
LTC Operations Under the Microscope

Fine-tuning Your LTC Workflow

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Disclosure Statement

There are no relevant financial relationships with ACPE defined commercial interests for anyone who was in control of the content of the activity.



Pharmacist and Technician Learning Objectives

1. Discuss common challenges you could see in your LTC pharmacy.
2. Discuss LTC technology advancements that improve patient care.
3. Discuss lessons learned from other industries.



Common Asks

- How can we take on more beds (grow)?
- How can I take cost out (cost to fill)?
- How do I better utilize my pharmacy space?
- How do I improve my pharmacy workflow?
- How do I solve for my labor issues?
- When does automation make sense?
- How do we continually improve our processes (Too Busy)?
- How can we continue to customize our offering for our customers, and still be productive?
- How can we reduce the amount variability in our processes?



Common Process Observations

- Packing/Toting process struggle
- Pre-packing process
- On-time delivery gaps
- Lots of walking
- Congested workspace
- Batching
- Lacking a strategic approach to workflow design



How Do I Best To Solve For These?

- Adoption of Lean Six Sigma Operational Philosophy
- What is Lean Six Sigma?
 - Lean Six Sigma is a management approach and methodology:
 - Targeted to eliminate waste in our processes
 - Improve employee and company performance.
 - Lean is the concept of efficient manufacturing/operations that grew out of the Toyota Production System (TPS) in the middle of the 20th century.
 - It is based on the philosophy of defining value from the customer's viewpoint.
 - Continually improving the way in which value is delivered
 - At the heart of the Lean philosophy is the concept of “kaizen” or continuous improvement.



How Do I Deploy Lean in my Org?

- Learn:
 - Understanding the basics & learn more as you go
- Leadership:
 - Belief that a Lean Management Systems will deliver real value
 - Full unwavering support
- Practice:
 - Daily use to the tools, methods and thinking
 - Start small and grow
- Use a coach (Sensei):
 - Helps with the learning process
 - Helps accelerate progress
- Create a Lean Culture:
 - The way we do our work



What is “Waste” and how does Lean reduce it?

Waste is any action or step in a process that **does not add value to the customer**.
In other words, waste is any process that the customer does not want to pay for.

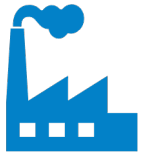
The 8 Wastes of Lean – “DOWNTIME”



Defects



Transportation



Overproduction



Inventory



Waiting



Motion



Non-Utilized Talent



Excess Processing



Invoicing The Customer for Our Waste

1. Entering your order & making copies.....\$120.00
2. Time spent keying, checking, and mouse clicks.....\$400.00
3. Inspecting the order & items.....\$150.00
4. Lots of walking.....\$380.00
5. Moving your items many times.....\$138.00
6. Time we spend looking for stuff.....\$560.00



Total:

\$1748.00



Examples of Lean Tools



Stratification on Inventory



Total NDC's		Manual Drug Dispenses		395		
1746		6 Months (Jan-Jun)		Total:	135,648	2,679,348
Drug	NDC	Dispenses	QTY	%	Cumm %	
1 TRAZODONE TAB 50MG	50111056003	10,270	225,964	8.4%	8.4%	
2 POT CL MICRO TAB 20MEQ ER	00832532510	3,190	95,998	3.6%	12.0%	
3 FINASTERIDE TAB 5MG	16729009016	3,410	69,130	2.6%	14.6%	
4 POT CHLORIDE CAP 10MEQ ER	68180079902	1,397	63,444	2.4%	17.0%	
5 METOPROL TAR TAB 25MG	57237010099	2,759	60,598	2.3%	19.2%	
6 QUETIAPINE TAB 25MG	67877024210	1,672	44,140	1.6%	20.9%	
7 POT CHLORIDE TAB 10MEQ ER	00832532310	1,586	36,216	1.4%	22.2%	
8 XARELTO TAB 20MG	50458057930	2,281	31,903	1.2%	23.4%	
9 PREDNISONE TAB 5MG	64380078308	1,290	31,100	1.2%	24.6%	
10 PREDNISONE TAB 10MG	59746017310	1,234	30,006	1.1%	25.7%	
11 CARB/LEVO TAB 25-100MG	00093970201	277	29,222	1.1%	26.8%	
12 BUSPIRONE TAB 5MG	59651038905	579	27,702	1.0%	27.8%	
13 BENZONATATE CAP 100MG	42806071405	792	27,001	1.0%	28.8%	
14 CLOZAPINE TAB 100MG	65862084605	587	26,167	1.0%	29.8%	
15 CARB/LEVO TAB 25-100MG	00228253910	270	25,649	1.0%	30.8%	
16 METOPROL SUC TAB 25MG ER	45963070996	1,830	23,619	0.9%	31.6%	
17 MAGIC MOUTH WASH	00527600274	75	22,550	0.8%	32.5%	
18 PROPRANOLOL TAB 10MG	69238207707	468	22,528	0.8%	33.3%	
19 POT CHLORIDE TAB 20MEQ ER	69238106905	714	22,004	0.8%	34.1%	
20 METHOCARBAM TAB 500MG	70010075405	467	21,837	0.8%	35.0%	
21 BACLOFEN TAB 10MG	72888001005	277	17,123	0.6%	35.6%	
22 PREDNISONE TAB 1MG	59746017110	313	16,729	0.6%	36.2%	
23 FUROSEMIDE TAB 20MG	00054429731	1,600	15,327	0.6%	36.8%	
24 TRAZODONE TAB 150MG	50111045002	887	13,247	0.5%	37.3%	
25 BUSPIRONE TAB 15MG	59651039205	266	13,230	0.5%	37.8%	
26 METFORMIN TAB 850MG	70010006410	280	13,005	0.5%	38.3%	
27 PERPHENAZINE TAB 4MG	00603506121	122	12,484	0.5%	38.7%	
28 AQUAPHOR/NYSTAT/ZINC UNG 1:1:	45802004811	99	12,420	0.5%	39.2%	
29 ACAMPRO CAL TAB 333MG	68462043518	100	12,000	0.4%	39.6%	
30 BUSPIRONE TAB 10MG	75834026805	209	11,914	0.4%	40.1%	

Top 58 Items (3.3%) represents 50% of Dispense Quantity
 Top 100 Items (5.7%) represents 60% of Dispense Quantity
 Top 165 items (9.5%) represents 70% of Dispense Quantity
 Top 281 Items (16.1%) represents 80% of Dispense Quantity
 Top 499 Items (28.6%) represents 90% of Dispense Quantity

Top 135 Items = 2/3 of fills

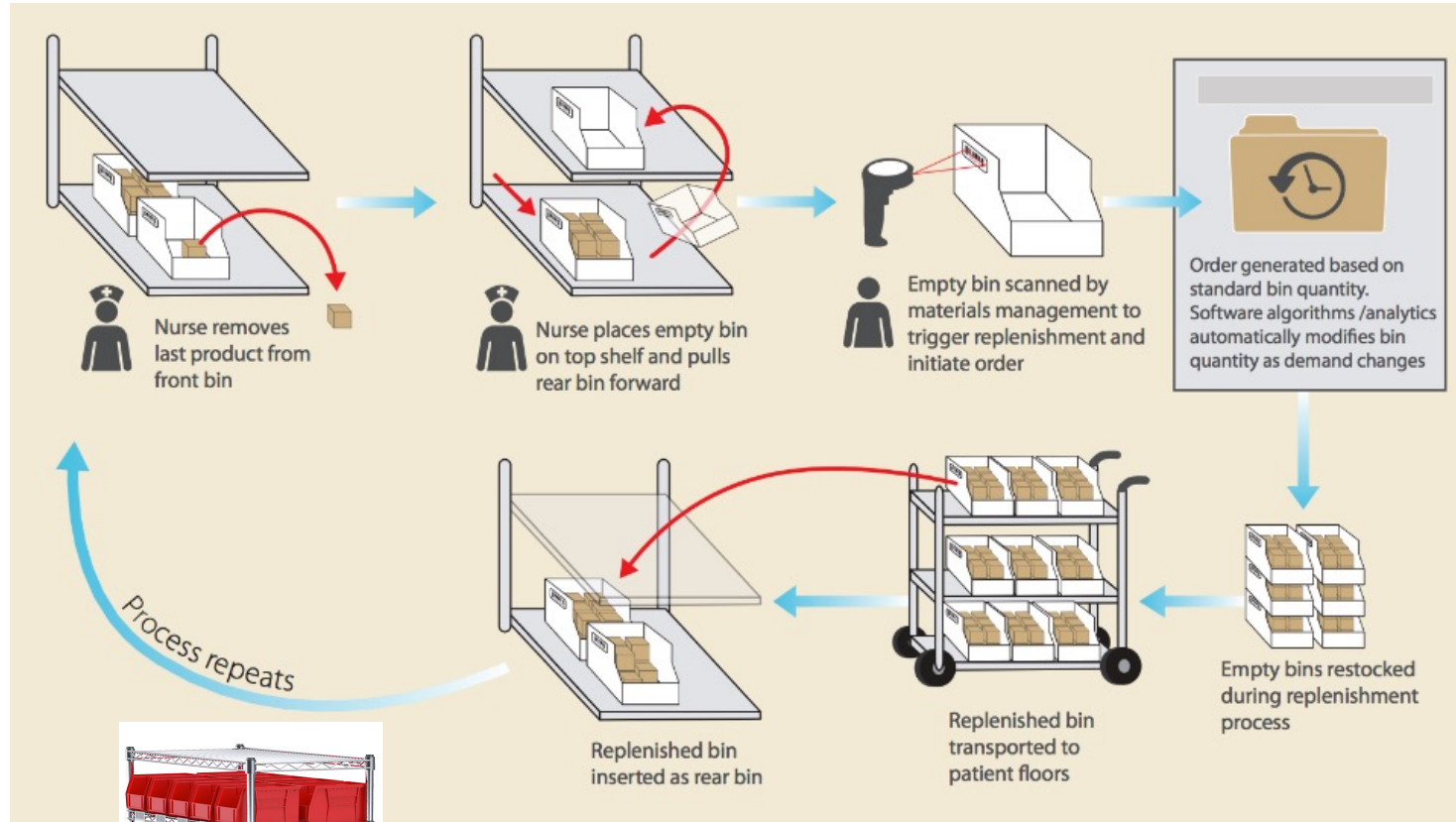
Place the items touched frequently close to the point of use

Oral Solids Only
 Removed Controls.
 Vials, OTC Topicals,
 Ophthalmic, NIOSH,
 Liquids, IV's, Injectables,
 Inhalers, Frig





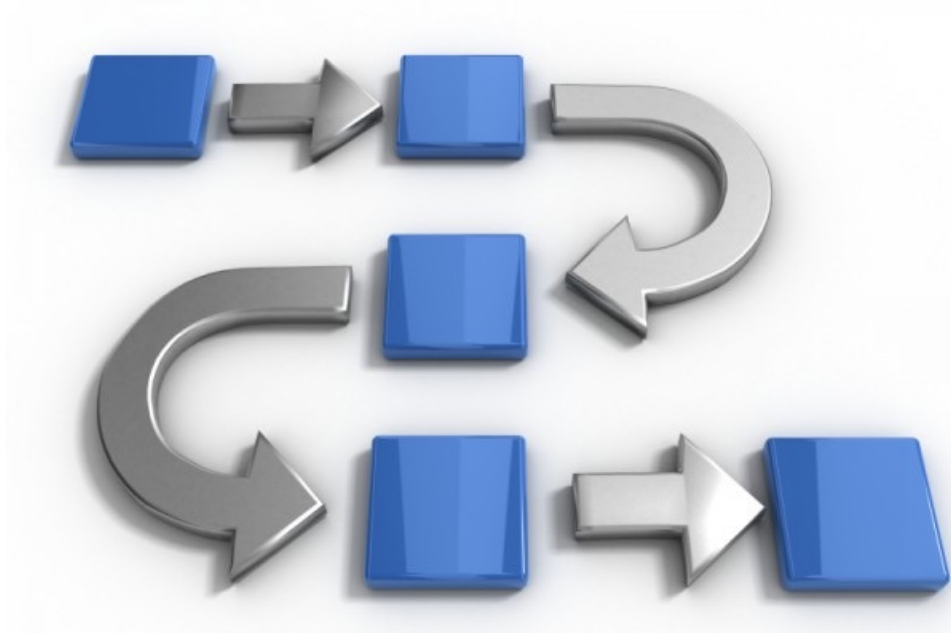
2 Bin Replenishment Pull (Kanban)



- Keeps Tech on task
- Dis-engages process from supply



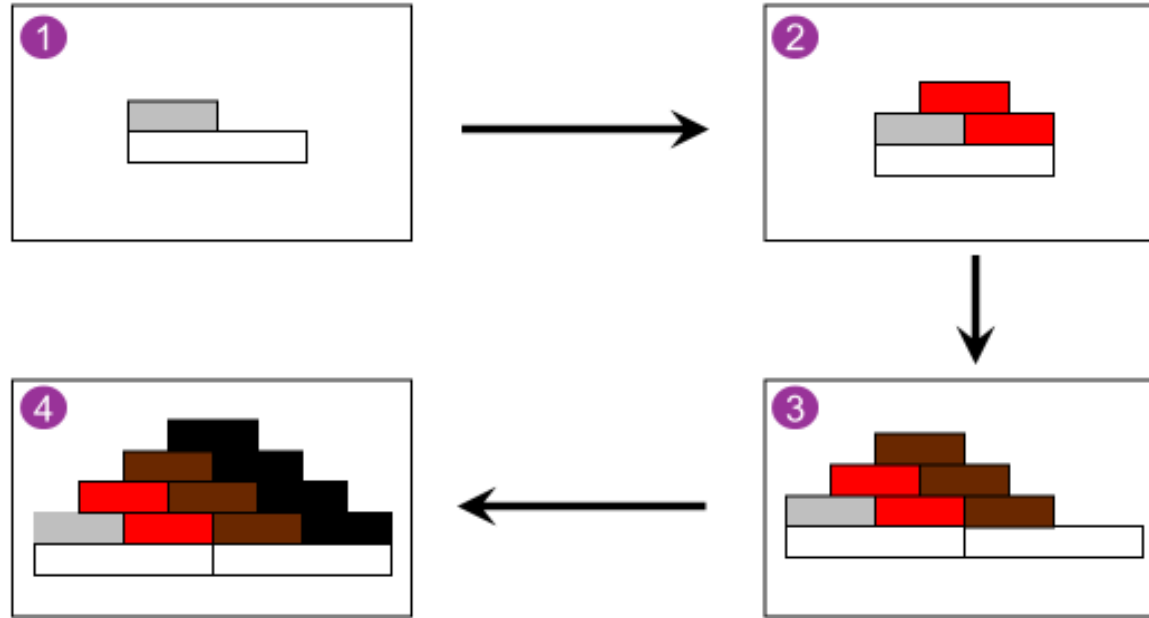
Process Flow





LEGO DEMONSTRATION

Assembly Steps for all Production Lines



Example Production Team



Operator Operator Operator Operator Inspector

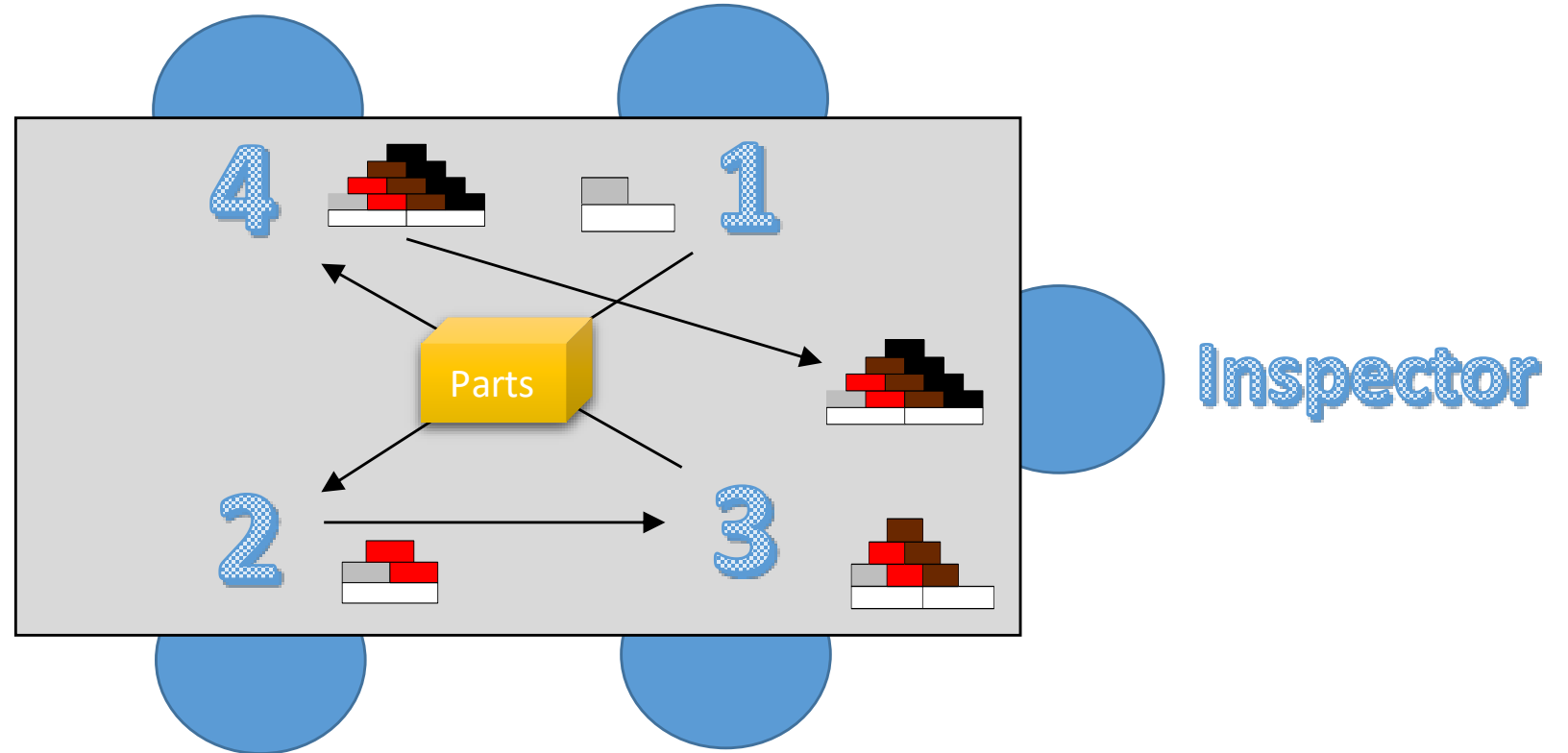




Round 1 - Baseline

Round 1

Batching in
Groups of 5



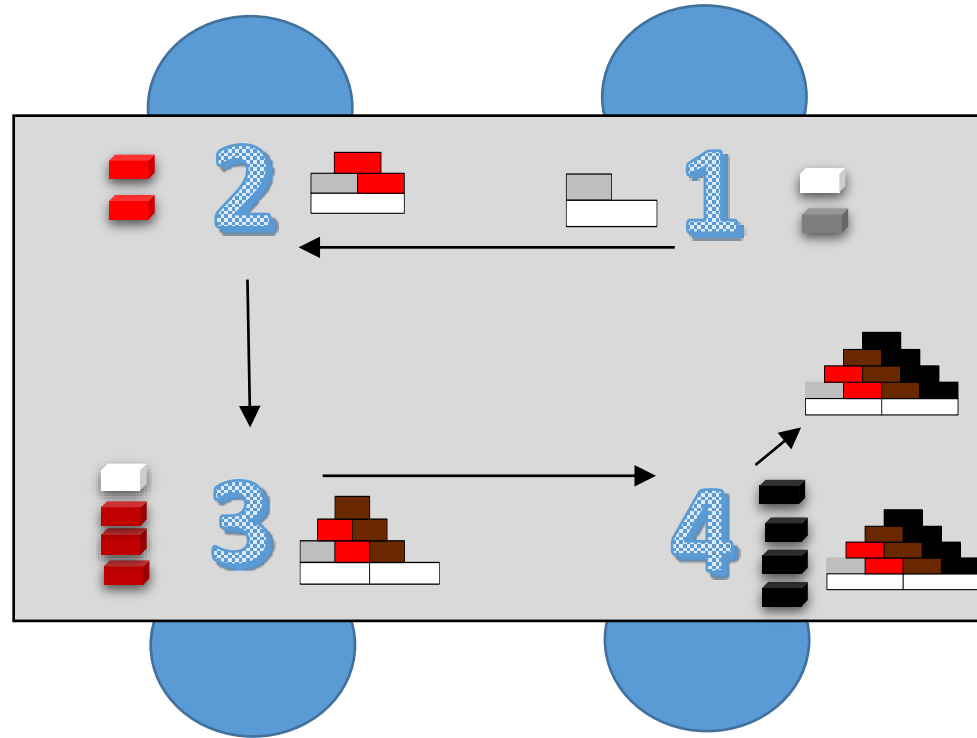
- Supplies in the center of the table
- Workstations not arranged in order of assembly



Round 2 - Improvement

Round 2

Batching in
Groups of 5



Inspector

- 1) Arranged Flow in Order
- 2) Supplies at Point of Use

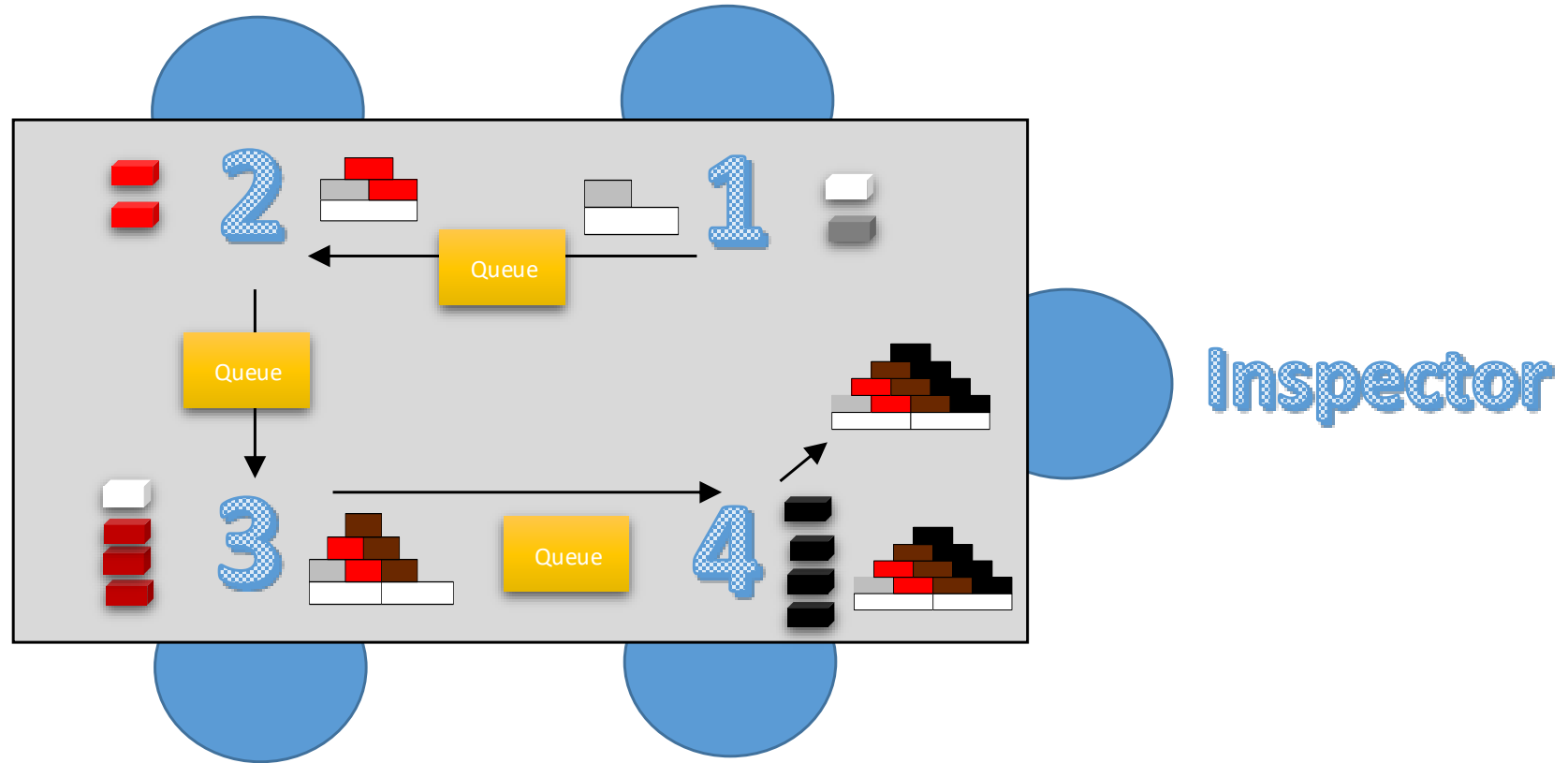
- Allowed the team to make two improvements
 1. Assembly Order
 2. Supplies at point of use



Round 3 - Improvement

Round 3

Single Piece
Flow



- Same configuration as Round 2
- Only change from Batching to Single Piece Flow (Pull System)



Results

Lego "One Piece Flow" Simulation Worksheet

PLT = WIP/Exit Rate

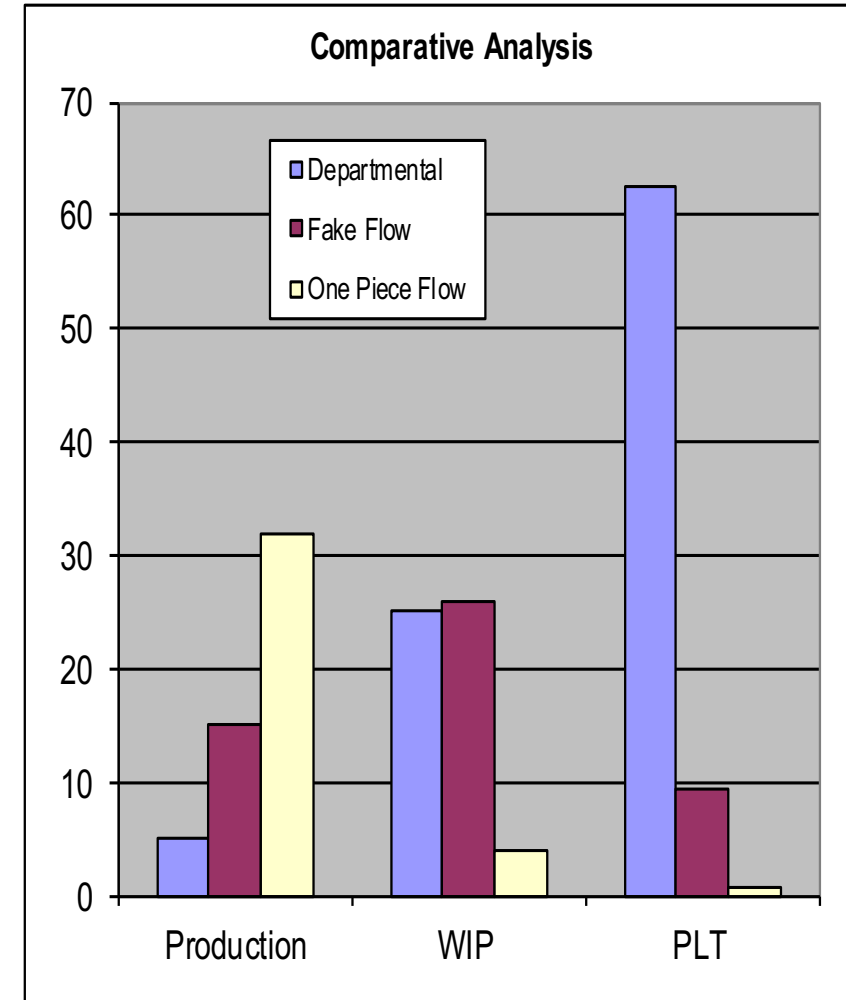
Round Length (Min)

WIP = Work in Process (# of Units in process)

Exit Rate = Average number of units produced per minute

PLT = Process Lead Time (Time it takes a product or service to transverse to the entire process)

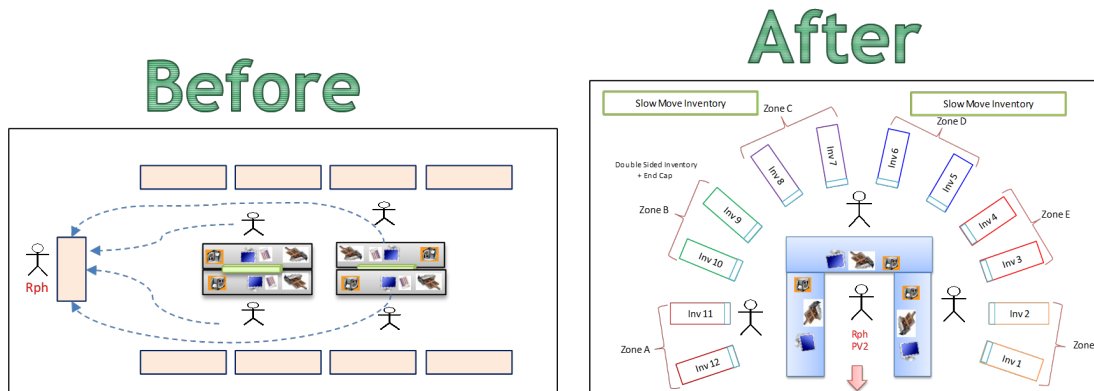
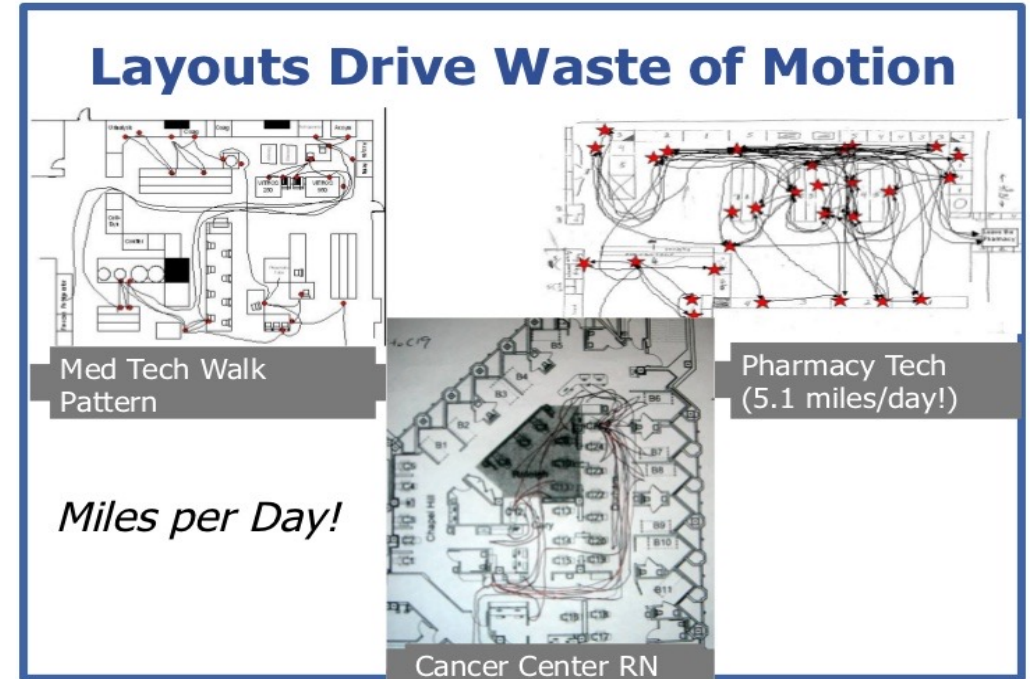
Round	Time to produce first batch (Seconds)	Production (Total Produced)	Defects	WIP (Units)	Calculation Fields	
					Exit Rate (Units/Min)	PLT (Minutes)
1 (Departmental)	257	5	3	25	0.4	62.5
2 (Fake Flow)	127	15	1	26	2.8	9.3
	<i>Change from 1st run >>></i>	200%		-4%	600%	85%
3 (One Piece Flow)	21	32	0	4	6.4	0.6
	5th Piece	63	540%	84%	1500%	99%





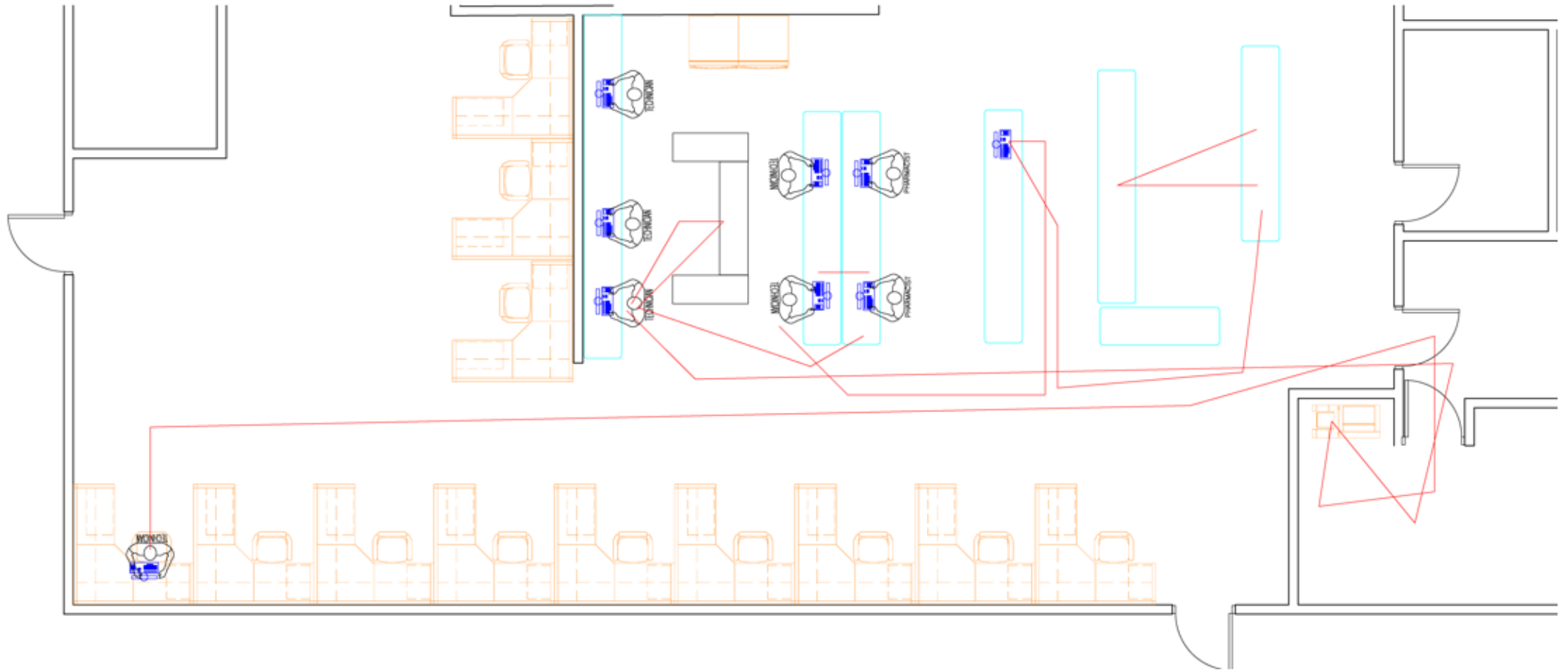
Pharmacy Design

- Optimized pharmacy design integrates all of the following:
 - Workflow
 - Walking
 - Storage density
 - Inventory stratification
 - Batching
 - Storage
 - Zone printing
 - Touches
 - Workcells



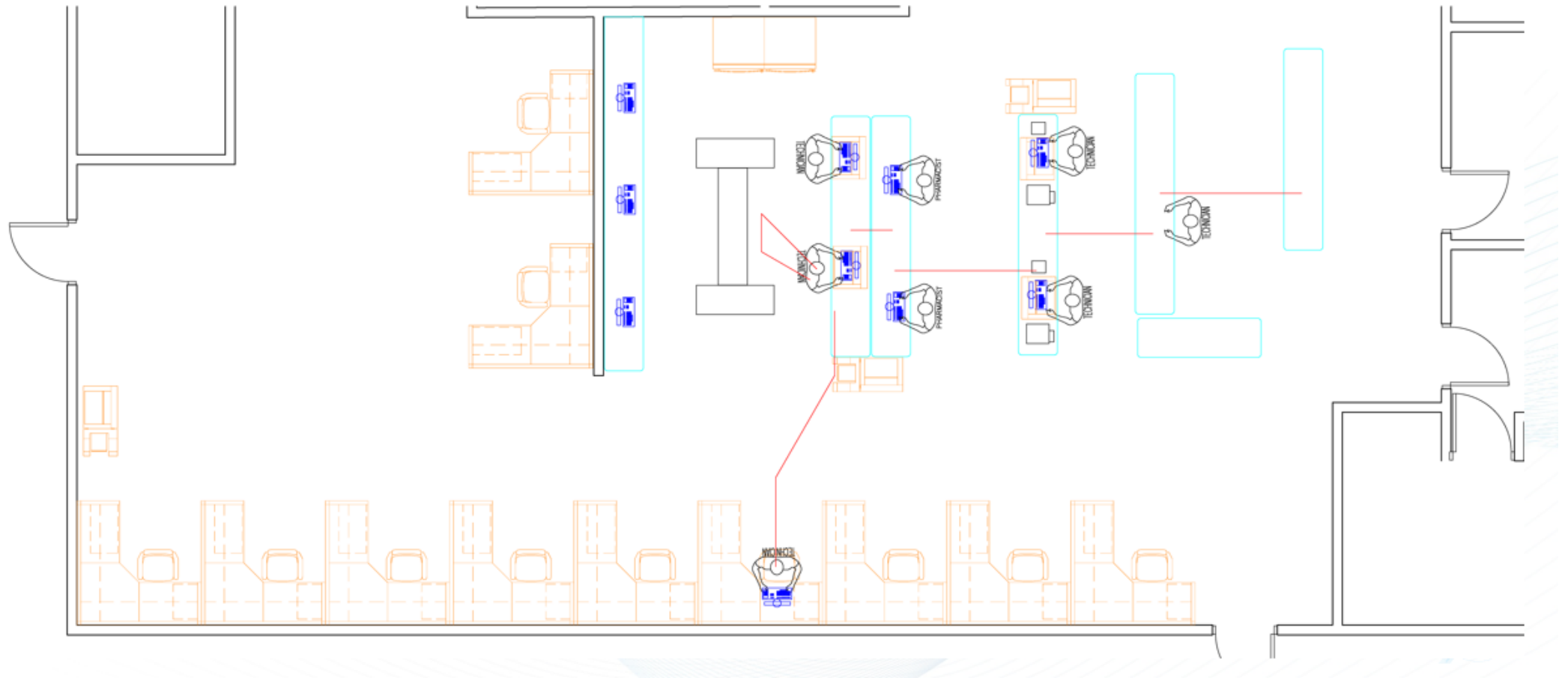


Example Workflow





Revised Workflow



LTC technology advancements that improve patient care



Pharmacy Technology Advancements

- Data entry automation – increases accuracy, reduces look alike/sound alike errors, human selection errors, and speed to access
- Visual inspection aids
- Fulfillment automation
- Inventory management (expired product, temperature controls)
- Remote Medication access



Remote Patient Monitoring

- Application based interface for patients and caregivers
- Consistent engagement for pharmacy
- In addition to PDC, articulates retrieval of medications at point of care
- Packaging specific solutions





In Facility Robotics Usage

- Direct Patient engagement
- Fall avoidance and identification
- 12 point TD evaluation
- COVID Checks with temperature
- Security through facial recognition





Next Steps

You have options!

- Start Small – 1-2 small projects, then expand
- Create a culture of Lean improvement
- Initiate a reward system for team members that identify savings for your organization
- Request help! Tons of resources exist to support your journey into Lean Process improvement!

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