Rejected Blood Sample Rate in High Dependency Unit D Heart Hospital

Author:

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Background

- From April 2016 - July 2016 the rejected blood sample rate is above benchmark in High Dependency Unit D in Heart Hospital

Aims

- To reduce the Rejected blood samples rate below 50th percentile benchmark by December 2017 and aiming to achieve zero rejection rate.
- To increase the competency level of the nurses in phlebotomy skills

Overview

- There are different types of rejected blood sample includes haemolysed, clotted and quantity not sufficient.
- In HDU – D the haemolysed and clotted samples have a major impact in the total percentage of rejection. Compare to this both, the percentage of Quantity Not sufficient is less.

Strategy For Change

PDSA

Act

- Implementation of the vacutainer for blood extraction as a best practice to reduce rejected blood sample.

study

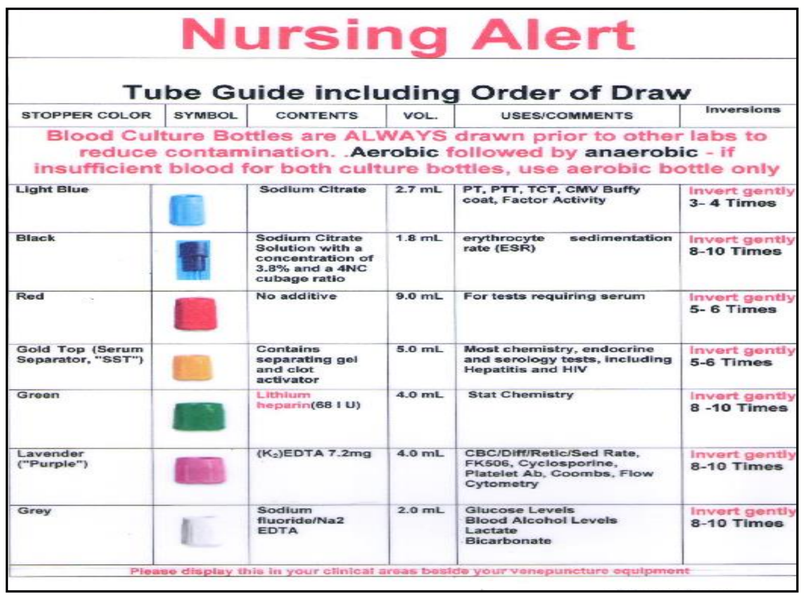
- Root Cause Analysis had been done to know the cause of rejection.
- Through unit meeting all HDU D nursing staff were notified with the rate of rejected blood samples.

Do

- Train all HDU D nurses in the phlebotomy lab about the proper method of extraction and educated them about the best practices for blood withdrawal and practice.
- Physicians were advised to place a single order for all blood tests to reduce number of blood samples.
- A log book kept in the HDU D unit, used to document method of extraction, the amount of blood sent to the lab and the number of rejected samples in daily basis.

Plan

- Plan to reduce rejected blood samples rate due to haemolysis below 50th percentile benchmark by December 2017 and aiming to achieve zero rejection rate.
- The process started in August 2016.



Nursing Alert

Tube Guide including Order of Draw

STOPPER COLOR	SYMBOL	CONTENTS	VOL.	USES/COMMENTS	Inversions
Blood Culture Bottles are ALWAYS drawn prior to other labs to reduce contamination. .Aerobic followed by anaerobic - if insufficient blood for both culture bottles, use aerobic bottle only					
Light Blue		Sodium Citrate	2.7 mL	PT, PTT, TCT, CMV Buffy coat, Factor Activity	invert gently 3- 4 Times
Black		Sodium Citrate Solution with a concentration of 3.8% and a 4NC cubage ratio	1.8 mL	erythrocyte sedimentation rate (ESR)	invert gently 8-10 Times
Red		No additive	9.0 mL	For tests requiring serum	invert gently 5- 6 Times
Gold Top (Serum Separator, "SST")		Contains separating gel and clot activator	5.0 mL	Most chemistry, endocrine and serology tests, including Hepatitis and HIV	invert gently 5-6 Times
Green		Lithium heparin(68 I U)	4.0 mL	Stat Chemistry	invert gently 8 -10 Times
Lavender ("Purple")		(K_2)EDTA 7.2mg	4.0 mL	CBC/Diff/Retic/Sed Rate, FK506, Cyclosporine, Platelet Ab, Coombs, Flow Cytometry	invert gently 8-10 Times
Grey		Sodium fluoride/Na2 EDTA	2.0 mL	Glucose Levels Blood Alcohol Levels Lactate Bicarbonate	invert gently 8-10 Times

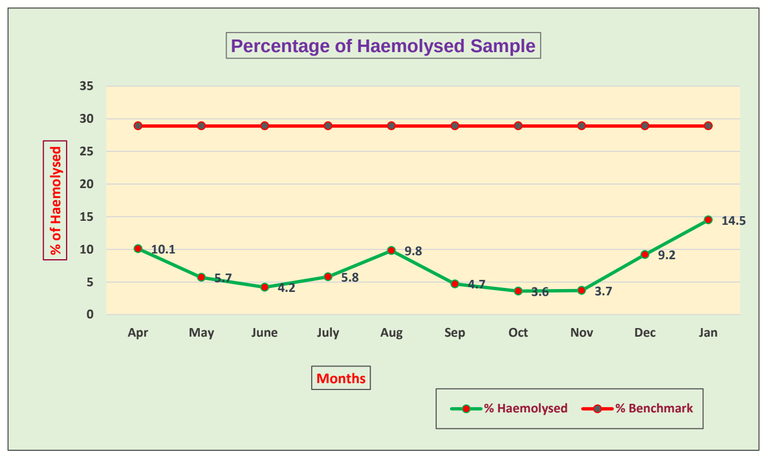
Please display this in your clinical areas beside your venepuncture equipment

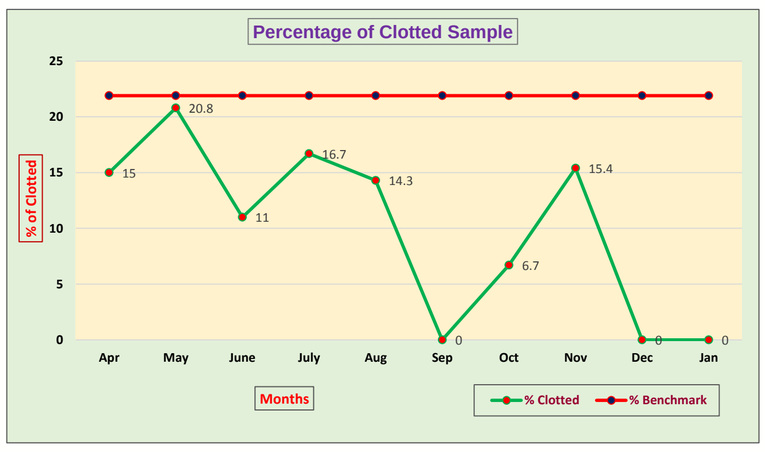
Interventions

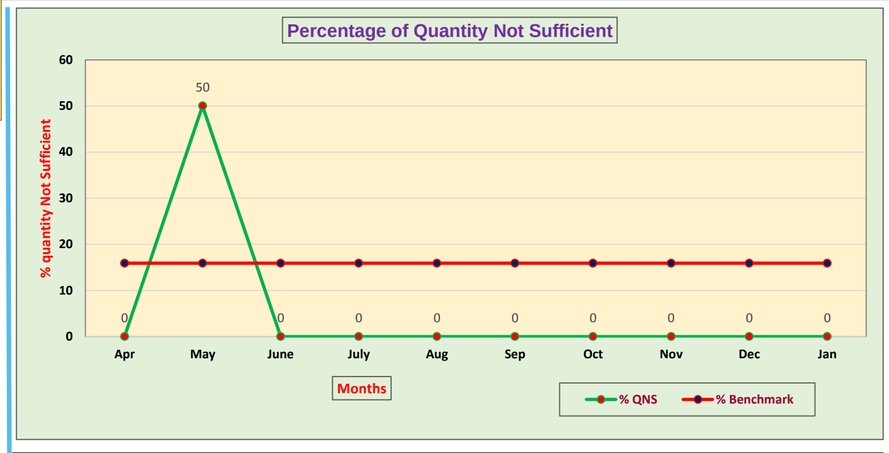
- Task Force committee was developed to assess the reason and rejection rate in monthly basis.
- Everyday one nurse from the unit was sent to the phlebotomy lab to practice the proper method of extraction and also to increase the competency level.
- Small poster card prepared and placed in each patient's room to know the order of drawing Blood samples.
- Special type of vacutainers were introduced for blood extraction.
- Educated the nurses about the best practices and monitoring of compliance with the adherence to the proper technique.
- Physicians were advised to place a single order in order to reduce the number of sample tubes.
- Instruction given to the nurses to place the tourniquet 10cm above the puncture site and not to leave more than 1 minute.
- Root Cause Analysis had been done for each rejected samples to know the cause of rejection in order to improve the practice.
- Maintaining a log book in the unit with the method of extraction, the amount of blood sent to the lab and the number of rejected samples in daily basis .
- Through unit meeting all HDU D nursing staff were notified with the rate of rejected blood samples

% of Rejected sample in HDU D From April 2016 to January 2017

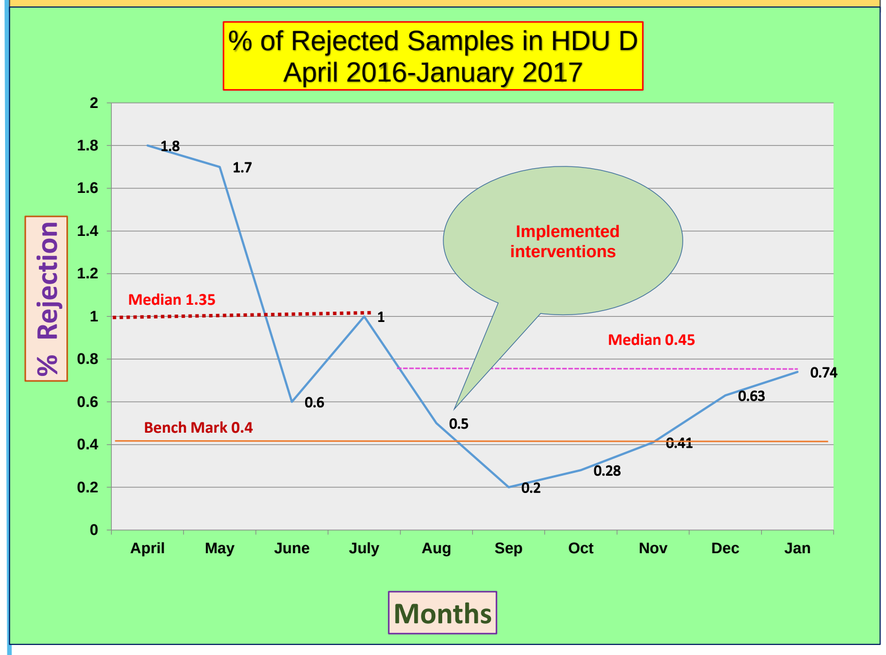
Month	% of Rejection (bench mark 0.4)	% Haemolysed (bench mark 28.9)	% Clotted (bench mark 21.9)	% QNS (bench mark 15.9)
Apr	1.8	10.1	15	0
May	1.7	5.7	20.8	50
June	0.6	4.2	11	0
July	1.0	5.8	16.7	0
Aug	0.5	9.8	14.3	0
Sep	0.2	4.7	0	0
Oct	0.28	3.6	6.7	0
Nov	0.41	3.7	15.4	0
Dec	0.63	9.2	0	0
Jan	0.74	14.5	0	0







Outcome



Conclusion

- After Implementation of the task force committee and action plan the rejected blood sample rate is in decreasing trend comparing to the period before implementation.
- Implementation of the vacutainer for blood extraction had major effect in the reduction of rejected sample rate.

Next Steps

- Plan for Standardizing the practice of blood extraction among all nurses in the unit.
- Measure patient satisfaction and difficulties with repeated blood extraction.

Improvement Team

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Ms. Fida

Team Members

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