

OPTIMISING EMERGENCY DEPARTMENT SERVICES: EVIDENCE-BASED INTERVENTIONS TO REDUCE CLINICAL RISK

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INTRODUCTION

System-level, evidence-based interventions are essential to improve efficiency and safety within Emergency Departments (EDs).

OBJECTIVES

- To identify **evidence-based interventions** that enhance ED performance and patient safety.
- To evaluate the **implementation potential** of proven interventions within the Maltese healthcare context.

METHODS

A **Critically Appraised Topic** was undertaken by conducting structured searches in the Cochrane Database of Systematic Reviews, MEDLINE and Scopus.

Inclusion criteria: systematic reviews and meta-analyses evaluating ED interventions to improve delivery and patient or safety outcomes.

RESULTS

A total of **twelve** systematic reviews and meta-analyses met the inclusion criteria and were synthesised.

High Impact Intervention Domains were consistently associated with improved ED performance (Figure 1).

Overall, multifaceted, system-level redesign, rather than single interventions, yielded the greatest and most sustained improvements.

Evidence Gaps: variability in study designs and outcome definitions limited direct comparisons.

	Triage Optimisation Implementing physician-led triage and fast-track systems reduce ED length of stay and improves the percentage of patients seen within target limits.
	Point of Care Testing (POCT) When embedded in triage, improves diagnostic turnaround and expedites clinical decision making.
	Digital Tools Include dashboards and tracking systems – enhance coordination and visibility of patient flow.
	Workflow Innovations Early senior clinical involvement, expanded nursing roles, and integration of primary care staff reduce bottlenecks.
	Transitional/Palliative Care Pathways Facilitate earlier discharge planning and continuity of care.

Figure 1. High Impact Intervention Domains

DISCUSSION

- High-performing EDs** rely on integrated, system-wide strategies that streamline flow, strengthen communication and optimise resource coordination.
- Evidence shows that multifaceted redesign delivers the most sustained improvements, with physician-led triage and POCT emerging as feasible and high-impact options for local adoption.
- Implementation should begin with moderate resource interventions such as fast-track systems and triage optimisation, supported by outcome monitoring and governance frameworks to ensure safe, scalable improvements in the local ED.

CONCLUSION

A **strategic, systems-level approach** is essential to optimise emergency care delivery. Embedding targeted interventions, within **robust clinical governance and evaluation frameworks** ensures scalable and sustainable improvements across ED services.