

Introduction

There are laboratory process improvement tools that allow optimization of laboratory workflow, KAIZEN is continuous improvement process, whose objective is: generate improvement from strategic priorities to daily operations, create leaders in organizations, promotes personal and work values, create positive and constructive habits.

The bases of this process is to efficiently identify the element called "WASTE"



that are inefficient use of time or the redundancy of processes, to improve effectiveness and productivity.

Methods

The objective of our study was to use the Kaizen method in the evaluation and improvement of the blood culture process as a critical microbiological test that affects clinical decisions, performing a Turn around time (TAT) measurement in the pre- and post-intervention period. We used July 2022 (961 tests) as the pre-intervention period and June 2023 (496 tests) as the post-intervention period.

The intervention was carried out for one week in November 2022, with a follow up period of 8 months.

Results

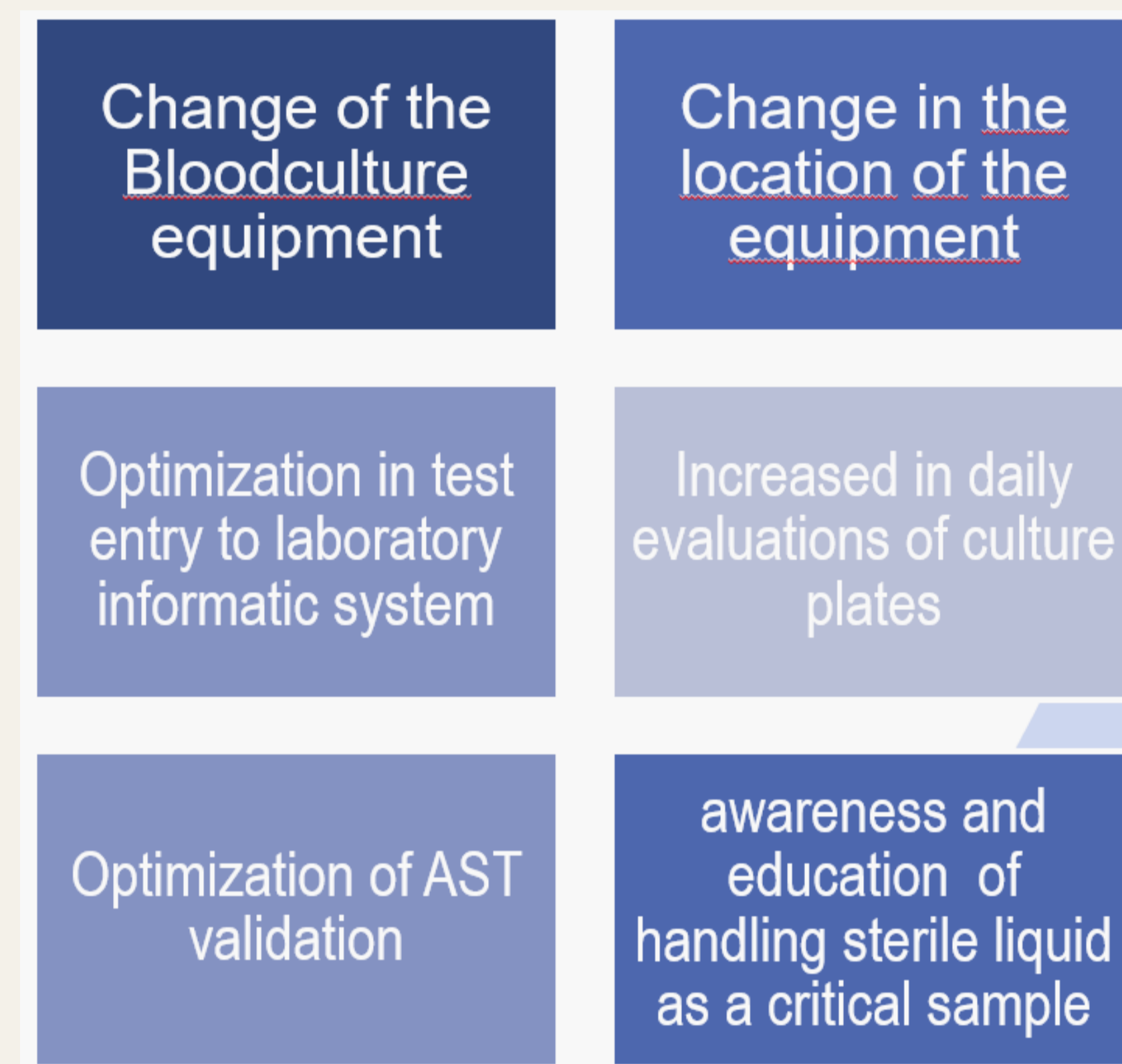
During Kaizen, the waste elements were identified, the goal was set to an optimization of 20% of the TAT, this objective was met.

Strategies used to achieve this objective were: change of the blood culture equipment for one with ease of loading and positivity detection, change in the location bringing it closer to the reception, optimization in test entry to laboratory informatic system, increased in daily evaluations of plates, optimization of AST validation, awareness and education of handling sterile liquid as a critical sample.

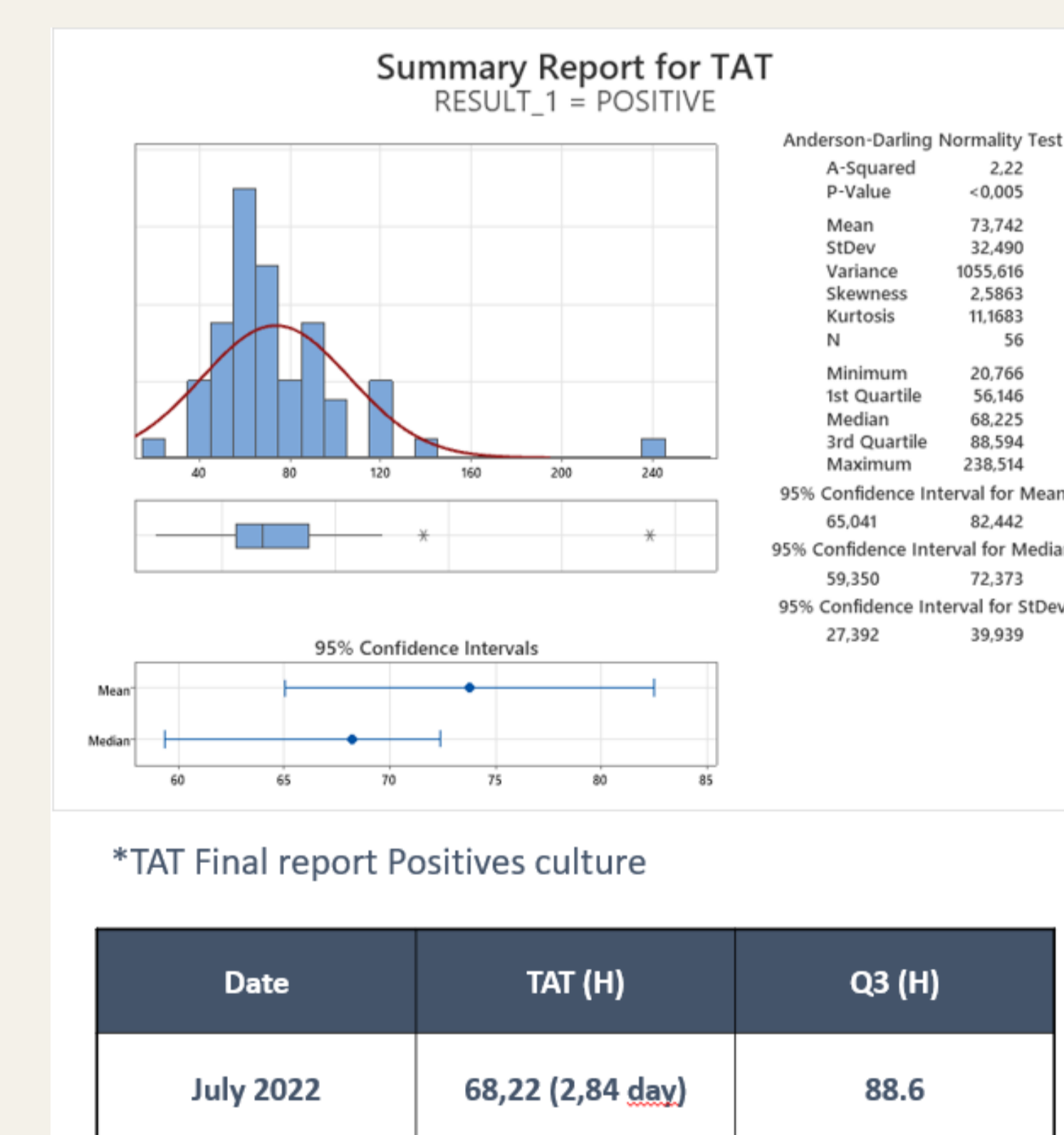
We achieved a reduction of 13 minutes in time to the load on the equipment, 1.4 hours in time to positivity, 11 minutes in the time to the Gram, 2 hours in time to identification, 6.48 hours in time to final report with AST.

In total, the impact on positive blood cultures was a reduction in 22, hours with a 24.9% of optimization, meeting the objective significantly.

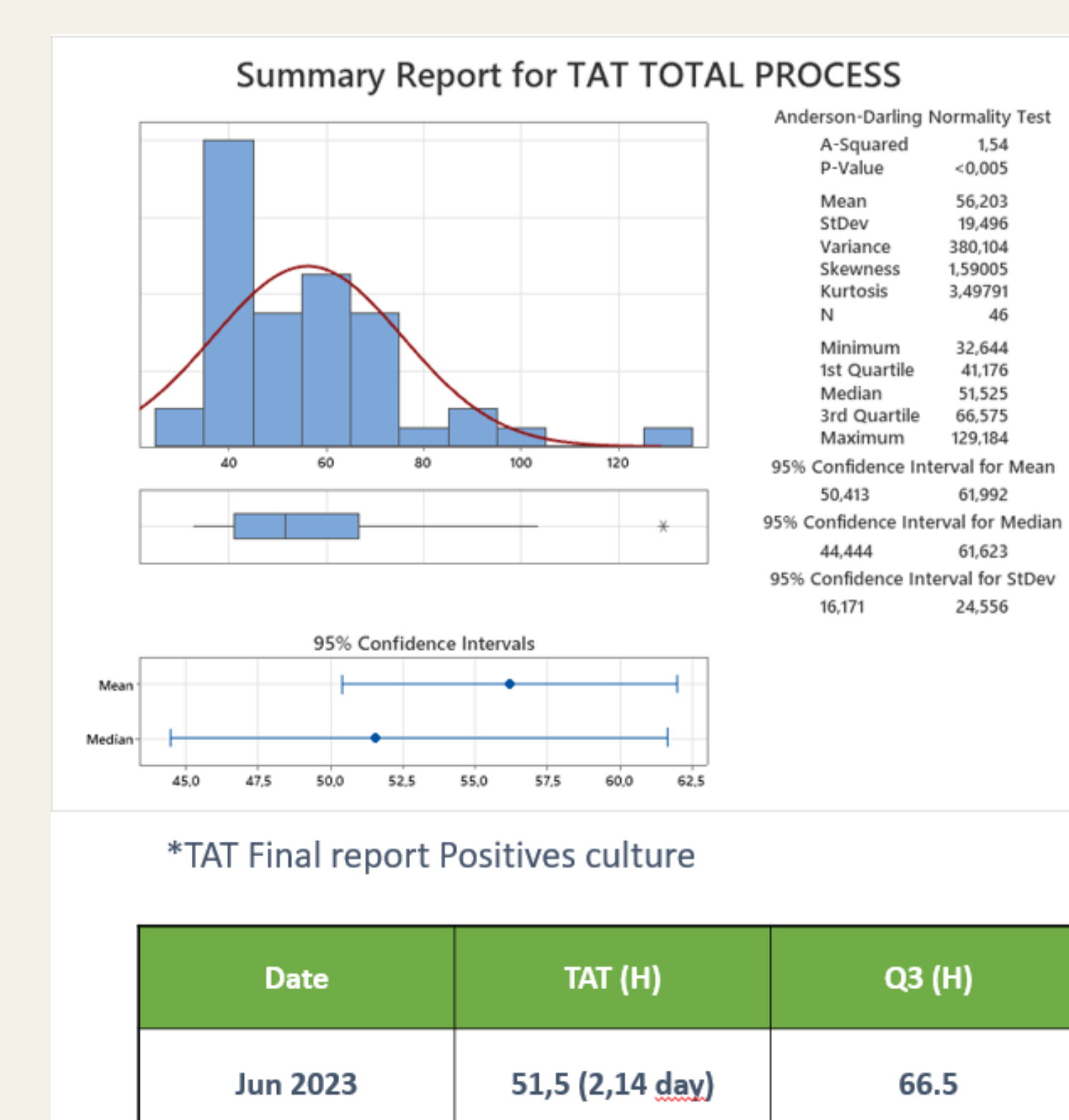
Interventions



Pre intervention results N=961



Post intervention results N=496



-24.9% of TAT saving

Conclusion

Laboratory processes can be perfected if they are constantly evaluated.

Kaizen allow improving the opportunity to deliver results in critical processes in places with difficulties such as a public institution.

Accepting this process as an institution means self-criticism, deep introspection in the workflow and acceptance of change as a tool for improvement.

It requires commitment, education, monitoring, optimization in the use of informatic tools and equipment, and transformation of problems to opportunities.

We reached the goal and even surpassed it, obtaining metrics that are maintained to this day and that benefit patients and clinical decisions.

The workflow change was successfully implemented in other areas of the laboratory.

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Contact Information

Corresponding author:
Dona Benadof Fuentes MD
Clinical Microbiologist
Roberto del Río Children Hospital

Tel: +56 9 97995456

Email: donaben@gmail.com

