



Bedside POC Testing and Its Effects on Patient Length Of Stay in Emergency Departments

Dylan Blank, RN, Rachel Ehrhart, BSN, RN, Jennifer Hicks, BSN, RN
Emergency Department

Introduction

Overcrowding of Emergency Departments has become a growing problem in the United States. According to a report by the American College of Emergency Physicians, in 2011 the average length of stay for a patient in an Emergency Department was four hours and seven minutes. Longer Emergency Department length of stay (LOS) is associated with an increase in hospital based mortality. This study seeks to determine if decreased patient length of stay in the Emergency Department results from bedside Point of Care (POC) testing.

PICO Question

Population: Emergency Department patients requiring blood analysis and diagnostic testing.

Intervention: Bedside Point Of Care (POC) testing of blood specimens.

Comparison: Laboratory analysis of blood specimens.

Outcome: Identify occurrence of a decrease in patient length of stay in the Emergency Department.

Question: Is there a significant decrease in Emergency Department patient length of stay (LOS) for those whose blood was analyzed using POC testing versus those whose blood was analyzed using laboratory testing?

Results

Article	Methods	Results
Kendall, J., Reeves, B., & Clancy, M. (1998).	Sample size of 1728 patients. Blood samples were randomly allocated to point of care testing or testing by the hospital's central laboratory.	There were no differences between the groups in the amount of time spent in the department, length of stay in hospital, admission rates, or mortality.
Goodacre, S., Bradburn, M., Fitzgerald, P., Cross, E., Collinson, P. Gray, A., & Hall, A.S. (2011, May).	Samples size of 1132 patients received POC and 1131 patients received standard care. 1125 and 1118 were analyzed, respectively.	In the POC group 32% were successfully discharged compared with 13% in the standard care group. Mean length of the initial hospital stay was 29.6 hours versus 31.8 hours. Although mean inpatient days did not differ between the two groups. The probability of standard care being dominant (cheaper and more effective) was 0.888.
Parvin, C.A., Lo, S.F., Deuser, S.M., Weaver, L.G., Lewis, L.M., & Scott, M.G. (1996, May).	Patient LOS distribution during the experimental period (2067 patients) was compared with the LOS distribution during a control (2918 patients) period before institution of the POC device and with a control period after it's use.	No decrease in Emergency Department LOS was observed in tested patients during the experimental period. Median LOS during the experimental period was 209 min vs 201 min for the combined control periods.

Discussion

After reviewing the evidence, we determined that POC testing does not produce a significant difference in the length of stay of patients in the Emergency Department. Patients experienced similar lengths of stay regardless of whether diagnostic testing was done through laboratory analysis or bedside POC testing.

Methods

A literature search was conducted using CINAHL, Ovid MEDLINE, and PubMed databases.

Keywords: *emergency department, length of stay, point -of-care*

Inclusion Criteria: Articles using point of care testing in the Emergency Department.

The initial search yielded many articles, 3 were included for this project.

Conclusions

Based on our findings, we've concluded that POC testing is not an effective tool to decrease patient length of stay in Emergency Departments by a significant amount of time. Therefore, POC testing should be used when clinically indicated, not as a means to reduce time spent in the department. Before ordering bedside POC testing, providers should consider whether POC testing would be more beneficial to the patient than laboratory testing considering likely costs and effectiveness.