

POCT reduces TAT in laboratory tests of an emergency department in Colombia

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INTRODUCTION

Emergency departments (ED) have critical challenges like prolonged waiting times and extended periods of overcrowding with a negative impact on patient satisfaction and patient safety. The efficiency and cost effectiveness in health care, namely in ED, has been linked to Medical, Financial and Operational outcomes. A vital component that impacts these outcomes is Laboratory Turnaround Time (TAT), an important benchmark of laboratory performance. Point-of-care testing (POCT) aids rapid and accurate diagnosis by bringing advanced technologies closer to patients. These technologies offer significant advantages over laboratory based testing, mainly in critical areas where decisions have to be taken rapidly with the potential of improving patient outcome. At one of the most ubiquitous and important healthcare providers in Colombia, we have put together a program to implement POCT in an ED to improve patient safety and well-being as well as impact on the aforementioned outcomes of the healthcare system.

OBJECTIVE

The aim of this study was to determine the impact of POC testing on the TAT of laboratory testing in an ED. This study is an initial part of a Research Program the company is developing to evaluate the impact of POCT on Medical, Financial and Operational outcomes in an ED.

METHODS

A POCT System with internal quality control, operated by a clinical laboratory professional, was implemented in an ED in Medellín, Colombia. TAT of laboratory testing was measured for patients that entered the ED and in whom POCT were applied. This data was compared to historical data from patients that entered the same ED prior to implementation of POCT.

RESULTS

After 30 days, 3284 POCTs were performed in 1756 patients. Hemogram (45.4%), creatinine (19.2%), sodium in blood (7.3%) and pregnancy test (5.2%), were the most frequently requested tests. Historical data prior to implementation of POCT in the ED showed that 77% of central laboratory tests took more than 2 hours and TAT was an average 3.4 hours. Using the POCT system, TAT was reduced by 38.6%, representing an average 2.1 hours while only 10% of the results took more than 2 hours, with a median of 1 hour. Moreover, we detected significant differences in drug abuse testing (1.3 hours), rotavirus and adenovirus (1.2 hours), and the more frequent tests, such as hemogram, creatinine, sodium in blood and pregnancy test (50 minutes).

CONCLUSION

Our initial data shows that TAT in laboratory testing is reduced significantly using a POCT system in an ED in Medellín, Colombia. Ongoing studies are being conducted to demonstrate that POCT also reduces time for discharge in an ED with positive impact on the overall well-being and satisfaction of the patient as well as on Medical, Financial and Operational outcomes and that this system should be implemented in Healthcare System of Emerging Countries.