CLINICAL SAFETY & EFFECTIVENESS
COHORT # 21 TEAM 7

PRODUCT OPTIMIZATION
TO MINIMIZE RISK AND REDUCE COST

UT Health San Antonio
Center for Patient Safety & Health Policy

Educating for Quality Improvement & Patient Safety

TEAM 7 MEMBERS

Participants

Nancy Mendicino – MSN, RN, CIC (Infection Preventionist)

Arnal Prasad – BS-HCM, ACHE (Practice Manager – Orthopedics)

Walter Stone – MBA, SPSCM (Senior Project Coordinator/ General Store)

Gina Herevia – MBA-HCM (Team Lead – Medicine Specialty)

Ad Hoc – Gorden Whiting – BA, Organizational Development (Data Analyst – Quality)

Facilitator – Edna Cruz – MS, RN, CPHQ, CPPS

Sponsors – Casey Peterson – MBA (Senior Director – Practice Operations)

Kenyatta Lee, MD, MHS-CL (Chief Quality Officer)

BACKGROUND

Why is this project important?

- Literature highlights:
  - Lean in health care requires people to identify waste in their work. Recognizing that much about their daily tasks is wasteful and does not add value can be difficult for health care professionals. If the supplies were always readily available, the time staff spend hunting for supplies could be devoted to patient care (Womack, 2005).
  - Priority is to develop a model of supply chain management focusing on minimization of waste, assisting in decision making, and contributing to the quality of services and as a consequence the reduction of costs involved in healthcare supply chain (Machado, 2014).
  - Integrating IHI-QI and Lean conceptual foundations has the potential to strengthen both approaches to achieve significant improvements in health care (Scoville, 2014).
- Our situation:
  - Supply storage limitations results in storage of supplies in multiple area – more difficult to locate needed supplies
  - Overloaded supply shelves makes it difficult to rotate supplies – expired and damaged supplies identified in many clinics

Womack, J. P., & Miller, D. (2005). *Going lean in health care* (Innovation Series 2005). Cambridge, MA: Institute for Healthcare Improvement.

Machado, C.M., Scavarda, A., & Vaccaro, G. (2014). Lean Healthcare Supply Chain Management: Minimizing Waste And Costs. Independent Journal of Management & Production, 5(4).

Scoville R, Little K. Comparing Lean and Quality Improvement. IHI White Paper. Cambridge, Massachusetts: Institute for Healthcare Improvement: 2014.

$1288 wastage found during this project

With about 30 clinics in our system, we have a potential loss of $12,870 in an 4 week period and $154,560 in a year.

THE PROBLEM

Aim Statement

To increase clinical effectiveness and patient safety in Orthopedics/Podiatry and Medicine Specialty clinics through the reduction of products, elimination of expired supplies, and 10% reduction of the subtotal cost per clinic by December 31, 2017.

Product Optimization Work Flow Diagram

Orthopedic Podiatry Clinics

Weekly Medication Inventory completed

Weekly Cyclical Orders

Weekly DME/Medex Inventory Completed

Medical Specialty Clinics

Monthly Inventory completed

Low on Supplies?

No Supplies Ordered

Place supplies on order log

Log to Team Leader

TL Goes to Procurement Website

Determines Vendor

Places order on Website

Order to Manager for approval

Manager Approves?

NO

Unknown Expenditures

Medex (DME)

Medication Vendor

McKesson

General Store

Team Leader finds cheaper Vendor

YES

Order to e-Procurement Process

Order sent to Vendor

No Stock Rotation

Supplies Received

YES

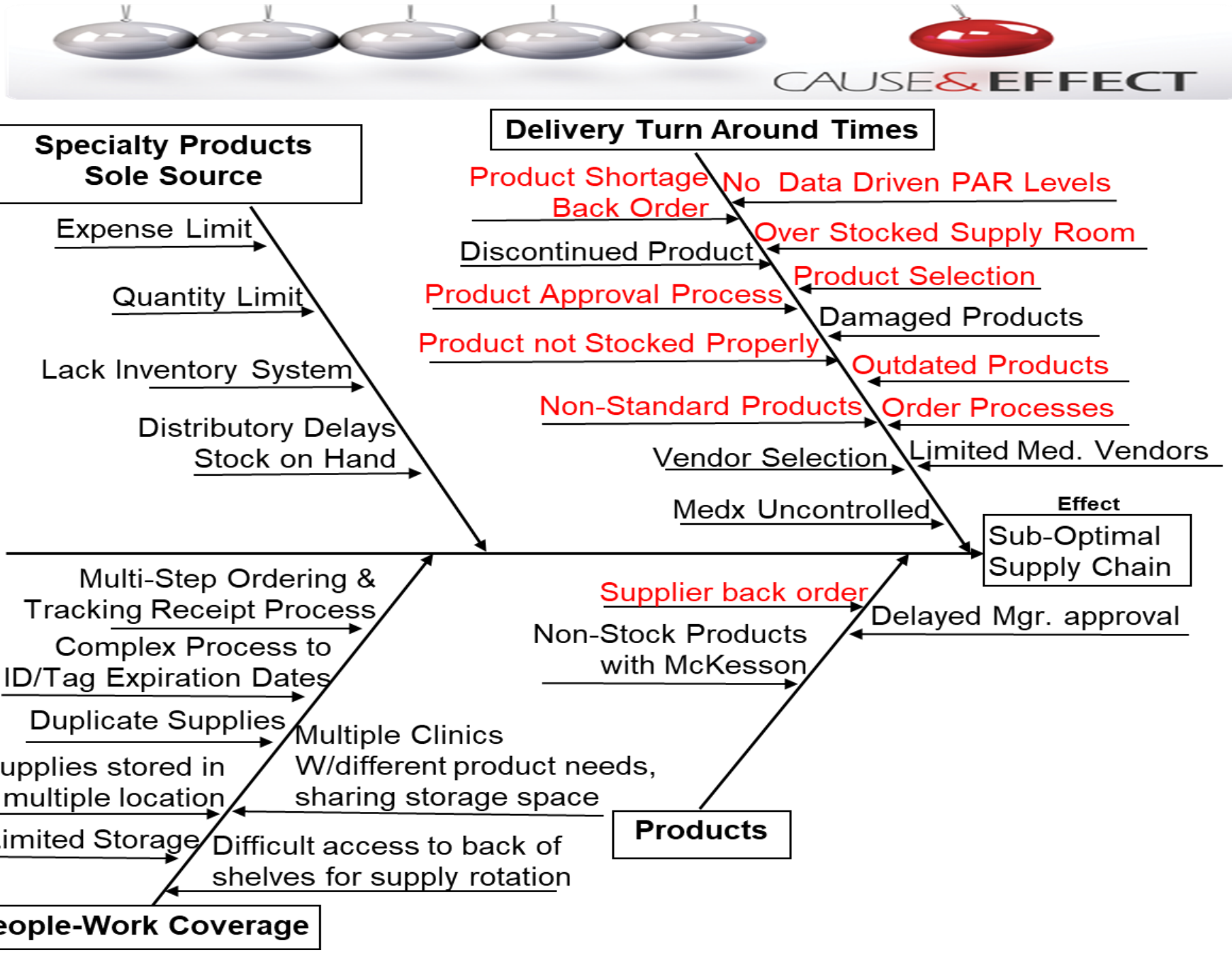
Supplies delivered to Clinic Locations

Supplies Stocked for use by Staff/Vendor

NO

No process for supplies NOT received

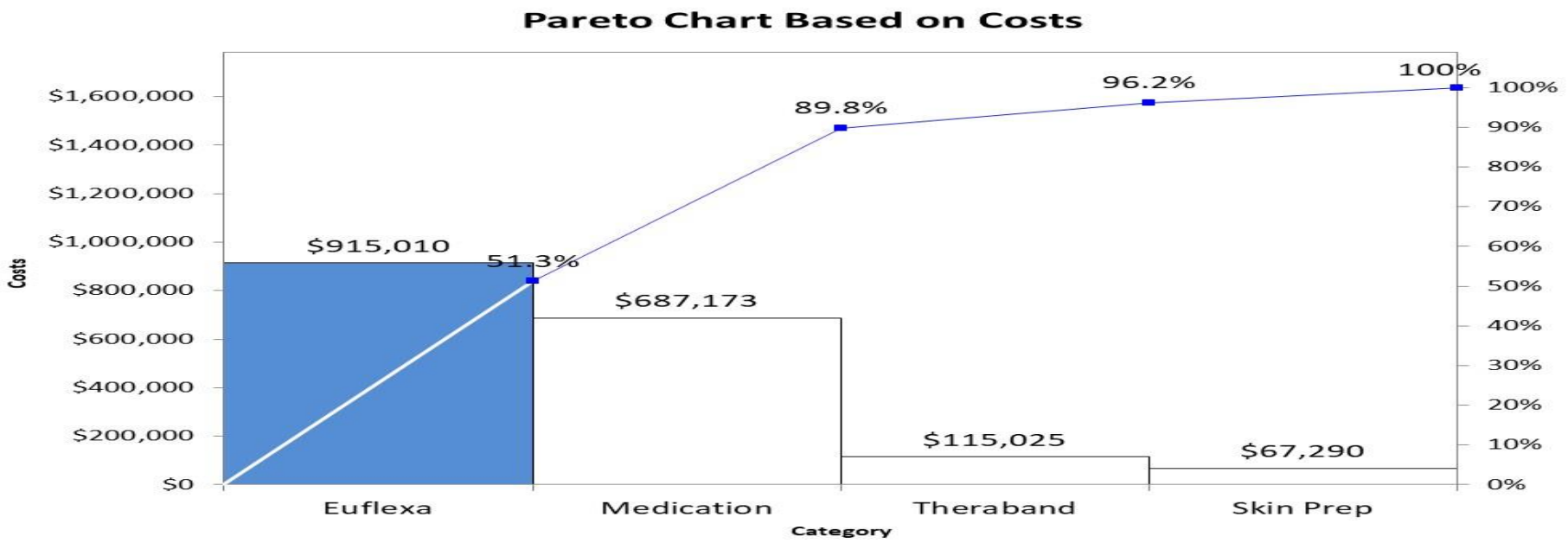
Needs process when supplies not received

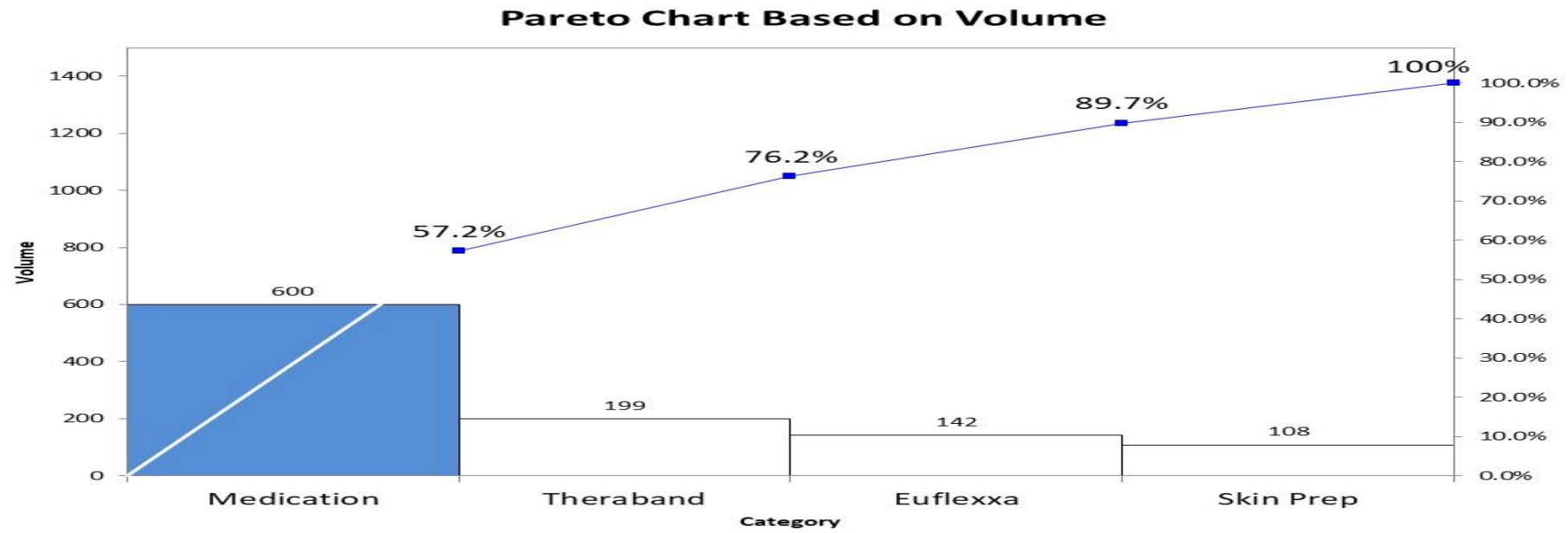

CAUSE& EFFECT
Specialty Products
Sole Source
Expense Limit
Quantity Limit
Lack Inventory System
Distributory Delays
Stock on Hand
Delivery Turn Around Times
Product Shortage
Back Order
Discontinued Product
Product Approval Process
Product not Stocked Properly
Non-Standard Products
Vendor Selection
Medx Uncontrolled
No Data Driven PAR Levels
Over Stocked Supply Room
Product Selection
Damaged Products
Outdated Products
Order Processes
Limited Med. Vendors
Effect
Sub-Optimal
Supply Chain
Multi-Step Ordering &
Tracking Receipt Process
Complex Process to
ID/Tag Expiration Dates
Duplicate Supplies
Supplies stored in
multiple location
Limited Storage
People-Work Coverage
Supplier back order
Non-Stock Products
with McKesson
Delayed Mgr. approval
Multiple Clinics
W/different product needs,
sharing storage space
Difficult access to back of
shelves for supply rotation
Products

Action Plan

Aim Statement: To increase clinical effectiveness and patient safety in Orthopedics/Podiatry and Medicine Specialty clinics through the reduction of products, elimination of expired supplies, and 10% reduction of the subtotal cost per clinic by December 31, 2017.

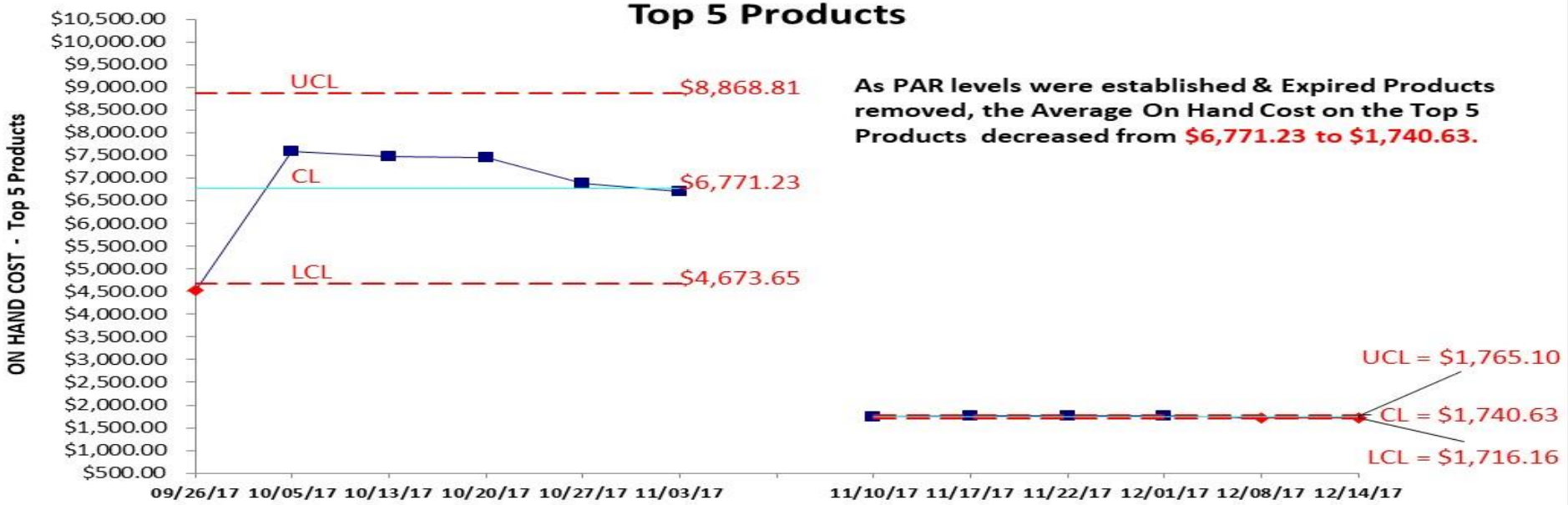
Action Strength	Action Driver (Taken from Flow, Fishbone or Pareto)	Action	Who?	Why? (Choose one)	Start Date
Strong	No Data Driven PAR Levels Outdated Products Non-Standard Products	Clinic Audit on PAR Levels, Expired and Damaged Packaging	Walter Stone	Standardize Reduce Wasted Time Design New Process	9/23/2017
Strong	Eliminate # of Flow Steps Back Orders Over-stocked Supply Room	Transfer High Volume Products to General Store	Arnal Prasad Gina Herevia Walter Stone	Redesign the Ordering Process	11/06/17
Strong	Over-stocked Supply Room Vendor Selection Product Approval Process	Develop Monitoring System for Inventory Management	Arnal Prasad Gina Herevia Walter Stone	Standardize Simplify Reduce Wasted Time	11/06/17





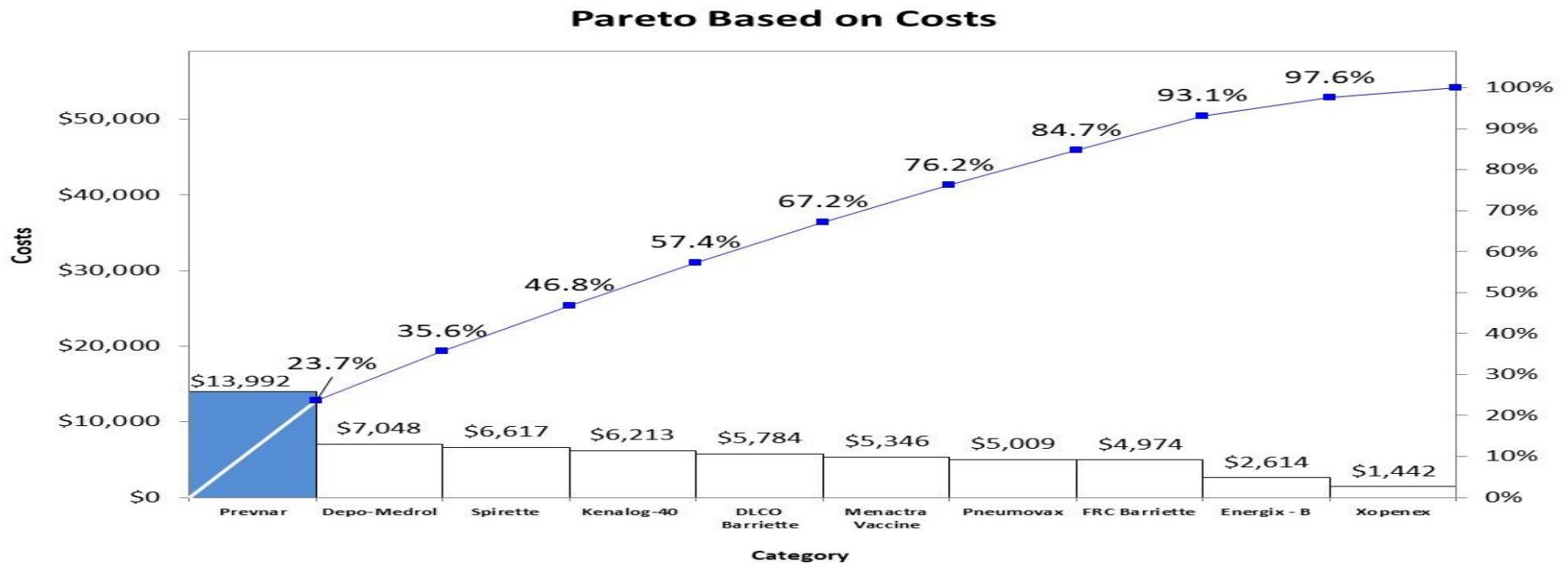
Orthopedics / Podiatry

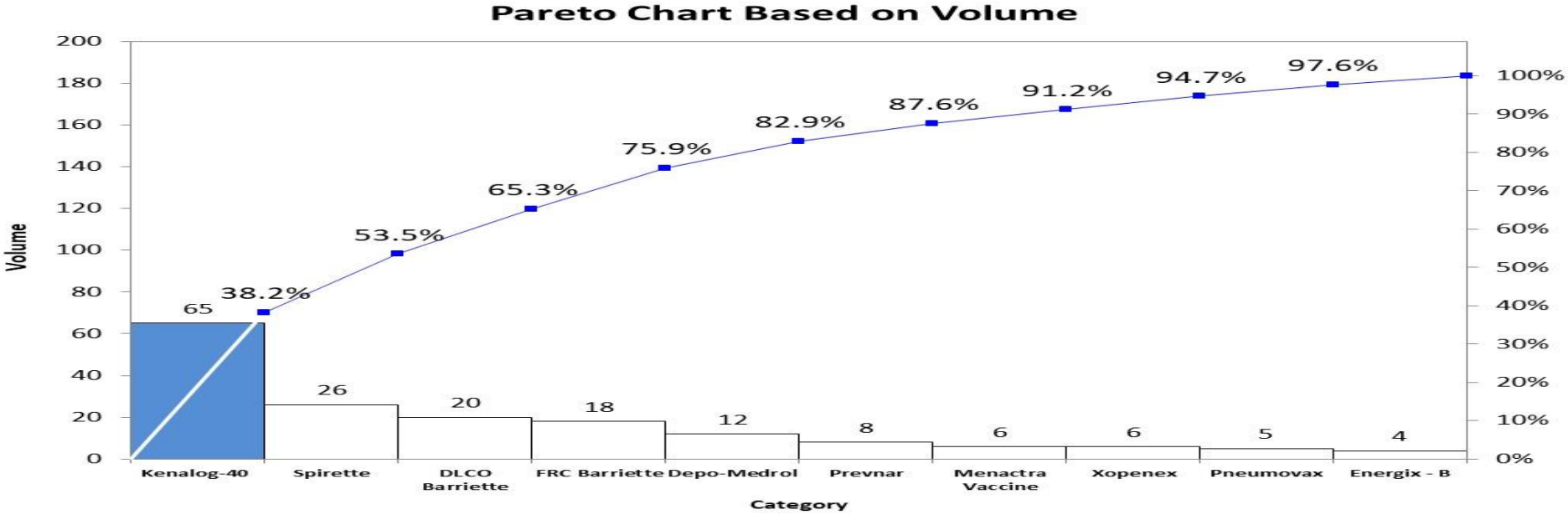
Orthopedic Clinic
Mean (X) ON HAND COST
Top 5 Products



As PAR levels were established & Expired Products removed, the Average On Hand Cost on the Top 5 Products decreased from $6,771.23 to $1,740.63.

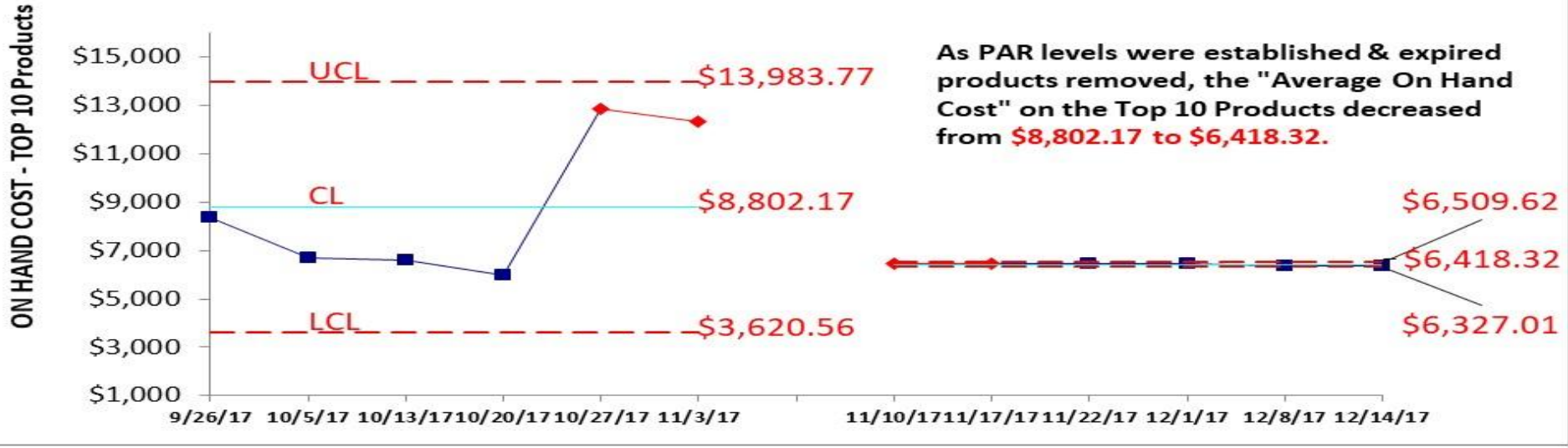
Orthopedic Clinic
Mean (X) Total Cost





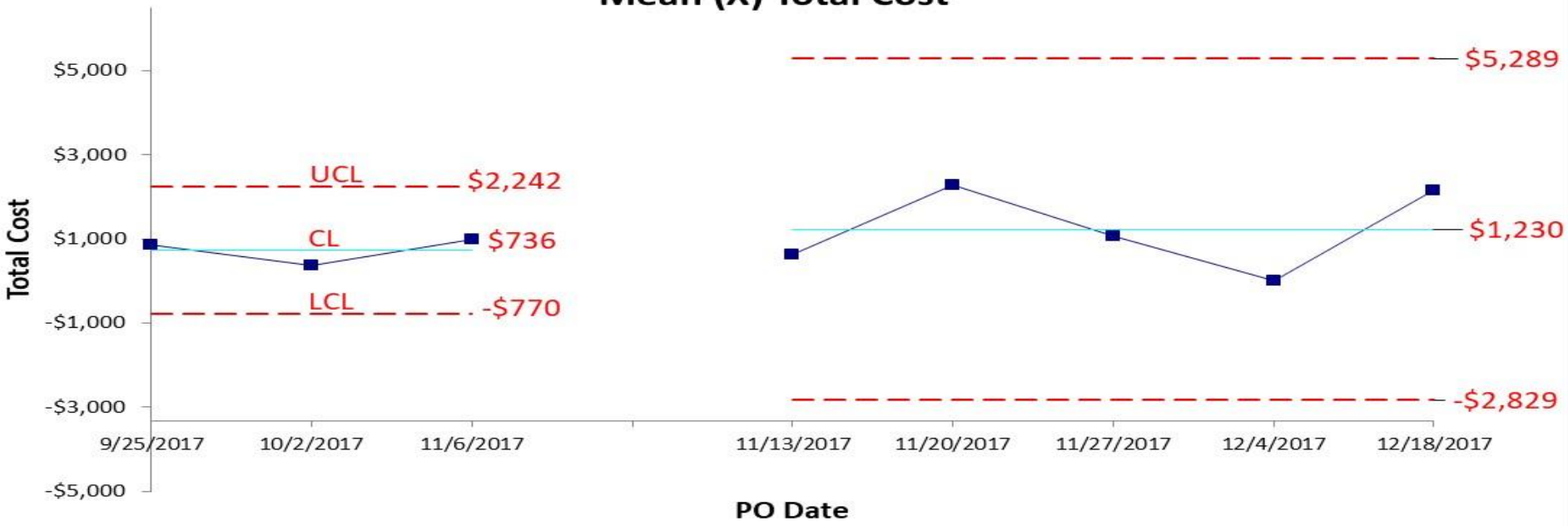
Medicine Specialty

Medical Specialties
Mean (X) Chart "ON HAND COST"
Top 10 Products



As PAR levels were established & expired products removed, the "Average On Hand Cost" on the Top 10 Products decreased from $8,802.17 to $6,418.32.

Medical Specialties Clinic
Mean (X) Total Cost



DATA DRIVEN PAR LEVELS

Orthopedics/Podiatry		
Product Name	**Product #**	**PAR LEVEL**
Bandages	16-10334	50\25
Gloves	14-69746	12\6
	Small	2
	Medium	4
	Large	4
	XLarge	2
Lidocaine	480527	25\15
skin prep	552039	5\2
theraband	2036	20\10

Medical Specialties		
Product Name	**Product #**	**PAR LEVEL**
Depo-Medrol 80mg/ml	82837	50\25
DLCO Barriette	3050-1	50\25
Energix B 20MCG/ml	629870	10\5
FRC Barriette	3150-1	40\10
Kenalog 40mg/ml	462514	25\10
Menactra vaccine	581508	6\3
Pneumovax 23	330568	6\3
Prevnar	795986	10\5
Spirette	2050-1	100\50
Xopenex vilas	1000423	24\12

RETURN ON INVESTMENT

Hard savings seen during this project

- **As PAR levels were established and expired products removed, the average on hand costs on the top 5 products in Orthopedics and Podiatry decreased from $6,771.23 to $1,740.63.**
- **As PAR levels were established and expired products removed, the average on hand costs on the top 10 products in Medicine Specialty Clinic decreased from $8,802.17 to $6,418.32.**
- **Total saving for Orthopedics and Medicine Specialty Clinics = $7414.45 during this project**
- **Savings on salaries due to shorter time spent ordering and redeployment of staff hours to patient care**
  - Orthopedics pre-salary of $5200 and post-salary of $2000 with a potential savings of $3200 per year
  - Medicine Specialty pre-salary of $2652 and post-salary of $1326, with a potential savings of $1326 per year
  - Total potential savings on salaries for both the Orthopedics and Medicine Specialty Clinics are $4526 per year

Soft savings seen during this project

- **More space readily available for other uses**
- **Efficient supply access optimizing product access**
- **Improving supply room organization and reducing clutter to promote supply rotation and increasing efficiency and patient safety**
- **Fewer POs**
- **Faster turn around time ensures patient safety and decreases the number of expired supplies**
- **Clinic data driven inventory**
- **Just in time delivery through the optimization of the General Store**

MAINTAIN THE GAIN OF COST REDUCTION

- General Store to continue audits of PAR levels to maintain optimal levels
- Continue to monitor and report PAR levels and progress to leadership
- Educate Practice Managers on how to create and maintain PAR levels for their departments
- Work with all departments to ensure that the General Store is able to keep the supplies necessary to maintain clinic operations at its peak
- Educate staff organization-wide regarding necessity for date/initials on multi-use vials for patient safety and cost control

NEXT STEPS

- Marketing the General Store to all departments at the MARC, Cancer Center, and our other off-site clinics
- Develop Training / Orientation materials for new Practice Managers and all supply managers for each department
- Secure medication storage space and create a process to keep medications in the General Store
- Renegotiating lower prices with our supplier based on volume once all supplies are being ordered by the General Store
- Collaboration effort with other UT systems for future cost and inventory control opportunities

LESSONS LEARNED

Why are you ordering 10 cases of paper clips?

Why don't you use these?

THANK YOU

SHOW ME THE MONEY . . .