

Breaking Budgetary Barriers: Bridging Biomed and Imaging for Optimal Patient Care

Enhancing Collaboration for Efficiency and Patient Outcomes

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Conflicts and Disclaimer

Conflict of Interest Statement:

I have no conflicts of interest to disclose.

Disclaimer:

The views and opinions expressed in this lecture are my own, informed by a thorough review of current literature and my personal professional experiences.

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Breaking Budgetary Barriers: Bridging Biomed and Imaging Expanded

- ▶ Exploring how financial and operational decisions in Biomed and Imaging departments affect patient care, costs, and efficiency.

The Crucial Link Between Biomed and Imaging

- ▶ - Budget decisions impact equipment availability.
- ▶ - Imaging downtime affects patient outcomes.
- ▶ - Collaboration enhances efficiency and cost-effectiveness.

Understanding the Cost of Equipment Downtime

- ▶ - Downtime delays diagnostics and treatments.
- ▶ - Financial losses can exceed \$300,000 annually per facility.
- ▶ - Preventive maintenance reduces downtime and operational costs.

Shaping a Future of Collaboration

- ▶ - Aligning budget and operational decisions.
- ▶ - Enhancing communication and teamwork.
- ▶ - Strengthening patient care through shared responsibility.

Aligning Biomed Investments with Imaging Needs

- ▶ - Cost-saving strategies for extended equipment longevity.
- ▶ - Balancing repair vs. replacement decisions.
- ▶ - Budgeting for innovation and patient demand.

How Imaging Constraints Influence Biomed Decisions

- ▶ - Limited imaging budgets impact Biomed priorities.
- ▶ - Efficient use of resources to sustain performance.
- ▶ - Financial decision-making for long-term sustainability.

Ensuring Reliability and Performance

- ▶ - Optimized maintenance for critical imaging equipment.
- ▶ - Enhancing diagnostics and treatment accuracy.
- ▶ - Proactive strategies for patient safety.

Encouraging Open Collaboration

- ▶ - Strengthening relationships between Biomed and Imaging.
- ▶ - Joint planning for budget efficiency.
- ▶ - Shared goals for patient-centered care.

Real-World Examples

- ▶ - A hospital case study highlighting losses due to imaging downtime.
- ▶ - Strategies implemented to reduce outages and improve efficiency.
- ▶ - Lessons learned from successful Biomed-Imaging collaborations.

SCALABLE TECHNOLOGY/QUALITY

Strategic Initiatives

- **Intuitive High-Value Interfaces at All Touchpoints**
- **Analytics to Support Decisions**
- **Enhance IT Architecture for Applications & Clinical Technologies**

Days until third appointment is available

Per Facilities Per Month (one month example)

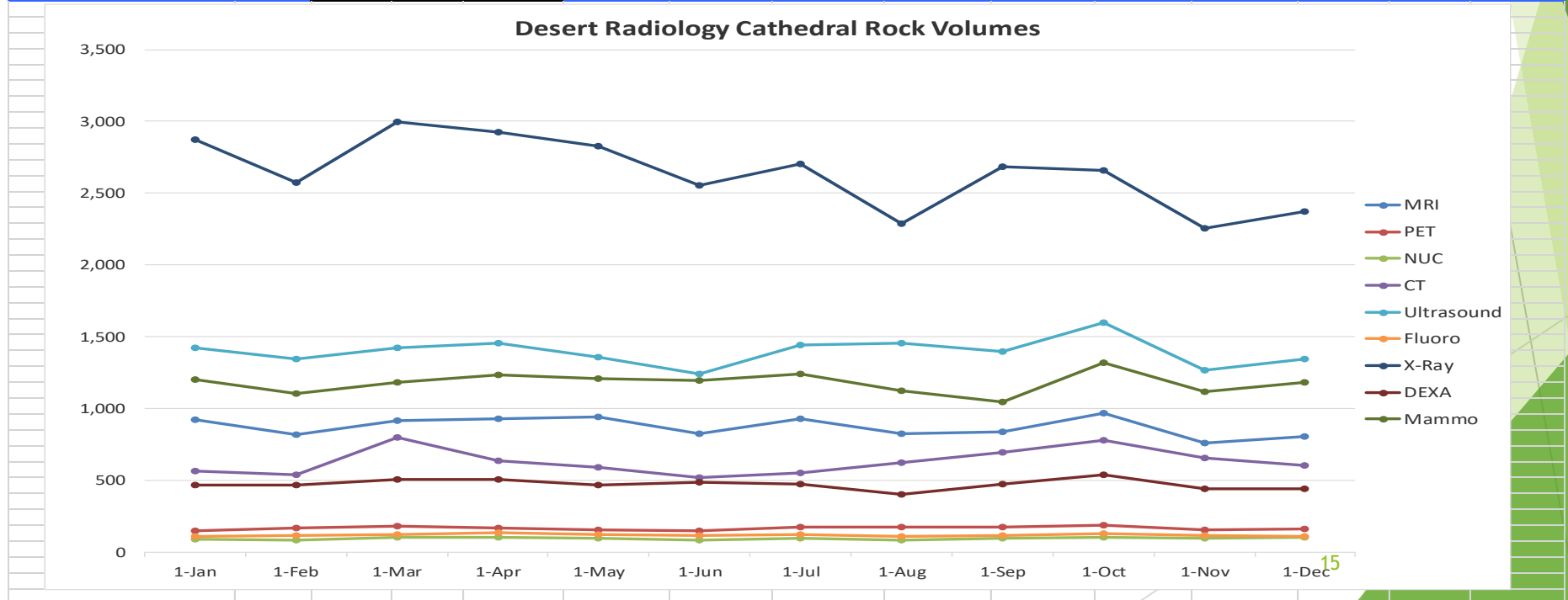
MRI WO	1	1	2	3	6	14	1	3		12	10
MRI W W/O	2	3	5	5	8	14	9	10		12	10
CT WO	13	2	8	5	2	1	1	1	9	1	3
CT W WO	30	2	9	5	2	1	1	1	9	2	3
CT BX			3								
MAMMO	1	1	20	43	12		2	25	8		
DIAG MAMMO	14	10	16	9	5		22	no diag			
US BREAST BX							25				
STEREO							22				
ULTRASOUND	1	4	2	1	1	3	1	1	4	3	5
US ARTERIAL	5	8	3	3	6	3	4	4	10		
FNA THYROID							32				
FL NPO	2	6	10	2	8		15				
FL INJECTIONS	2	3	6	1	5		3				
NUC MED	4		4	5		2	3			5	
PET SCAN	6		6								
DEXA	5	2	1	1	3	1	1	1	1		
ABI			1			1					1
CATH LAB			8								

Operational Excellence - Scorecard/Clinic Specific Deliverable

Objectives		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	YTD	Prior Year Baseline	YOY TREND
Scalable Tech/Quality = Do things right the first time																
Down Time (Not how tracking data)																
MRI Total Hard Down	# of Hours	15	7		3	9	1				15	7		57	91	
MRI Total Restricted	# of Hours		18	17	10	80	3			12		18	17	175	354	
Studies Affected	# of Studies	30	17		10	13	9			3	30	17		129	384	
PET Total Hard Down	# of Hours	5									5			10	70	
Pet Total Restricted	# of Hours													0	3	
Studies Affected	# of Studies	3									3			6	58	
Nuc Total Hard Down	# of Hours													0	24	
Nuc Total Restricted	# of Hours													0	0	
Studies Affected	# of Studies	3									3			6	17	
CT Total Hard Down	# of Hours	3	2		20	20	5		6	4	3	2		65	53	
CT Total Restricted	# of Hours	20	2					1		5	20	2		50	88	
Studies Affected	# of Studies				37	75	20	1	20	18				171	201	
Ultrasound Total Hard Down	# of Hours													0	0	
Ultrasound Total Restricted	# of Hours													0	0	
Studies Affected	# of Studies					2								2	0	
Fluoro Total Hard Down	# of Hours								2					2	125	
Fluoro Total Restricted	# of Hours					3	1							4	59	
Studies Affected	# of Studies					20	2		2					24	25	
X-Ray Total Hard Down	# of Hours	2	90				2	2	75		2		90	263	32	
X-Ray Total Restricted	# of Hours	4	180	8	85	18			1		4		180	480	55	
Studies Affected	# of Studies	18			20		20	7	277		18			360	10	
Bone Density Total Hard Down	# of Hours				8	4	3		22					37	1	
Bone Density Total Restricted	# of Hours	2				1		3			2			8	8	
Studies Affected	# of Studies	4			20		11	9	60	3	4			111	0	
Mammo Total Hard Down	# of Hours								5	2				7	82	
Mammo Total Restricted	# of Hours	2							10	28	2			42	300	
Studies Affected	# of Studies	4							15	82	4			105	331	

Clinic Specific Deliverable

Desert Radiology - Cathedral Rock, Volumes Report 2019														
OBJECTIVES	19-Jan	19-Feb	19-Mar	19-Apr	19-May	19-Jun	19-Jul	19-Aug	19-Sep	19-Oct	19-Nov	19-Dec	2019 ytd	2018 YTD Totals
MRI	919	817	917	930	939	822	927	824	834	967	757	804	10,457	11,091
PET	150	165	179	166	155	149	175	176	176	187	155	162	1,995	1,833
NUC	87	81	99	103	96	85	94	81	97	99	92	101	1,115	1,125
CT	562	534	799	632	587	518	549	623	694	776	656	602	7,532	9,822
Ultrasound	1,421	1,342	1,425	1,455	1,357	1,239	1,441	1,457	1,393	1,597	1,269	1,347	16,743	17,058
Fluoro	111	114	120	133	124	112	118	107	115	129	113	110	1,406	1,380
X-Ray	2,876	2,571	2,999	2,924	2,828	2,554	2,701	2,288	2,684	2,660	2,256	2,369	31,710	32,819
DEXA	466	468	506	504	467	485	475	400	469	534	439	437	5,650	5,253
Mammo	1,200	1,106	1,183	1,236	1,210	1,193	1,241	1,125	1,047	1,320	1,118	1,182	14,161	14,068
TOTAL	7792	7198	8227	8083	7763	7157	7721	7081	7509	8269	6855	7114	90769	94449
WORK DAYS	22	20	21	22	22	20	22	20	20	23	19	21	252	253
AVG/DAY	354	360	392	367	353	358	351	337	375	360	361	339	4307	373
Growth	-6.51%	-6.73%	1.73%	-5.09%	-4.16%	-5.96%	-2.62%	-4.15%	-0.13%	-2.80%	-1.15%	-3.72%	-3.00%	2.12%

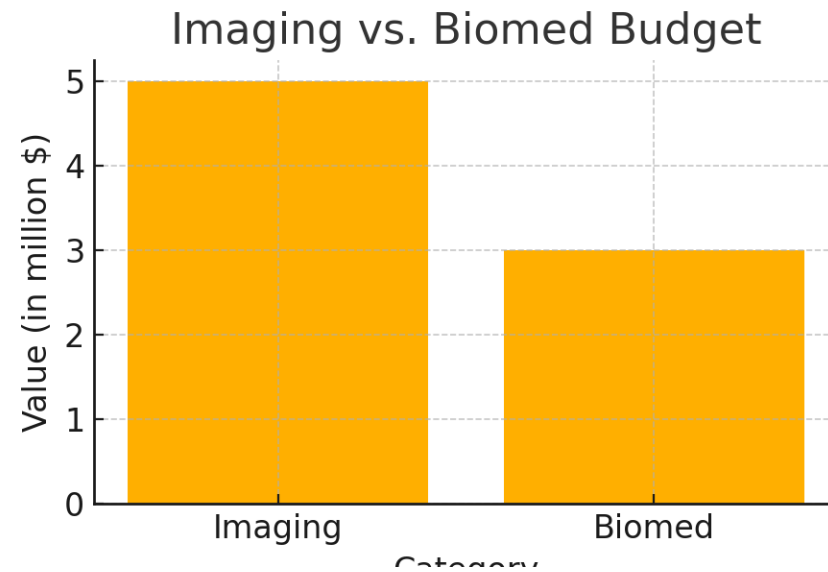


Introduction to Budgetary Constraints

- ▶ Examining the financial limitations in Biomed and Imaging departments.
- ▶ What's your budget? Do you know theirs?

Chart: Imaging vs. Biomed Budget

- ▶ Graphical Representation of Budget Allocations



Shared Equipment Utilization

- ▶ How Shared Use of Equipment Can Reduce Costs

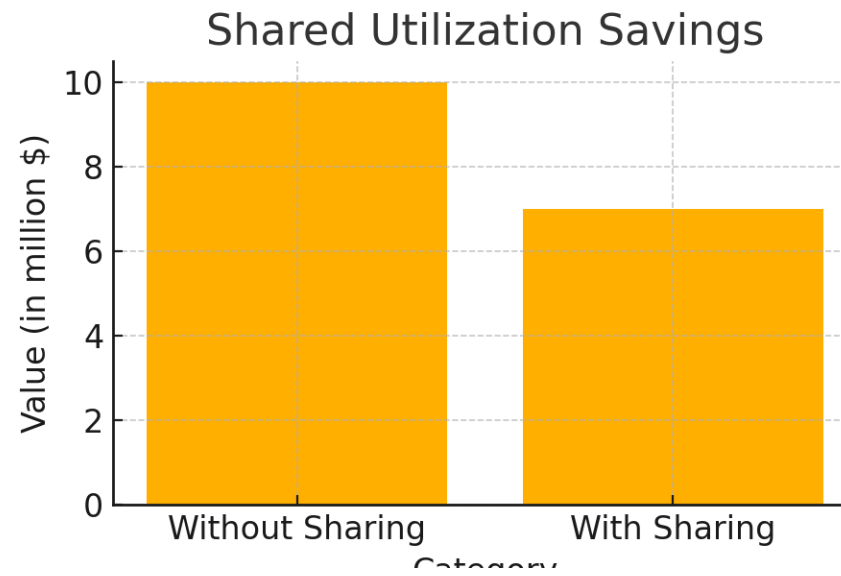
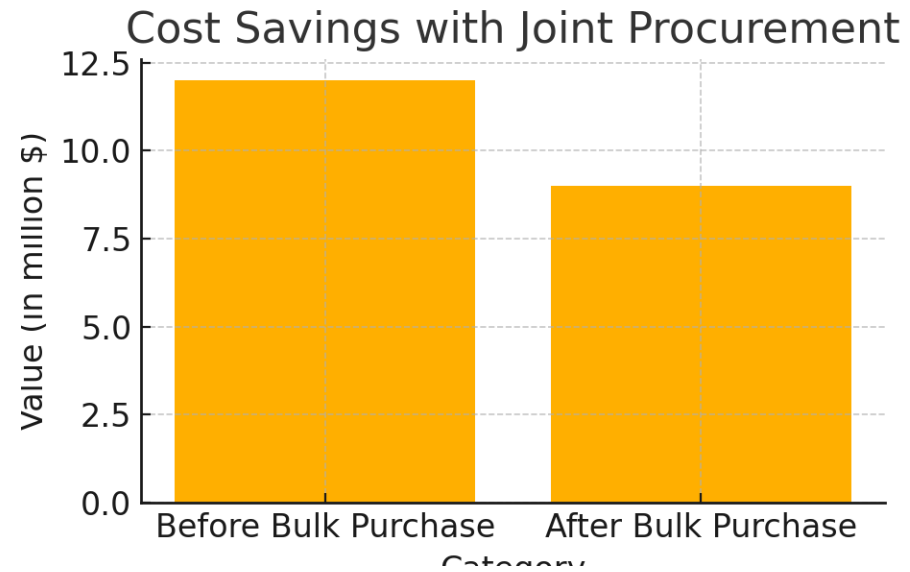


Chart: Shared Utilization Savings

- ▶ Projected Savings from Shared Equipment Management



Joint Procurement Benefits

- ▶ How Bulk Purchasing Lowers Costs

Cost Reduction via Preventive Maintenance

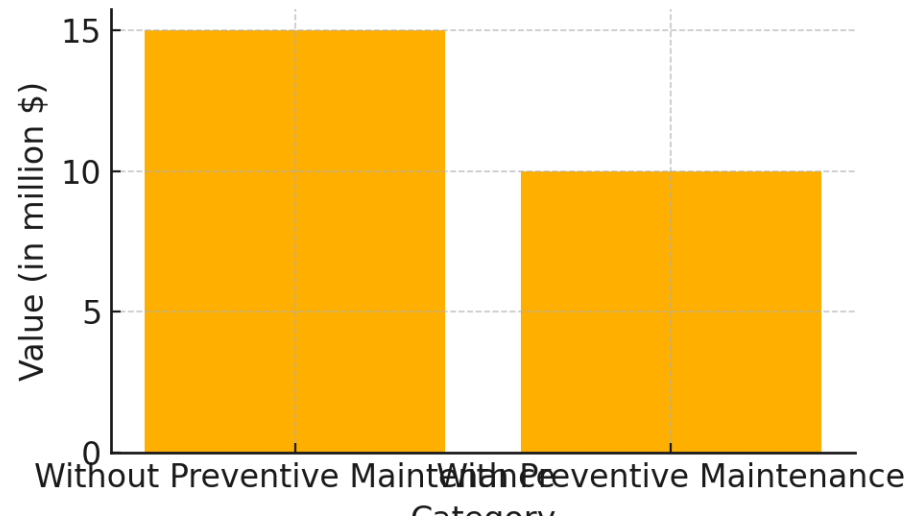
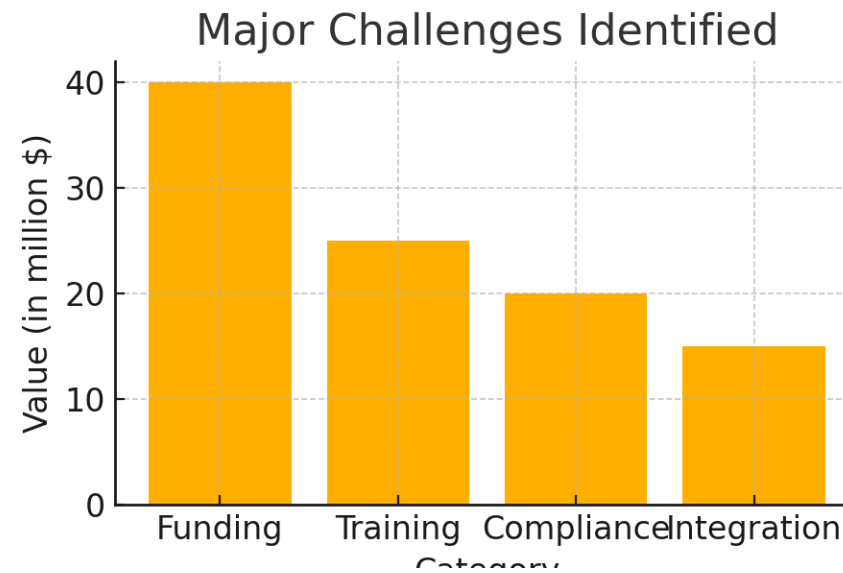


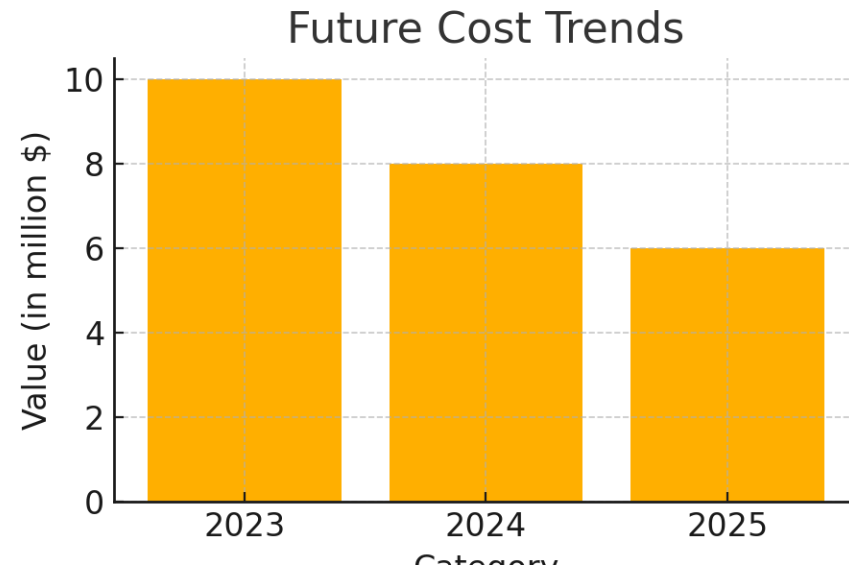
Chart: Cost Savings with Joint Procurement

- Graphical Representation of Procurement Savings



Case Study 1

- ▶ Example of a Hospital That Successfully Integrated Biomed and Imaging



The Financial Cost of Imaging Downtime

- ▶ Quantifying the financial impact of equipment failures in hospitals and outpatient facilities.

The Effect of Downtime on Patient Experience

- ▶ How delays in diagnostics impact patient outcomes and satisfaction.

Self-actualization

desire to become the most that one can be

Esteem

respect, self-esteem, status, recognition, strength, freedom

Love and belonging

friendship, intimacy, family, sense of connection

Safety needs

personal security, employment, resources, health, property

Physiological needs

air, water, food, shelter, sleep, clothing, reproduction

Maslow's hierarchy of needs



Moving from the top to the bottom

Preventive Maintenance Strategies

- ▶ Proactive maintenance measures to minimize downtime and optimize equipment lifespan.

Case Study: Downtime Impact on a Hospital

- ▶ Real-world example showcasing the consequences of imaging system failures.
- ▶ How does losing Mammography for 2 hours create a snowball effect?

The Critical Role of Biomed in Patient Care

- ▶ Ensuring reliability and optimal performance of imaging equipment.
- ▶ How Biomed teams contribute to better diagnostics and treatment outcomes.
- ▶ Enhancing patient safety through proactive maintenance.

Breaking Down Invisible Walls

- ▶ Strengthening collaboration between Biomed and Imaging teams.
- ▶ Encouraging open communication and shared goals.
- ▶ Promoting an integrated approach to patient-centered care.

Choreographing a Future of Collaboration

- ▶ Aligning Biomed and Imaging decisions for financial and patient care success.
- ▶ Fostering teamwork for better patient outcomes.
- ▶ Ensuring that every financial decision enhances healthcare quality.

Case Study: Biomed and Imaging Collaboration

- ▶ How strategic planning reduced downtime and improved operational efficiency.
- ▶ Where/how can we start the conversation with leadership about collaborating?
- ▶ Change management.. We are in it together for both of our goals.

Overcoming Financial Barriers

- ▶ Strategies for budget reallocation and optimizing equipment investments.

Technology Innovations in Imaging

- ▶ How modern advancements reduce the risk of downtime and improve diagnostics.

The Role of AI in Equipment Maintenance

- ▶ Leveraging artificial intelligence for predictive maintenance and performance optimization.
- ▶ What are you seeing out in the field?

Optimizing Staff Training for Equipment Handling

- ▶ Ensuring personnel are trained to manage and prevent imaging system failures.
- ▶ What are you seeing?
- ▶ What do you wish was happening?
- ▶ What would you want imaging students to know?

Collaboration Models for Biomed and Imaging

- ▶ Exploring frameworks to foster communication and joint decision-making.

The Long-Term Impact of Budgetary Decisions

- ▶ What financial choices today affect future operational sustainability.
 - ▶ Capital vs Operational Budgets?
 - ▶ How often do you meet with leadership across departments on their budget/goal planning?

Future Trends in Healthcare Imaging and Biomed

- ▶ Emerging trends and predictions for the next decade.
- ▶ What are you seeing?

Choreographing a Future of Collaboration

- ▶ Aligning Biomed and Imaging decisions for financial and patient care success.
- ▶ Fostering teamwork for better patient outcomes.
- ▶ Ensuring that every financial decision enhances healthcare quality.

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