

A STUDY ON IDENTIFYING THE PRE-ANALYTICAL PHASE ERRORS LEADING TO SAMPLE REJECTION IN LABORATORY BY USING FMEA



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Design

Secondary data review and analysis for reasons for rejection of sample

Data Collection Method

Retrospective data is collected January 2020 to December 2020

Online Incident management System from January 2021 –Till Date

Evaluation Technique Used

Fish Bone Diagram

Failure Mode Event Analysis (FMEA)

Inclusion Criteria

All IPD
(Observational data is collected from wards, ER & MICU.)

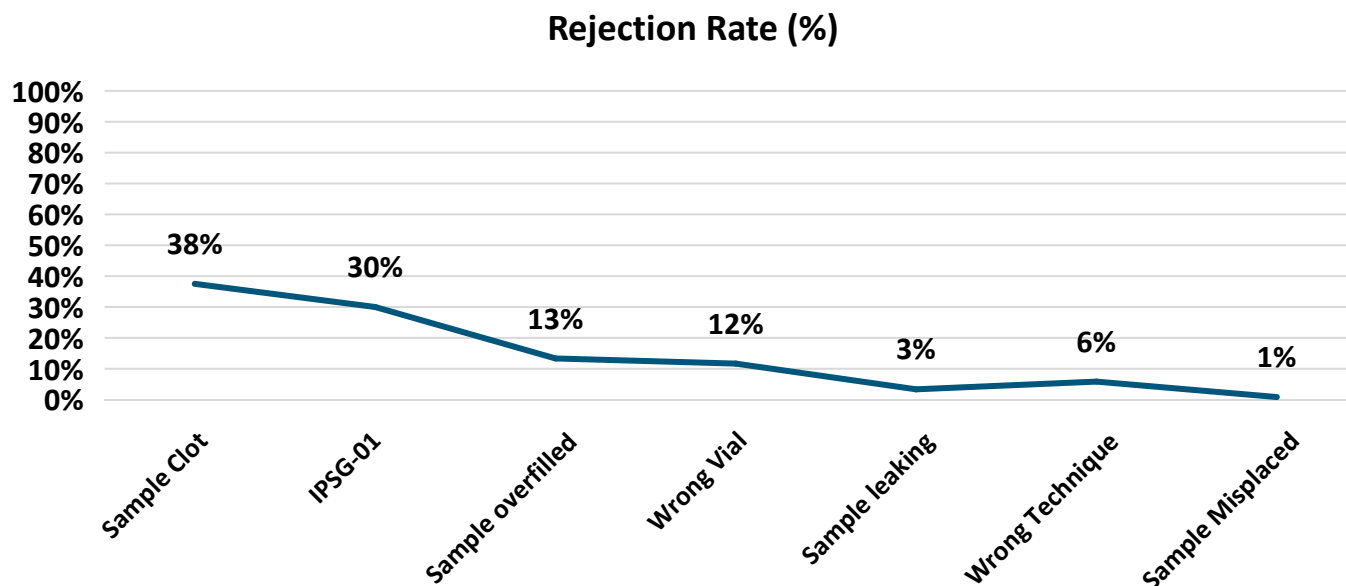
Team

Laboratory

Nursing

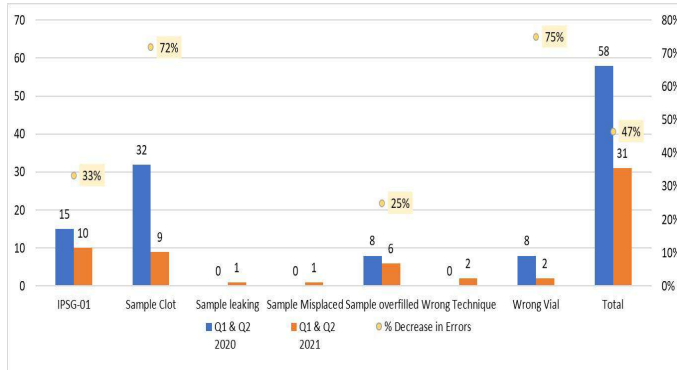
Quality

We aimed to evaluate the sample rejection ratios according to the types of pre-analytical errors in collection areas. It was followed by analyzing the casual factors and performing a risk assessment

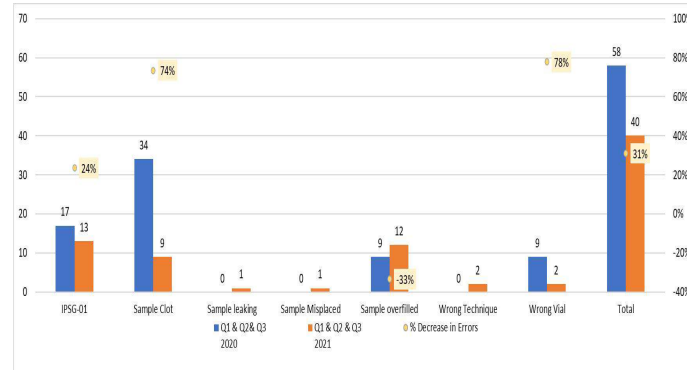


Rejection Criteria	Number of Samples Rejected	Rejection Rate (%)
Sample Clot	45	38%
IPSG-01	36	30%
Sample overfilled	16	13%
Wrong Vial	14	12%
Sample leaking	4	3%
Wrong Technique	7	6%
Sample Misplaced	1	1%
Total	123	

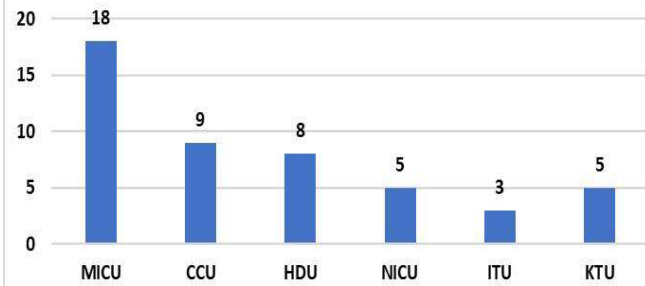
QUARTER-1 & 2 YEAR 2020 & 2021



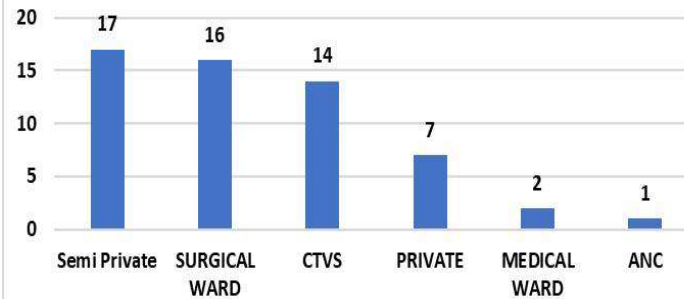
QUARTER-1, 2 & 3 YEAR 2020 & YEAR 2021



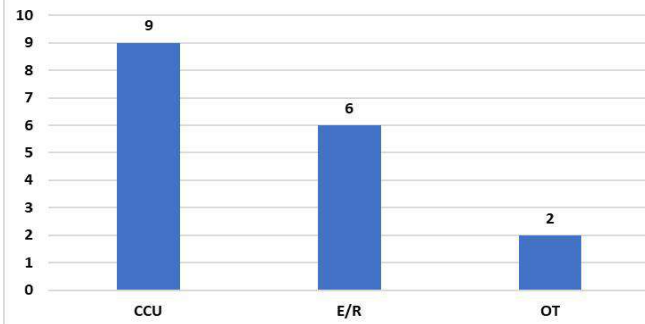
Total Rejections- Critical Care



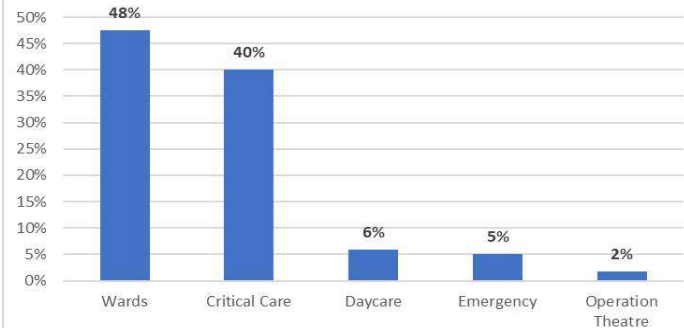
Total Rejections- Wards

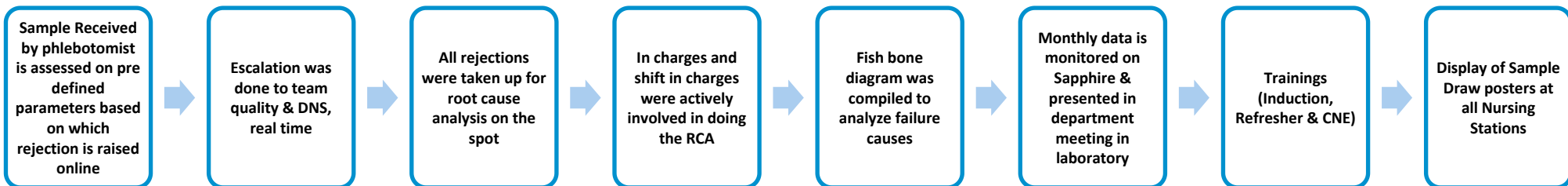
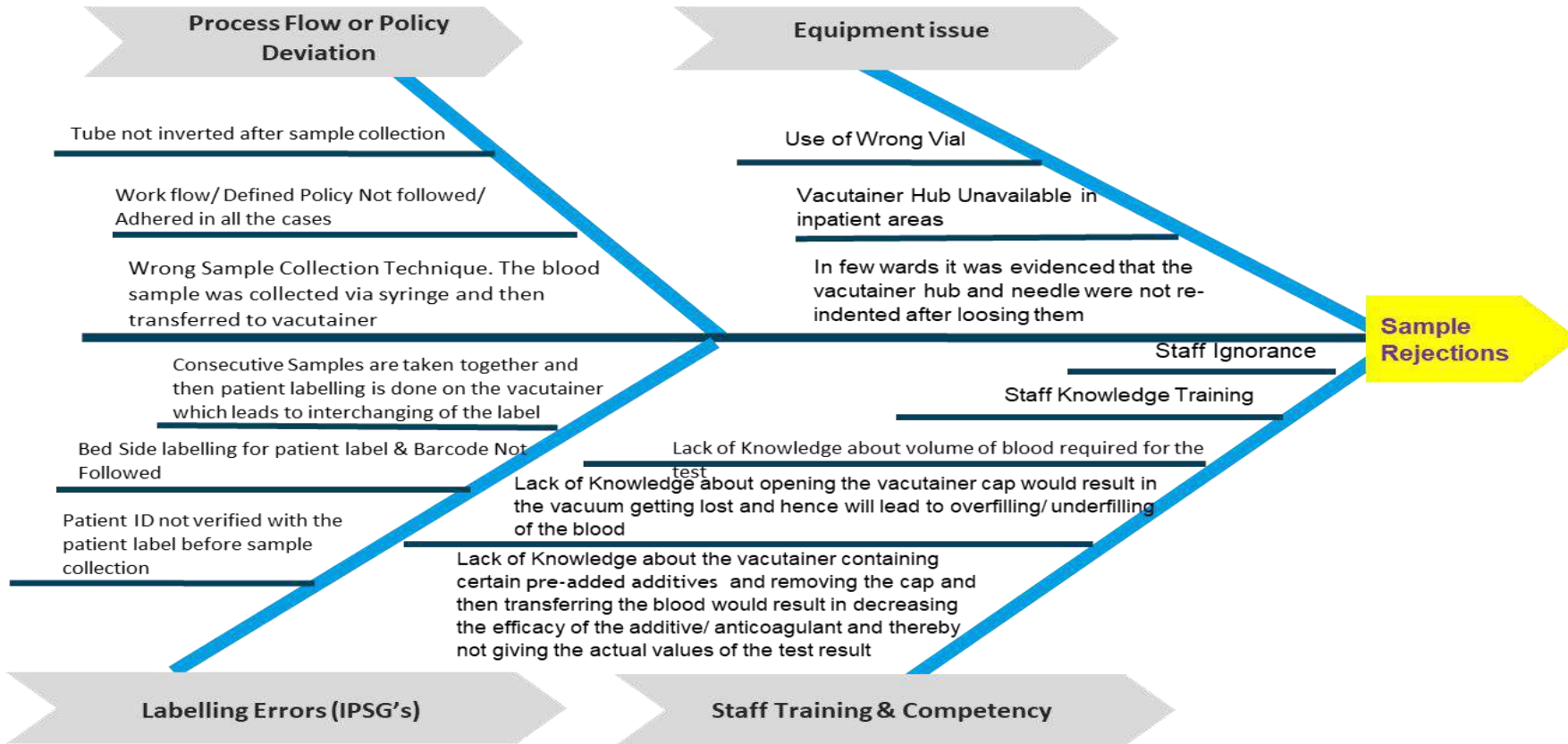


Total Rejections- Others



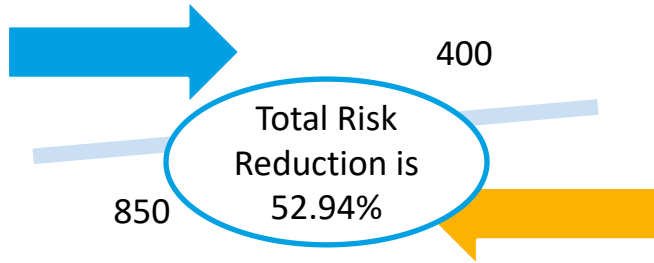
Rejection %



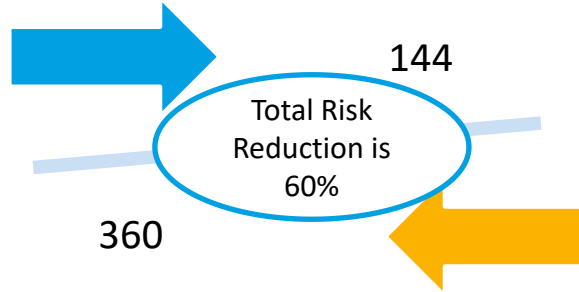


FMEA- PRE ANALYTICAL ERRORS- PARAMETER WISE RISK REDUCTION & Actions (Phase 2)

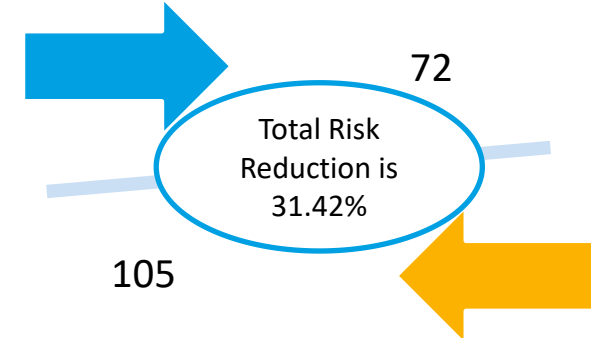
Labeling Error on Sample- Vacutainer



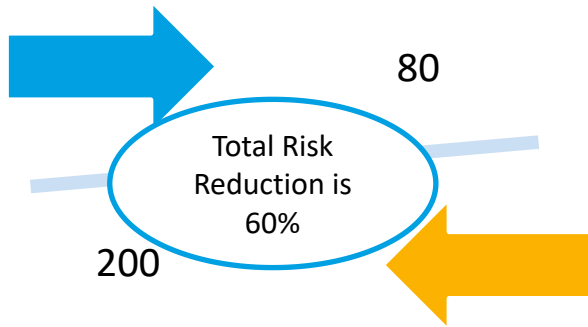
Sample Quantity



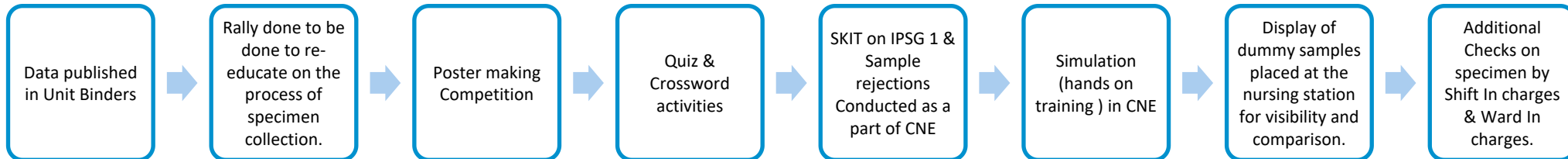
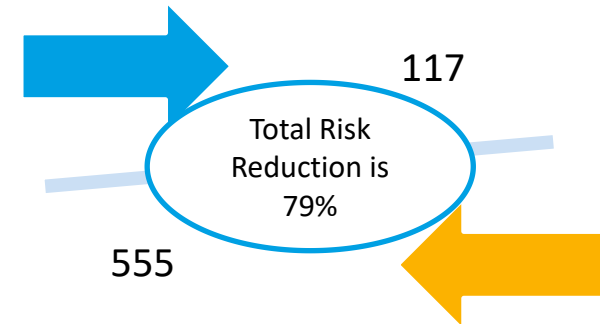
Errors on Test Requisition Form



Sample Container



Sample Clot



ACTIVITIES GLIMPSES



IPSG - 1 WORKSHOP



Day	Date	Time	Event	Moderator
Monday	13.09.2021	12 Noon	Workshop Inauguration	Dr. Mala Airun / Col. Retd. Kanta Rana
		12:30 PM - 1.30 PM	Patient identification & Issues	Rita / Shabina
		1.30 PM - 2 PM	Incident Management	Punita
		2 PM - 2.30 PM	Interactive Games	Asharph Khan
Wednesday	15.09.2021	12 PM - 2 PM	Role Play	Lyni / Shabina
Role Play Topics	Removal of dressings / Nasal Packs / Procedure Sample collection Administration of High-Risk medication Process of receiving for diagnostic procedure		Recognition of Poster 22.9.2021 	
Poster Topic	To be submitted by Wednesday, 20.09.2021			

Please submit the nomination for poster competition by 11.09.2021 | Venue - Near Training Room

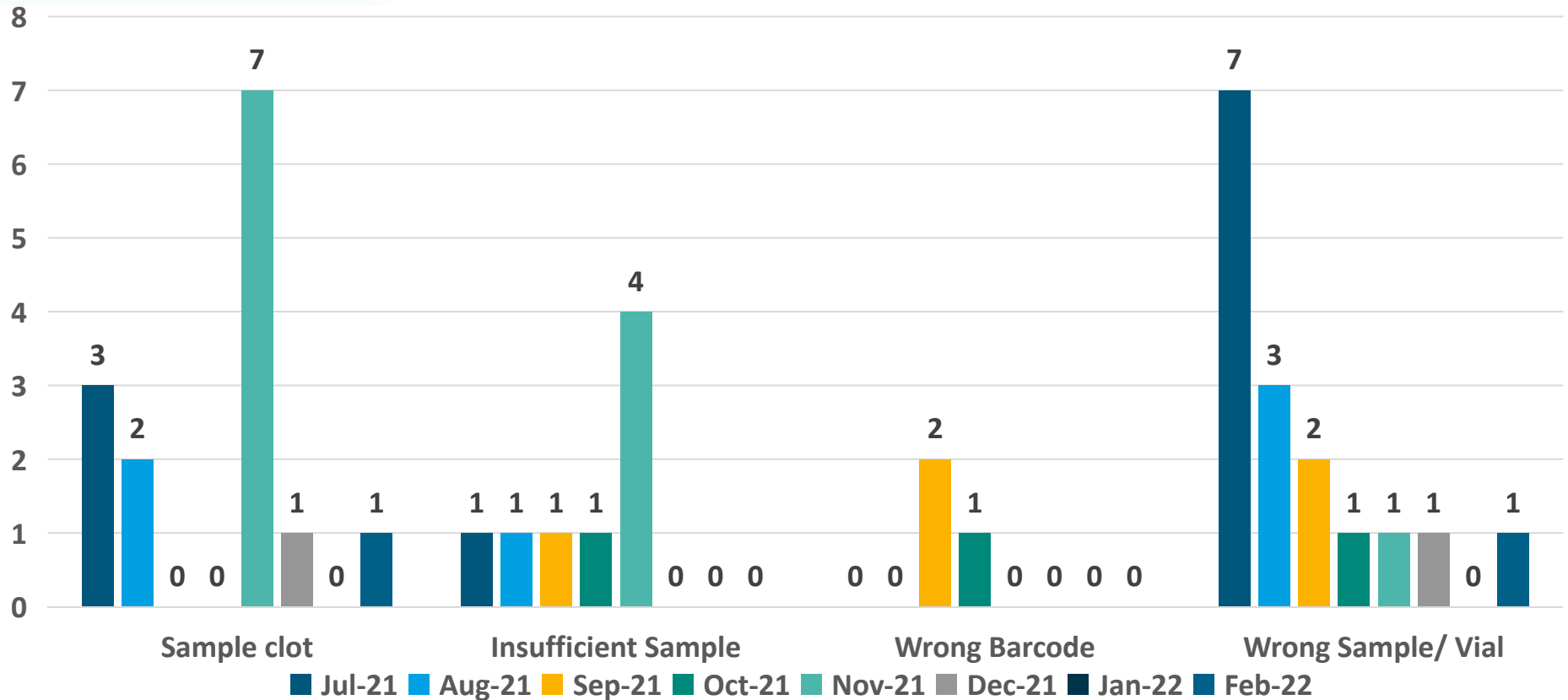


Month	Sample Rejection	Total Test	% Sample Rejections
July-21	11	87842	0.01%
August-21	6	82475	0.01%
September-21	5	99170	0.01%
October-21	3	102893	0.00%
November-21	12	81299	0.01%
December-21	2	79131	0.00%
January- 22	3	68374	0.00%
February-22	2	78191	0.00%

STRENGTHENING & ADHERANCE

- The shift in charges have now been made accountable for all sample rejections happening in the shift.
- In CNE program one session is taken by the pathologist for new inductees.
- All staff making errors are assessed for training need and are sent to the phlebotomy section for half day training: monitored by Clinical instructor & DNS
- Direct interaction between the in charge, staff, clinical instructor and lab staff done to know the Root cause and a better acceptance amongst both parties

CHASE ZERO



It was observed that the trend on sample rejections showed a spike in the month of November 21. The following were the reasons
A new group of nursing staff had been hired. Most of the sample rejections happened in the off-working hours/ holiday and when the in charges were not around



THANK YOU

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