# *Reduction in Lab Redo's : A System Improvement Initiative By Fortis Hospital, Mohali*

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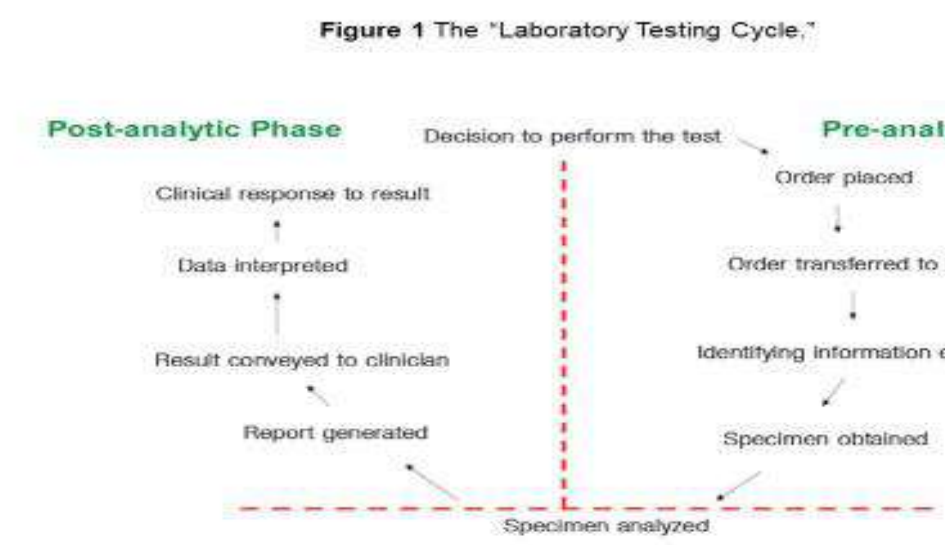
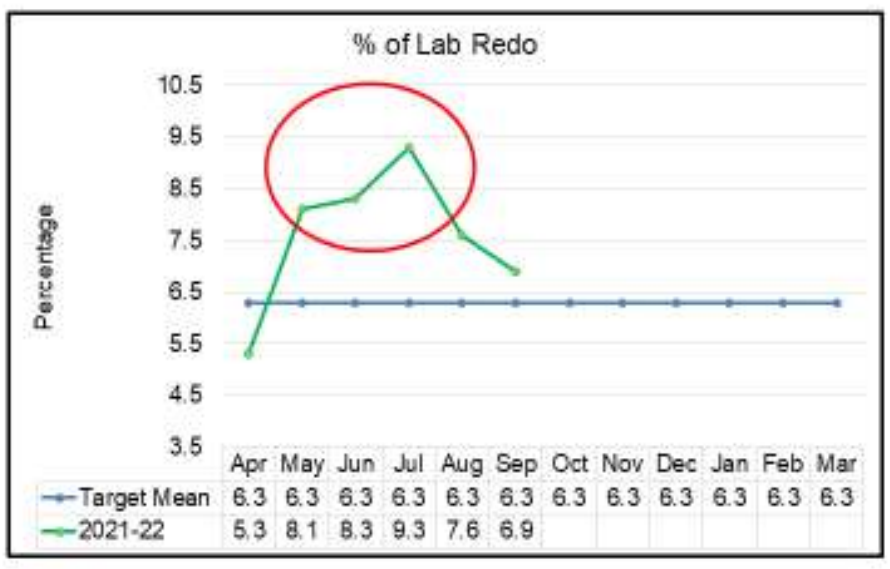
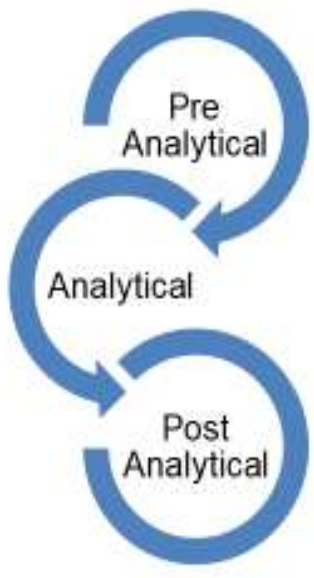
## Introduction/Background




- Lab redo is a clinical quality Indicator .
- Increasing Trend analysis showed Q1 FY21-22 .
- % age of Lab redos ***Increased by 2.8% in May 21 to 3-4% increase in June & July*** respectively .




**PREANALYTICAL**

| Month/Sections | Apr'21 | May'21 | Jun'21 | Jul'21 | Aug'21 | Sep'21 |
|---|---|---|---|---|---|---|
| Microbiology | 0 | 7 | 8 | 9 | 5 | 12 |
| Clinical path | 0 | 0 | 0 | 0 | 0 | 0 |
| Serology | 6 | 0 | 0 | 0 | 0 | 0 |
| Hematology & coagulation | 0 | 2 | 3 | 1 | 3 | 10 |
| | 26 | 10 | 11 | 6 | 14 | |
| Biochemistry | 66 | 40 | 0 | 85 | 80 | 10 |
| **Total** | **98** | **59** | **22** | **101** | **102** | **32** |

PREANALYTICAL ( Number Test)

| SECTIONS/ Month | May'21 | Jun'21 | Jul'21 | Aug'21 | Sept'21 |
|---|---|---|---|---|---|
| Hemolysed | 25 | 27 | 23 | 28 | 30 |
| Clotted | 15 | 17 | 13 | 6 | 9 |
| Quantity not sufficient | 2 | 10 | 6 | 1 | 7 |
| Diluted | 66 | 47 | 27 | 21 | 15 |
| SNR-30 | 30 | 13 | 12 | 5 | 9 |
| Grossly contaminated | 48 | 8 | 18 | 4 | 16 |

**ANALYTICAL-(Due to instrument error)**

| Month/Sections | Apr'21 | May'21 | Jun'21 | Jul'21 | Aug'21 | Sep'21 |
|---|---|---|---|---|---|---|
| Microbiology | 7 | 13 | 9 | 11 | 15 | 15 |
| Clinical path | 53 | 28 | 47 | 0 | 35 | 24 |
| Serology | 4 | 2 | 3 | 20 | 0 | 0 |
| Hematology & coagulation | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 40 | 0 | |
| Biochemistry | 1 | 5 | 72 | 0 | 4 | 7 |
| **Total** | **65** | **48** | **131** | **71** | **54** | **46** |

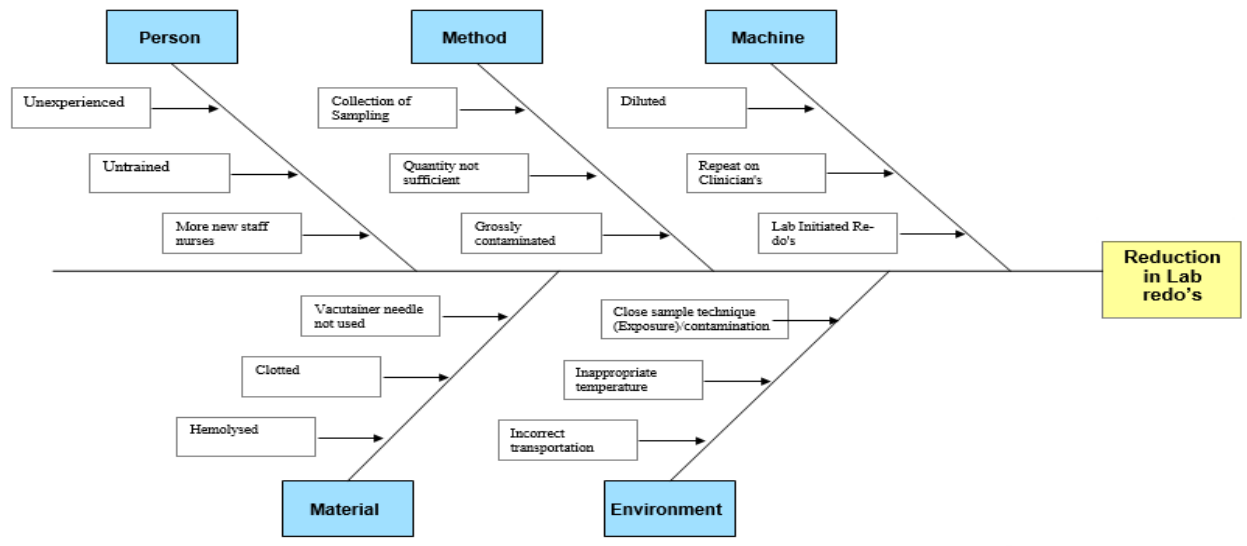
**ANALYTICAL(for results not correlating with previous results or do not have any clinical history-Analytical)**

| Month/Sections | Apr'21 | May'21 | Jun'21 | Jul'21 | Aug'21 | Sep'21 |
|---|---|---|---|---|---|---|
| Microbiology | 0 | 0 | 0 | 0 | 0 | 0 |
| Clinical path | 0 | 0 | 0 | 47 | 0 | 0 |
| Serology | 0 | 7 | 10 | 0 | 27 | 24 |
| Hematology & coagulation | 3 | 11 | 11 | 18 | 18 | 21 |
| | 10 | 24 | 30 | 0 | 36 | |
| Biochemistry | 400 | 325 | 250 | 335 | 200 | 225 |
| **Total** | **413** | **367** | **301** | **400** | **281** | **270** |

## Aim/Objective

Reduction in Lab Redo's : System Improvement Initiative - A detailed analysis wrt 3 phases of lab errors (pre Analytical -Analytical-post Analytical)

**DMAIC methodology &Fish bone used**

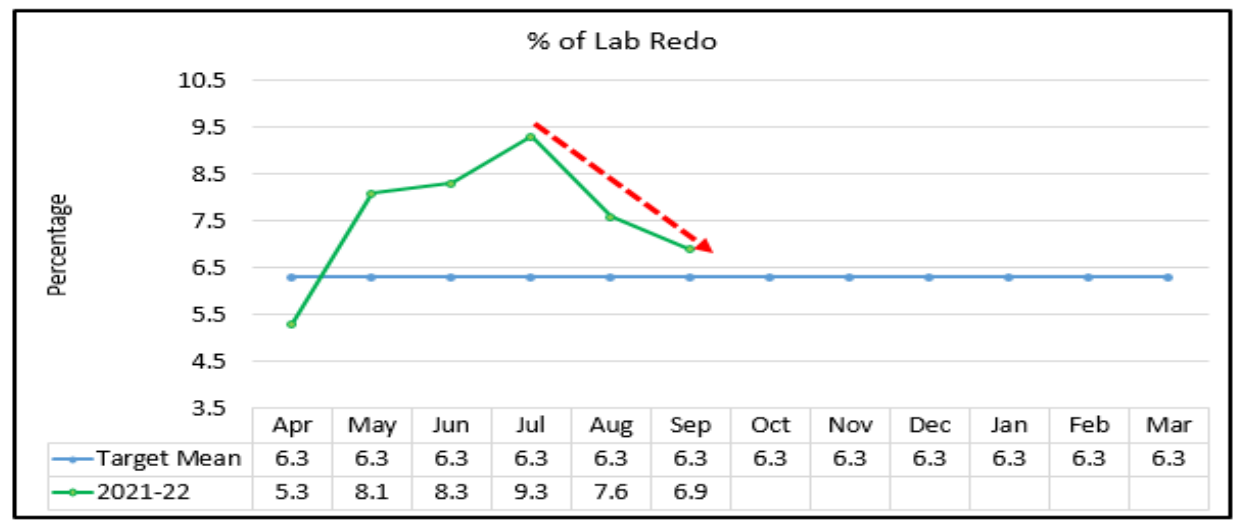



## Interventions

**Pre Analytical** concerns were addressed -by **Phlebotomy training** -correct sampling technique bed side & **use of vacutainers** instead of syringes - hence reducing Pre analytical causes significantly.

**Analytical** causes were addressed by **review the Equipment maintenance record** and as a solution of repeated breakdown of semi Auto analyser replacing it with **automatic equipment**. Also Section **staff training** in handling test and repeat initiation only when absolute necessary

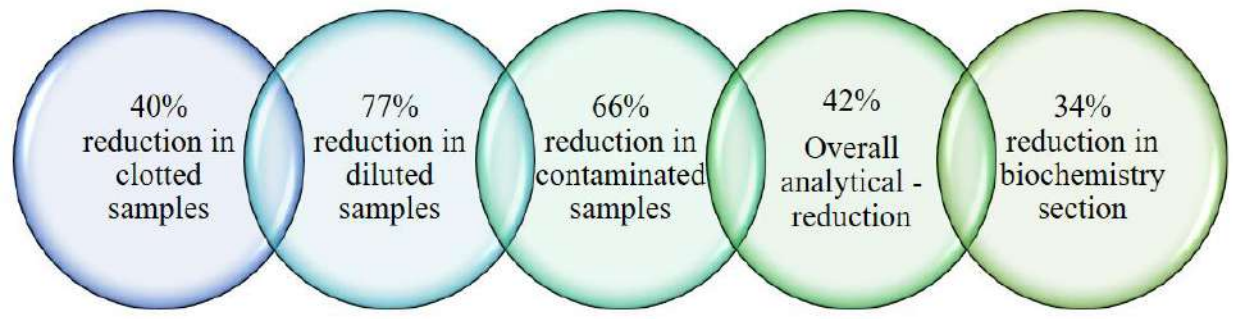
**Post Analytical-** Were mostly **clinicians request** and minimal Redos except in months where there were dengue and COVID outbreak noted



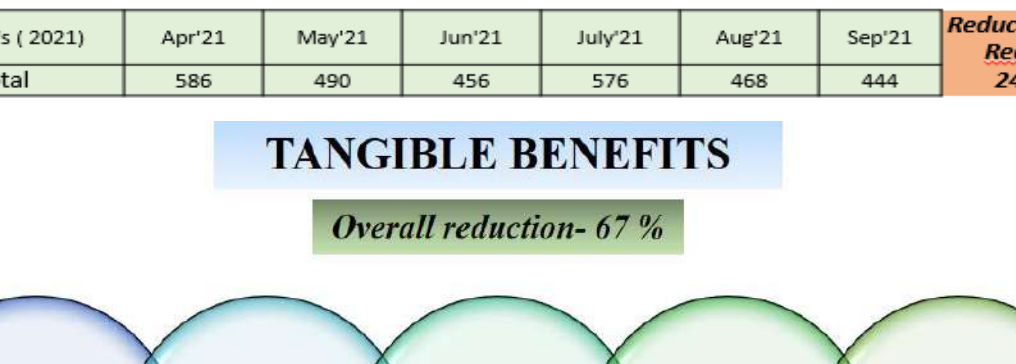

| Lab Red's ( 2021) | Apr'21 | May'21 | Jun'21 | July'21 | Aug'21 | Sep'21 | Reduction in Redos 24% |
|---|---|---|---|---|---|---|---|
| Total | 586 | 490 | 456 | 576 | 468 | 444 | |

## TANGIBLE BENEFITS

***Overall reduction- 67 %***




## INTANGIBLE BENEFITS




## Conclusion

% of Lab Redo is taken up as priority Monthly Quality Indicator of Lab with interdepended from clinical teams. The Reduction of redos n Q2 did see a slightly increasing trend in start of Q3 due to a Machine breakdown However later month showed decreasing trend . Reduction in pre analytical errors through correct sample collection in vacutainers - leur adaptars system Sample collection Initiatives used in minimizing preanalytical redo's by using sampling needles with holders instead of syringe & needle was implemented in other clinical areas too .