



A Comprehensive Review of Emergency Care Strategies for Elderly Patients with Multiple Comorbidities: Addressing the Challenges of an Aging Population

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Abstract

Background: The increasing prevalence of elderly patients with multiple comorbidities presents significant challenges for emergency departments (EDs) worldwide. As the aging population grows, with projections indicating that one in six individuals will be 65 years or older by 2050, the demand for tailored emergency care strategies becomes imperative. Elderly patients often experience prolonged ED visits, increased hospital admissions, and adverse outcomes, necessitating a reevaluation of current practices.

Methods: This systematic review synthesized existing literature on emergency care interventions designed specifically for older adults with multiple comorbidities. A comprehensive search was conducted across four academic databases—CINAHL, Embase, Medline, and Scopus—covering studies published until 2023. The review focused on interventions that enhance health outcomes, patient experiences, staff experiences, and system performance within the emergency care context.

Results: The findings revealed a variety of successful interventions, including tailored trauma protocols and multidisciplinary care pathways, which significantly improved patient outcomes, reduced lengths of stay, and decreased complication rates. However, many interventions did not consistently address the broader dimensions of value-based healthcare, particularly regarding patient and staff experiences. Notably, the implementation of specific geriatric trauma teams and enhanced pain management strategies demonstrated promising results in both clinical outcomes and patient satisfaction.

Conclusion: This review underscores the need for emergency departments to adopt integrated, value-based care models that prioritize the unique needs of elderly patients with multiple comorbidities. Future interventions should focus on enhancing both patient and provider experiences while ensuring efficient system performance. By aligning emergency care strategies with the complexities of aging populations, healthcare systems can improve outcomes and reduce the burden on emergency services.

Keywords: Emergency care, Elderly patients, Comorbidities, Value-based healthcare, Systematic review

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1. Introduction

Emergency department (ED) care must evolve to address the present and future demands of an aging and more complex population. Globally, in 2022, one in ten individuals was aged 65 years or older; this ratio is projected to rise to one in six by 2050 [1]. The interplay of increased life expectancy and restricted access to basic healthcare is resulting in a greater number of individuals living longer with intricate health issues and various chronic illnesses [2-5]. This is thus increasing the need for emergency department treatment. Older folks visit the emergency department more often than younger individuals; in Australia, those aged 65 and above represent 16% of the population but constitute 21% of emergency department presentations. Furthermore, 52% of elderly individuals arriving to the emergency department are hospitalized, as contrast to 28% of the general population. Maintaining emergency department functionality and optimal performance to address the rising demand for treatment necessitates adaptation across the healthcare system, along with specific initiatives within the emergency department [6,7].

Emergency Departments function structurally and operationally within an integrated health system, designed to provide 24-hour access to prompt evaluation, stabilization, and referral to either hospital inpatient or community-based treatment [8]. The rising frequency of emergency department presentations, coupled with restricted bed availability, may lead to extended waiting periods and prolonged lengths of stay in the emergency department. Overcrowding and access block in the emergency department have grown more prevalent, correlating with a rise in medical mistakes, suboptimal patient experiences, and adverse consequences, including mortality [9-11]. Adverse emergency department outcomes and a lack of capacity to effect change may lead to staff burnout [12, 13]. Consequently, government policy has sought to enhance the management of ill elderly individuals within the community to reduce their need on hospital care [14]. Despite these precautions, hospital treatment is necessary for difficulties that exceed the capabilities of community physicians and must thus adapt to fulfill patient demands. Over the last decades, ideas for quality improvement centered on care routes have prevailed. In the emergency department, they include risk stratification screening tools, ortho-geriatric care models, and protocols for specific conditions such as hip fractures [15-17]. Recently, there has been a shift towards value-based healthcare, enhancing both subjective patient and provider experiences alongside the efficacy of health systems [18].

Value-based healthcare prioritizes the interests of patients, clinicians, and the health system, aiming to enhance health services across four domains: improved health outcomes, enhanced patient experiences, better staff experiences, and superior system performance, all within a specified cost. Furthermore, it is essential to identify and prioritize high-value treatments that are suitable for local contexts and that interact with and enhance the interdependent operations of the broader health system [18, 21]. Recent synthesis of educational interventions for older persons have been documented [14-17, 22, 23]. Berning et al. [23] examined research detailing treatments that enhance patient experience, including attention to physical requirements (e.g., comfort), social needs (e.g., coordinating transfers to specialized geriatric or primary care services), and reducing waiting periods [23]. The authors indicated that patient experiences in the emergency department enhanced with specialized geriatric care and geriatric-friendly environments that addressed their requirements (e.g., non-slip flooring). Preston et al. [22] conducted an umbrella review of studies to ascertain effective emergency department treatments reported for the elderly. Most studies documented service measures, and while no one intervention was deemed advantageous, interventions initiated in the emergency department and sustained in the community were considered the most promising. Significantly, the majority of reviews lacked essential information from the original studies due

to data abstraction, and the reporting of intervention types and outcomes was inconsistent, hindering synthesis [22].

We aimed to find successful treatments that address elements of value-based healthcare in the emergency department for older persons, serving as a basis for co-designing new or modified models of emergency care for this demographic [24]. This systematic review sought to synthesize the methods and interventions used to enhance care delivery in emergency departments for older persons (aged 65 years and above), focusing on metrics of patient health outcomes, patient experience, staff experience, or system performance.

2. Methods

A thorough search strategy was developed in collaboration with a research librarian. The search criteria were extensive and including phrases aimed at retrieving papers related to the emergency department, enhancements, health and system results, and elderly populations. Four academic databases—CINAHL, Embase, Medline, and Scopus—were examined for peer-reviewed papers from their establishment until 2023.

3. Protocol for Geriatric Trauma

Trauma procedures tailored for elderly patients were implemented to decrease death rates in individuals over 65 years of age in comparison to younger patients with analogous injuries [25-31]. Strategies to engage elderly patients included expanding current trauma activation warnings, establishing a novel triage layer, and instituting a dedicated geriatric trauma team. Patient outcomes, including mortality and morbidity, were assessed alongside system performance indicators, including the number of patients involved in trauma activation, time to first assessment, time to treatment, length of stay, and patient disposition. The expansion of older patient inclusion augmented the workload of trauma teams, yet did not consistently yield improved outcomes [32-35]. Conversely, the implementation of a third-tier trauma protocol resulted in a reduction of emergency department length of stay (5.5 hours pre vs 4.5 hours post; $p < 0.01$), a decrease in hospital admissions (98.4% pre vs 61.9% post), and a decline in complication rates (16.4% pre vs 1.6% post; $p < 0.01$) in one study [26]. Hospital length of stay (LOS) increased from 4.4 days pre-intervention to 4.8 days post-intervention ($p = 0.02$), as did death rates, which rose from 1.6% pre-intervention to 4.8% post-intervention. The formation of a Triage and Rapid Elderly Assessment Team enhanced same-day discharges (OR 1.4; 95% CI: 1.2 to 1.6; $p < 0.001$) and decreased the mean hospital length of stay by 1.8 days ($p < 0.001$) relative to the time prior to its introduction [25].

4. Management of an anticoagulated elderly patient with a head injury

Three studies especially focused on anticoagulated elderly individuals with head injuries, assessing system performance metrics such as time to evaluation, time to treatment, length of stay, and patient disposition [36-38]. All three studies indicated expedited completion of investigations (CT scan and International Normalized Ratio (INR) test).

Two investigations focused on hip fractures, one assessing system performance and the other evaluating patient outcomes [39,40]. A pre-post-trial assessed the impact of a multidisciplinary hip fracture treatment route on senior patients, revealing that the pathway correlated with decreased emergency department length of stay (3.8 hours vs 6.8 hours pre; $p < 0.001$), reduced hospital length of stay (5 hours vs 7.4 hours pre; $p < 0.01$), and lower complication rates (10% vs 30% pre; $p < 0.001$) [39]. Quasi-experimental research including older patients with hip fractures compared those receiving pre-operative comprehensive geriatric assessment with shared decision-making by a geriatrician to those receiving standard treatment. A greater proportion of patients who underwent the intervention chose non-surgical therapy compared to those receiving standard care (9.1% vs 2.1%; $p < 0.01$) [40].

5. Discussion

We analyzed the peer-reviewed literature for techniques to enhance value-based healthcare delivery for elderly patients in the emergency department. While certain comprehensive assessments and multifaceted interventions diminished preventable hospital admissions, the majority identified in this review prolonged the duration older adults spent in the emergency department by intensifying the level of care administered, without decreasing emergency department revisits or subsequent hospitalizations. There exists a discrepancy between the extensive care provided in the emergency department for older persons and the performance metrics of the emergency department focused on swift evaluation and referral. Conversely, tailored treatments aimed at mitigating polypharmacy or addressing acute trauma in older persons were identified as congruent with emergency department functions and performance metrics, demonstrating potential as more efficacious therapies for this demographic. Importantly, there were few metrics used to assess the influence of initiatives on patient experience, and even fewer that took into account provider experience (Figure 1).

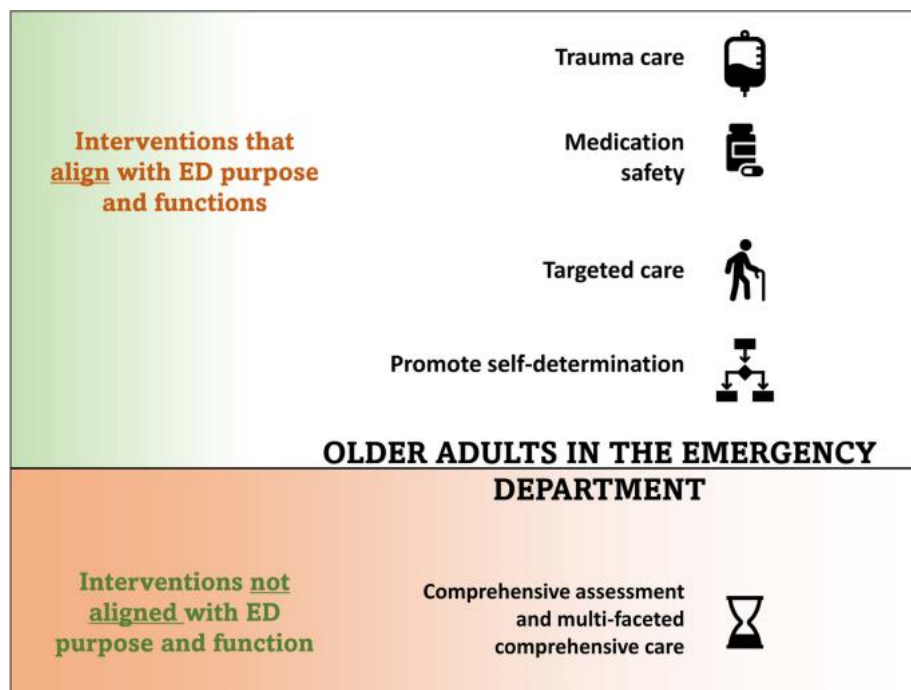


Figure 1. Emergency department interventions for geriatric patients

Notwithstanding the quadruple aim of enhancing health outcomes significant to patients, improving the experiences of both receiving and providing care, and augmenting the effectiveness and efficiency of care, the current review underscores that the experiences of patients and staff are not consistently documented. Emergency departments are specifically designed to provide round-the-clock access to urgent treatment and facilitate connections between hospital and community healthcare services. System performance metrics are focused on, and may provide financial incentives for, swift general evaluation and prompt care provision [2]. In light of global workforce challenges and shortages leading to burnout and attrition, it is essential to enhance worker experiences while adopting care improvement initiatives for older persons that align with emergency department functions and performance metrics.

The diverse nature of treatments, intricate patient factors, and inconsistent outcomes across the included studies hindered the identification of the most successful components of comprehensive care in the emergency department. Providing complete, multifaceted treatment for elderly patients in a time-constrained emergency department setting is difficult. The performance of the ED system includes metrics such as the number of patients treated, waiting duration, and length of stay (LOS) [41]. These are effective strategies in a healthcare environment where demand for treatment is boundless, and sustained operation

relies on sufficient patient throughput. The emergency department (ED) setting is not intended for prolonged patient occupancy; it lacks distinction between night and day, offers little seclusion, provides inadequate toileting and bathing facilities, and experiences elevated noise levels [42]. Emergency Department personnel are particularly educated and structured to facilitate prompt evaluation and referral. Strategies designed to extend treatment beyond the intended goal of the emergency department may undermine its operational efficacy and unwittingly lead to worse patient outcomes, as well as negatively affect the experiences of both patients and staff [41]. Geriatric patients often arrive in the emergency department with several comorbidities, polypharmacy, and deteriorating functionality, necessitating meticulous evaluation and therapy in conjunction with their presenting issues [14, 43]. Older persons constitute a high-risk demographic and may need multifaceted care; nonetheless, an alternative to the emergency department for extended thorough examination and treatment is necessary. Options may include enhancing community care or establishing specialized emergency departments for older adults. Facilitating the expedited transition of older persons to a hospital setting that aligns more effectively with their requirements may be achievable via low acuity units designed for patients prepared for discharge, perhaps offering a more cost-effective solution.

Strategies for handling trauma in older persons and ensuring drug safety were more congruent with the objectives of the emergency department, resulting in improved results for this demographic. Prominent among the initiatives for drug safety were cost-effective interventions aimed at educating younger medical personnel on optimal prescription practices, alongside more expensive measures such as pharmacist and geriatric telemedical evaluations. While the latter may be inaccessible in some eating disorders, the variety of therapies illustrates that low-resource actionable solutions are feasible and may provide successful results. Another technique may include patient education to empower patients to argue against polypharmacy or potentially inappropriate medications (PIMs), since treatments in this study that encouraged self-determination yielded positive patient experience outcomes.

Positive patient experiences were documented with treatments aimed at improving pain management and identifying advanced disease to facilitate talks about care objectives [44,45]. Collecting patient experiences in the emergency department is challenging due to the urgency and anguish characteristic of this care environment. An instance of a proxy measure was the adoption of an alternate non-surgical approach for hip fracture [46]. Enhanced consistency in the reporting of outcome measures, as proposed by the International Consortium for Health Outcomes Measurement [47], may facilitate the identification of reproducible high-impact treatments. In general, few initiatives assessed staff experience. This may be due to the scarcity of interventions that enhance the emergency department working environment, resulting in the underdevelopment of these measures. Emergency Department personnel are adversely affected by elevated levels of professional stress and burnout, which subsequently detrimentally influences Emergency Department performance and patient safety. Improvement efforts co-designed with patients and providers may facilitate high-value, appropriate, prioritized, and sustainable change, offering front-line clinicians' opportunity to reconnect with the values that initially drove their engagement in the sector [18]. Alternatives to top-down approaches may increase complexity for frontline personnel with few or no advantages.

6. Constraints

The present research recognized a diverse array of intricate treatments executed across many emergency department contexts. Emergency department interventions are influenced by the specific qualities, conditions, and distinctive variables of the emergency department in which they are executed [115]. Although an intervention was linked to positive outcomes, contextual variables may have impacted these results; however, such elements were not consistently detailed across trials. The characteristics of pragmatic naturalistic study designs may engender bias: allocation concealment was absent in 4 out of 9 randomized controlled trials, and blinding was either not implemented or infeasible in the majority of studies; furthermore, most studies were quasi-experimental or non-randomized, with participant comparability being ambiguous or inconsistent in 25 out of 49 studies, exceeding 50%. As a result, identifying the critical components of treatments and characteristics of emergency department settings

that affect outcomes proved unfeasible. Regular adherence to reporting requirements for treatments, such as the Template for Intervention Description and Replication (TIDieR) checklist [116], will enhance future research and contribute to the advancement of the discipline.

We took realistic judgments to handle the extensive literature on older persons in the emergency department and to concentrate on the objectives of the review. We excluded papers that just documented screening without following intervention in the emergency department (ED) or relevant outcomes, as well as those where the intervention occurred outside the ED, such as in general wards or community settings. Certain articles focused on certain ailments, such Chronic Obstructive Pulmonary Disease and Stroke. Despite the prevalence of chronic disease in older persons, papers were excluded from the review if the mean age of participants was less than 65 or not specified. This review included just items published in peer-reviewed journals, perhaps excluding pertinent unpublished information. This study includes only treatments published in English, which limits its external validity, although research in other languages may also provide significant insights in this field.

7. Summary

Strategies discovered to enhance emergency department treatment for older persons were comprehensive care, acknowledgment and reaction to acute deterioration, and drug safety. Limited research has addressed all facets of the quadruple objective, and no intervention has shown improvement in emergency department treatment across all four dimensions. Future treatments must more effectively include patient experiences and consider staff perspectives; integrating feedback from both patients and providers throughout the planning phase may enhance the prioritization of high-impact interventions that correspond with system functionality and the rate of change. Enhanced assessment and reporting to clarify contextual elements will facilitate the replication and broader implementation of effective high-value interventions. Future efforts to enhance care delivery in the emergency department must correspond with the needs and priorities of older individuals, as well as the objectives of the emergency department system, to ensure sustainable improvement and the vital functioning of the emergency department as an interdependent element of the healthcare system.

References

1. United Nations; Department of Economic and Social Affairs; Population Division. World Population Prospects 2022: Summary of Results. UN DESA/POP/2022/TR/NO. 3. New York: United Nations; 2022.
2. Australian Institute of Health and Welfare. Emergency department care. Available from: <https://www.aihw.gov.au/reports-data/myhospitals/sectors/emergency-department-care>.
3. Lowthian J, Curtis A, Stoelwinder J, McNeil J, Cameron P. Emergency demand and repeat attendances by older patients. *Intern Med J*. 2013;43(5):554–60.
4. Samaras N, Chevalley T, Samaras D, Gold G. Older patients in the emergency department: a review. *Ann Emerg Med*. 2010;56(3):261–9.
5. McIntyre A, Janzen S, Shepherd L, Kerr M, Booth R. An integrative review of adult patient-reported reasons for non-urgent use of the emergency department. *BMC Nurs*. 2023;22(1):85.
6. Epstein SK, Huckins DS, Liu SW, Pallin DJ, Sullivan AF, Lipton RI, et al. Emergency department crowding and risk of preventable medical errors. *Intern Emerg Med*. 2012;7(2):173–80.
7. Trzeciak S, Rivers E. Emergency department overcrowding in the United States: an emerging threat to patient safety and public health. *Emerg Med J*. 2003;20(5):402–5.
8. Stein-Parbury J, Gallagher R, Fry M, Chenoweth L, Gallagher P. Expectations and experiences of older people and their carers in relation to emergency department arrival and care: a qualitative study in Australia. *Nurs Health Sci*. 2015;17(4):476–82.
9. Carter EJ, Pouch SM, Larson EL. The relationship between emergency department crowding and patient outcomes: A systematic review. *J Nurs Scholarsh*. 2014;46(2):106–15.
10. Bernstein SL, Aronsky D, Duseja R, Epstein S, Handel D, Hwang U, et al. The effect of Emergency Department crowding on clinically oriented outcomes. *Acad Emerg Med*. 2009;16(1):1–10.

11. Richardson DB. Increase in patient mortality at 10 days associated with emergency department overcrowding. *Med J Aust.* 2006;184(5):213–6.
12. Zhang Q, Mu MC, He Y, Cai ZL, Li ZC. Burnout in emergency medicine physicians: a meta-analysis and systematic review. *Medicine.* 2020;99(32):e21462.
13. Epstein EG, Whitehead PB, Prompahakul C, Thacker LR, Hamric AB. Enhancing understanding of moral distress: the measure of moral distress for health care professionals. *AJOB empirical bioethics.* 2019;10(2):113–24.
14. Testa L, Seah R, Ludlow K, Braithwaite J, Mitchell RJ. Models of care that avoid or improve transitions to hospital services for residential aged care facility residents: An integrative review. *Geriatr Nurs.* 2020;41(4):360–72.
15. Carpenter CR, Shelton E, Fowler S, Suffoletto B, Platts-Mills TF, Rothman RE, et al. Risk Factors and Screening Instruments to Predict Adverse Outcomes for Undifferentiated Older Emergency Department Patients: a systematic review and Meta-analysis. *Acad Emerg Med.* 2015;22(1):1–21.
16. Benito D. Ortho-geriatric Care. In: Nagaratnam N, Nagaratnam K, Cheuk G, editors. *Advanced Age Geriatric Care: A Comprehensive Guide.* Cham: Springer International Publishing; 2019. p. 53–61.
17. Leigheb F, Vanhaecht K, Sermeus W, Lodewijckx C, Deneckere S, Boonen S, et al. The effect of care pathways for hip fractures: a systematic review. *Calcif Tissue Int.* 2012;91(1):1–14.
18. Larsson S, Clawson J, Howard R. Value-based health care at an inflection point: a global agenda for the next decade. *NEJM Catal Innov Care Deliv.* 2023;4(1):1–22.
19. Sarkies MN, Francis-Auton E, Long JC, Partington A, Pomare C, Nguyen HM, et al. Implementing large-system, value-based healthcare initiatives: a realist study protocol for seven natural experiments. *BMJ Open.* 2020;10(12):e044049.
20. Koff E, Lyons N. Implementing value-based health care at scale: the NSW experience. *Med J Aust.* 2020;212(3):104–6.e1.
21. Braithwaite J, Glasziou P, Westbrook J. The three numbers you need to know about healthcare: the 60–30–10 challenge. *BMC Med.* 2020;18:1–8.
22. Preston L, van Oppen JD, Conroy SP, Ablard S, Buckley Woods H, Mason SM. Improving outcomes for older people in the emergency department: a review of reviews. *Emerg Med J.* 2021;38(12):882–8.
23. Berning MJ, Oliveira JESL, Suarez NE, Walker LE, Erwin P, Carpenter CR, et al. Interventions to improve older adults' Emergency Department patient experience: a systematic review. *Am J Emerg Med.* 2020;38(6):1257–69.
24. Cheek C, Hayba N, Richardson L, Austin EE, Auton EF, Safi M, et al. Experience-based codesign approach to improve care in Australian emergency departments for complex consumer cohorts: the MyED project protocol, Stages 1.1–1.3. *BMJ Open.* 2023;13(7):e072908.
25. Travers B, Jones S, Bastani A, Opsommer M, Beydoun A, Karabon P, et al. Assessing geriatric patients with head injury in the emergency department using the novel level III trauma protocol. *Am J Emerg Med.* 2021;45:149–53.
26. Rittenhouse K, Rogers A, Clark E, Horst M, Adams W, Bupp K, et al. The ACT Alert: preliminary results of a novel protocol to assess geriatric head trauma patients on anticoagulation. *Am Surg.* 2015;81(4):408–13.
27. Pelaez CA, Spilman SK, Fuchsen EA, Semmens AD, Sidwell RA. Trauma Response for Elderly Anticoagulated Patients: an initiative to reduce trauma resource utilization in the emergency department. *J Trauma Nurs.* 2021;28(3):159–65.
28. Wallace R, Angus LDG, Munnangi S, Shukry S, DiGiacomo JC, Ruotolo C. Improved outcomes following implementation of a multidisciplinary care pathway for elderly hip fractures. *Aging Clin Exp Res.* 2019;31(2):273–8.
29. van der Zwaard BC, Stein CE, Bootsma JEM, van Geffen H, Douw CM, Keijsers C. Fewer patients undergo surgery when adding a comprehensive geriatric assessment in older patients with a hip fracture. *Arch Orthop Trauma Surg.* 2020;140(4):487–92.
30. Wright PN, Tan G, Iliffe S, Lee D. The impact of a new emergency admission avoidance system for older people on length of stay and same-day discharges. *Age Ageing.* 2014;43(1):116–21.

31. Wiles LL, Day MD. Delta Alert: Expanding Gerotrauma Criteria to Improve Patient Outcomes: A 2-Year Study. *J Trauma Nurs.* 2018;25(3):159–64.
32. Hammer PM, Storey AC, Bell T, Bayt D, Hockaday MS, Zarzaur BL Jr, et al. Improving geriatric trauma outcomes: a small step toward a big problem. *J Trauma Acute Care Surg.* 2016;81(1):162–7.
33. Fernandez FB, Ong A, Martin AP, Schwab CW, Wasser T, Butts CA, et al. Success Of An Expedited Emergency Department Triage Evaluation System For Geriatric Trauma Patients Not Meeting Trauma Activation Criteria. *Open Access Emerg Med.* 2019;11:241–7.
34. Carr BW, Hammer PM, Timsina L, Rozycki G, Feliciano DV, Coleman JJ. Increased trauma activation is not equally beneficial for all elderly trauma patients. *J Trauma Acute Care Surg.* 2018;85(3):598–602.
35. Callahan ZM, Gadomski SP 2nd, Koganti D, Patel PH, Beekley AC, Williams P, et al. Geriatric patients on antithrombotic therapy as a criterion for trauma team activation leads to over triage. *Am J Surg.* 2020;219(1):43–8.
36. Keyes M, Alley A, Muertos K, Anderson B, Howerton S, Burns A, et al. The “Headstrike” Protocol: A Retrospective Review of a Single Trauma Center’s Operational Change in the Management of Anticoagulated Ground-Level Falls. *Am Surg.* 2019;85(8):821–9.
37. Austin E, Blakely B, Salmon P, Braithwaite J, Clay-Williams R. Identifying Constraints on Everyday Clinical Practice: Applying Work Domain Analysis to Emergency Department Care. *Hum Factors.* 2022;64(1):74–98.
38. Austin E, Blakely B, Salmon P, Braithwaite J, Clay-Williams R. The scope for adaptive capacity in emergency departments: modelling performance constraints using control task analysis and social organisational cooperation analysis. *Ergon.* 2022;65(3):467–84.
39. Adams C, Walsan R, McDonnell R, Schembri A. As loud as a construction site: Noise levels in the emergency department. *Australas Emerg Care.* 2023.
40. Zia A, Kamaruzzaman SB, Tan MP. Polypharmacy and falls in older people: Balancing evidence-based medicine against falls risk. *Postgrad Med.* 2015;127(3):330–7.
41. International Consortium for Health Outcomes Measurement. Patient-Centred Outcome Measures USA: ICHOM; 2023. Available from: <https://www.ichom.org/patient-centered-outcome-measures/>.
42. Johnston A, Abraham L, Greenslade J, Thom O, Carlstrom E, Wallis M, et al. Review article: Staff perception of the emergency department working environment: Integrative review of the literature. *Emerg Med Australas.* 2016;28(1):7–26.
43. Xu H, Kynoch K, Tuckett A, Eley R. Effectiveness of interventions to reduce emergency department staff occupational stress and/or burnout: a systematic review. *JBIC Evidence Synthesis.* 2020;18(6):1156–88.
44. Weigl M, Schneider A. Associations of work characteristics, employee strain and self-perceived quality of care in Emergency Departments: A cross-sectional study. *Int Emerg Nurs.* 2017;30:20–4.
45. Hall LH, Johnson J, Watt I, Tsipa A, O'Connor DB. Healthcare staff wellbeing, burnout, and patient safety: a systematic review. *PLoS ONE.* 2016;11(7):e0159015.
46. Coles E, Anderson J, Maxwell M, Harris FM, Gray NM, Milner G, et al. The influence of contextual factors on healthcare quality improvement initiatives: a realist review. *Syst Rev.* 2020;9(1):94.
47. Hoffmann TC, Glasziou PP, Boutron I, Milne R, Perera R, Moher D, et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ : British Medical Journal.* 2014;348:g1687.

مراجعة شاملة لاستراتيجيات الرعاية الطارئة للمرضى المسنين المصابين بأمراض مصاحبة متعددة: معالجة تحديات الشيخوخة السكانية

الملخص

الخلفية: تمثل الزيادة في انتشار المرضى المسنين الذين يعانون من عدة حالات مرضية تحديات كبيرة لأقسام الطوارئ في جميع أنحاء العالم. مع تزايد عدد السكان المسنين، تشير التوقعات إلى أن واحدًا من كل ستة أفراد سيكون عمره 65 عامًا أو أكبر بحلول عام 2050، مما يجعل الطلب على استراتيجيات رعاية طوارئ مصممة خصيصًا أمرًا ضروريًا. غالبًا ما يعاني المرضى المسنون من زيارات مطولة لقسم الطوارئ، وزيادة في حالات دخول المستشفى، ونتائج سلبية، مما يستدعي إعادة تقييم الممارسات الحالية.

الطرق: تم تلخيص الأدبيات الموجودة حول التدخلات في رعاية الطوارئ المصممة خصيصًا لكبار السن الذين يعانون من حالات مرضية متعددة من خلال هذه المراجعة المنهجية. تم إجراء بحث شامل عبر أربعة قواعد بيانات أكاديمية CINAHL—و Embase و Medline و Scopus—

تغطي الدراسات المنشورة حتى عام 2023. ركزت المراجعة على التدخلات التي تعزز نتائج الصحة، وتجارب المرضى، وتجارب الموظفين، وأداء النظام في سياق رعاية الطوارئ.

النتائج: كشفت النتائج عن مجموعة متنوعة من التدخلات الناجحة، بما في ذلك بروتوكولات الصدمات المخصصة ومسارات الرعاية متعددة التخصصات، التي حسنت بشكل كبير من نتائج المرضى، وأدت إلى تقليل فترات الإقامة، وانخفاض معدلات المضاعفات. ومع ذلك، لم تعالج العديد من التدخلات باستمرار الأبعاد الأوسع للرعاية الصحية القائمة على القيمة، خاصة فيما يتعلق بتجارب المرضى والموظفين. ومن الجدير بالذكر أن تنفيذ فرق صدمات المسنين المحددة واستراتيجيات إدارة الألم المعززة أظهر نتائج واعدة في كل من النتائج السريرية ورضا المرضى.

الخلاصة: تؤكد هذه المراجعة على ضرورة اعتماد أقسام الطوارئ نماذج رعاية متكاملة قائمة على القيمة تُعطي الأولوية للاحتياجات الفريدة للمرضى المسنين الذين يعانون من حالات مرضية متعددة. يجب أن تركز التدخلات المستقبلية على تحسين تجارب كل من المرضى ومقدمي الرعاية، مع ضمان أداء النظام بكفاءة. من خلال مواءمة استراتيجيات رعاية الطوارئ مع تعقيدات السكان المسنين، يمكن للأنظمة الصحية تحسين النتائج وتقليل العبء على خدمات الطوارئ.

الكلمات المفتاحية: رعاية الطوارئ، المرضى المسنون، الحالات المرضية المتعددة، الرعاية الصحية القائمة على القيمة، مراجعة منهجية