



Management of a Point-Of-Care (POC) testing service: Lessons learnt

Singapore Healthcare Management 2024

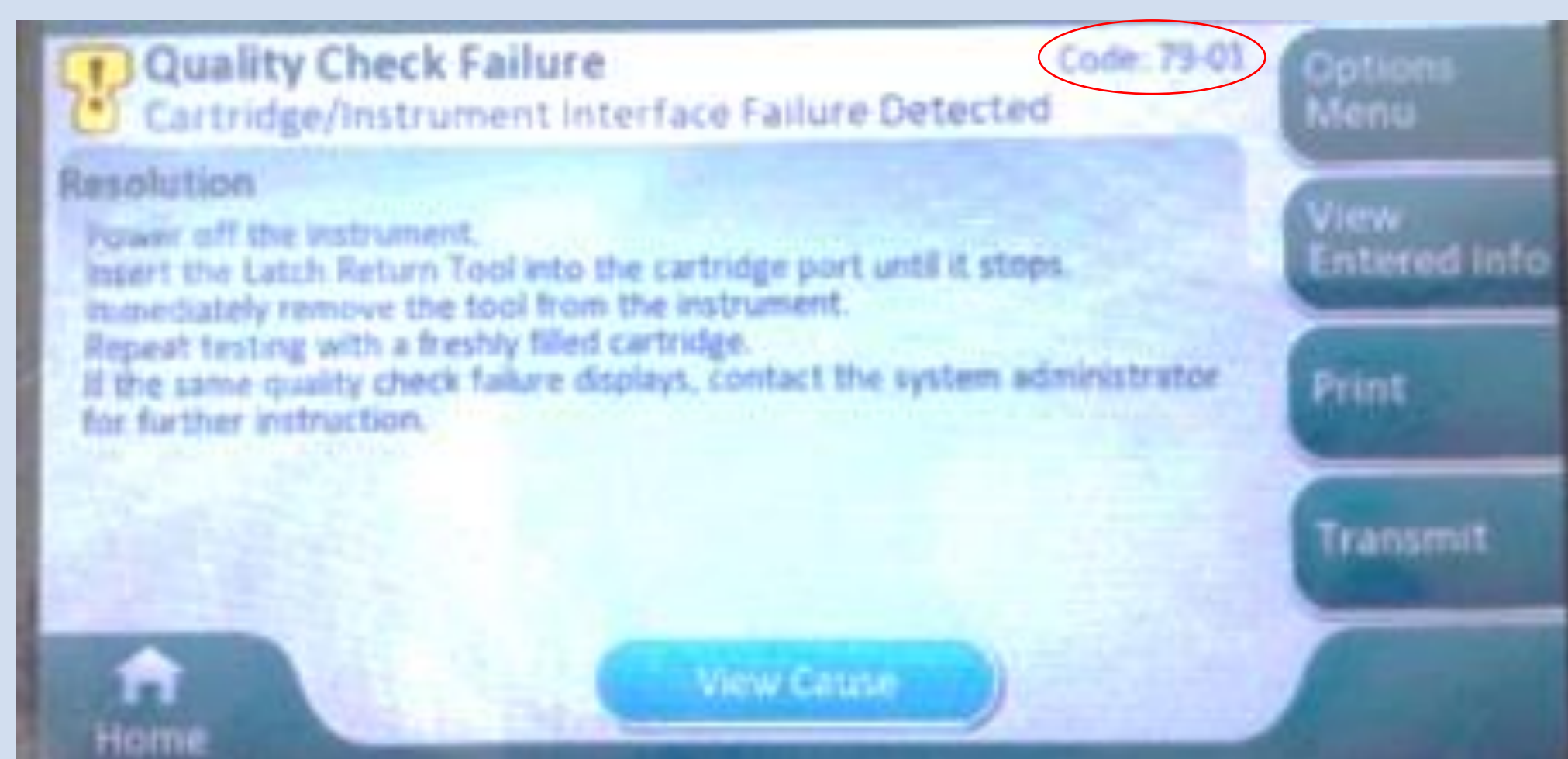
Goh, M.C.L, Ong, S.K, Tan, S.P, Ho, C.K.M, Huang, J.X.
Department of Pathology
Sengkang General Hospital, Singapore

Study Aim

We establish a quality process to address issue on error-code occurrences on iSTAT Alinity POC device. Each error-code describes the causes of the failed testing. It required repeat testing that impacts turnaround time, reagent use, and staff vigilance. The abstract outlines lessons for continuous quality improvement.



iSTAT Alinity POCT device



Method

Reviewed 23000 error-codes (Jan2022–Dec2023). Fishbone chart (Fig 1): Operator (Man), cartridge CG8+ (Material) software (Method), and instrument-related (Machine).

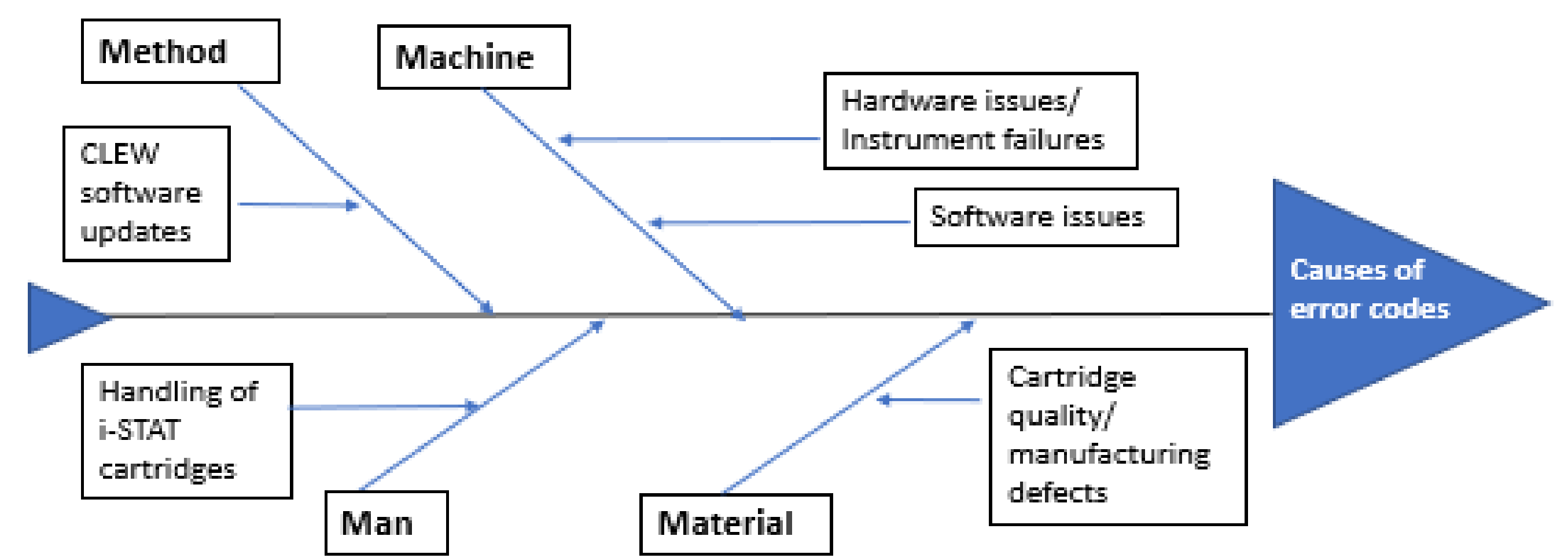


Figure 1: 4-M Fishbone diagram on the monitoring of error codes generated on i-STAT Alinity device when performing patient testing

Results

Lesson 1 (Man): ED contributed to 47% of errors, among 876 operators of which 43% operators having <6 months experience. Operators contributed to 60% of 1542 error-codes, constituting 7% of 23000 CG8+ results (Fig 2). Wastage awareness was shared at the Hospital POCT Committee meetings.

Lesson 2 (Material): 23 cartridge lots were used, with Lot W22XXX contributing 63% of errors in August 2022. Code 90 error-code identified and containment reduced errors to 31% (Sept-Dec2022), see Fig 3.

Faulty cartridges (n=1775) were reimbursed in Oct 2023. Lot W23XXX “faulty snap” closure issues led to 27 reimbursed cartridges in Sept 2023. Meetings with vendor/ manufacturer strengthen POC team endorsement on service quality, mitigating damage cost.

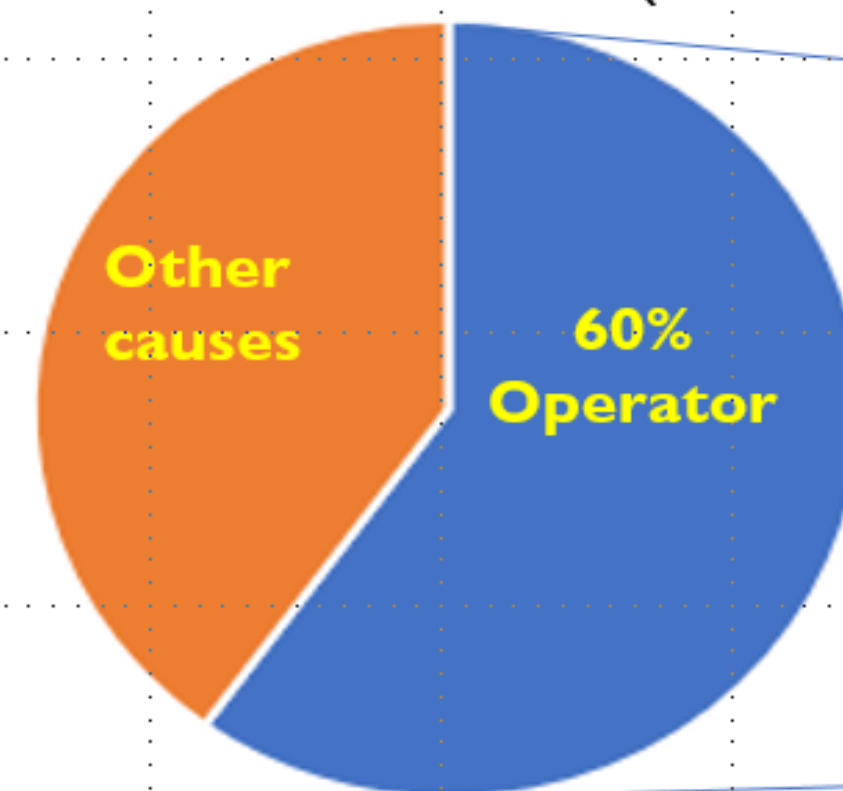
Lesson 3 (Method): Software 6-monthly update corrected errors post Lot W22XXX incident, reducing error-code 90 from 34% to 12% (Jan-June 2023). Timely feedback improved CG8+ cartridge inventory holding cost.

Note: Monitoring error occurrences at the middleware/interface is a daily, time-consuming task that demands attention. This vigilance allows timely notifications to vendors, enhancing communication and collaborative learning skills. Meticulous documentation captures insights and transforms them into structured ideas, contributing significantly to organizational excellence and making our work meaningful.

Conclusion

Analyzing error codes is crucial for managing the operational aspects POC service quality, and even uncovering hidden operating costs. By swiftly addressing errors, we enhance POC quality delivery boosting clinical effectiveness. This dedication to precision and excellence transforms patient care.

Causes of errors (n=1542)



Operators' competency (n=876)

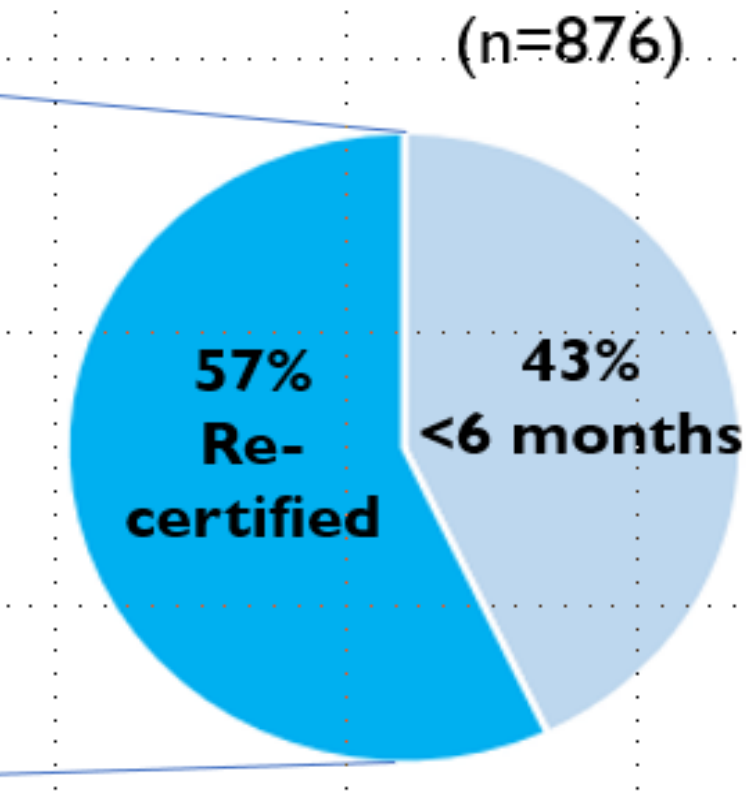


Figure 2: Causes of error codes by competent operators working with iSTAT Alinity

Total error-codes with Code 90 occurrences

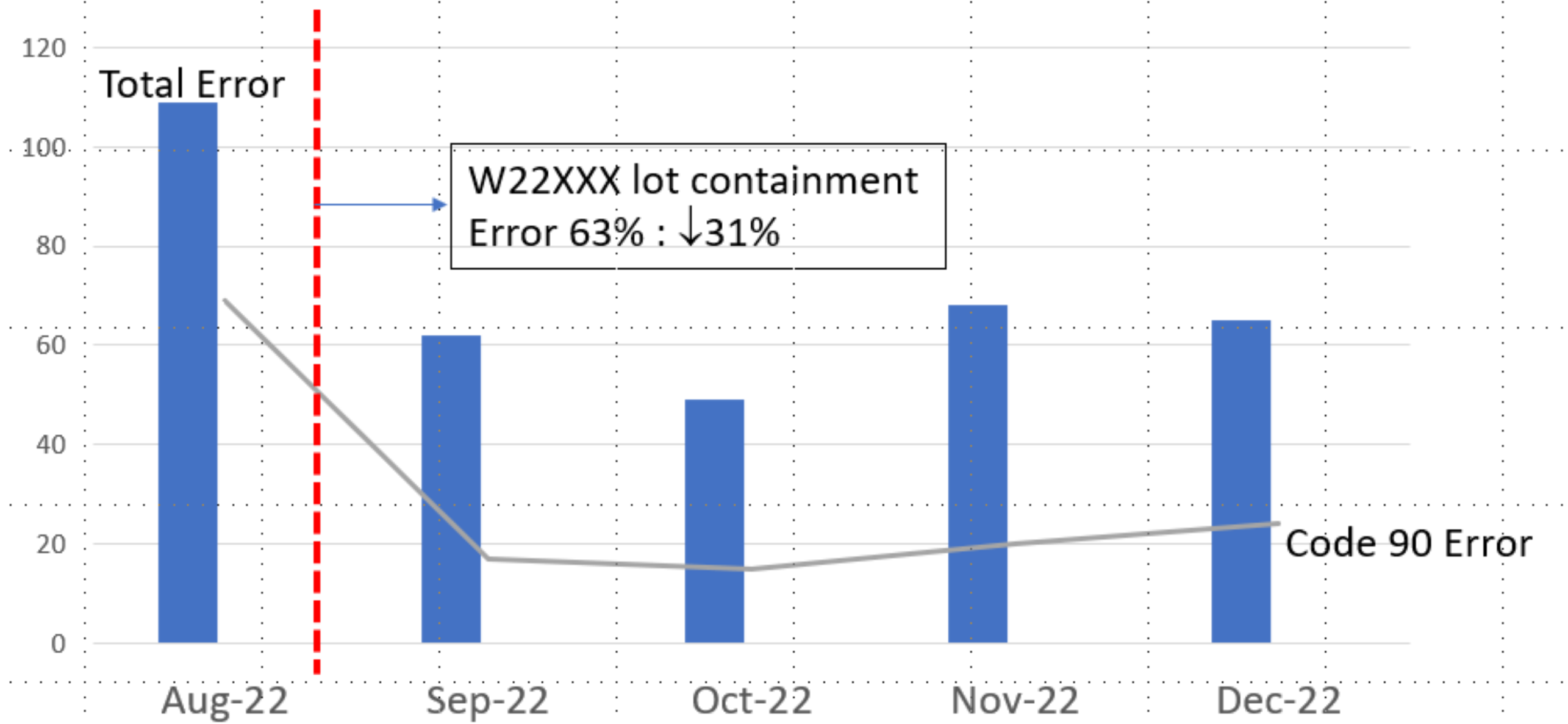


Figure 3: Overview of total and Code 90 occurrences after suspect lot containment