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# Supply Chain Process Improvement: From Problems to Opportunities

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# Learning Objectives

- Describe how to implement a solution to streamline the bill-only requisitioning process
- Discuss the outcomes and challenges from the pilot project.
- Explain data points required for a successful service line utilization dashboard.
- Create visualizations that provide directional, clinically integrated supply chain data to support daily operations.

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# Supply Chain Process Improvement: From Problems to Opportunities

# The University of Chicago Medicine



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## Supply Chain Process Improvement: From Problems to Opportunities

*How to convert bill only process from problems into opportunities*

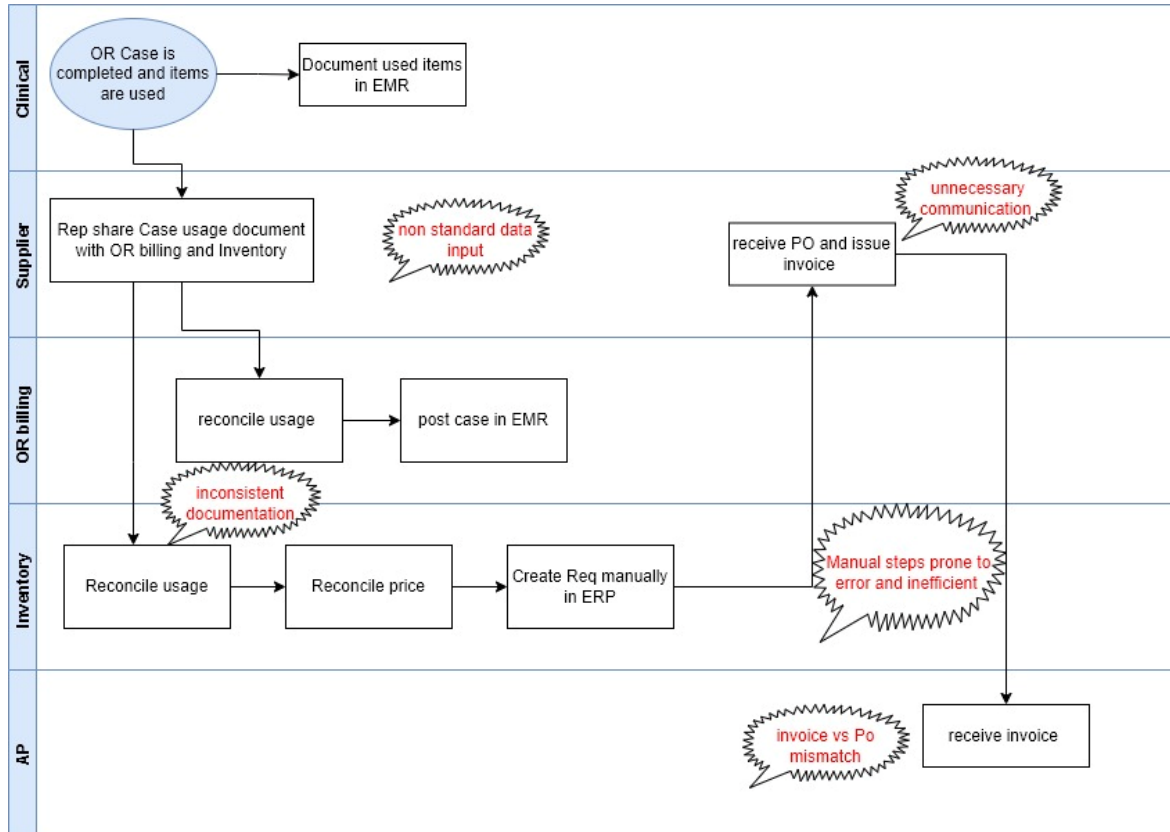
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# The Problem: manual, inefficient processes led to inaccurate POs, long payment cycle, invoice holds and off-contract spend

## Old process

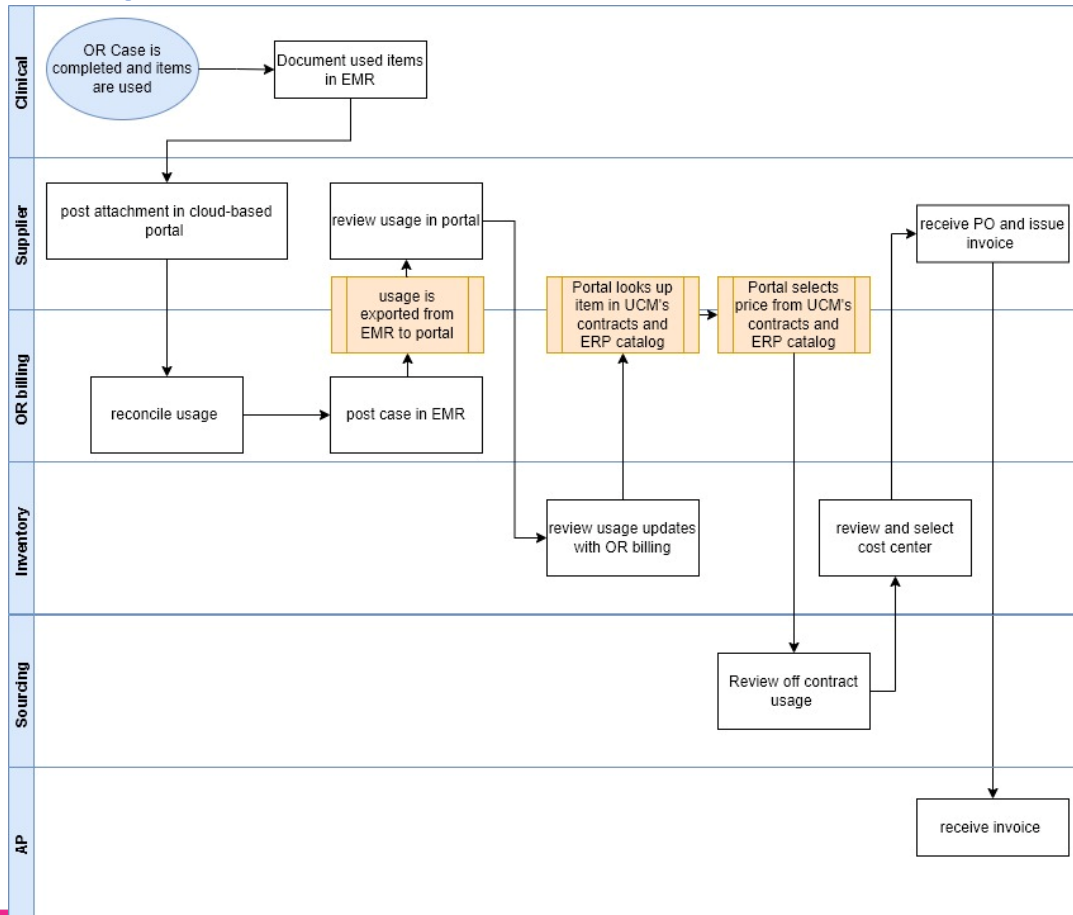


## The Problem in Numbers:

- **51.7%** of lines were non-catalog (manually typed)
- **50.5%** of which were items in ERP catalog (false non-catalog)
- **19.06%** of lines had price mismatch
- **16%** of invoice holds were bill only
- **40 hrs** per week to process bill only requisitions

# Goal Statement: To standardize and automate bill only requisitions using contract price and point of use information from UCM's systems

## New process



## Basic thinking

- Standardization of supplier data input
- Don't pass a defect:
  - Validation of price using UCM's local and GPO contracts
  - Validation of quantity using EMR data
  - Reduction of redundant communication

# The Outcome

- More than **70%** of bill only PO lines are processed through cloud-based solution
- Automated end-to-end bill only process
- Reduced buyers' manual queue by **95%**
- Reduced the time from case date to PO date by **70%**
- Reduced bill only invoice holds by **50%**
- Estimated annual cost avoidance **\$200k**
- Increased contract compliance
- Proactive contract maintenance

# Challenges

IT	People	Data
Lack of compatibility between ERP, contracting systems, EMR, and Cloud-based portal	Supplier engagement and buy in	Price alignment between ERP & contracting system
	Internal stakeholders' engagement and buy in	Extensive review of off-contract item use
		Extensive pre & post go live master data cleanup
		EMR documentation

# Lessons Learned

- 80% of automation success is data quality, process improvement, and clear communication
- Data alignment between systems is a prerequisite for any automation
- Different contract management practices pre-go live would have eliminated a lot of pre-work
- Stakeholders feedback and buy-in is key

# Key Takeaways

## To achieve sustainable automation

- Involve stakeholders from technology selection to future state design to post go live support
- Create opportunities for feedback throughout the project, and be receptive
- Manage expectations (negative early results)
- Improve data quality and alignment between systems before applying new technology

# Questions?



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## **Supply Chain Process Improvement: From Problems to Opportunities**

*Clinically Integrated Supply Dashboards:  
Visualizations Guiding Conversations*

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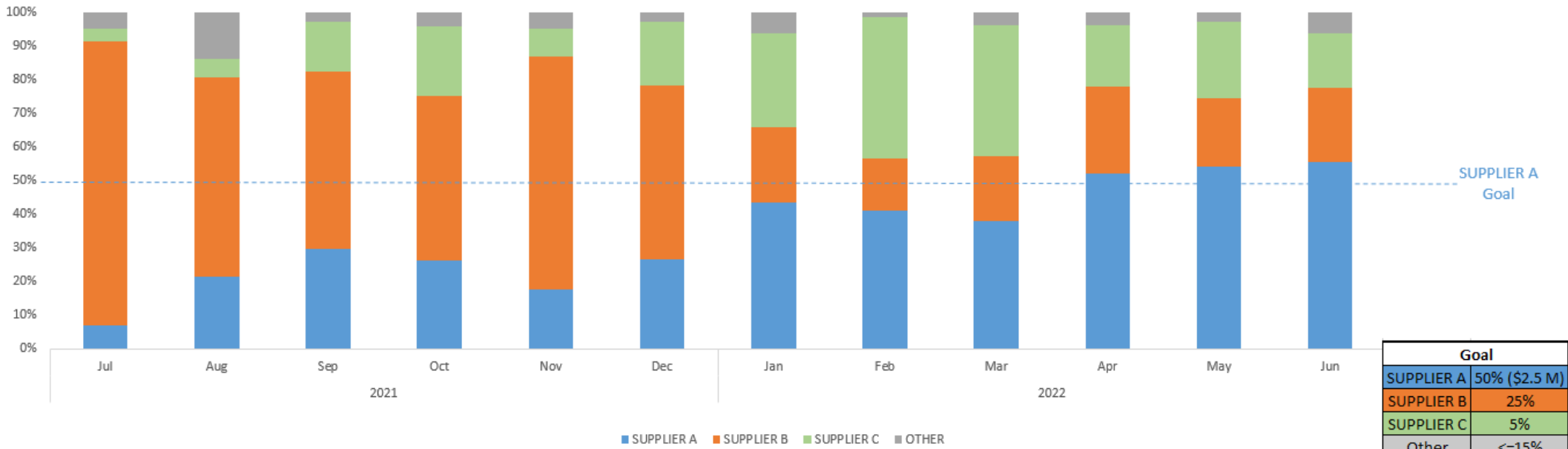
# Dashboards

## Supply Chain Dashboards

- Contract Compliance
- Supplier Identification
- Purchase History
- Market Share
- Cost or Spend
- Primary and Secondary Supply Categorization

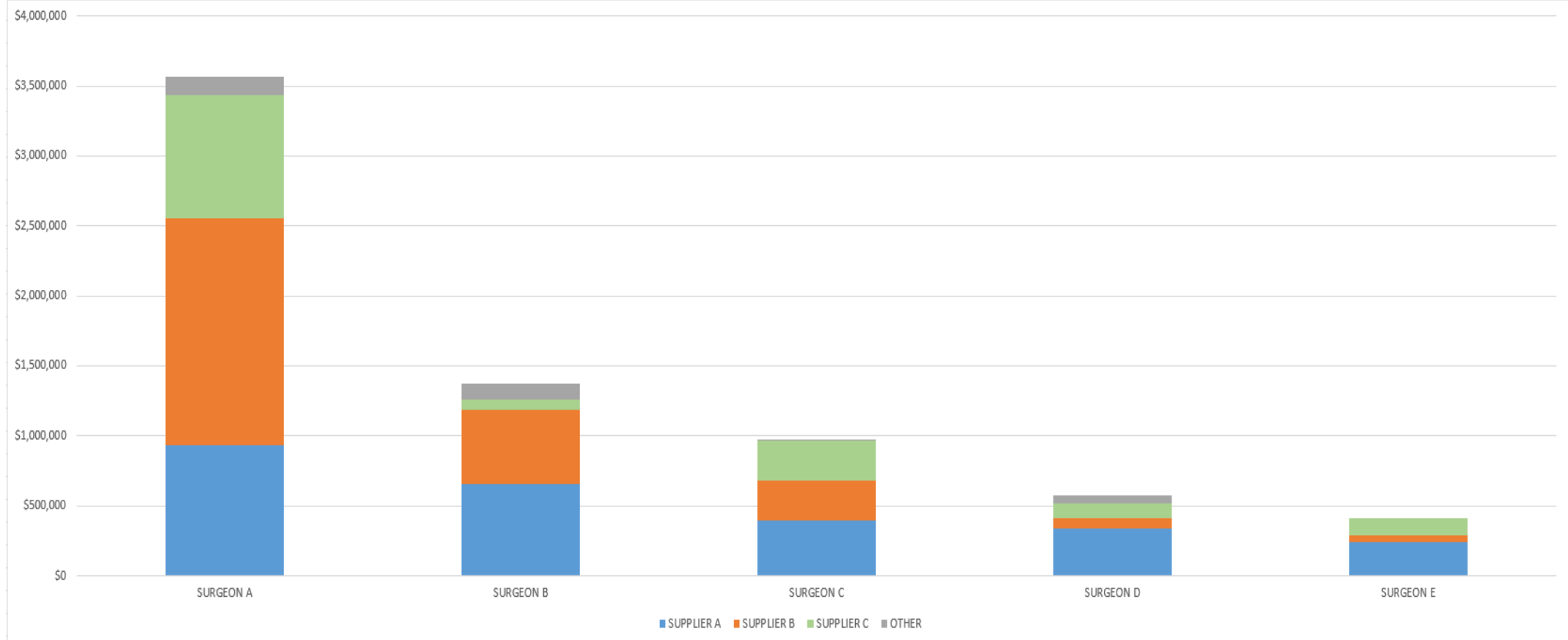
## Clinically Integrated Dashboards

- Utilization
- Age Demand Matching
- Appropriate Location
- Blood Loss
- New Hardware vs. Revision
- Procedure Codes
- Procedure Time



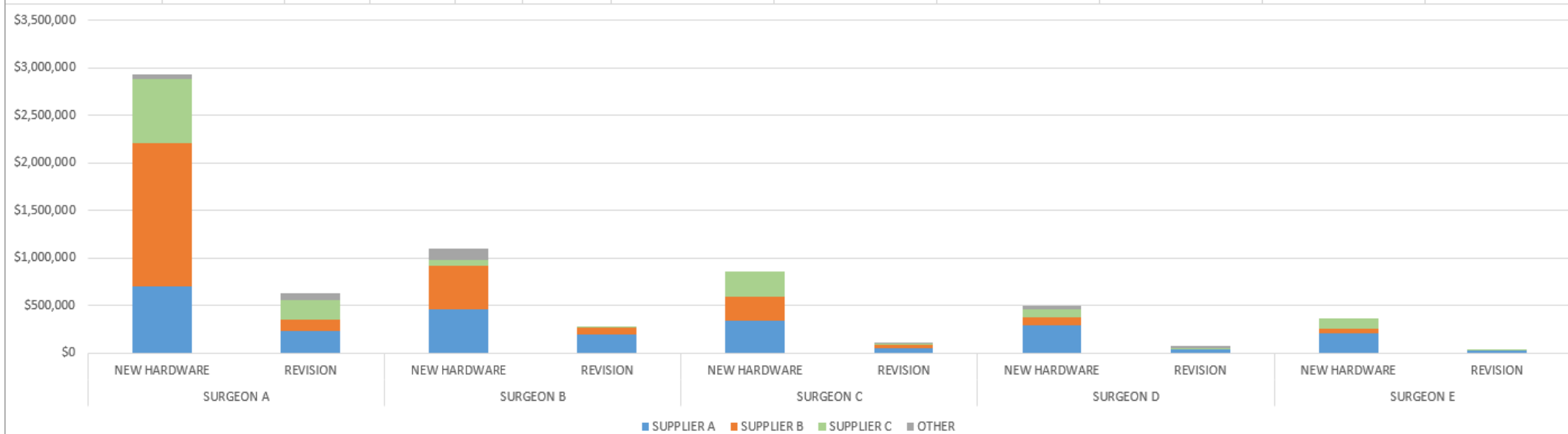
Goal	
SUPPLIER A	50% (\$2.5 M)
SUPPLIER B	25%
SUPPLIER C	5%
Other	<=15%

Sum of Spend					Percent of Spend					
Date	SUPPLIER A	SUPPLIER B	SUPPLIER C	OTHER	Rolling 12 Months	Date	SUPPLIER A	SUPPLIER B	SUPPLIER C	OTHER
2021	\$617,523	\$1,698,107	\$352,624	\$145,096	\$2,813,350	2021	21.95%	60.36%	12.53%	5.16%
Jul	\$26,411	\$314,978	\$15,160	\$17,100	\$373,648	Jul	7.07%	84.30%	4.06%	4.58%
Aug	\$83,831	\$234,273	\$20,522	\$54,240	\$392,866	Aug	21.34%	59.63%	5.22%	13.81%
Sep	\$146,612	\$260,365	\$73,661	\$13,147	\$493,785	Sep	29.69%	52.73%	14.92%	2.66%
Oct	\$157,442	\$289,948	\$123,102	\$24,050	\$594,541	Oct	26.48%	48.77%	20.71%	4.05%
Nov	\$101,138	\$401,531	\$47,545	\$26,359	\$576,573	Nov	17.54%	69.64%	8.25%	4.57%
Dec	\$102,090	\$197,013	\$72,635	\$10,200	\$381,937	Dec	26.73%	51.58%	19.02%	2.67%
2022	\$1,953,873	\$856,171	\$1,113,134	\$150,472	\$4,073,649	2022	47.96%	21.02%	27.33%	3.69%
Jan	\$309,961	\$158,951	\$201,248	\$42,044	\$712,204	Jan	43.52%	22.32%	28.26%	5.90%
Feb	\$266,917	\$101,141	\$272,670	\$7,040	\$647,768	Feb	41.21%	15.61%	42.09%	1.09%
Mar	\$206,111	\$105,544	\$211,049	\$19,125	\$541,829	Mar	38.04%	19.48%	38.95%	3.53%
Apr	\$389,720	\$191,251	\$137,753	\$26,053	\$744,777	Apr	52.33%	25.68%	18.50%	3.50%
May	\$484,359	\$182,719	\$202,912	\$24,205	\$894,195	May	54.17%	20.43%	22.69%	2.71%
Jun	\$296,804	\$116,565	\$87,502	\$32,005	\$532,876	Jun	55.70%	21.87%	16.42%	6.01%
Rolling 12 Months	\$2,571,396	\$2,554,278	\$1,465,758	\$295,568	\$6,887,000	Rolling 12 Months	37.34%	37.09%	21.28%	4.29%



Total Cost	Manufacturer				
Surgeon	SUPPLIER A	SUPPLIER B	SUPPLIER C	OTHER	Grand Total
SURGEON A	\$937,194	\$1,618,595	\$881,597	\$124,210	\$3,561,596
SURGEON B	\$660,274	\$524,422	\$78,052	\$112,337	\$1,375,086
SURGEON C	\$397,191	\$282,576	\$287,511	\$351	\$967,629
SURGEON D	\$337,860	\$74,142	\$103,420	\$58,670	\$574,092
SURGEON E	\$238,877	\$54,543	\$115,178		\$408,598
<b>Grand Total</b>	<b>\$2,571,396</b>	<b>\$2,554,278</b>	<b>\$1,465,758</b>	<b>\$295,568</b>	<b>\$6,887,000</b>

Summary Manufacturer **By Surgeon** Rolling 12 Months June22 New vs. Revision Filtered Data



Sum of Spend	Manufacturer				
Surgeon	SUPPLIER A	SUPPLIER B	SUPPLIER C	OTHER	Grand Total
<b>SURGEON A</b>	<b>\$937,194</b>	<b>\$1,618,595</b>	<b>\$881,597</b>	<b>\$124,210</b>	<b>\$3,561,596</b>
NEW HARDWARE	\$706,853	\$1,496,168	\$678,638	\$44,346	\$2,926,004
REVISION	\$230,341	\$122,428	\$202,959	\$79,864	\$635,592
<b>SURGEON B</b>	<b>\$660,274</b>	<b>\$524,422</b>	<b>\$78,052</b>	<b>\$112,337</b>	<b>\$1,375,086</b>
NEW HARDWARE	\$465,030	\$452,781	\$63,652	\$112,337	\$1,093,800
REVISION	\$195,244	\$71,642	\$14,400		\$281,286
<b>SURGEON C</b>	<b>\$397,191</b>	<b>\$282,576</b>	<b>\$287,511</b>	<b>\$351</b>	<b>\$967,629</b>
NEW HARDWARE	\$342,071	\$254,791	\$265,256		\$862,118
REVISION	\$55,120	\$27,785	\$22,255	\$351	\$105,511
<b>SURGEON D</b>	<b>\$337,860</b>	<b>\$74,142</b>	<b>\$103,420</b>	<b>\$58,670</b>	<b>\$574,092</b>
NEW HARDWARE	\$298,312	\$74,142	\$90,645	\$32,720	\$495,818
REVISION	\$39,548		\$12,775	\$25,950	\$78,273
<b>SURGEON E</b>	<b>\$238,877</b>	<b>\$54,543</b>	<b>\$115,178</b>		<b>\$408,598</b>
NEW HARDWARE	\$207,338	\$54,543	\$107,878		\$369,759
REVISION	\$31,539		\$7,300		\$38,839
<b>Grand Total</b>	<b>\$2,571,396</b>	<b>\$2,554,278</b>	<b>\$1,465,758</b>	<b>\$295,568</b>	<b>\$6,887,000</b>

**PROCEDURE DATE**

Q3 2021 - Q2 2022 MONTHS

2022

JAN FEB MAR APR MAY JUN JUL AUG SEP

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# Looking to the future

## Future State

- Predictive Analytics
- Contracting with KPIs
- Clinical Outcome Cost Tracking
- Clinician-Led

## Lessons Learned

- Automation
- Every Contract/Service Line Differs
- Explants/Documentation
- Purchase History vs. Utilization

# Key Takeaways

- Visualizations
- Feedback = Engagement
- Create a Template
- New Technology

# Questions?

Froedtert

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# Panel Discussion

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