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NHS Ayrshire & Arran

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.

If you require specific information, please contact us via email.

References

Baker T., and Dunlop, T. (2025) 'Open and Closed Models of Emergency Care: Navigating Change in Rural Hospitals.' *EMA - Emergency Medicine Australasia 37*(4) (pagination), Article Number: e70099. Date of Publication: 01 Aug 2025.

Emergency physicians are increasingly stepping into new roles in rural hospitals, where they may encounter unfamiliar service structures, blurred lines of responsibility, and conflicting expectations. The concept of open versus closed emergency department models, originally developed in intensive care medicine, provides a useful framework for navigating these challenges. In an open model, the emergency department is embedded within the broader hospital service, with clinical responsibility retained by senior decision makers outside the department. In a closed model, emergency physicians assume primary responsibility for patient care. Transitions to closed models should be implemented in stages to avoid disruption and support team cohesion. Both open and closed models are valid approaches, and each functions best when clinicians collaborate with mutual respect and shared purpose.

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Eaton-Williams, P., et al. (2025) 'Integrated Unscheduled Care Navigation Hub Models in Ambulance Services: A Narrative Review.' *International Journal for Advancing Practice 3*(3), 136–141.

Garrouste V., et al. (2025) **'Nurse-Initiated X-Ray Requests for Extremity Trauma in the Emergency Department: A Single-Center, Prospective, before-and-After Cohort Study.'** ***Journal of Emergency Nursing 51*(4), 587–596.**

BACKGROUND: Emergency department overcrowding and prolonged stays are critical issues in health care. Nurse-initiated X-ray requests for isolated extremity trauma may streamline patient care.
OBJECTIVE(S): This study aimed to assess the impact of nurse-initiated X-ray requests on patient care duration and overall management time in the emergency department.
METHOD(S): This single-center, prospective, before-and-after cohort study included 400 patients at the University Hospital of Orleans, France, between January and June 2023. During the first period, X-rays were ordered by physicians. In the second period, triage nurses, trained through a comprehensive program, were authorized to order X-rays. The primary outcome was the duration of medical management from initial physician contact to the end of care. Secondary outcomes included overall emergency department management time and additional X-rays ordered after evaluation.
RESULT(S): Each period included 200 patients. The duration of medical care was significantly shorter in the second period (median, 21 minutes [interquartile rage, 9-56]) than the first period (median, 47 minutes [interquartile rage, 25-106]), with a median difference of -26 minutes (95% CI, -43 to -16; P<.001). The overall duration of patient management did not differ significantly between periods. Exploratory analyses suggested that a higher percentage of included patients on a given day correlated with shorter care durations for all attending patients.
CONCLUSION(S): The implementation of nurse-initiated X-ray requests was significantly associated with a reduction of approximately half an hour for patients with isolated limb trauma, although it did not affect the total duration of patient management. Further research is needed to evaluate the broader effectiveness of nurse-initiated X-ray requests in reducing emergency department management times.

GomezCabello C.A., et al. (2025) **'Factors Leading to Escalations in Hospital-at-Home: A Scoping Review.'** ***Hospital Practice (1995) 53*(1), 2520741.**

OBJECTIVE: Hospital-at-Home (H@H) models are safe and cost-effective alternatives for patients with acute or subacute conditions, offering care in the comfort and familiarity of their homes. Escalations, where patients are transferred back to traditional inpatient settings, are key performance metrics but represent significant challenges for H@H programs by interrupting the continuity and advantages of home-based treatment. This scoping review analyzes the factors leading to escalations across H@H programs.

METHOD(S): We searched 5 databases: Embase, Google Scholar, PubMed, Scopus, and Web of Science. Our search focused on papers reporting the reasons why patients needed further escalations to Brick and Mortar (B&M) and the sociodemographic characteristics of these patients from 2005 to date. Besides factors leading to escalations, we charted the H@H program's objective, diseases treated, type of visit and personnel visiting, and predictors of escalation.
RESULT(S): Our search yielded 2932 papers, with 23 meeting our inclusion criteria. Common reasons for escalation included falling, lack of treatment response, exacerbation of the primary disease, cardiac symptoms, and medication adverse effects. Among our studies, higher escalation rates were observed in patients with infectious diseases (16%) and heart failure (9%). Significant predictors included older age, higher Charlson Comorbidity Index (CCI), and comorbidities such as diabetes and chronic kidney disease.
CONCLUSION(S): Escalations in H@H settings are influenced by primary underlying conditions, patient comorbidities, and care complexity. The novelty and ambiguity of the term 'escalation' and the diverse patient populations and H@H protocols limit statistical analysis. Standardizing definitions and consistent documentation of the number of patients needing care escalations and the reasons behind them is pivotal for proper analysis, nuanced understanding, and plausible prevention.

Healthcare Improvement Scotland. (2025) ***Older people/acute adult hospital at home services***
Report of the national programme 2024/25.
https://www.healthcareimprovementscotland.scot/publications/hospital-at-home-services-annual-report-july-2025/

Higginson I, F. J., Boy, and e A. (2025) ***Delayed Hospital Handovers, and Clinical***
Assessment of Patients Waiting in Ambulances
Outside Emergency Departments.**RCEM.**
https://rcem.ac.uk/wp-content/uploads/2025/06/Delayed-Hospital-Handovers-and-Clinical-Assessment-of-Patients-Waiting-in-Ambulances-Outside-Emergency-Departments-1.pdf

Jones K., et al. (2025) 'Impact of Same Day Emergency Care Services on Urgent and Emergency Care Delivery Outcomes: A Systematic Review.' ***Emergency Medicine Journal*** **(pagination), Date of Publication: 2025.**
Introduction: Same day emergency care (SDEC) describes an ambulatory service designed to provide an alternative to ED management, reduce admission rates and improve emergency care system performance. This systematic review aimed to identify and synthesise the evidence base for SDEC and its impact on urgent and emergency healthcare delivery.
Method(s): Eight bibliographic databases were searched, including: MEDLINE,

EMBASE, PsycInfo, CINAHL, the Science and Social Science Citation Indices in the Web of Science Core Collection, Health Management Information Consortium, the Cochrane Library and Epistemonikos. Study selection, extraction and quality assessment were conducted independently by two reviewers. Given the clinical heterogeneity and weakness of the evidence base to determine intervention effect, a narrative synthesis was performed. Formal assessment of implementation was undertaken using the Quality Improvement Minimum Quality Criteria Set.
Result(s): We identified 1283 citations, with 21 publications reporting 20 evaluations (18 UK and 2 Australia). SDEC services were heterogeneous in terms of referral sources, patient selection and specialties provided. Studies were mostly single centre and compared SDEC care with alternative services (such as ED) or compared outcomes before and during SDEC implementation. Patients receiving SDEC demonstrated same-day discharge ranging from 38.3% to >92%. 30-day mortality varied between <1% and 6% (four studies). Change in 30-day ED or SDEC reattendance was not examined. A learning curve was indicated in two studies, with inappropriate or rejected' referrals reducing from 31% to 18% in one SDEC service. Where reported, triage was led by senior clinical decision-makers, however, the appropriateness of SDEC referrals was also complicated by contextual factors. Comparative evaluation, including inpatient admissions, generally favoured SDEC care, but study designs carried a high risk of bias and confounding.
Conclusion(s): Limited evidence suggests that implementing SDEC services is feasible and may increase same-day discharge but with variable 30-day mortality (very-low or low confidence) and unexamined change in 30-day ED or SDEC reattendance. Clinical heterogeneity and limited reporting make it difficult to characterise SDEC services. Implementation, although with varied referral criteria, proved feasible given the involvement of senior clinical decision-makers.

Kastengren M., et al. (2025) **'Implementation of Sweden's First Digi-Physical Hospital-at-Home Care Model for High-Acuity Patients.'** ***Journal of Telemedicine and Telecare 31*****(6), 891–897.**
AimTo evaluate Sweden's first implementation of a 24/7 high-acuity virtual in-patient ward through a digi-physical in-patient care (DPIPC) program, a hospital-at-home care model combining a virtual hospital-based medical command centre and in-person ambulating medical services functioning as an extension of the Department of Medicine at a secondary-level hospital in Stockholm.MethodsA single-centre descriptive study where adult patients with acute medical illness requiring inpatient-level care were assessed for voluntary treatment in the DPIPC program as a substitute for traditional in-patient care. The primary outcome was patient satisfaction with care. Secondary outcomes included health care use, safety, and quality during the care episode.ResultsFrom October 2022 to June 2023 a total of 200 patients were treated within the DPIPC program. The program covered 63 unique medical

conditions, with infectious disease (44%) and pulmonary disease (17%) being the most common. The median length of stay (LOS) in the DPIPC program was 3 days (IQR 3) with a median LOS of 2 days (IQR 3) in the physical hospital prior to inclusion. There were no incidents of patient mortality or hospital-related complications during the DPIPC period. A total of 11 (5.5%) patients were escalated to the traditional hospital, 4 (36.4%) of which required ambulance. The median DPIPC patient satisfaction was 10 (IQR 0) and Net Promotor Score was 88.ConclusionsImplementing a 24/7 high-acuity virtual in-patient ward is feasible and safe for selected patients with acute medical illnesses. Patient satisfaction and care quality within the program is high.

Loftus T.M., and Tofovic, E. G. W. (2025) **'Emergency Department Crowding: A Patient Safety Crisis Hidden in Plain Sight.'** ***Joint Commission Journal on Quality and Patient Safety 51*****(7-8), 453–455.**

Ong J.H.M., et al. (2025) **'Ambulance Diversion and its use as an ED Overcrowding Mitigation Strategy: Does it Work? A Scoping Review.'** ***International Journal of Emergency Medicine 18*****(1) (pagination), Article Number: 125. Date of Publication: 01 Dec 2025.**
Objective: Emergency department (ED) overcrowding is a worldwide issue with significant negative consequences, including increased patient mortality. Ambulance diversion (AD) is sometimes used as an intervention to momentarily relieve overcrowded EDs, however, jury is still out about the negative consequences both for emergency medical services (EMS) who are required to divert to an alternative destination, and for patients whose care is delayed. Additionally, there is no operational guidance to best operationalize AD. The objective of this scoping review was to collate and organize the peer-reviewed published literature on the effects of both diversion and diversion aversion measures, on emergency medical services (EMS) and patient outcomes.
Method(s): A systematic, comprehensive search was conducted in various databases to identify relevant studies. Medline, Embase, CINAHL, Psychinfo, Cochrane and ClinicalTrials.gov databases were searched. Online ACEP and NAEMSP portals were also searched. Included studies discussed AD in the setting of ED overcrowding that reported either EMS or patient outcomes. The effects of interventions implemented to reduce AD were also reported. Two independent reviewers screened the articles and consensus was reached when disagreements arose.
Result(s): Out of 10,061 identified records, 95 papers meeting the inclusion criteria contributed to the results. 51 were observational, 16 simulation, 15 interventional, 10 descriptive, 2 systematic reviews and 1 mixed method. 12 articles reported negative EMS outcomes compared to only 2 neutral or positive EMS outcomes. 19 articles reported negative patient outcomes, whereas 9 reported neutral or positive outcomes. 34 articles reporting on intervention attempts to reduce diversion found

overall positive results with diversion aversion. Only 7 articles studied the qualitative effects of diversion.
Conclusion(s): There is no conclusive evidence on the effects of AD on EMS and patient outcomes. 31 articles reported negative EMS or patient outcomes with 11 articles reporting neutral or positive outcomes. Measures to reduce or avoid diversion, however, showed overall positive trend in the results when diversion was averted. More research to ascertain accurate effects with standardised criteria for outcomes is required. Qualitative outcomes were also not well reported and further research should be conducted to determine the psychological impact on both staff and patients.

Petrie S., et al. (2025) **'Developing Balanced Quality Indicators for Monitoring Virtual Care in Ambulatory Care Environments: Modified Delphi Panel Process.'** ***Journal of Medical Internet Research 27*****(pagination), Article Number: e38657. Date of Publication: 2025.**
Background: While the volume of virtual visits increased with the COVID-19 pandemic, little is still known regarding the quality of virtual visits. Furthermore, there is limited guidance on how best to evaluate the quality of virtual care initiatives.
Objective(s): The objective of this study was to curate a balanced set of quality indicators grounded in the Quintuple Aim quality framework and the National Academy of Medicine domains of quality, including sustainability, to monitor the quality of virtual care in ambulatory environments.
Method(s): Phase 1 involved curating a list of ambulatory virtual care quality indicators from published and grey literature, along with knowledge user feedback generated through a pre-Delphi survey; these indicators were mapped and categorized to the Quintuple Aim and National Academy of Medicine (NAM) Quality Domains. In phase 2, a 19-member pan-Canadian panel was convened as part of a 3-round modified Delphi panel process to rate and rank the quality indicators. The panel included clinicians, individuals with lived experience with the health care system, policy makers, academics, and administrators. Panelists rated indicators using the Agency for Healthcare Research and Quality measure attributes on a 9-point Likert scale in round 1, followed by a virtual Delphi panel meeting to discuss indicators before round 2 of re-rating, then a final round 3 of ranking which assessed the importance of indicators within each quality domain and subdomain. To address gaps in the literature, novel quality indicators of virtual care were identified and discussed in panel discussions, patient group consultations, and a pre-Delphi survey. For indicator advancement during the rating exercises, 75% or more of the panelists' responses in the top tertile (scores of 7-9) with a median composite score of 7 or greater was required.
Result(s): There were 140 quality indicators identified in the literature which progressed through the 3 Delphi panel rounds. There was minimal attrition among

Delphi panel members (17/19, 89% participated in all 3 rounds). After round 3, 25 indicators were included in the final scorecard. Aligned with the Quintuple Aim, there are 13 quality indicators on patient experience, 6 on provider experience, 2 on population health, 2 on health equity, and 2 on health system costs.
Conclusion(s): A balanced set of 25 quality indicators of ambulatory virtual care was developed based on literature and consensus building from knowledge users across the health system. This curated set of indicators will support more comprehensive evaluations of virtual care. Organizations can use the set of indicators as part of a scorecard to compare across jurisdictions, identify priority areas, and ensure their virtual care initiatives are delivering high-quality care based on multiple domains of quality.

Public Health Scotland. (2025) ***Understanding more about unscheduled care use in people on the cancer waiting times list in Scotland.***
https://www.publichealthscotland.scot/publications/understanding-more-about-unscheduled-care-use-in-people-on-the-cancer-waiting-times-list-in-scotland/

SchmalstiegBahr K., et al. (2025) 'General Practice-Led Urgent Care Practice Vs. Emergency Room-Satisfaction of Ambulatory Patients with Low Urgency Medical Problems.' ***European Journal of General Practice 31*****(1) (pagination), Article Number: 2520218. Date of Publication: 2025.**
Background: Emergency room (ER) utilisation by ambulatory patients with low urgency medical problems leads to ER-capacity use and long waiting times. Establishing General Practice (GP)-led urgent care practices (UCP) adjacent to ERs allows to triage patients from the ER to the UCP. However, patients may perceive themselves as ER-cases and expect ER-treatment including extensive diagnostics.
Objective(s): To assess UCP-patients' satisfaction compared to ambulatory ER-patients.
Method(s): Sub-analysis (11/2019-01/2020) of a prospective, monocentric observational study at the University Medical Centre Hamburg-Eppendorf ER and co-located UCP focusing on patient survey data including demographics, waiting time and diagnoses. Satisfaction, uncertainty and appropriateness of waiting time was assessed with 4-point Likert-scales.
Result(s): Analysing 1196 UCP- and 597 ER-patients, patient satisfaction correlated positively with perceived appropriate waiting time in both groups. But more UCP-patients deemed their waiting time appropriate (76.7% vs. 70.4%; $p = 0.004$) and reported to be very satisfied with the treatment (64.7% vs. 55.8%; $p < 0.001$). Time until the first physician contact was nearly equal, but the entire length of stay was shorter in the UCP (104 +/- 88.0 min vs. 179 +/- 301 min; $p < 0.001$). In both groups, satisfaction was reduced by on-going uncertainty after the visit, but uncertainty was higher among UCP-patients (32% vs. 25%; $p = 0.003$). Age, gender or diagnosis had

no influence on patients' satisfaction. More UCP-patients stated that today's problem could have been treated by a GP (57% vs. 15%; p < 0.001) and were advised to follow up in an outpatient setting.
Conclusion(s): Treating patients in an UCP does not lead to overall dissatisfaction.

Strum R.P., et al. (2025) **'Identifying and Profiling Prearrival Characteristics of Avoidable Emergency Department Visits Transported by Paramedics: A Cohort Study using Linked Prehospital and Hospital Data.'** ***Emergency Medicine Journal 42*****(7), 442–450.**
Background Increasing demand and crowding in emergency departments (EDs) remain persistent challenges for healthcare systems worldwide. A portion of these visits is avoidable, indicating they could have been effectively managed in non-ED care settings. There has been increased attention on paramedics redirecting avoidable visits to community-based care before ED transport. However, limited evidence exists to identify which patients might be suitable for non-ED care models, particularly based on prehospital clinical presentations. This study aimed to examine the patient characteristics associated with avoidable and potentially avoidable ED visits prior to ED transport. Methods We conducted a cohort study using linked data from Hamilton Paramedic Services and a Canadian academic hospital between January 2022 and January 2024. ED visit records were classified using the Emergency Department Avoidability Classification into three classes: avoidable, potentially avoidable and not avoidable, and matched with their paramedic care reports. We used Firth's binary logistic regression to identify primary concerns associated with avoidable or potentially avoidable ED visits, reported as ORs with 95% CIs controlling for multiple comparisons using a false discovery rate of 0.10. Results Among the 23 891 ED visits analysed, 4.9% were classified as avoidable, 16.8% as potentially avoidable and 21.7% as either avoidable or potentially avoidable. Patients were primarily young-to-middle aged, presenting with a low medical acuity, taking fewer prescribed medications regularly and having stable vital signs within normal ranges. Primary concerns associated with these ED transports included social problems (OR 16.7, 4.5-95.5), anxiety (OR 15.0, 4.0-75.1), cough or congestion (OR 12.5, 3.2-65.4), lacerations (OR 11.0, 3.3-62.0) and minor problems (OR 7.8, 2.2-39.3). Conclusion Our findings highlight key patient characteristics and primary concerns that could inform paramedics to identify patients suitable for non-ED care models. Incorporating evidence-based criteria into paramedic decision-making could support the safe and effective implementation of alternative care models, which could potentially reduce ED visitation and promote optimal healthcare resource distribution.

Yoon J.S., et al. (2025) **'Comparison of Emergency Department Overcrowding Metrics and Healthcare Providers' Subjective Assessments.'** ***Studies in Health Technology and Informatics 328*, 318–319.**
Emergency department overcrowding remains a persistent challenge despite established metrics; our comparison of hourly smartwatch-derived Subjective Overcrowding Index (SOI) with NEDOCS (r = 0.277), EDWIN (r = 0.177), and EDOR (r = 0.465) shows only moderate alignment with EDOR, underscoring the need for an index that accurately captures frontline perceptions.

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