Novel Daily Management and Focused Employee Training Leads to Improved Patient Safety by Reducing Delays in Critical Result Reporting to Henry Ford Hospital and Medical Centers Providers

Abstract

Background

The CoreStat Laboratory is located at Henry Ford Hospital Detroit Campus (HFD) and we report over 6 million tests results every year. Of these results, an average of 150/day are of critical nature, i.e. they are significantly outside the reference range and reflect an immediate life-threatening situation. Here, the ordering provider must be immediately notified so that prompt clinical intervention can be initiated for our patients. Further, critical value (CV) results must be released and documented according to the requirements of National Patient Safety Goals.

In the event that an ordering provider (or covering provider) cannot be reached, the laboratory staff work according to a defined escalation process within HFD's medical leadership.

AIM

- Communicate, document and escalate (if needed) all CV results in a timely and consistent manner
- Any deviation from this defined and standardized process is considered a defect (i.e., 0 defect threshold)
- Do effective PDCA of each instance of CV defect

Current Condition

- Number of CV/month: >3500
- Number of CV defects/month: 25 (0.7%)
- Sigma level: 3.99
- Time to resolve defects: 18-45 min

Root-Causes

- Provider not reachable by phone
- CV notification is delayed and care may be compromised
- Lack of standard work for correct CV escalation process
- Inconsistent escalation process
- Inconsistent comprehension of procedures

Our Strategy

We designed, implemented and improved on a system of visual daily management that focused on tracking and trending defects related to critical values, while also focusing on employee education.

Corrective Actions and Interventions

- Daily monitoring on Daily Management board
- Process redesign
- Education lab meetings and one on one
- Developed standard work: flow chart and table
- Education in small focus groups
- Update to procedures

Tools for Improvement

- Visual Aids (Flowchart)
- Standardized and color-coded escalation form (corresponding to the flowchart, above)

Evaluation of Change

- Daily report of all critical values
- # of calls that didn't meet the threshold were documented each day
- Tended over the year
- Data was documented in a Pareto chart to identify root cause

Counter-measures were documented

Conclusions

We have demonstrated the design and implementation of an effective system of daily management that has drastically improved our laboratory's process efficiency and patient safety. This was achieved without additional staff or resources. This approach to daily management has allowed our employees to collectively work together when guided by a standardized visual approach and to understand root cause(s) and design effective countermeasures. We have successfully cascaded this approach towards monitoring and improving other process metrics as a best practice across our health system and recommend its adoption by other medical laboratories.

References

- [Link to references]