



Effectiveness of Interventions to Improve Emergency Department Efficiency: An Evidence Map

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Prepared by:

Evidence-based Synthesis Program (ESP) Center
West Los Angeles VA Medical Center
Los Angeles, CA
Paul G. Shekelle, MD, PhD, Director

Investigators:

Principal Investigator:

Paul Shekelle, MD, PhD

Co-Investigators:

Melinda Maggard Gibbons, MD, MSHS
Isomi M. Miake-Lye, PhD
Chris P. Childers, MD
Sean M. O'Neill, MD, PhD

Research Associates:

Selene Mak, MPH, PhDc
Roberta Shanman, MLS
Jessica M. Beroes, BS



PREFACE

The VA Evidence-based Synthesis Program (ESP) was established in 2007 to provide timely and accurate syntheses of targeted healthcare topics of particular importance to clinicians, managers, and policymakers as they work to improve the health and healthcare of Veterans. QUERI provides funding for four ESP Centers, and each Center has an active University affiliation. Center Directors are recognized leaders in the field of evidence synthesis with close ties to the AHRQ Evidence-based Practice Centers. The ESP is governed by a Steering Committee comprised of participants from VHA Policy, Program, and Operations Offices, VISN leadership, field-based investigators, and others as designated appropriate by QUERI/HSR&D.

The ESP Centers generate evidence syntheses on important clinical practice topics. These reports help:

- Develop clinical policies informed by evidence;
- Implement effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures; and
- Set the direction for future research to address gaps in clinical knowledge.

The ESP disseminates these reports throughout VA and in the published literature; some evidence syntheses have informed the clinical guidelines of large professional organizations.

The ESP Coordinating Center (ESP CC), located in Portland, Oregon, was created in 2009 to expand the capacity of QUERI/HSR&D and is charged with oversight of national ESP program operations, program development and evaluation, and dissemination efforts. The ESP CC establishes standard operating procedures for the production of evidence synthesis reports; facilitates a national topic nomination, prioritization, and selection process; manages the research portfolio of each Center; facilitates editorial review processes; ensures methodological consistency and quality of products; produces “rapid response evidence briefs” at the request of VHA senior leadership; collaborates with HSR&D Center for Information Dissemination and Education Resources (CIDER) to develop a national dissemination strategy for all ESP products; and interfaces with stakeholders to effectively engage the program.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, ESP CC Program Manager, at Nicole.Floyd@va.gov.

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ABSTRACT

Objective

Emergency departments are seeking ways to improve efficiency, but to be useful to decision-makers, studies of such interventions should report information on utilization, cost, and quality of care. Previous systematic reviews have been limited to specific intervention types, and have not assessed implementation costs. We used evidence mapping to assess knowledge gaps and highlight research priorities.

Methods

A systematic literature scan identified studies testing the effect of an improvement intervention on at least one ED utilization measure (*eg*, length of stay (LOS), waiting-room time (WT), left-without-being-seen (LBWS)). Cost, quality impact, and resource requirement (additional resources needed, existing resources sufficient, unclear) data were abstracted. Studies limited to specific clinical conditions (*eg*, sepsis, acute myocardial infarction) were excluded. Evidence maps were constructed to illustrate intervention type, resource use, data reporting, and effect size graphically.

Results

From 139 titles, N=97 publications were included, describing 17 types of interventions, most commonly physician triage (n=32), nursing scope of practice expansion (n=23), and fast track (n=12). Studies varied in reporting utilization metrics (LOS 69%, WT 38%, LWBS 35%) and implementation costs (20%). Only 3 of 97 studies reported on utilization, resource requirements, costs, and quality measures.

Improvements ranged between 5%-20% for LOS, 10%-50% for WT, and -0.5% to 64.7% for LWBS.

Conclusions

Few studies reported the types of data needed to fully assess the effectiveness of efficiency improvement interventions. Future research should emphasize consistent reporting of resource requirements, cost and quality impact data, and how to achieve efficiency improvements without investing new resources. Filling these gaps will make ED efficiency studies more useful to decision-makers.