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Alternatives to Emergency Department Boarding for Hospital Admission

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ABSTRACT

Emergency department (ED) boarding prolonged stay in the ED after an inpatient bed is requested is associated with worse clinical outcomes and signals broader hospital flow constraints. This narrative policy analysis synthesizes organizational levers to reduce ED boarding while safeguarding quality and patient safety. Within the Madrid Regional Health Service (SERMAS), program contracts shape priorities and resource allocation; however, a predominant emphasis on human-resources cost containment, including seasonal ward closures, may counteract timely admissions. We propose incorporating an explicit performance indicator maximum 48 hours of ED boarding after admission request combined with demand-responsive pathways that avoid unnecessary hospitalization: short-stay units, high-throughput ambulatory surgery and invasive diagnostics, day hospitals, and rapid diagnostic units. Additional system strategies include early discharge supported by structured post-discharge follow-up, digitized intra-hospital consult scheduling, and statistical bed-management tools. Demographic aging requires tailored geriatric pathways to prevent avoidable admissions. When clinically appropriate, hospital-at-home offers comparable safety with improved satisfaction and lower readmissions. Digital interoperability between primary care and hospital admissions can enable direct admissions and reduce ED utilization. Finally, modular capacity and operational flexibility within EDs should be integrated into routine surge plans. Collectively, these measures align with integrated, people-centered care and can rebalance institutional priorities to improve patient flow, safety, and experience across the continuum of care.

Keywords

Emergency department, Boarding, Patient flow, Hospital-at-home, Short-stay unit, Operational flexibility.

Introduction

Boarding in the emergency department (ED)-the elapsed time between an inpatient bed request and physical transfer has gained prominence due to its association with morbidity and mortality, as well as its impact on patient experience and safety [1]. The ED concentrates complexity, rapid decision-making, and latent process risks; thus, prolonged ED length of stay plausibly heightens the probability of adverse outcomes [3-6]. The question for hospital leadership is how to balance whole-hospital management with the safety of patients who must be admitted through the ED a challenge that often reflects structural dysfunction within hospitals or even the health system at large [7,8].

Policy Context: SERMAS program contracts and ED performance.

Within the Madrid Regional Health Service (SERMAS), program contracts between the Directorate-General and hospital management teams define annual priorities, funding envelopes, and expected performance. Transparency of objectives and indicators is intended to align clinical activity with institutional missions. In practice, the prevailing priority on human-resources cost containment for example, limiting backfill for vacancies or seasonal leave and closing wards during summer can inadvertently extend ED boarding by shrinking inpatient capacity when demand remains high. Moreover, despite the ED being the entry point for the majority of admissions, ED-related objectives account for a comparatively small share of contract point scoring, whereas surgical and diagnostic waiting-list metrics carry greater weight.

Setting an upper limit to ED boarding time

Introducing an explicit indicator that caps ED boarding at a maximum of 48 hours after the admission request could improve clinical quality, patient satisfaction, and hospital safety by curtailing time-dependent ED complications. Nevertheless, this single policy lever must be complemented by upstream and downstream flow strategies that either obviate admission or accelerate safe bed availability.

Flow Strategies to avoid Admission

Hospitals should expand ED-based discharge alternatives through differentiated clinical pathways that avert unnecessary inpatient admissions. Evidence-informed options include the establishment or enlargement of ED short-stay units, high-throughput ambulatory surgery programs and invasive diagnostic pathways with dedicated same-day capacity, day hospitals, and rapid diagnostic units. Together, these services reduce time to definitive care while preserving inpatient bed availability [9-13].

Additional levers include expediting inpatient discharges to make beds available earlier in the day, structured early post-discharge follow-up to safely shorten length of stay, digitized systems for intra-hospital consultation scheduling, and the routine use of statistical tools for bed management such as the Barber-Johnson diagram and latent reserve analysis to match capacity with demand [14-16].

Demographic Aging and Geriatric Pathways

Population aging translates into rising ED demand from adults aged 70 years and older, higher illness severity, greater diagnostic intensity, longer ED stays, and higher probabilities of admission or death. Tailored ED pathways for institutionalized and frail older adults including observation areas and structured functional assessments have demonstrated clinical and operational benefits [17-21].

Hospital-at-home as an alternative to conventional admission

Many hospitals have advanced hospital-at-home (HaH) programs as a substitute for conventional inpatient care in acute conditions and acute exacerbations of chronic disease. HaH may mitigate the risk of inpatient adverse events in vulnerable populations while maintaining clinical safety and improving satisfaction; meta-analytic evidence indicates lower readmission rates compared with in-hospital care [5,22-24].

Digital Interoperability for direct Admissions from Primary care

Information-technology integration between primary care and hospital admissions can enable direct admission pathways without ED mediation for appropriate patients, reducing waits and improving continuity. In Spain, interoperability initiatives such as the Génesis Platform in Madrid illustrate how consolidated longitudinal records can support chronic and home-based care management; professional bodies have likewise emphasized the need for a unified electronic health record to achieve integrated, patient-centered care [25,26].

Operational Flexibility and Modular capacity in the ED

Modular ED designs with surge spaces that can be opened or closed based on real-time demand, coupled with flexible staffing models, are valuable but should be embedded within a proactive operational plan. Anticipatory management including dynamic allocation of space, resources, and personnel is a necessary, accountable response by ED leadership during predictable peaks [27,28].

Conclusions

Reducing ED boarding requires simultaneous action across policy, hospital operations, and clinical pathways. Aligning institutional incentives for example, through explicit boarding time indicators while scaling admission-avoiding services, geriatric-specific pathways, HaH, and digital interoperability can materially improve flow and safety. Sustained gains depend on inter-service collaboration and greater managerial autonomy under integrated care models that treat resources as a shared whole rather than siloed subunits [29].

Author Contributions

Corresponding author designed the review and analyzed the data. Author 2 analyzed the data and prepared the manuscript. All authors approved the final manuscript. All authors do declare that this article has not been fully or partially accepted for publication in any other Journal, neither now nor in the past.

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