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Presentation Abstract

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Title: The Impact of Interventions to Reduce Length of Stay in The Emergency
Department: A Systematic Review

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Abstract: **Background:** Emergency Department (ED) crowding is a growing global problem that has adverse outcomes on quality of care and outcomes.
Objectives: We reviewed the literature to identify the impact of ED-based throughput interventions on the length of stay (LOS) in the ED.
Methods: We conducted a systematic review using five databases: MEDLINE, CINAHL, Cochrane Library, EMBASE, and Scopus. Date range was not limited. The search terms used were “Emergency Department”, “Crowding”, “length of stay”, and “Intervention”. Inclusion criteria: studies have to involve an ED-based intervention designed to improve ED flow; have a comparison between groups; use ED LOS as an outcome; be in the English language. All studies were reviewed and evaluated by three independent reviewers with disagreement resolved by consensus. Data were independently extracted using a standardized data extraction form.
Results: From a 2235 non-duplicate references identified that underwent screening by reading the titles and abstracts; 43 unique studies included. Of those, 41 studies were single-center studies. Annual visit volume ranged from 19-87K; 20 studies were time-series; 10 were quasi-experimental before-and-after; 7 were randomized controlled trials, and 3 were case-controlled studies. 3 studies used both qualitative and quantitative methods. Of the 43 studies, 11 (26%) changed operational processes and 9 decreased LOS (Range 10-116 minutes), 9 (21%) revised triage staffing or approach and 6 decreased average LOS (Range 12-83 minutes), 7 (17%) studies introduced point-of-care testing and 5 decreased LOS (Range 8-114 minutes), 6 (14%) studies used fast-track for non-acute patients and all decreased LOS (Range 13-74 minutes), 5 (12%) studies added extra provider (MD, NP or PA)

and 3 decreased LOS (Range 7-125 minutes). A total of 5 (12%) studies did unique interventions and all of them decreased LOS (Range 11-47 minutes).

Conclusion: Interventions to improve crowding in the ED in the literature have mostly been tested in single institution. The most common intervention is implementing operational process changes. Adding extra provider, Implementing operational process changes and testing point of care have the greatest observed impact on reducing length of stay. Additional research is necessary to compare the effectiveness of interventions across settings.

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