ABSTRACT

Background:
Patients frequently had long wait times to get blood drawn and long throughput times in the Outpatient Phlebotomy Center (OPC). This resulted in delays, patients leaving without being seen and low customer satisfaction scores.
During March of 2009, 1131 specimens were drawn in OPC. 365 of the 1131 specimens had a wait time of greater than 20 minutes (67.7% were drawn within 20 min). To uphold our standard of care and maintain the flow of patients from the OPC to departmental clinics, wait times for blood draws for at least 90% of patients should not exceed 20 minutes. Our main issue was "Efficient Operation." The need to reduce patient wait times, improve the efficiency of patient flow, and provide better customer service was recognized by laboratory management. Our goal was to improve the laboratory's interaction with the patient by identifying opportunities for improvement as we followed the processes for real time defect and waste detection.

Objectives:
Our primary goals were to improve the patient flow, complete at least 90% of outpatient phlebotomy collections within 20 minutes, and reduce the number of customer dissatisfaction incidents during an outpatient visit. We also focused on the following: developing standard work for the staff, increasing staff productivity by reducing non-value-added activities, and re-designing the phlebotomy draw rooms.

Method:
Having success using Lean and Six Sigma methodology and tools in other parts of the lab encouraged us to apply it again in order to develop a solution for our goals. Process maps and a spaghetti diagram of the current processes were developed by directly observing the phlebotomist and admission performing their tasks. The process maps identified multiple wastes that could be reduced or eliminated. A systematic approach focusing on data collection, analysis and re-design processes was implemented to meet our goals.

Results:
The operational process is now more efficient; patient wait times have been reduced significantly.

Conclusion:
Eliminating waste and streamlining the processes helped the OPC to reduce wait time and improve patient care.

METHODS

INITIAL OVERALL PROCESS

Individual Process Steps

5S tools were used to create a clean, safe, and organized environment in OPC. Items were sorted and arranged according to the station’s task and all unnecessary items were eliminated. Work areas were kept clean, and a revised 5S weekly audit helped stabilize and sustain the workflow.

Hypothesis:
Null: there is no difference in process time due to account or order availability
Alternate: there is a difference in process time due to account or order availability

Initial mean: 16.7 min
Initial Wait Time: 67.7% within 20 min
New mean: 13.1 min
New Wait Time: 86.3%

For every 50 patients, saved 3 hours per day

OPC Phlebotomy Improvements

1. Move physical location of admissions representative to center of OPC phlebotomy desk for consistent central patient access.
2. Assign primary function of greeting and signing in patients to admissions representative.
3. Assign pre-checking account status for every patient at the point of sign-in to the admissions representative.
4. Assign pre-checking lab order status in Powerchart for every patient at the point of sign-in to the admissions representative.
5. Add an additional responsibility of pre-checking lab order status in Powerchart for every patient at the point of sign-in to the admissions representative.

Improvements will target variances in patient wait times and allow lab phlebotomists to collect patient specimens quickly without a delay due to the workflow processes of the initial patient sign-in.

CONCLUSIONS

Lean and six sigma methodology helped OPC to reduce wait time and improve patient care. Staff reports better organization and less stress. DMVC used to improve the existing process and service:
- Define: 90% within 20 min
- Measure: Wait time and process time
- Analyze: Swim Lane, Box plot and Chart
- Improve: Reduce waste and variation
- Control: Hold the gain

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