



# Taking Control of Robotic Inventory

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# Learning Objectives



*At the end of this session, participants should be able to:*

1. Identify key potential members of a successful Robotic Inventory Management team.
2. Recall best practices for effective robotic inventory management.
3. Recognize gap analysis methodology and processes to assist with PAR level recommendations based on real-time data and facility needs for patient care procedures.





# INVENTORY MANAGEMENT

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## Sustainable Practices



# Outline



START POINT	A Snapshot In Time	Jeff Kaminski
NEW APPROACH	Collaborating for Success	April Strano
A CALL TO ACTION	Actionable Recommendations	Stacie Ammons
INVENTORY MANAGEMENT	Sustainable Practices	Marie Morris
QUESTIONS	Answers	Team





# START POINT

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A Snapshot in Time



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# Healthcare Affordability



We asked ourselves, what can be done to address ever rising costs?

- Overall operating margins calendar year 2022 through March 2023 were negative
- 40% of American hospitals continue to lose money from operation into 2024
- Healthcare expenses increased by \$135 Billion in 2022, due to supply and labor costs, from 2021
- 30% of rural area healthcare institutions are at high risk for **CLOSING**

#### Sources:

1. "The Current State of Hospital Finances: Fall 2022 Update." American Hospital Association <https://www.aha.org/guidesreports/2022-09-15-current-state-hospital-finances-fall-2022-update>. Accessed 4/22/2024.
2. "The Numbers Behind the Numbers." Kaufman Hall. <https://www.kaufmanhall.com/insights/thoughts-ken-kaufman/numbers-behind-national-hospital-flash-report> Accessed 4/22/24.

# Aligning Our Mission



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# Snapshot in Time



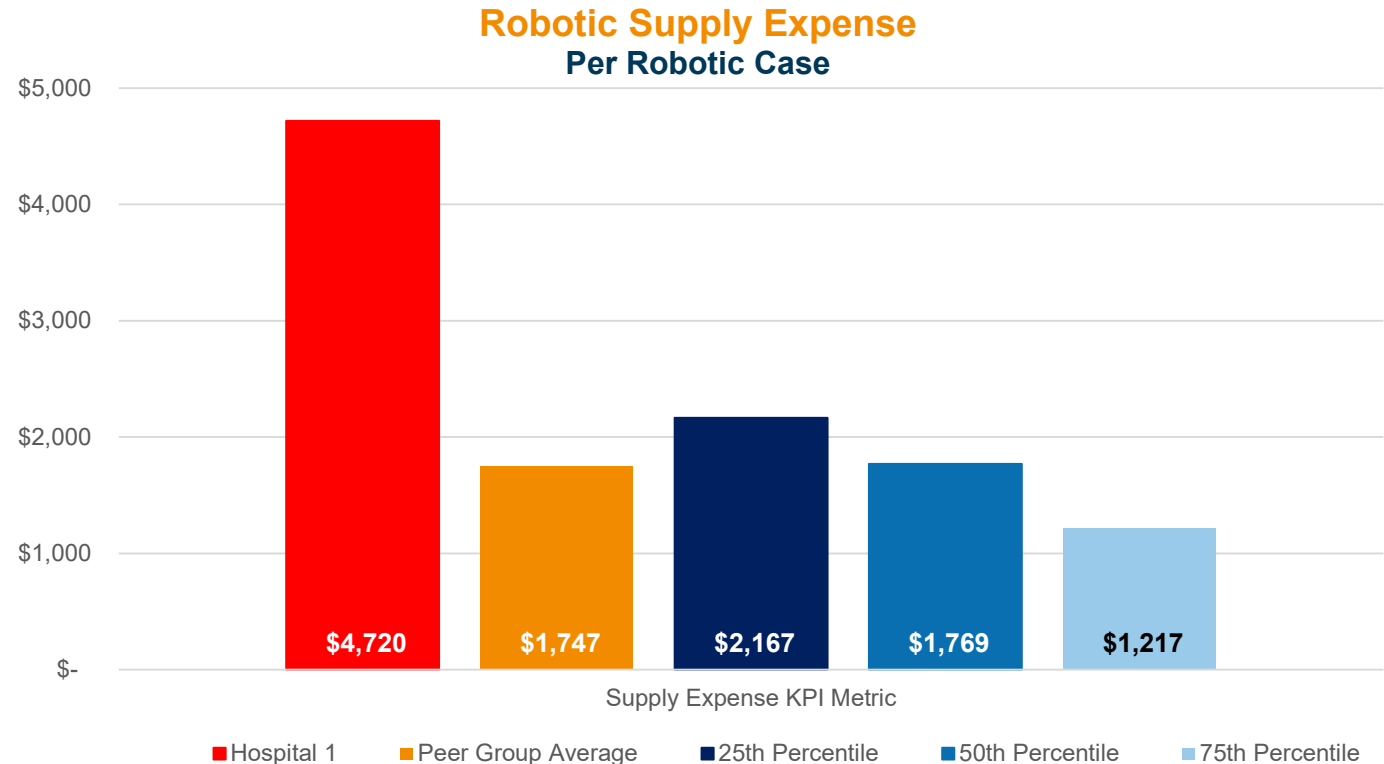
## Hospital Highlights

- Start of Project
  - July 2023
- Annual Audit
  - Hit to General Ledger impacted cost per case
- Annual KPI July 2023
  - \$2,021 (just over 25<sup>th</sup> percentile)

## Division Highlights

- July 2023 – \$2,574
- YTD – \$2,126

## Robotic Supply Expense KPI



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## POLLING QUESTION #1

How do you define leadership engagement or support for an initiative?

- a) Leaders approved
- b) Leader makes one time appearance in support of launching new initiative
- c) Leaders approve, leaders attend meetings to show support, leaders talk about the initiative *often* with their peers, direct reports, staff, and physicians
- d) Not sure

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# Collaboration for a New Approach

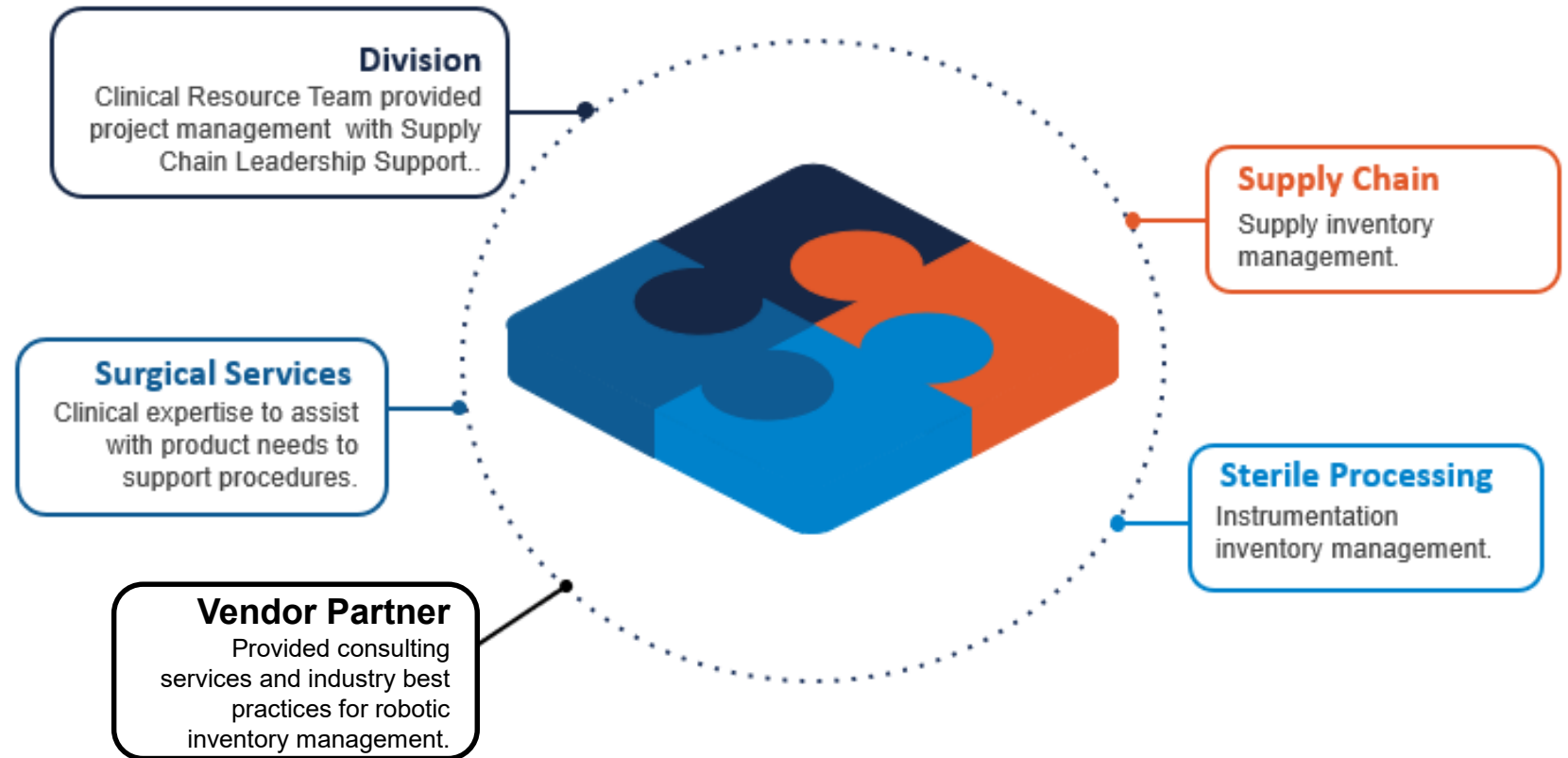


## Insanity

“Doing the same thing over and over again and expecting a different result.”

~ *Albert Einstein*

## Starts with top-down leadership support.



### Sources:

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# PARTNERSHIP APPROACH

Collaborating for Success



## POLLING QUESTION #2

Who would be a collaborative partner for a robotic inventory management project at your facility or health system?

- a) Supply Chain
- b) Clinicians
- c) Sterile Processing
- d) Vendor
- e) All of the above

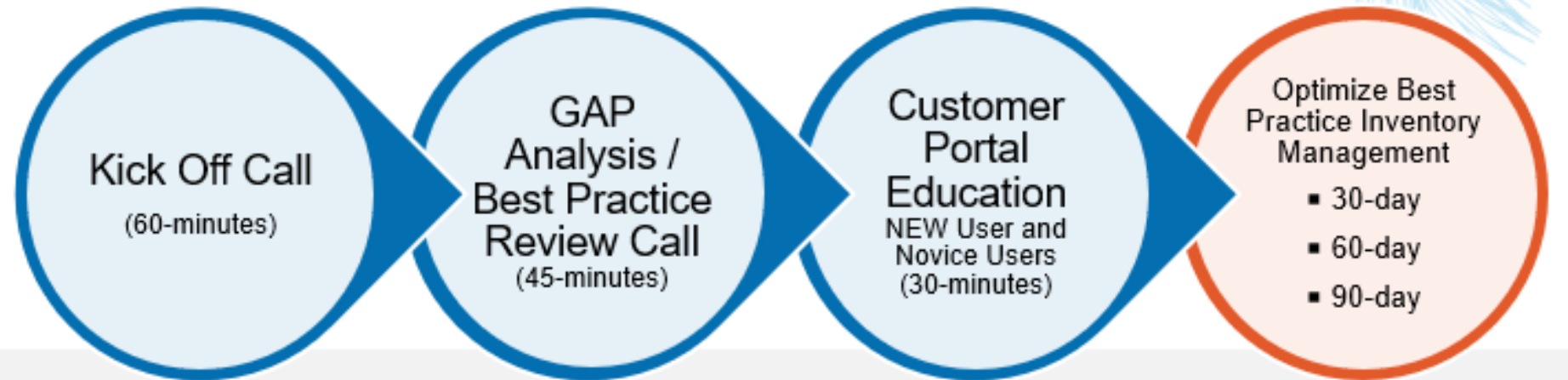


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# Leveraging Vendor Partnership



## Robotic Relaunch



- Inventory Management
- Workflow Orders/Returns
- Physical Inventory Audit
- Data and Forecasting
- PAR Recommendations
- Surplus Supply Returns
- Flexible Scheduling
- Unique To Facility
- Q&A Follow-up
- Physical Inventory Audit
- Check-in
- Best Practice Review

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# Creating Winning Teams



## Vendor Partner

- Experience
- Consultation
- Leverage Portal

## Robotic Coordinator (Clinical)

- Procedures
- Utilization
- Planning

## Sterile Processing

- Instruments
- Robot Arms (Multi-use items)

## Supply Chain

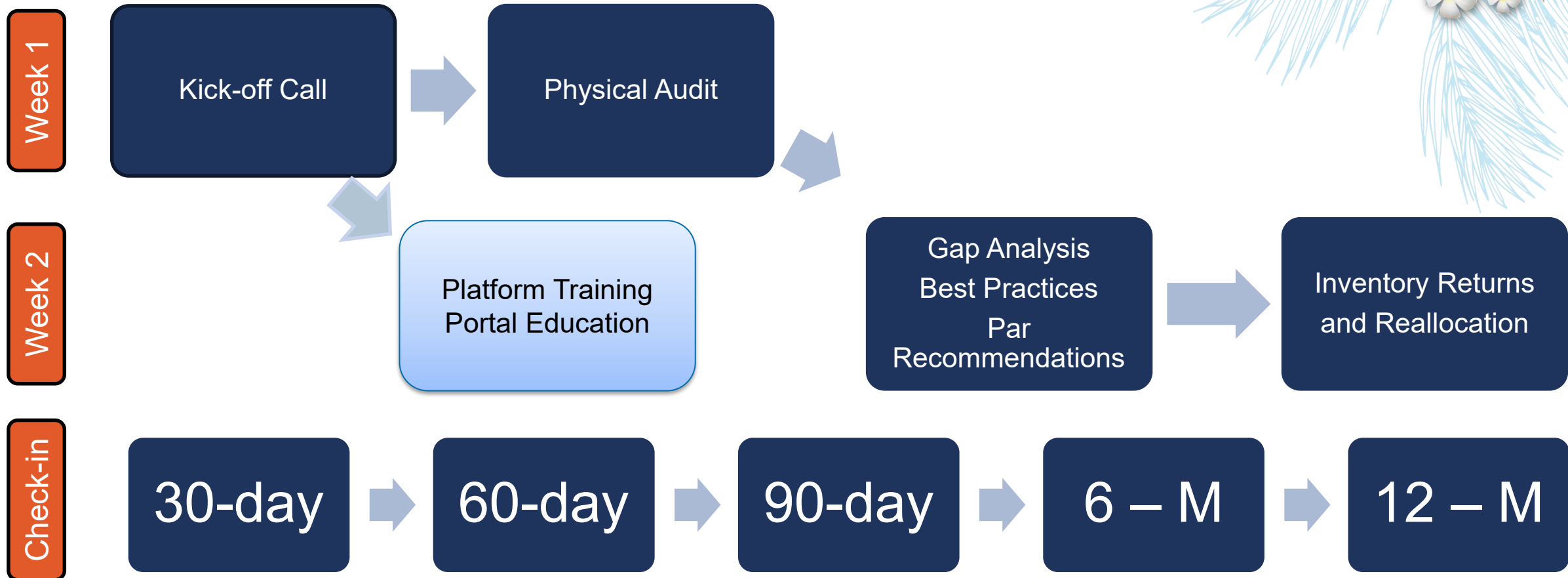
- Single Use
- Pref Cards
- Returns

## Initiative Leader

- Communicate
- Coordinate
- Follow-up

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# Investing for Success



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# A CALL TO ACTION

## Actionable Recommendations



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## POLLING QUESTION #3



Have you worked with a consultant or vendor in past to improve cost, quality or patient outcomes?

- a) Yes
- b) No

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# Portal Data – Reporting

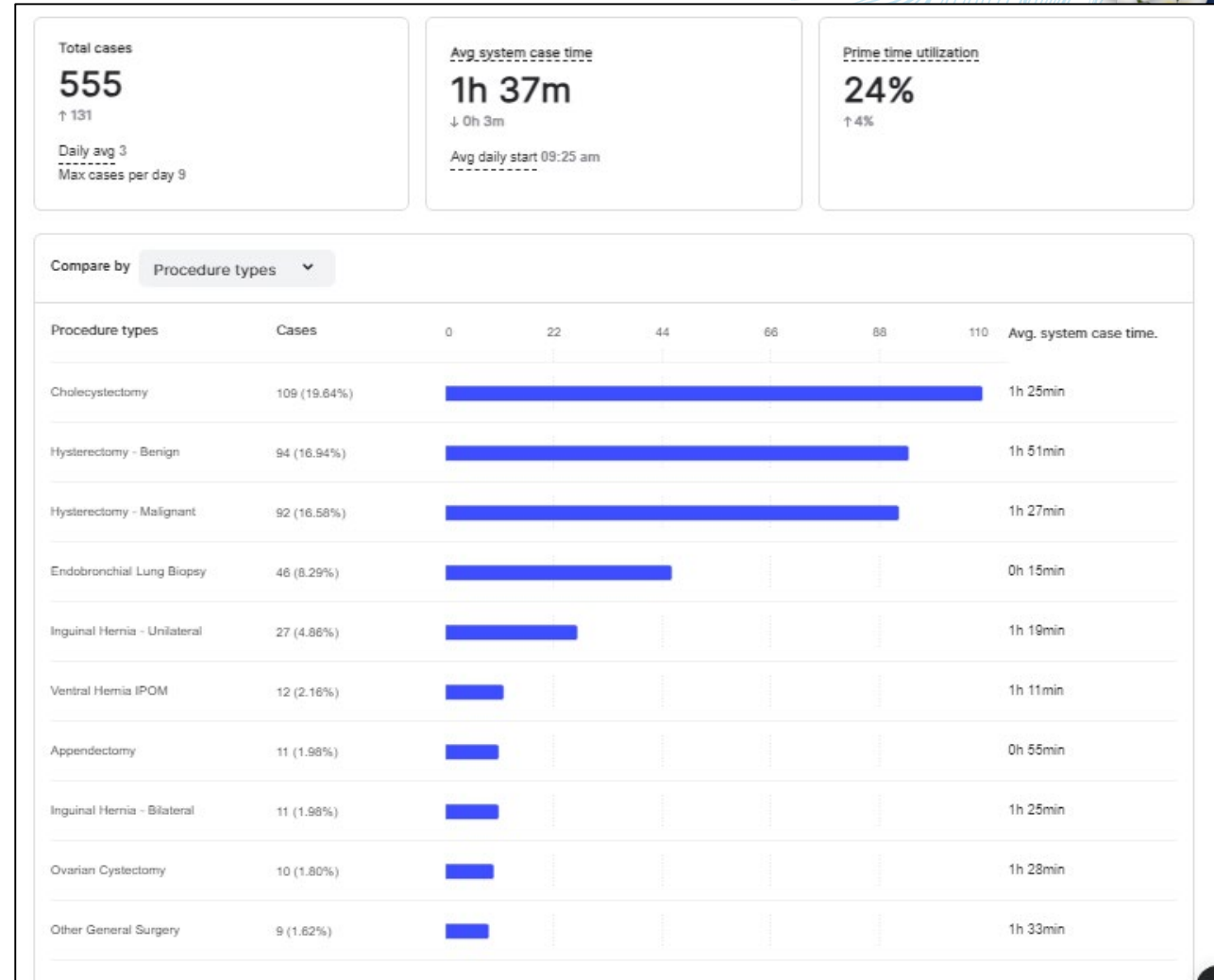


## 1 System Utilization Report

- Days of Week
- Specialties
- Procedure Types
- Shifts
- Systems



Many downloadable reports  
Including parts used by procedure  
type for each case.



# Portal Data – Reporting, continued



## 2 Instrument Use Report

Assists with inventory management, reporting instrument life expectancy reducing redundant order patterns leading to surplus inventory shelf stocking

Instrument			Type	Part #	Units Total	Almost Consumed	Last used on
▼		Tenaculum Forceps X®/X™ 10 uses per unit	Forceps	470207	5	2	04/16/2024
▼		Medium-Large Clip Applier X®/X™ 100 uses per unit	Applier	470327	9	2	05/22/2024
▲		Hot Shears™ (Monopolar Curved Scissors) X®/X™/dV5 10 uses per unit	Scissors	470179	9	1	05/22/2024
Lot #	Serial #	Version #	Uses Remaining		Last used on		
K10240118-0181	2401180181	19	3		05/22/2024		...
K10240118-0183	2401180183	19	1		05/22/2024		...
K13240222-0558	2402220558	19	5		05/22/2024		...
K13240222-0538	2402220538	19	8		05/21/2024		...
K13240222-0542	2402220542	19	7		05/20/2024		...
K10240118-0180	2401180180	19	4		05/17/2024		...



# Portal Data - Reporting, continued



## 3 PAR Recommendation Report

### Assesses

- Historical utilization
- Instrument turnaround time
- Average cases per day
- Stocking time frame (products needed for a set time period on stocked on shelves)

Instrument	Manf Cat # / Part Number	PAR Recommendation Report				Physical Count			
		Total Uses (number reflects LIVES used)	Total Number DEVICES USED	Utilization %	Estimated PAR MAX	Peel Packed	Boxed	Trays	VARIANCE
COVER ESCP TIP HOT SHR	400180	43	43	30%	47	N/A	47	N/A	✓ 0
Drape 21x19x10.5 in ARM EQU	470015	166	166	29%	696	N/A	710	N/A	✗ 14
Hot Shears™ (Monopolar Curved Scissors)	470179	112	11	92%	12	7	5	0	✓ 0
Permanent Monopolar Cautery Hook	470183	6	1	5%	2	1	1	0	✓ 0
Mega Needle Driver	470194	10	1	9%	2	2	0	2	✗ 2
Tenaculum Forceps	470207	2	0	2%	2	2	2	2	✗ 4
Large Clip Applier	470230	3	0	3%	2	1	0	1	✓ 0
Small Graptor™ (Grasping Retractor)	470318	2	0	2%	2	1	1	0	✓ 0
Medium-Large Clip Applier	470327	38	0	32%	6	0	7	0	✗ 1
Drape CLMN EQUIP	470341	43	43	30%	47	N/A	50	N/A	✗ 3
Tip-Up Fenestrated Grasper / GRASPER	470347	16	2	14%	3	1	1	2	✗ 1
Obturator lapscp 8mm BLDLS	470359	117	117	81%	129	N/A	110	N/A	⚠ -19
Obturator lapscp 8mm LNG	470360	11	11	8%	12	N/A	15	N/A	✗ 3
REDUCER LAPSCP 8-12MM	470381	25	25	17%	28	N/A	27	N/A	⚠ -1
Long Tip grasper	470400	2	0	2%	2	1	0	1	✓ 0
SEAL ENDO DVNC UNIVERSAL	470500	469	469	81%	516	N/A	516	N/A	✓ 0
EndoWrist Stapler 30 Curved-tip	470530	4	0	4%	2	0	5	0	✗ 3
Large Needle Driver	471006	2	0	2%	2	0	0	0	⚠ -2
Cadiere Forceps	471049	27	2	23%	6	2	2	4	✗ 2
Cobra Grasper	471090	8	1	7%	2	4	0	0	✗ 2
ProGrasp™ Forceps	471093	6	0	5%	2	4	4	4	✗ 10
Maryland Bipolar Forceps	471172	11	1	10%	3	1	2	0	✓ 0
Fenestrated Bipolar Forceps	471205	78	6	64%	9	8	0	0	⚠ -1
Large SutureCut Needle Driver	471296	1	0	1%	2	2	0	0	✓ 0
Mega™ SutureCut™ Needle Driver	471309	75	5	62%	9	2	2	2	⚠ -3
Long Bipolar Grasper	471400	1	0	1%	2	1	1	2	✗ 2
Force Bipolar with Dual Grip	471405	56	6	46%	6	4	0	0	⚠ -2

# Surplus Inventory Reallocation



## Return And Reallocation



## POLLING QUESTION #4

What makes a project sustainable?

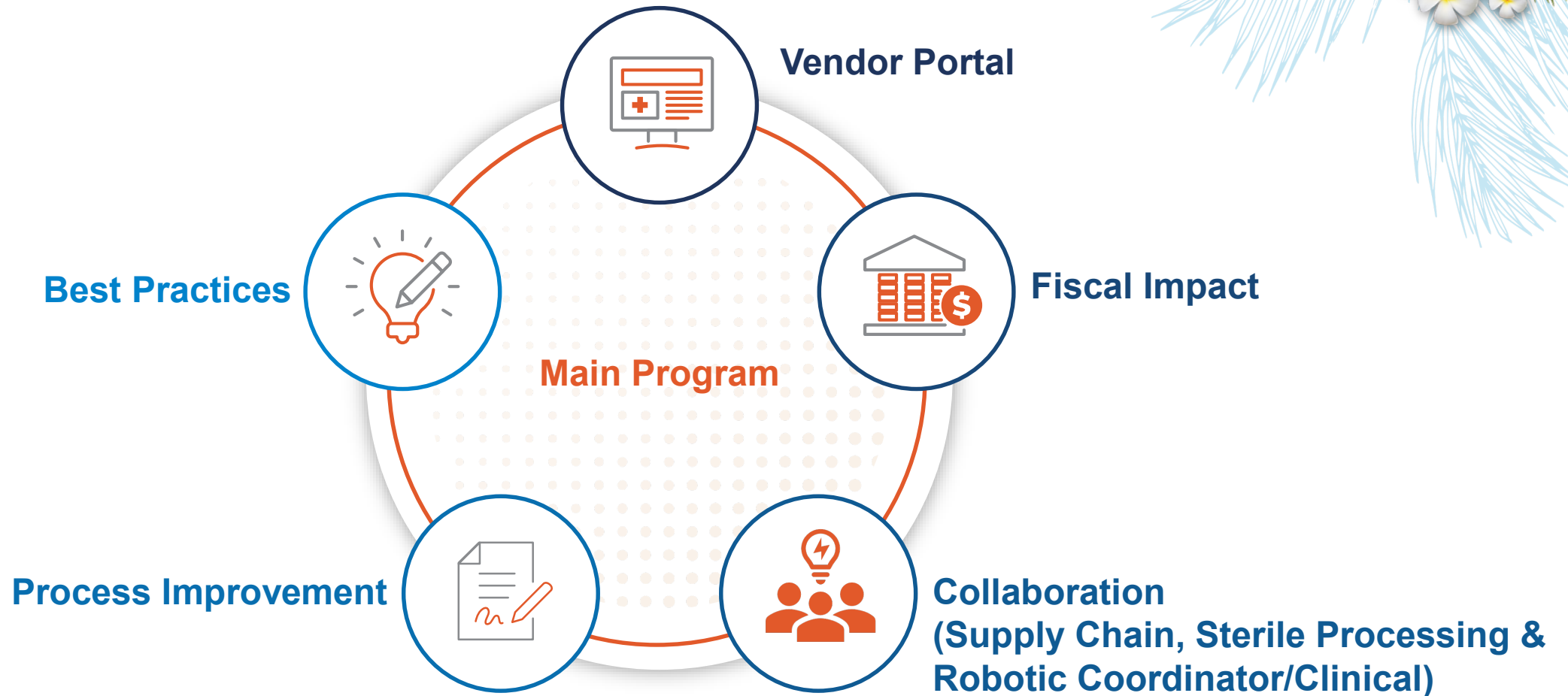
- a) Easy
- b) Staff are committed & engaged
- c) Leaders are committed & engaged
- d) Good for the environment
- e) B & C

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# Facility Engagement at 6-Month Check-in



# 6-M Check-in Lead by Facility Taskforce Lead



## Hospital 1 – NON-Attachable Robot Products

Tracy Wooten, ORMM

EXISTING FACILITY	\$	4,068
In-house Robotic Inventory VALUE		
Additional Inventory Needed VALUE	\$	(2,012)
Reallocation Opportunities VALUE		

## Hospital 1 – Robot Attachable Products

Tracy Wooten, ORMM

EXISTING FACILITY	\$	254,058
In-house Robotic Inventory VALUE		
Additional Inventory Needed VALUE	\$	(43,580)
Reallocation Opportunities VALUE	\$	72,067

Instrument	Manf Cat # / Part Number	Stocked in Warehouse	Total Uses (number reflects LIVES used)	Total Number DEVICES USED	Utilization %	Estimated PAR MAX (Number of LIVES used for PAR)	Foot Pack NO. (Calculation based on 100% lives available. See notes below.)	Boxed Count (equal to # of eaches in box)	Trays	VARIANCE	SURPLUS INVENTORY VALUE	Take the following action	Completed by	Date Completed
Hot Shears™ (Monopolar Curved Scissor)	470129	✓	132	13	94%	10	5	7	0	-3	\$ (10,000)	Add Needed	Tracy Wooten	5/20/2024
Permanent Monopolar Cautery Hook	470													
Mega Needle Driver	470													
Tenaculum Forceps	470													
Small Graptor™ (Grasping Retractor)	470													
Tip-Up Fenestrated Grasper / GRASPER	470													
Long Tip grasper	470													
Large Needle Driver	471													
Cadiere Forceps	471													
ProGrasp™ Forceps	471													
Maryland Bipolar Forceps	471													
Fenestrated Bipolar Forceps	471													
Large SutureCut Needle Driver	471													
Mega™ SutureCut™ Needle Driver	471													
Force Bipolar with Dual Grip	471													
Medium-Large Clip Applier	470													
Large Clip Applier	470													

## Hospital 1 Robotic Inventory Management

### Top 10 Procedure Types (Jul 23 – Apr 24)



Total Cases 463 Daily Avg 3 Max cases per day 9

19 |

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## Rational / Portal Data

NOT reallocating when above PAR Recommendation

### Used instrument status

Procedures Instruments with uses remaining as of 05/20/2024. Does not include archived instruments.

Type	Part #	Units Total	Almost Consumed	Last used on
Hot Shears™ (Monopolar Curved Scissors)	470129	7	2	05/20/2024
Fenestrated Bipolar Forceps	471205	9	2	05/20/2024
Medium-Large Clip Applier	470327	6	1	05/20/2024
Tip-Up Fenestrated Grasper	470347	4	1	05/08/2024

Serial #	Version #	Uses Remaining	Last used on
11		5	05/08/2024
11		1	03/15/2024
11		5	01/29/2024
11		4	11/28/2023

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### Taskforce

Tracy Wooten,  
ORMM

Staci Ammons,  
Robotic Coordinator

Elijah Vann,  
SPD

YTD KPI  
\$1,787

# Missed Opportunity

## Charted Products vs. Robotic Detected Use



Vessel Sealer Extend



Synchro Seal



Staplers



Stapler Reloads



Instrument	Hospital 1	Hospital 2	Hospital 3	Hospital 4	Hospital 5	Hospital 6	6 Facility Division
Vessel Sealer Extend	\$ 7,000	\$ 5,000	\$ 12,000	\$ -	\$ -	\$ -	\$ 24,000
SynchroSeal	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ 14,000	\$ 15,500
Stapler SureForm 45 Instrument		\$ -	\$ -	\$ 15,000	\$ -	\$ 2,000	\$ 17,000
SureForm 60 Stapler (12MM ANVIL)	\$ 4,500	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -	\$ 34,500
5 mm Suction Irrigator	\$ -	\$ -	\$ 8,000	\$ -	\$ -	\$ -	\$ 8,000
Reload, SureForm 45, 3.5 Blue, 6-Row	\$ -	\$ -	\$ 1,000	\$ 6,000	\$ -	\$ -	\$ 7,000
Reload, SureForm 45, 4.3 Green, 6-Row	\$ -	\$ 1,500	\$ 200	\$ -	\$ -	\$ -	\$ 1,700
Reload, SureForm 45, 2.5 White, 6-Row	\$ -	\$ 1,200	\$ 3,000	\$ 2,000	\$ -	\$ 1,200	\$ 7,400
Reload SureForm 60 3.5 Blue 6-Row	\$ 250	\$ 2,400	\$ -	\$ 18,000	\$ 2,000	\$ -	\$ 22,650
Reload SureForm 60 4.3 Green 6-Row	\$ 250	\$ 5,000	\$ 1,000	\$ 500	\$ -	\$ -	\$ 6,750
Reload SureForm 60 2.5 White 6-Row	\$ -	\$ -	\$ 5,000	\$ 12,000	\$ -	\$ 1,000	\$ 18,000
<b>Fiscal Impact</b>	<b>\$ 13,500</b>	<b>\$ 15,100</b>	<b>\$ 45,200</b>	<b>\$ 53,500</b>	<b>\$ 17,000</b>	<b>\$ 18,200</b>	<b>\$ 162,500</b>
<b>Total Cases</b>	<b>352</b>	<b>1032</b>	<b>878</b>	<b>1478</b>	<b>1181</b>	<b>555</b>	<b>5476</b>
<b>% of Total Opportunity</b>	<b>8%</b>	<b>9%</b>	<b>28%</b>	<b>33%</b>	<b>10%</b>	<b>11%</b>	



## POLLING QUESTION #5

Does your OR have waste products?

- a) Never
- b) Sometimes
- c) Not that much
- d) Yep, I'd say it's an issue
- e) Not sure

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# ACTION PLAN – Reduce Waste



## To reduce negative fiscal impact of unnecessarily opening products

- 1 Transparency** – Share the fiscal impact of opening items unnecessarily
- 2 Follow HCA Hold Item Policy** – Ensure hold items are placed in separate bag or container
- 3 STOP SIGN / COLOR CODE** – Use visual indicators to alert staff to hold items on cart
- 4 Educate** – Staff not open items until Surgeon has asked for them during case
- 5 Up-Date Preference Cards** – Frequently review PCOT tool and ensure preference card accuracy (PCOT – Preference Card Optimization Tool)
- 6 Chart** – Wasted product for accurate patient charges and future contract payment negotiation
- 7 Monitor** – Waste report on regular cadence
- 8 Lessons Learned** – Discuss what happened when items are unnecessarily opened and how to course correct for future
- 9 Encourage** – Teams to bring ideas on how to reduce waste and improve processes
- 10 Don't give up or stop talking** about importance of waste reduction. Products are second highest expense after labor expense

## Ongoing Actions

# Optimization Plan

- Reduce time spent managing supplies
- Reduce supply surplus and redundancy when unnecessary
- Reduce waste by talking with physicians and review preference cards to ensure right products are being brought into case and opened or held
- Savings
  - Choreography
  - Surgeon / OR Time



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# TRANSPARENCY

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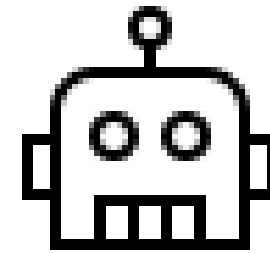
Creating Awareness  
Through Communication







What's a  
robot's  
favorite food?



**MICROCHIP**

# Communication Modes



## Division Team

- Division-wide collaboration with WebEx meetings
- Sub-committees
- Emails
- Email updates
  - Announcements/celebrations
  - Best practices
  - Facility updates
- Survey forms

## Facility Taskforce

- Facility team WebEx meetings with Vendor Partner/Consultant
- On-site meetings with Initiative Leader and Facility Taskforce
- Survey forms
- Emails
- Email announcements

# Routine Communication



## Updates to Keep Team Informed

- Celebrate Success
- Share Best Practices
- Keep Focus on Appropriate Utilization

### ROBOTIC COST PER CASE TEAM



**Research Medical Center's Robotic Task force was able to right size and reduce existing Robotic Inventory by \$223,000**  
**GREAT JOB TEAM!**

#### Situation/Background

Facility Taskforce projects focused on Robotic Inventory Management to support Robotic Cost Per Case (CPC) Team's strategy for cost reduction in line with best practices serving to enhance patient care and make evidence based, fiscally sound business decisions, and process enhancements to improve KPI supply metrics driven by robotic procedures across the division.

### Robotic Cost Per Case Team – Robotic Inventory Management Taskforce UPDATE

Facility Taskforce projects focused on Robotic Inventory Management to support Robotic Cost Per Case (CPC) Team's strategy for cost reduction in line with best practices serving to enhance patient care and make evidence based, fiscally sound business decisions, and process enhancements to improve KPI supply metrics driven by robotic procedures across the division.

#### Situation/Background

- RMC completed return and reallocation of excess inventory, using portal for returns, ordering, weekly utilization for inventory management, meeting September 20<sup>th</sup> to review Best Practices in action with Genesis/Intuitive Consultant and Customer Success Manager.
- Lee's Summit completed Kick-Off Meeting and PAR Level Recommendations meetings. **NEXT STEP:** Inventory Management Portal Training, Returns

#### Assessment

**Inventory Management Taskforces inventing minimal time for huge returns which include:**

- ✓ Process improvement with cohesive workflow to manage inventory
- ✓ Appropriate PAR Level and inventory management based on facility specific historical data and forecasting
- ✓ Leverage existing tools and reduce time spent by staff
- ✓ Sustainable Best Practices for appropriate inventory management

**What will the Inventory Management Taskforce's commitment look like?**



The timeline shows the following steps:

- Kick-Off Call 60-minutes** (Week 1)
- Physical Audit** (Self-schedule and return worksheet prior to next call)
- Gap Analysis Best Practice Call 60-minutes** (Week 2)
- Platform Training 30-minutes** (Unit(s) schedule directly with trainer for group training)
- Inventory Return & Reallocation** (Self-schedule and collaborate within team)
- Check-in 30-minutes** (Week 3)

### Robotic Cost Per Case Team – Inventory Management Taskforce

Facility Taskforce projects focused on Robotic Inventory Management to support Robotic Cost Per Case (CPC) Team's strategy for cost reduction in line with best practices serving to enhance patient care and make evidence based, fiscally sound business decisions, and process enhancements to improve KPI supply metrics driven by robotic procedures across the division.

#### Celebrating Successes



**Shout Out To Lee's Summit Robotic Taskforce Team!**  
On the look out for excess supplies, the Lee's Summit Taskforce was able to **return \$61,000 in product to Intuitive Surgical** and **reallocate \$7K to other facilities** purchasing product.

We couldn't have done this without the help and support from Diana Laden and Ron Ellis, GO TEAM! Your effort



**Special Thanks To Warehouse Team**  
These folks are **finding homes for the excess product** outside of Initiative's Product Return window. Thank you for helping **ensure valuable healthcare resources are used to care for our patients.**



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# Best Practice Summary



Leverage data resource for “right sized” inventory

Review preference cards routinely

Enhance communication practices (SCD, ORD & SPD)

Optimize robotic inventory storage

Source: See Appendix

34 | **CE Credit Deadline: 09/30/24**

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# Best Practice Impact



	Hospital 1	Hospital 2	Hospital 3	Hospital 4	Hospital 5	Hospital 6	6-Hospital Division
Reallocation % Spend	27%	4%	4%	10%	3%	17%	10%
Vendor Returns % Spend	2%	1%	1%	2%	2%	2%	2%
Project Total % Reallocated/Returned	29%	5%	5%	12%	5%	19%	12%

“We are what we repeatedly do.  
Excellence then, is not an act, but a habit.”  
~ Aristotle

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# Resources



1. Gkegkes ID, Mamais IA, Iavazzo C. Robotics in general surgery: A systematic cost assessment. J Minim Access Surg. 2017 Oct-Dec;13(4):243-255. doi: 10.4103/0972-9941.195565. PMID: 28000648; PMCID: PMC5607789.
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5. Sands Kenneth G., Figenshau Robert S., Vetter Joel, et al. "Contemporary Pure Laparoscopic vs Robot-Assisted Laparoscopic Radical Nephrectomy: Is the Transition Worth It?". Journal of endourology 35.10 (Oct.2021): 1526-1532.

# Definitions For Acronyms Used



- OR – Operating Room
- ORD – Operating Room Director
- PAR – Periodic Automatic Replacement
- PCOT – Preference Card Optimization Tool
- PUOM – Purchased Unit Of Measure
- SCD – Supply Chain Director
- SPD – Sterile Processing Director



# Thank you...

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