REDUCING THE PERCENTAGE OF BLOOD SAMPLE REJECTIONS IN HEART HOSPITAL - EMERGENCY DEPARTMENT

Improving the Quality of Care for Patients by Providing Timely and Accurate Test Results

مستشفى القلب
Heart Hospital
عضو في مؤسسة حمد الطبية
A Member of Hamad Medical Corporation

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Background

Differential diagnosis plays a vital role in cardiac emergency. Aside from thorough physical assessment and history-taking, diagnostic tests help distinguish symptoms that are truly-heart related. Testing helps determine which heart disease is present, to monitor progress of a cardiac event and/or determine severity/extent of the disease. Blood tests are one of the diagnostic tools commonly used to determine condition of the heart. Changes in blood components, enzymes can guide healthcare practitioners in providing specific cardiac diagnosis and its appropriate management.

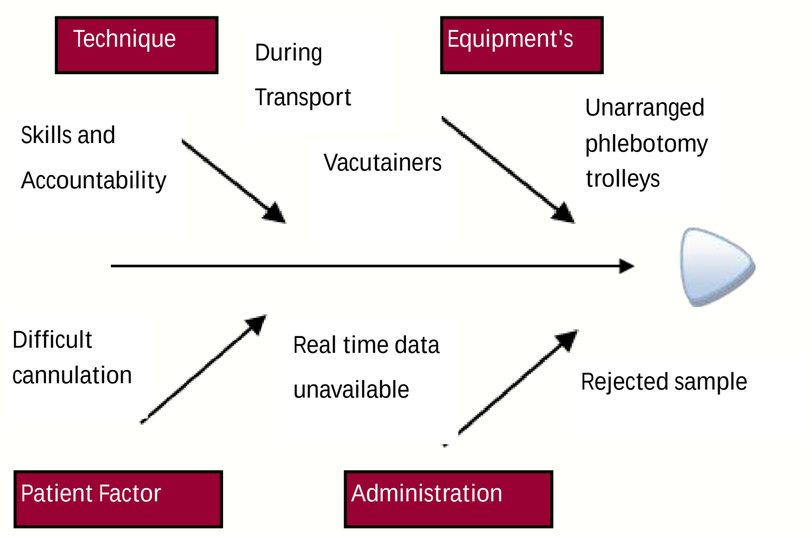
Precision, accuracy and short turnaround time are important in effective laboratory services (1). Globally, consistent practices have been implemented to maintain specimen integrity and quality management in laboratory services. It plays a huge role in the delivery of care especially in the Emergency Department. n cardiac emergency, there is an aphorism that say *"Time is Muscle"*; meaning an accurate diagnosis must be quickly confirmed and treatment must be given within a minimum time to prevent further heart muscle damage. Extracting a good blood sample will lead to a highly accurate result, providing cardiologists vital and timely information regarding the patient's cardiac condition.

An increased blood sample rejection percentage rate was observed in Heart Hospital—Emergency Department (HH-ED); in January 2016 it was noted at 1.9%. This has led to delays in diagnosis and management of patients. Attention was focused on determining factors causing blood sample rejection and immediate actions were taken to improve blood sample rejection percentage rate in the department.

Aim

Reducing Blood Sample Rejection Percentage Rate by 50 % in the Emergency Department of Heart Hospital by Dec 2016

Cause & Effect Analysis



Interventions

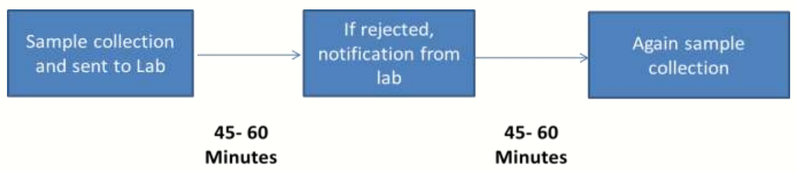
1. PDSA1 - Champion Nurses were identified based on rejection rate.
2. PDSA2 - Arranged Phlebotomy Trolleys as 5 S- Sort, Shine, Standardize, Set in Order, Sustain
3. PDSA3 - Sample collection vacutainers changed based on phlebotomy recommendations.
4. 4ml EDTA tube for CBC replaced with 2 ml tube (less blood required)
5. Monthly Statistics was conducted to show the evolution of rejected percentage of specimens.

Benefits

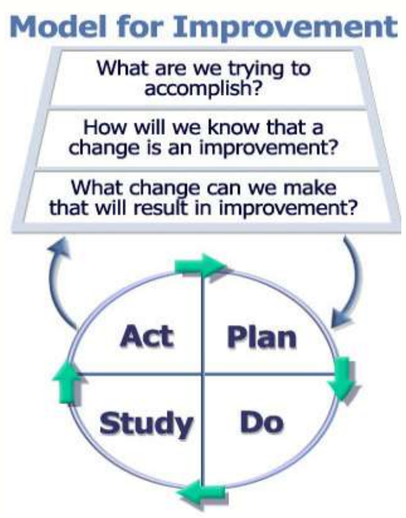
Reduced percentage rate of specimen rejection enhances patient care and safety since it leads to high quality results and eliminates possibility of redrawing new specimen. Prolonged waiting time for test results may also lead to patient dissatisfaction by delaying their diagnosis and treatment plans.

•One rejected sample
Increases length of stay in ED by

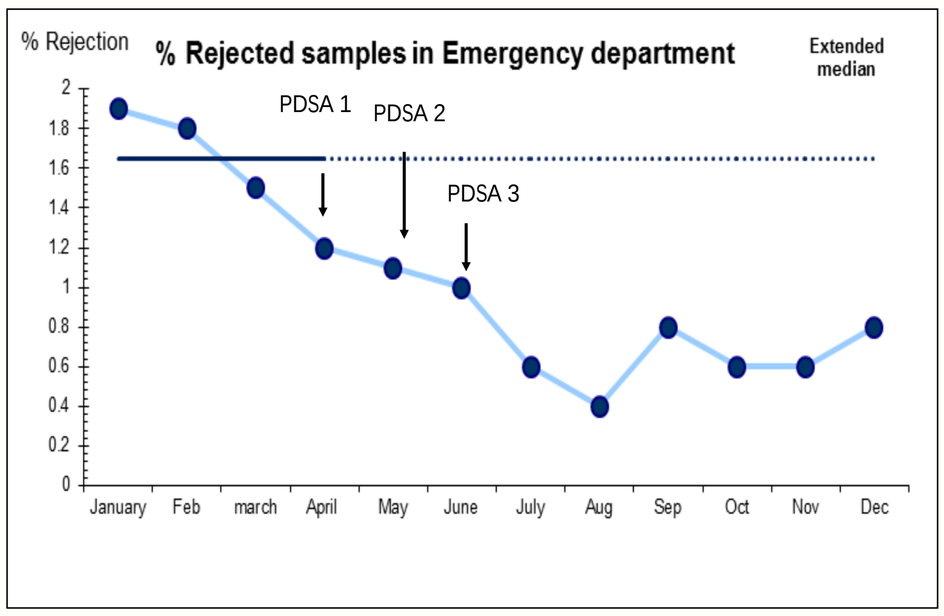
Delays due to rejected samples



Methodology



Results



Conclusion

Blood sample rejection rates has significant clinical consequences including patient discomfort and prolonged length of stay in ED. Early identification, documentation of problem and periodic training and reassessment of staff nurses were found to be key steps in reducing rejected samples.

By Dec 2016 blood sample rejection rate was 0.8%, a reduction of almost 50% from 1.9% in Jan 2016

Sustainability Plan & Next steps

- Reevaluate staff on the proper way for blood specimen's collections
- Following proper collection guidance.
- Continued monitoring and use of appropriate blood collection equipment's.
- Using appropriate needle site and vein condition.

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Reference:

(1) Dikmen, Zeliha, et al. October 15, 2015. "Specimen rejection in laboratory medicine: Necessary for patient safety?". Biochem Med (Zagreb) 25, 3, 377-385. Accessed 13 March 2017 https://doi.org/10.11613/