

The Challenge

The Outpatient Pharmacy Department at this tri-state hospital and research organization was disorganized and arbitrary which impeded the staff's ability to perform effectively and efficiently. Internal defects averaged 25% from customer order to customer receipt. Wait times were long, interruptions frequent, travel distances extensive and productivity variable. The challenge was to turn this into a smooth process that supported an efficient flow of prescriptions, filled in minimal time and processed with zero defects.

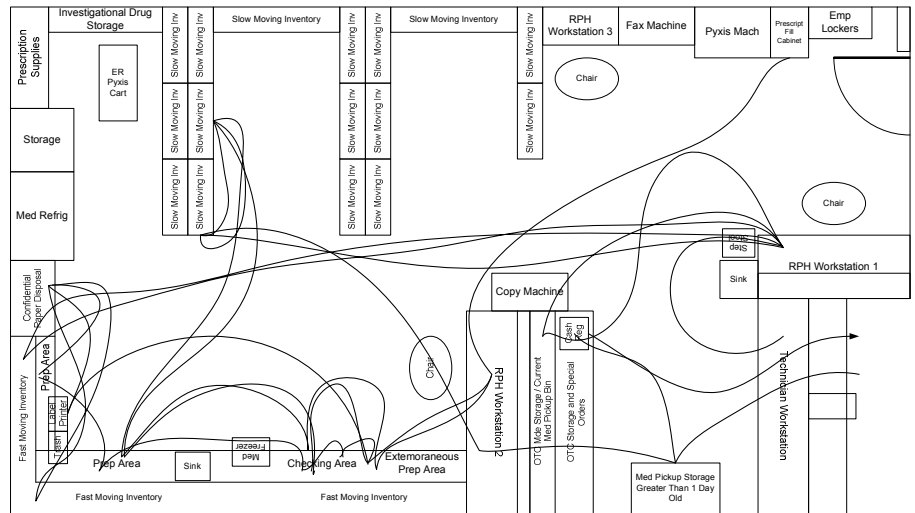
Targets

The workshop Sponsor and Process Owner challenged an eight-member team with the following targets:

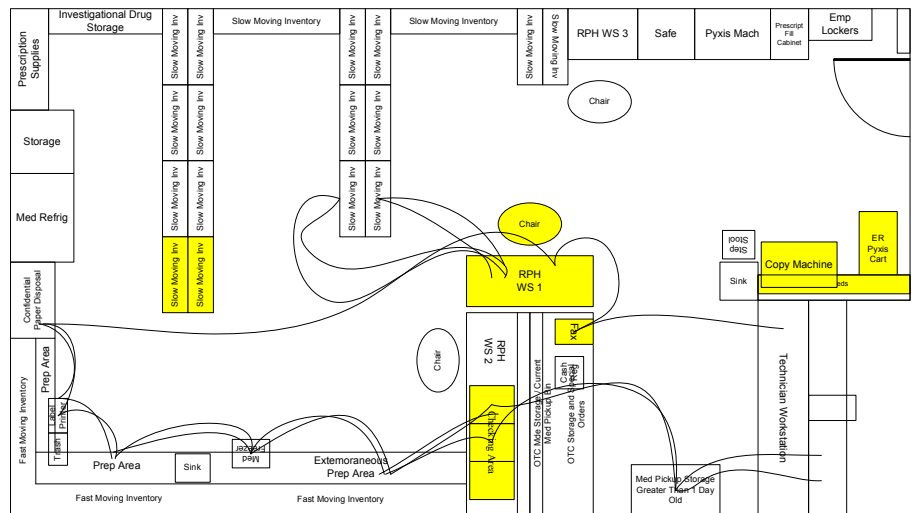
- Create a process that consistently fills all customer requests in less than 1 hour.
- Maintain minimal inventory with just-in-time delivery.
- Implement solutions that improve productivity and throughput with zero defects.

The targets were measured and monitored using several metrics, such as prescription turnaround time, inventory levels, and throughput measures.

Before:



After:



Areas of Focus

In order to transform the Outpatient Pharmacy Department into a Lean environment, the facilitator guided the Team toward focused areas. Outlined below is the roadmap that provided the structure and focus to achieve success.

- Single piece continuous flow – synchronized prescription flow
- Pull process from customer demand to order completion – level loading and balancing of work, minimal “work in process” inventory
- Throughput- elimination of wait and queue time, minimization of interruptions, minimized buffer sizes and WIP inventory, reduced operation cycle times
- Standard Work – work area redesign, accountability with clear roles and responsibilities, procedures to manage prescription flow
- Workplace Organization – conducted Five S events to organize the work space
- Visual Controls- pacing of prescription flow, medication replenishment, signals to move, produce and restock

Workshop Actions

The workshop week was filled with excitement and activity and the Team proved that anything is possible. As a result, every pharmacy position was evaluated and clear roles and responsibilities were outlined. This included establishing guidelines for the following positions: Window/Compound Tech, Fill Tech, Order Entry Pharmacist, Checking Pharmacist, Problem Solving Pharmacist and AM/Stock Tech. Support times were also set up to cover lunch breaks and institute problem solving pharmacist times. Behavior standards were agreed upon, such as: adhering to start/stop times to support continuous flow and time goals, requiring personal phone calls only during break times, eliminating food in the OPD, honoring the new roles/responsibilities, and mandatory attendance of the weekly OPD meeting. These are just a few of the actions this Team accomplished during the workshop.

Accomplishments

There were many “big wins” during this workshop. In addition to the newly established roles and responsibilities for OPD staff, the Team was able to implement strategies to:

- Decrease travel distances and times
- Establish “line of site” by redesigning the work space
- Establish single piece continuous flow by completely revamping the prescription flow process
- Develop a staffing playbook to assist in reaching targets
- Standardize materials and space

Results

Metric	Baseline	Target	Result
Flowtime Reduction for a Prescription (Turn Around Time) – Fill	60 – 120 Min / Patient	60 Minutes	15 Min / Script
Flowtime Reduction for a Prescription (Turn Around Time) – Compound	60 – 120 Min / Patient	120 Minutes	20 Min / Script
Decreased Partial Fills due to Stock Outs		0	0
First Pass Yield	75%	100%	
Throughput (scripts / hour)	15	Avg of 20	20

These results are staggering especially considering where the team started. The initial calculations showed a demand of 100-150 prescriptions per day. During peak times there were as many as 25 prescriptions per hour in the queue. On average it would take approximately 40 minutes to fill a prescription. Thirteen minutes (32.5%) were considered waste and non-value added time.

Eliminating waste and batching, level loading the work, decreasing the cycle time, implementing standard work and incorporating visual controls are all factors that led to this successful improvement project. Impressive results!