

Factors Influencing Laboratory Test Ordering by Physicians and Nurses in the Emergency Department

Delaney L., Gallant A., Stewart S., Curran J., Campbell S.G.

Introduction

Understanding different factors that influence laboratory test ordering in emergency departments (EDs) can help to improve test ordering practices. The aim of this study is to compare factors influencing laboratory test ordering between two ED sites, Halifax Infirmary (HI) and Dartmouth General (DG), and between physicians and nurses at each site.

Methods

A mixed-methods approach was employed. Data from 211,279 patients at HI and DG EDs were analyzed. Chi-square analysis and binary logistic regression were used to determine significance. All significant associations had a p-value of < 0.0001 . Interviews were conducted (n=25) with doctors and nurses to explore areas of potential influence in a clinician's decision-making process, and discuss what makes decision making difficult or inconsistent in the ED. These interviews were analyzed by two individuals using a consensus methodology per the Theoretical Domains Framework.

Results

Overall, laboratory tests were more likely to be ordered at DG (OR = 1.52, 95% CI: [1.48, 1.55]). Laboratory tests were more likely to be ordered by nurses at DG than at HI (OR = 1.58, 95% CI: [1.54, 1.62]) Laboratory tests were more likely to be ordered if the ED was not busy, if the patient was over 65, had a high acuity, had a long stay in the ED, required consults, or was admitted to hospital. Doctors were more likely to order a laboratory test in patients over 65, requiring consults or hospital admission, whereas nurses were more likely to order laboratory tests in patients with high acuity or long stays in the ED. Interview data suggested differing influences on decision making between nurses and doctors.

Conclusion

By determining barriers that are most amenable to behaviour change in both emergency physicians and nurses, practice guidelines may be updated to ensure more consistency and efficiency in laboratory test ordering in the ED.