

The Challenge

The design of the Small Volume Parenteral (SVP) Batch Process in this large Pharmacy Department was labor intensive, complicated and inefficient. The primary goal was to transition the SVP Batch Process to a waste free Lean environment in order to smoothly and accurately fill SVP orders safely, effectively and efficiently.

Targets

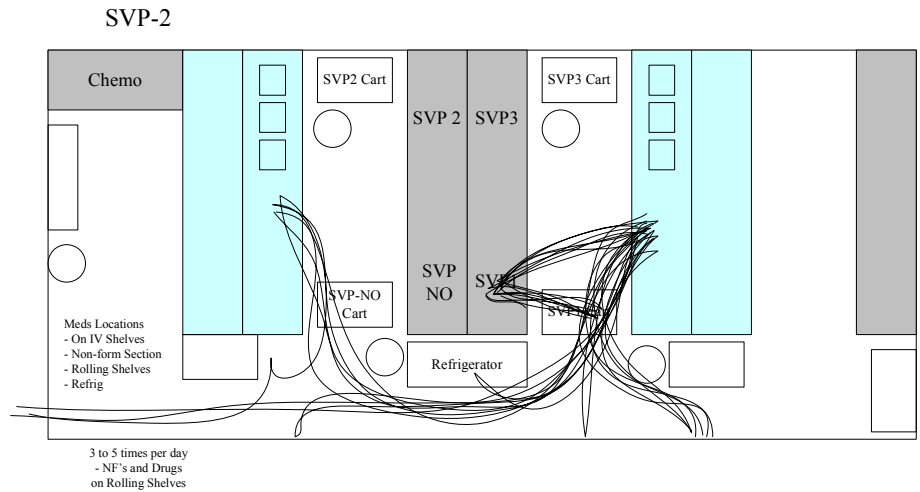
The Lean Consultant led the team with the following expectations in mind:

- Develop solutions that synchronize SVP production with bin delivery.
- Minimize total inventory costs.
- Create a "rework free" process while using the least amount of resources possible.
- Implement visual methods to replace paper tickler files.
- Implement solutions to better adhere to regulatory guidelines.
- Develop an ideal SVP preparation process system for future business requirements.

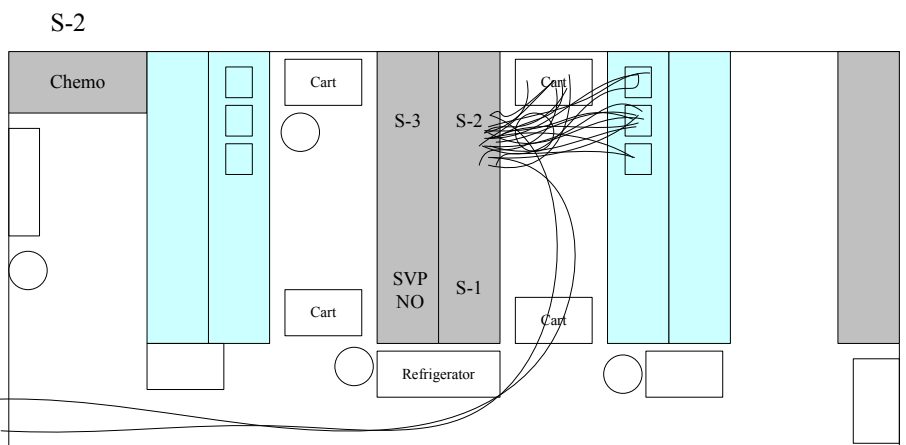
More specifically, the measurable targets included:

- Reducing the SVP Preparation cycle time by 50%
- Reducing inventory costs by 25%
- Eliminating patient specific waste
- Increasing throughput rate while having no increase in director labor costs

Before:



After:



Areas of Focus

The Team focused on the following processes and systems:

- Single Piece Continuous Flow - minimization of all batching activities
- Pull Process from Label Printing - level loading of work balanced activities and minimal WIP inventory
- Point of Use Inventory Management – specified workstation materials designed to minimize travel and restocking of materials held outside of the IV Room
- Throughput – shortest cycle time from label printing to medication delivery and minimization of multiple handling and sorting opportunities
- Visual Controls – pacing of SVP fill and signals to fill/move/compound/restock and signal for short expiration dates
- Standard Work – standardized and documented work procedures for draw, reconstitute and check, and clearly define roles and responsibilities for techs and pharmacists

Workshop Actions

As the Team moved through the RPI process, action items were identified and responsibility was assigned. Most action items were completed during the workshop, such as:

- Changed physical designs and layouts of carts, drawers and shelves
- Moved items such as medications, labels and carts to more appropriate locations
- Organized affected workspace
- Scheduled technicians to cover the weekend while initial implementations continue
- Developed verification log and production sheet
- Amended previous checklists and policies to match new system
- Communicated new roles and responsibilities to affected staff and updated Work Responsibility Checklists
- Developed action list for continuing the implementation process

Accomplishments

The workshop was a huge success thanks to excellent participation and good planning. The participants embraced the Lean concepts and demonstrated the ability to assess and rapidly problem solve in the spirit of improvement. Here are some of the gains:

- Improved label sorting to a single step
- Decreased walking and travel time in and out of Clean Room
- Placed materials and supplies at point of use
- Created a balanced workload for staff
- Reduced check time due to pharmacist assignment and location
- Created a process to save short expiration medications
- Increased staff awareness of customer demand, pace and expectations
- Applied Lean philosophies effectively which should affect future activities in a positive way

Results

Metric	Measure	Baseline	Target	Result
SVP Batch Fill Cycle Time	From label print start to last med delivery	30 Seconds	50% Reduction	16.6 Seconds
Inventory Costs	Total Inventory Dollars in Stock/WIP/ Area		25% Reduction	
WIP Inventory	Daily WIP Average	2000 Doses		1050 Doses
Patient Specific Waste	Items Discarded / Total Produced	30%	Elimination	0
Throughput Rate	Doses filled / hour	2.5 Doses / Min	XX% Increase	4.4 Doses / Min
Direct labor Costs	Labor Hours	3FTEs	No Increase	3 FTEs