

# COMPARISON OF TWO IMPORTANT METHODOLOGIES IN RISK MANAGEMENT

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## Background

Patient Safety is considered one of the key aspects of the quality policies of Health Systems.

The aims in this study are:

- Calculate the impact of the failure modes in a medical laboratory.
- Compare the risk with two risk management tools: Modal Potential Failure Analysis and Effects (FMEA) versus the Registry Errors, Analysis and Corrective Action System (FRACAS).
- Use FMEA to estimate the potential risks and FRACAS to make real errors analysis.

## Methods

Our study shows the comparison of two important methodologies in risk management: Failure Model and Effects Analysis (FMEA) and Registry Errors, Analysis and Corrective Action System (FRACAS) in medical laboratory. The failure modes were identified from the literature and a brainstorming conducted among a working group of laboratory professionals.

FMEA allowed identify potential failure modes and estimate risk through a table of three variables: severity, frequency and detection.

FRACAS uses only two variables, severity with the same scale table than FMEA and real observed frequency. FRACAS does not use a detection variable, because it is based in real errors detected. The study was made in all laboratory processes: strategic (S), operational (preanalytical (P), analytical (A) and postanalytical (PO) and support (SU).

## Results

Our results allowed identifying critical points in all laboratory processes and improvement the patient safety.

The study was made about 90 possible modes of failure detected by the FMEA model applied to laboratory processes.



## Conclusions

Our study allowed the calculation of the potential risk in the preanalytical, analytical and postanalytical processes, as well as strategic and support processes of medical laboratory.

FMEA allows detecting critical points in terms of the patient risk and FRACAS highlights the priorities to control these points and help to select preventive or corrective actions that we should be incorporated in the laboratory improvement planning.

If FMEA is compared versus FRACAS, the difference is that indices of risk priority are higher in FMEA in postanalytical processes, while comparing FRACAS versus FMEA the rates of risk priority are higher in preanalytical processes. Our results have allowed develop a map risks within the laboratory.

