Reduction in Percentage And Numbers of Rejected Samples in Heart Hospital

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Background

Haemolysed specimens, the most common reason for rejection, account for ~60% of rejected specimens, fivefold more than the second most common cause. In vitro hemolysis depends mainly on the way in which the blood samples are drawn and treated.

Unplanned workload from rejected samples delay the care delivery, slow down ED patient flow throughput due to delayed discharges pending repeat laboratory analysis, and increase costs (Ong, Chan, & Lim, 2008).

Haemolysed samples cost time and money :

- Impacts patient safety and experience
- Delayed treatment
- Delayed discharge
- Repeated assays.

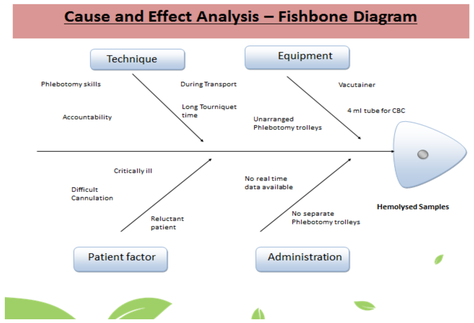
Aim

To reduce rejected blood sample by 50 % by end of December 2016 in Emergency Department and Inpatient Units of Heart hospital

Objective

- To identify factors that leads to rejected samples
- Process mapping to identify gaps in practices
- Root cause analysis of the process
- Increase awareness , knowledge and skills among frontline staff for sample collection

Cause and Effect Analysis – Fishbone Diagram

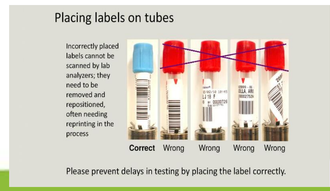


Method

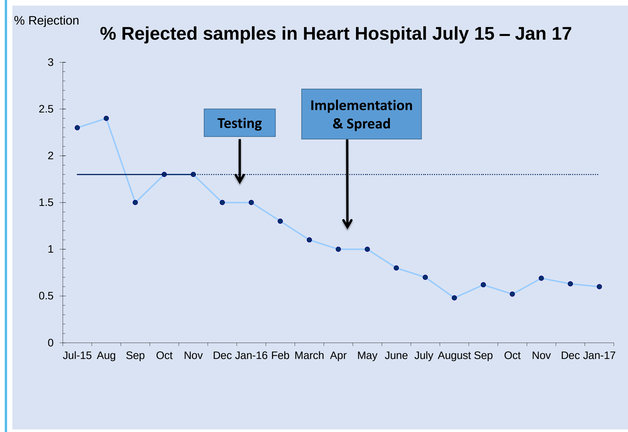
1. Baseline survey was conducted. Data shows 60 % of the nurses were not aware of correct blood sample mixing guidelines
2. Champion nurses were identified based on least rejection rates of samples collected by them.
3. Improve awareness, knowledge and skills in staff for sample collection. Competency validation was performed by phlebotomy nurse.
4. Sample colleting nurse is assigned to transfer it to pneumatic tube as compare to nursing aid previously
5. Phlebotomy trolleys are arranged using 5 S Sort, Shine, Standardize, Set in Order, Sustain and color coded.
6. Sample collection stands are not available in the unit. Stands arranged from Laboratory and now being used
7. 4 ml EDTA tube for CBC replaced with 2 ml tube (less blood required)
8. Correct labelling of tubes

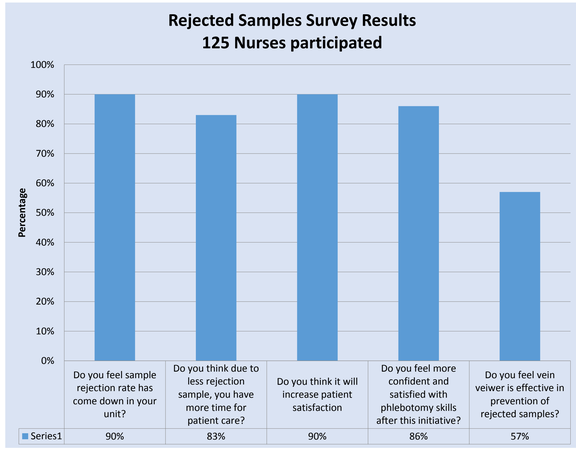
BEFORE

AFTER



Results





Benefit Realizations

1. **Clinical decisions** - 70 – 80 % of clinical decisions involves one or more lab investigations and dependant on laboratory based diagnostics. Reduction in errors will lead to provide Effective and Safe care to our patients.

2. **Transfers from HGH** – Increase length in stay in HH ED will directly affect any transfers from HGH ED.

3. **Financial Burden** - As financial resources are limited, repeated specimen collections results in unjustifiable increase in cost. It costs us in terms of nursing cost, technicians cost, equipment's cost and processing cost. By reducing the number of rejected samples, we are trying to reduce the costs as well.

4. **Patient satisfaction** - Multiple pricks leads to discomfort for patient and relatives specially for elderly patients. Every additional prick adds up to the burden and pain received by these patients.

5. **Staff satisfaction** - There is nothing worse than getting a call from laboratory stating "The sample is haemolysed". it adds up additional work load to both the nurses and laboratory technicians,

Conclusion and Sustainability plan

1. Culture and process change do not happen overnight

2. Ongoing Education is an important part. Frontline staff should be aware of How, why and what.

3. For improvement, support from all departments are required. It's a multidisciplinary approach.

4. Sharing data each month keeps the staff motivated and facilitate planning for next step.

5. Don't be afraid to step back. If some tests are not giving desirable results, its always good to return to previous method or test some new idea.

Reference: -www.cap.org

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