

The Evolution of FBC Testing: Enhancing ED Performance

Introduction

Full blood count (FBC) is crucial in the Emergency Department (ED). Despite nearly a decade of available Point-of-Care Testing (POCT), many doctors prefer sending FBC requests to the pathology lab, causing delays of several hours due to manual processing in Selayang Hospital. This practice incurs additional costs and delays due to manual delivery, whereas POCT FBC results are available in just 2 minutes.

Objectives

To streamline FBC testing process in ED and reduce duplicate orders sent to the pathology laboratory.

Methods

We have conducted an interdepartmental collaborative quality improvement project to reduce FBC orders sent to the lab. As a start, We conducted retrospective audit on the monthly FBC orders sent to the lab from all ED zones, covering all demographics in 2023. Utilizing the Ishikawa diagram, we managed to identify factors leading to high FBC orders to lab. To address them, we started off by producing a departmental blood investigations guidance that was agreed upon by the ED and Pathology department, which outlines conditions where FBC should be sent to the lab instead of doing a POCT. These indications includes: unexplained bi/pancytopenia and when differential counts were not generated.

To ensure accuracy of POCT FBC results, arrangements were made with the pathology department for internal and external validation of the analyser.

We have procured an additional FBC analyser, bringing the total to two machines in ED to enable easy access to them from all zones.

As the re-audit revealed inadequate adherence to investigation guidelines, we included the blood investigation guidance in the house officer orientation program. Other doctors and staffs also received regular reminders and training. The Blood Investigation Guidance Posters were displayed in all clinical zones as reminders.

Results

Before the project, the average monthly FBC requests sent to the lab were 2181. Initial changes reduced this average to 1032 per month. With continued reinforcement and reminders, the average further decreased to 431 per month.

Conclusion

This project successfully minimized the need to send FBC samples to the pathology lab, easing the burden on medical staff, reducing hospital costs, and shortening patient length of stay

Keywords

POCT, FBC, audits