WHITE PAPER

PARTSSOURCE®

Unlock Millions in Health System Profitability with a New Model for Medical Equipment Management

Philip Settimi MSE, MD, President and Chief Executive Officer, PartsSource
Travis Matthiesen, Chief Financial Officer, PartsSource
Matthew Langner, Assistant Vice President, Asset Equipment Management, Intermountain Healthcare

HOW BENCHMARKING AND ANALYTICS HELP HEALTH SYSTEMS TAKE CONTROL OF THEIR MEDICAL EQUIPMENT: IMPROVING UPTIME/ DOWNTIME, REDUCING OVERALL COSTS, AND OPTIMIZING STAFF AND BUDGET

EXECUTIVE SUMMARY

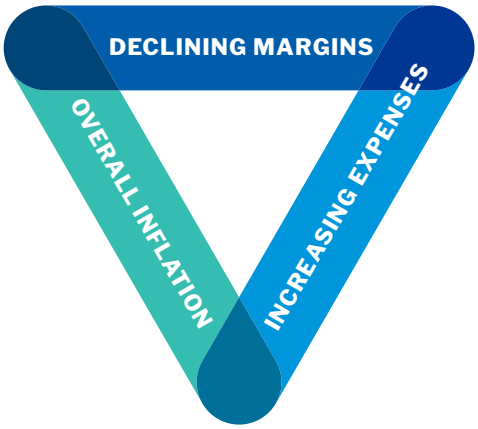
Hospital systems have never been under more pressure to reduce costs while improving quality. Operating margins are down, labor costs are up and climbing, and everything from supplies to the cost of capital is rising with inflation. Meanwhile, leaders must continue to invest in the future, and many must find every extra dollar just to stay afloat. Patients, payers, and regulators continually evaluate the quality and accessibility of care, adding pressure on the demand side.

In this paper we demonstrate how a relatively small slice of the budget—medical equipment maintenance and repair—has an outsized impact on the overall financial health of the organization, and how it can add millions to the bottom line with a strategic, data-driven approach. Our studies suggest that the U.S. healthcare system overall could save up to $2 billion in direct costs, with a much larger potential impact on revenue and quality of service through improving the uptime/downtime and increasing the availability of equipment for patient care.

THE CHALLENGE

Hospital systems are under intense pressure to optimize their resources. Multiple challenges make intelligent spending imperative. The most significant are:

- **Declining margins:** The median operating margin among hospitals and health systems was -1.1% in February 2023, according to the KaufmanHall National Hospital Flash Report released in March 2023[1], and while median margins are higher than in 2022, they are still down 35% compared with February 2020. Returns on non-operating assets continue to be erratic, so providers can't depend on investment income to make up operating shortfalls. This situation is clearly unsustainable.



- **Increasing workforce expenses:** While the total healthcare labor force has finally returned to its pre-pandemic level, according to the U.S. Bureau of Labor Statistics[2], the unemployment rate for hospital workers is a mere 1.5%, putting upward pressure on wages and per-patient labor expenses, which soared more than a third between 2019 and 2022 according to KaufmanHall.[3] The shortage is expected to intensify as healthcare workers leave the field through retirement and changing fields and the training pipeline doesn't supply enough new workers. Higher labor costs also impact other expense categories, such as service contracts and third-party labor.

- **Overall inflation:** Inflation spiked in 2022, affecting every aspect of hospital budgets. While the year over year CPI increase of 9.1% is the highest since 1981 according to Reuters[4], some expense categories have been harder hit. The AHA says supply costs were up more than 20% by 2022 compared with a 2019 baseline, and certain categories jumped even more, such as ICU supplies (almost 32%) and respiratory care supplies (almost 26%).[5] The cost of borrowing also fluctuates with interest rates, making the total cost of capital investments more unpredictable than it has been for years.

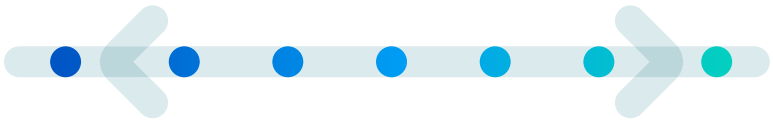
A HIDDEN STRATEGIC OPPORTUNITY

Even with these pressures, we see significant opportunity for every hospital and healthcare system to drive costs down and margins up in an area that's frequently overlooked: the management of medical equipment. This area encompasses everything from million-dollar imaging equipment to bedside devices that represent a modest dollar investment but can make a life-or-death difference to a patient.

For all these resources, uptime/downtime is crucial. Even one minor malfunction can represent thousands in lost revenue. When an operating table's lift is broken, taking that OR out of service, the lost time costs an average of $46 *per minute* and can cost as much as $4,600 per hour depending on the type of procedure being delayed, according to a recent analysis[6] in the *Journal of Orthopaedic Business*. Another recent study[7] showed that surgical procedures last an average of 130 minutes, meaning that each lost procedure represents an average of $6,000 in lost revenue. The cost of waiting for the repair dwarfs the cost of the repair itself, not to mention the immeasurable negative impact of frustrating your surgeons. Every organization's leadership understands how equipment downtime can reduce quality of care and the satisfaction of both patients and clinical staff.

THE COST OF WAITING FOR THE REPAIR DWARFS THE COST OF THE REPAIR ITSELF

Healthcare providers have a spectrum of options for managing medical equipment. The two ends of the spectrum are:



OUTSOURCED

External labor is used to manage replacement parts procurement and equipment repairs.

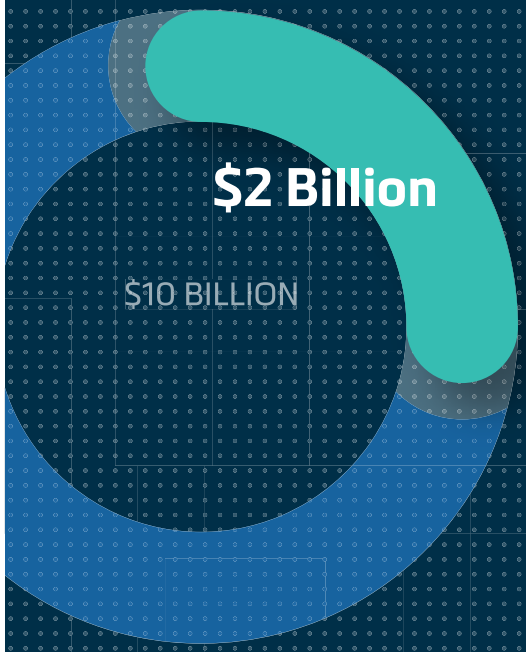
INSOURCED

The internal staff provides equipment service, manages replacement parts procurement and service contracts established with equipment manufacturers.

All organizations use some hybrid of these two approaches. However, many make these choices reactively rather than strategically, and may fail to reevaluate them periodically to see whether better options are available. And in either case, the provider rarely has any insight into its true cost of service. Contractors have no incentive to provide such insight, and in-house staff don't have time or expertise to create systems to track and analyze it. As a result, they often don't know, for example, whether the premium they are paying for a manufacturer's service contract is justified by faster, better service that decreases downtime—or even whether the manufacturer is living up to the performance commitments in their contract.

By routinely reviewing and analyzing their approach to medical equipment management (no matter what approach they currently use), hospitals and health systems can remove costs from their supply chain with no impact—or even a positive impact—on service levels and quality of care. It's a rare opportunity for pure gain, compared with economy measures such as cutting staff or shutting down service lines, which represent trade-offs in quality, and access to care. And we estimate the value of this opportunity—to the nation's healthcare system as a whole—at more than $2 billion per year.

Savings Opportunity for U.S. Healthcare Systems



$2B SAVINGS from more efficient approaches to medical equipment management

The key to this opportunity is data. Hospitals are used to benchmarking and tracking so many aspects of their operations, but fewer than 10% of them monitor the performance of their service contracts to see if they're getting good value for what they're spending, according to a 2022 PartsSource survey of more than 100 hospitals. (See p. 6-7) They are similarly in the dark about their spending on replacement parts. Shining a light on these areas can reveal ways to save millions by bringing the provider's performance in line with national best practices.

IN-HOUSE VS. CONTRACTED: PROS AND CONS

While each type of equipment may require a different calculation to decide whether to handle service in-house or through a contract of some type, these are some general considerations. You should conduct this exercise, taking into consideration the unique needs of your own organization.

	PROS	CONS
IN-HOUSE	Better control (scheduling of services, ordering of parts, responsiveness to emergencies)	Difficulty finding appropriate skillsets for staff
	Better access to complete data on service and equipment costs*	Communicating value upstream
	Lower hourly costs for complex services	
OEM CONTRACTS		Lack of flexibility / control over scheduling
	Availability of specialized skillsets	Highest cost of service
		Inability to access data / transparency

*Regardless of the specific composition of your medical equipment management program, a clinical resource management platform that streamlines the procurement process and provides visibility to strategic analytics can help your team operate more efficiently and effectively, while providing the organization's leadership with accurate data to understand the value of your program.

In addition to the challenges of managing contracts, health systems often spend substantially more than they should on parts, and for similar reasons: lack of coordination and lack of information on what they should expect to be spending.

Our studies show that health systems typically spend between

10-30% MORE

than they need to

working with **400** to **800** different suppliers

Each replacement part order takes more than

+1 HOUR

of staff time to source, track, receive, and reconcile.

Current knowledge on medical equipment management

In 2022, PartsSource studied the state of providers' knowledge base on managing their medical equipment assets, and how they are currently managing them. We compared their results with national benchmarks derived from our database of 100,000 service contracts and 500,000 service events.

OUR KEY FINDINGS:

- Health systems were managing *100 to 200 service contracts* (an average of 146) across all their facilities.
- It took an average of more than three months, *per contract*, from the time the supplier was sourced to the time the contract was activated. Three out of four contracts represented less than $50,000 in spend. The value of staff time spent setting up the contract could approach or even exceed the value of the contract.
- There was *wide variance* on contract costs and terms. Using evidence-based outcome data could improve contract costs by 20% to 30% on average, and 50% to 60% on some types of contracts.

continued on page 7

Current knowledge (continued)

CENTRALIZING MEDICAL EQUIPMENT MANAGEMENT FOR MEASURABLE PERFORMANCE

It's a truism in business that "you can only manage what you can measure." Health systems often have difficulty both measuring and managing their medical equipment maintenance and repair functions.

One common reason for this difficulty is that certain major assets are managed by the department that uses the asset, such as radiology or lab, rather than by a centralized clinical engineering (CE) or health technology management (HTM) department. Centralizing budget oversight and expertise in one department can simplify both management and tracking. It's easier to know what you're spending and what value you're achieving, and to identify opportunities for improvement.

A centralized department will have the time and resources to benchmark effectively, comparing the health system's expenditures and practices against those of peer organizations. In this way, health systems can reduce or eliminate their dependence on contracted services and manage equipment maintenance more effectively: standardizing procurement, eliminating cost variances, and identifying the most cost-effective sources for both parts and services. This systematic, evidence-based strategy allows for:

- Even though OEM contracts are widely considered the "gold standard" for quality of service, hospitals experienced *little variance in service level performance* between OEM and Non-OEM contracts.
- Most health systems have *no methods* in place to monitor the cost and quality of service, or to flag vendor logistical or performance defects, and they also lack the actuarial data to determine where to take risk.

- **Optimizing existing labor capacity.** Approximately 85% of a typical medical equipment maintenance budget goes to service and labor, whether it's contracted or in-house. Providers can free up their staff for high-value work (which can also increase job satisfaction and reduce turnover), and use cost and performance data to identify areas where contracting is the better value.
- **Consolidating vendors.** Our benchmarks show a variation of up to 57% in service and repair costs *for the same device*, even within the same health system, often because an organization doesn't identify opportunities to consolidate contracts and reduce the number of vendors it uses. Such consolidation reduces both cost variances and administrative costs, and gives the organization more leverage by creating fewer but higher dollar contracts.
- **Prioritizing service lines.** Revenue-producing service lines such as imaging and lab offer particularly ripe opportunities for savings, because service contracts for these types of equipment are the largest ones in any contract portfolio, and benchmarking may reveal that it's worthwhile for the organization to train its own in-house staff to handle service. We estimate that health systems can save 30% to 50% on the service of imaging equipment by bringing it in house, and 10% to 15% on the service of lab equipment, compared with an OEM service contract. These savings do not include the faster turnaround on repairs and the resulting improvement in uptime/downtime.
- **Utilizing advanced analytics.** Evidence-based data can improve planning and equipment-related decisions in such areas as:

  - Improving supply chain operations
  - Evaluating service contracts compared with projected expenses for service based on time and materials
  - Computing total cost of service and total cost of ownership for each medical equipment asset, which can help identify when replacement is a better option than continued repair
  - Asset utilization: tracking uptime/downtime and ensuring cost-effective use

AUDIT, CONSOLIDATE, STANDARDIZE, BENCHMARK: A CASE STUDY IN RATIONALIZING MEDICAL EQUIPMENT MANAGEMENT

A health system made up of 10 acute care hospitals and 200 ambulatory facilities has a budget of $50 million, including the costs of in-house staff, service contracts, and parts. As part of a process to evaluate the equipment management program to increase cost savings and efficiencies, the clinical engineering department undertakes a multi-year project to optimize its operations. They conduct a detailed **audit** of their existing equipment and the service contracts associated with each asset. There are more than 250 active contracts, and hundreds of thousands of line items to be analyzed. They discover significant sources of waste connected with contracts, including:

- **FRAGMENTATION**: service contracts for equipment are overseen in 15 different places in the organization. Several contracts are with the same vendor, but without centralized management, the organization is losing negotiating leverage.
- **OVERLAPPING CONTRACTS**: In some cases, both a care site and the system's clinical engineering department have active service contracts for the same piece of equipment, paying twice for the same service.

The next step is to **consolidate**. All contracting, in-house maintenance, and related purchasing is centralized with the clinical engineering department. It inventories all medical equipment and analyzes the current service approach for each asset. An analysis of service history, costs, and staff capacity shows that some work can be handled by in-house staff. The analysis estimates that in-house labor will be approximately 1/10th the cost of an OEM maintenance contract.

Next is to **standardize**. As equipment comes due for replacement, the health system reduces the number of different types that it buys: for example, it narrows its models of MRI machines from four to two. This change is particularly important for assets such as imaging equipment that are costly to acquire and maintain and also a core source of revenue. Standardization enables efficient training of in-house staff to handle high-value repairs and maintenance. Choices are made in close consultation with the relevant clinical departments to ensure that clinicians' needs are met.

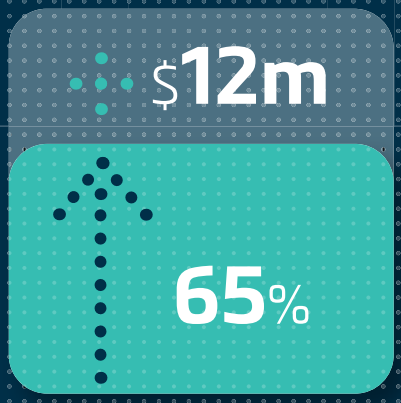
Throughout, the clinical engineering team uses **benchmarking** to quantify opportunities such as:

- Where the health system is paying more than peer organizations for maintenance, repairs, and parts
- Whether medical equipment assets are performing consistent with their expected lifetime
- Which assets are ready to be replaced rather than further repaired
- Which services should be handled in house and what staffing level is needed
- The overall cost-of-service ratio across the organization

At the conclusion of this three-year process, the clinical engineering department has consolidated its service contracts and moved 65 percent of its maintenance and repair activities in-house. Even after adding and training seven new clinical engineers, the department generates annual operational savings of $12 million.

65% of maintenance and repair moved in-house

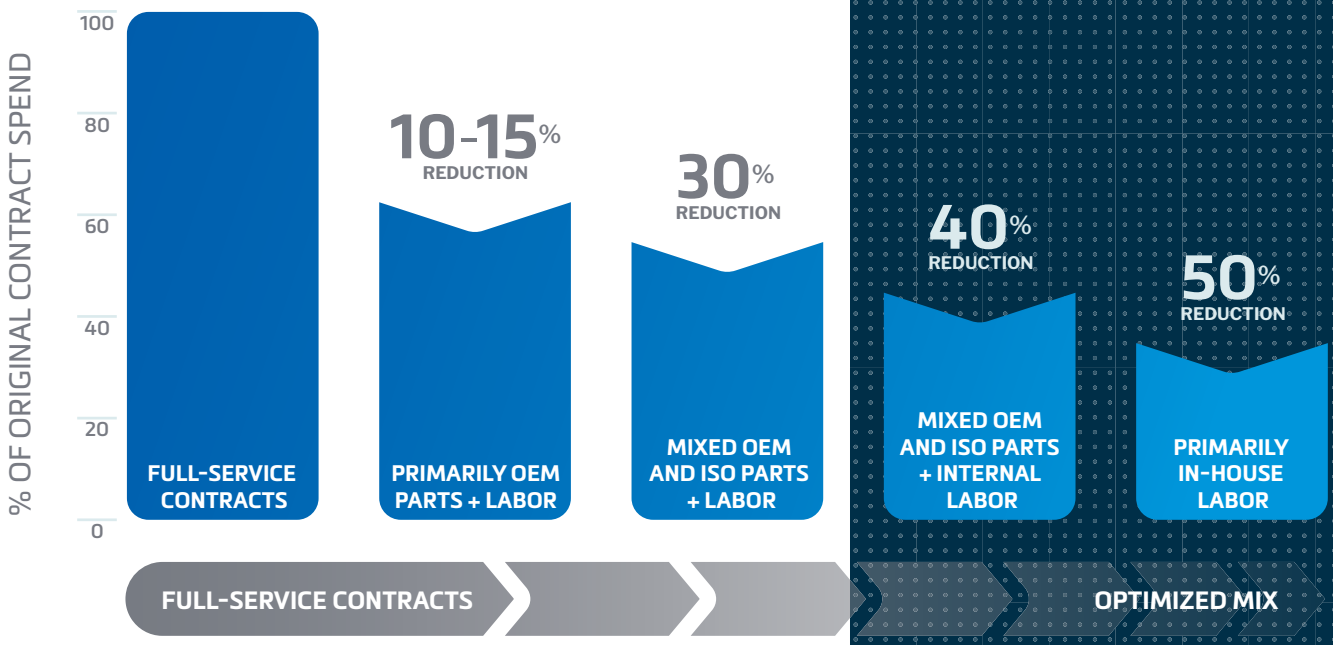
$12 million in annual savings



NEXT STEPS

A data-driven equipment management function, leveraging an in-house staff, can create significant savings. Our data show a potential savings of 10 to 25% of the average budget for medical equipment management, not including savings or additional revenue from improved availability and performance of those assets. As described in the hypothetical case above, we recommend a four-step process for finding these savings:

- **AUDIT** current service approaches and spend.
- **CONSOLIDATE** where possible, reducing the number of contracts and bringing appropriate services in house.
- **STANDARDIZE** so that the organization has fewer different equipment types and can optimize equipment fleet management.
- **BENCHMARK** to identify best practices, performance gaps, and achievable savings.



Service Contract Opportunity

Health system leaders can't afford to ignore these opportunities to reduce costs and reinvest their savings into better service for their patients.

ABOUT PARTSSOURCE

PartsSource is an award-winning healthcare technology company known for modernizing the medical technology supply chain with the industry's first and only clinical resource management platform. Today the SaaS company serves 5,000 hospitals across the United States and is committed to innovating to reduce the cost of healthcare. In 2022, PartsSource lowered US healthcare costs by $50M via innovating solutions that challenge conventional thinking to uncover new sources of cost savings, efficiency, and capacity.

Learn more: CORPORATE.PARTSSOURCE.COM

Follow us:

Philip Settimi MSE, MD, President and Chief Executive Officer, PartsSource

Travis Matthiesen, Chief Financial Officer, PartsSource

Matthew Langner, Assistant Vice President, Asset Equipment Management, Intermountain Healthcare

[1] https://www.kaufmanhall.com/sites/default/files/2023-03/KH-NHFR_2023-03-V2.pdf

[2] Bureau of Labor Statistics. Industries at a Glance: Hospitals. https://www.bls.gov/iag/tgs/iag622.htm

[3] KaufmanHall, The Financial Effects of Hospital Workforce Dislocation. May 2022. https://www.kaufmanhall.com/sites/default/files/2022-05/KH-NHFR-

[4] Special-Report-2.pdf https://www.reuters.com/article/usa-economy-idCAKBN2VG06J

[5] American Hospital Assn. Environmental Scan 2023. https://www.aha.org/system/files/media/file/2022/12/Environmental_Scan_2023.pdf

[6] Smith TS, Evans J et al., Cost of Operating Room Time is $46.04 Dollars per Minute. J Ortho Business 2022; Volume 2, Issue 4: Pages 10-13. https://jorthobusiness.org/index.php/jorthobusiness/article/view/23

[7] Costa ADS Jr. Assessment of operative times of multiple surgical specialties in a public university hospital. Einstein (Sao Paulo). 2017;15(2):200-205. doi:10.1590/S1679-45082017GS3902

Contact us
corporate.partssource.com
877.497.6412

PARTSSOURCE®

PartsSource connects providers with mission-critical equipment supplies and services through the leading healthcare marketplace and software platform. Today we help more than 5,000 hospitals and 15,000 clinical sites achieve sustainable savings and efficiencies. All of our solutions and services are designed to lower the total cost of healthcare, while improving clinical availability and upholding a high standard for quality patient care.