method(s): This quality improvement project used 3 sequential Plan-Do-Study-Act cycles: (1) a self-paced online learning module on eligibility and referral workflow; (2) point-of-care visual aids at provider workstations; and (3) integration of standardized referral guidance into the emergency department provider manual for sustainability, along with referral data sharing and a QR code link for feedback. The primary outcomes included the proportion of Home Hospital referrals originating in the emergency department and provider confidence with eligibility and referral steps, measured pre- and postintervention using the Home Hospital Clinician Perception Survey and electronic medical record data.

Result(s): During the 3 months before the intervention, 5 of 259 referrals (1.9%) originated in the emergency department. Following the intervention, emergency department-initiated referrals increased significantly to 47 of 266 (17.7%; $P < .001$), with an odds ratio of 10.9. Provider confidence in identifying eligible patients increased from 41% to 94%, and confidence in completing the referral process increased from 41% to 84%. Provider engagement was high; participation rates reached 94% for the online module and 82% for the visual aids.

Discussion(s): Embedding a low-cost, multi-component strategy into existing workflows was associated with an increase in emergency department-initiated Home Hospital referrals and an increase in provider confidence. This approach is scalable and supports timely, patient-centered alternatives to hospital admission.

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Kwong J.J., and Shalli, K. (2026) 'The Impact of Prolonged Emergency Department Waiting Time on Elective Surgical Activities: A Cross-Sectional Observational Study in National Health Service (NHS) Scotland.' *International Journal of Health Planning and Management* (pagination), Date of Publication: 2026.

Introduction: The NHS is now facing serious challenges from acute care pressure, reflecting on the emergency department (ED) national waiting time target compliance. Concerns about cancelling elective operations to cope with emergency services have also arisen. However, there is a lack of existing evidence to prove a direct relationship between ED episodes and planned hospital services. Thus, the objective of this study is to investigate the impact of high ED attendances on elective surgical activities.

Method(s): Retrospective cross-sectional observational study which includes the five

largest health boards in NHS Scotland. All patients who presented to the ED in 2021 are included. Univariate and multivariate regression analysis were used to show relationship between ED attendances and elective surgical services including in- and out-patient waiting lists and clinic activities. Explanatory variables include total ED attendances and attendances that exceeded the national waiting time target.

Result(s): The five health boards recoded a higher patient visit to ED on second and third quarter. Non-compliances to 4 hours waiting time ranges between 6% and 20%. Both Univariate and multivariate regression analysis showed a positive correlation between long ED waiting time (> 8 and 12 hours) and increased patient waiting time for elective surgical service as well as delay in clinic review.

Discussion(s): Prolonged ED waiting times were consistently associated with delay in in- and out-patient elective service. To ensure timely and adequate treatment of patients, policymakers should invest in resources to improve the efficiency of both emergency and elective services and introduce management plans that balance the needs of both services.

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Messner J.T., et al. (2026) '[A Local Operational Definition of Pediatric Emergency Department Overcrowding: An 8-Year Retrospective Observational Cohort Study from the OACS+ Project.](#)' *Frontiers in Pediatrics* 14(pagination), Article Number: 1882596. Date of Publication: 2026.

Background - Emergency department (ED) overcrowding is increasingly observed worldwide and is associated with impaired care quality and patient outcomes. However, no universally accepted definition or measurement method exists. This challenge is particularly relevant in pediatric EDs (PEDs), where crowding is shaped by patient volume, staffing, local care structures, spatial capacity, and temporally fluctuating demand, including infectious surges. Objective - This study aimed to derive a locally applicable operational definition of PED overcrowding reflecting the care structures and demand patterns of the University Hospital Augsburg (UKA) PED and supporting future validation, prediction, and intervention studies. Methods - We conducted an 8-year retrospective cohort study (2017-2024) including 141, 008 PED visits by children aged 0-18 years at UKA. Candidate parameters included patients leaving without being seen (LWBS), length of stay (LOS), time to triage, and patient-to-staff ratio (ps-ratio). Descriptive analyses covered 2017-2024, whereas ps-ratio analyses were restricted to 2020-2024, when nursing staffing data were available. Correlation analyses assessed bivariate relationships. ROC analyses derived local ps-ratio thresholds using daily LWBS events, operationalized as ≥ 1 and ≥ 2 events/day, as binary internal reference anchors. Time-series models examined temporal trends and lockdown-related shifts. Results - The ps-ratio showed the strongest correlations with LOS ($r = 0.612$) and LWBS ($r = 0.428$). ROC analyses

identified local ps-ratio thresholds between 2.03 and 2.20 patients per nurse, depending on the LWBS anchor and model specification. A rounded threshold of approximately 2.2 patients per nurse showed moderate and broadly stable discrimination (raw ≥ 1 LWBS/day: AUC = 0.73). Time-series modeling for 2020-2024 showed a nonlinear ps-ratio trend and a marked level shift during the COVID-19 lockdown period. PED demand was characterized by high self-referral rates, predominantly lower-acuity presentations, weekend and holiday clustering, and temporal fluctuations in visit volume. Conclusions - Locally derived operational definitions may improve interpretation of PED overcrowding by linking patient demand to staffing capacity and local care structures. In the OACS + cohort, the ps-ratio emerged as a staffing-sensitive, clinically interpretable operational marker. The proposed threshold should be considered a locally derived exploratory benchmark requiring external validation before application elsewhere.

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Schippers E.E., et al. (2026) '[Crowding in Real-Time: An Artificial Intelligence-Based Model to Manage Crowding in the Emergency Department \(CRAMMED Study\)](#).' *BMC Emergency Medicine* 26(1) (pagination), Article Number: 232.

Date of Publication: 01 Dec 2026.

Background: Emergency department (ED) crowding is a global challenge with adverse effects on patient outcomes and staff well-being. Traditional crowding scores, such as the National ED Overcrowding Study (NEDOCS) score, have limited ability to predict imminent crowding. The aim of this study is to develop and validate a real-time, artificial intelligence (AI)-driven prediction model using a long short-term memory (LSTM) neural network to predict ED crowding, using ambulance diversion status as the reference standard and comparing performance with the (modified) NEDOCS score.

Method(s): In this single-centre, retrospective cohort study, we extracted parameters related to crowding from electronic health records and workforce data. Ambulance diversion status served as the reference standard for crowding. The LSTM model was trained and evaluated with walk-forward validation and performance was assessed using the area under the receiver operating characteristic curve (AUC). Model calibration was assessed using Brier score and expected calibration error (ECE).

Result(s): The optimal LSTM model used the previous hour of data to predict one hour ahead, yielding an AUC of 0.84 (95% CI 0.81-0.86). Key features contributing to the predictive quality of our model included the number of pre-notified arrivals, patients in the yellow and orange triage categories, and the number of ED supervisors. Compared with the modified NEDOCS score (AUC of 0.73 (95% CI 0.70-0.76)), the LSTM model showed higher discriminative performance in internal validation within this single-centre study.

Conclusion(s): Our AI-driven prediction model demonstrated good predictive performance for ED crowding in internal validation. These findings highlight the potential of real-time prediction models to support ED clinical workflow.

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Toarta C., et al. (2026) '[Emergency Medicine Triage Practices Across Canadian Hospitals: A National Survey.](#)' *Canadian Journal of Emergency Medicine* (pagination), Date of Publication: 2026.

Objectives: Triage in emergency departments (EDs) prioritizes patient care when demand exceeds resources. In Canada, the Canadian Triage and Acuity Scale (CTAS) is the nationally endorsed system used to guide triage decisions. Despite longstanding advocacy for standardized practices, implementation and training requirements vary across hospitals, and electronic decision-support tools have been increasingly integrated to support triage. This study aimed to describe current triage practices, staffing, and training across Canadian EDs.

Method(s): We conducted a national, bilingual cross-sectional survey of ED staff across 10 provinces and three territories. A 21-item electronic questionnaire, developed by a multidisciplinary team, captured data on triage roles, training, tools, and protocols. Surveys were distributed via provincial and local ED leads, with follow-up reminders to maximize participation. Responses were summarized using descriptive statistics and reported as counts and percentages. The survey was conducted in accordance with the Kelley checklist.

Result(s): A total of 1169 surveys were completed, mostly in English, from ten provinces and two territories with Ontario and Alberta being overrepresented. Respondents were predominantly registered nurses (79.1%) responsible for triage (99.1%), with most having more than 2 years of triage experience in addition to prior nursing experience (86.1%). The majority reported using the 2016 CTAS guidelines (54.8%) and electronic CTAS (53.9%). Most sites had minimum training requirements for triage staff (74.7%), with 91.4% of respondents having completed the NENA/CAEP CTAS participant course. Considerable variability existed in guideline awareness, training requirements, and triage practices.

Conclusion(s): Triage in Canadian EDs is predominantly performed by registered nurses with more than two years of triage experience, most of whom have completed formal CTAS training. Despite widespread guideline use and decision-support tools, practices remain inconsistent, underscoring the need for standardized training and implementation strategies to ensure safe, effective, and reliable triage across the country.

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Vachha B.A., et al. (2026) '[Direct to Radiology Emergency Avoidance Management \(DREAM\): A Quality Improvement Research Study on Reducing](#)

Emergency Department Overcrowding.' *Joint Commission Journal on Quality and Patient Safety* (pagination), Date of Publication: 06 Aug 2026.

BACKGROUND: Primary-care referrals to the emergency department (ED) for advanced imaging, often due to workflow and insurance barriers, contribute to unnecessary ED visits and ED overcrowding. Redirecting lower-acuity patients to outpatient evaluation may reduce treatment time and ease ED burden. This pilot study evaluated a Direct-to-Radiology Emergency Avoidance Management (DREAM) program for outpatients with urgent complaints. The authors hypothesized that DREAM patients would have a shorter time from arrival to imaging report finalization (AIRF) than comparable ED patients who underwent similar computed tomography (CT) examinations and were discharged without requiring higher-level care.

METHOD(S): In this retrospective study, primary care patients requiring same-day CT imaging for urgent complaints (defined as conditions requiring timely medical evaluation to prevent clinical deterioration but not necessarily requiring immediate life-saving intervention) were enrolled in the DREAM program and compared to ED patients evaluated during the same period who underwent similar urgent CT examinations and did not require admission/escalation of care. The primary outcome was AIRF (minutes). Ordering outpatient providers and involved radiologists completed a perception survey.

RESULT(S): A total of 155 patients (median age 61 years) in the DREAM group were compared with 4,182 ED patients (median age 59 years). AIRF for DREAM outpatients (median 156 minutes, interquartile range [IQR] 130-196 minutes) was significantly shorter than the ED cohort (median 305 minutes, IQR 158-484), $p < 0.001$. Imaging revealed positive findings in 62/155 (40.0%) of DREAM patients; 9 of these were referred to the ED within 48 hours, while the remainder were managed conservatively as outpatients.

CONCLUSION(S): The DREAM program safely delivered appropriate care for most patients while avoiding unnecessary ED visits and improving efficiency. DREAM may alleviate ED overcrowding and optimize healthcare resource use.

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Villegas Bruguera E.B., et al. (2026) 'Hospital at Home Vs Conventional Hospitalization: Good Clinical Outcomes with Lower Cost and Nosocomial Complications.' *International Journal for Quality in Health Care* 38(3) (pagination), Article Number: mzag099. Date of Publication: 01 Jul 2026.

Background: Hospitalization at home (HAH) is a care model that is safe and cost-effective as an alternative to conventional hospitalization (CH). HAH reduces hospital admissions and length of stay in the wards with comparable clinical outcomes.

Published studies exhibit significant heterogeneity in data analysis methods, patient profiles, health outcomes and economic costs.

Method(s): A retrospective observational study conducted on patients treated by our

HAH service over 2 years (988 in 2019 and 1335 in 2023), analyzing epidemiological and clinical aspects, savings in CH beds utilization, and a comparative analysis with CH of nosocomial complications, use of complementary explorations and cost differences between both resources.

Result(s): Over 2 years, HAH activity increased while maintaining lower complication and readmission rates compared to CH. Over 90% of HAH patients were discharged home. Although the average length of stay was longer in HAH, the cost per patient per day was significantly lower in HAH (86 vs. 215 in 2019 and 118 vs. 257 in 2023), and freed up 23-31 inpatient beds daily, improving hospital efficiency. Annual savings from HAH utilization amounted to 1.1 million in 2019 and 1.5 million in 2023.

Additionally, reduced use of hospital resources (laboratory, CT and MRI) in HAH saved more than 58 000 in 2019 and 100 000 in 2023.

Conclusion(s): For selected patients, including frail elderly people with multiple comorbidities, HAH is an excellent alternative to CH that provides hospital-level medical care at home, avoiding nosocomial complications while maintaining care quality and generating substantial economic savings for the healthcare system.

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Wang Z., et al. (2026) '[Artificial Intelligence and Machine Learning for Emergency Department Overcrowding: A Systematic Review with Large Language Model-Assisted Screening.](#)' *Healthcare (Switzerland)* 14(17) (pagination), Article Number: 2767. Date of Publication: 01 Se 2026.

Background/Objectives: Emergency department (ED) overcrowding contributes to delayed care, prolonged length of stay (LOS), resource strain, and adverse patient outcomes. This systematic review aimed to examine how artificial intelligence (AI) and machine learning (ML) have been used to address ED crowding and patient flow, with emphasis on modeling approaches, validation practices, and real-world implementation.

Method(s): Following PRISMA 2020 guidelines, Scopus, Embase, Ovid MEDLINE, and CENTRAL were searched for relevant studies published from 2020 onward.

After deduplication, 1888 records underwent title and abstract screening using two locally deployed LLaMA models with human adjudication. Screening performance was assessed against 150 manually annotated records. Full-text eligibility

assessment and structured data extraction were conducted independently by multiple reviewers, with disagreements resolved by consensus.

Result(s): Thirty-two studies were included. Most were retrospective, single-site investigations using electronic health record, administrative, or operational data. Common outcomes included ED LOS, waiting time, occupancy, boarding, disposition, and crowding indices. Tree-based and boosting models frequently performed well, although no approach was consistently superior across tasks and settings. Most studies relied on same-site validation, while external and temporal validation were uncommon. Prospective implementation, workflow integration, model maintenance, and direct operational, clinical, economic, or equity impacts were rarely evaluated. For LLM-assisted screening, LLaMA 4 Scout achieved 84.0% accuracy, 80.0% recall, 88.9% precision, and an F1 score of 84.2%, compared with 78.0%, 67.5%, 88.5%, and 76.6%, respectively, for LLaMA 3.3 on 150 randomly sampled papers.

Conclusion(s): AI and ML show promise for addressing ED overcrowding, but the literature remains concentrated at the model-development stage. Future research should prioritize standardized outcomes, multicenter validation, prospective implementation, and direct evaluation of operational and patient-care outcomes. Copyright © 2026 by the authors.

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