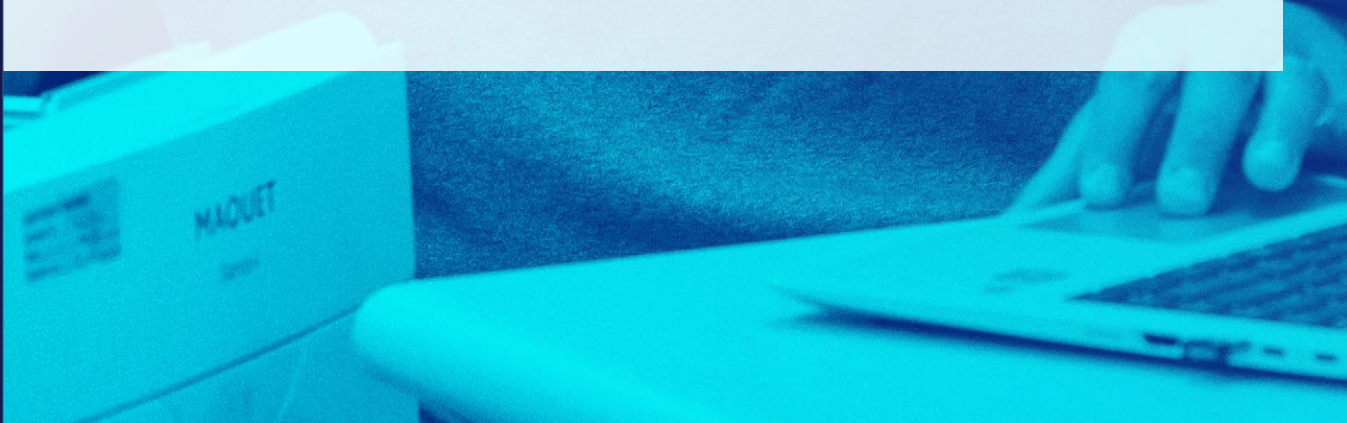




Five Ways to Get More Impact from Your Healthcare Technology

by Bill Axon and Mike Sirmons



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Treating Healthcare Technology as an Investment in Patient Care

Hospitals and healthcare systems invest a significant amount of capital each year in various forms of technology. Supply chain spending is currently the second-largest cost for health systems and is projected to surpass labor costs as hospitals' greatest expense in 2020.

According to Definitive Healthcare data, the 25 hospitals with the highest total medical and surgical supply costs spent more than \$14.2 billion in 2018 (an average of \$569 million for each hospital).

While entered in the books as an expense, money spent on technology is really an investment in quality of patient care, successful clinical outcomes, and efficient operations.



The ROI you achieve on those measures of performance (care, successful outcomes, efficiency) impacts your hospital's reputation and market share. The investment you make also helps your hospital or healthcare system recruit the best team of caregivers — the physicians, nurses, therapists, hygienists, nutritionists, and counselors who treat your patients.

As competition for patients and market share grows increasingly more intense, hospitals and healthcare systems are determined to enhance the quality of the care they deliver, manage the cost of providing that care, and improve their organizations' operating efficiency.

Healthcare technology management (HTM) programs can help organizations achieve these goals. Given the magnitude of resources your organization invests in medical technology and your determination to be a market leader in quality of care and clinical outcomes, **consider these five ways you and your organization can generate the highest possible ROI from your technology?**



1. Capitalize on the Advantages of HTM Outsourcing

MINIMIZE
DOWNTIME

The primary purpose of an HTM program is to minimize the downtime of medical equipment throughout a hospital or healthcare system, from tympanic thermometers to MRIs. Maintaining the productivity of equipment not only enhances quality of care; it also helps hospitals generate revenue by making sure caregivers and clinicians have the uninterrupted capacity to conduct testing and treatment.

While many hospitals operate their own in-house HTM programs, outsourcing this service can help you generate a greater return on your investment in medical technology by ensuring improved reliability, performance, and profitability.

STAY
UP TO DATE

When you outsource HTM services, you'll work with technicians who have distinct expertise with specific types of medical technology. They are not generalists. They are experts trained specifically in maintaining cardiac catheterization labs, nuclear medicine imaging, computed tomography and magnetic resonance imaging,

Expertise translates into performance quality and speed of repair:



Outsourcing your medical equipment maintenance program offers immediate access to the highest-level technicians for even the most sophisticated devices. These technicians often have device-specific training directly from the OEM and are equipped with the latest service manuals, test fixtures and diagnostic tools. They also have access to ongoing training for today's most advanced medical equipment.

It can be cost prohibitive to expect an in-house program to compete with the staffing, training, and education needed to handle a large assortment of sophisticated equipment located throughout a hospital. Clinicians and equipment operators expect technology to function and perform properly when they use it.

HTM vendors often hire professionals from the manufacturer's side of the business, so you'll have access to the very best technicians in the industry, with the most up-to-date knowledge of how to maintain highly sophisticated equipment. You'll also have the option of retaining in-house employees to assume responsibility for training, addressing risk issues, and managing human resources.

MAXIMIZE
AVAILABILITY

Outsourced HTM technicians also have the bandwidth to perform maintenance on a wide range of equipment, from the least to the most sophisticated technology. Plus, these experts are always available.



While having an in-house biomed employee seems like the optimal choice, full-time employees typically only work eight hours a day unless otherwise specified. Most medical facilities need to operate at 100% capacity, even on holidays.

Many biomedical service companies will respond to requests made 24 hours a day, seven days a week. This type of availability is necessary when it comes to repairing or servicing medical devices that are necessary for the healthcare organizations to run smoothly with few to no interruptions.

When a piece of equipment needs repair, the response time is quick, and problems can be addressed at a moment's notice.

In-house HTM service does not typically have the expertise to handle repairs on high-end technical equipment. When something breaks, fixing it requires hiring a technician from outside the hospital and waiting for a response. With expertise on site, you can count on a five-minute response time to repair, for instance, a down catheterization lab. You can also procure parts quickly.

Outsourced HTM vendors have dedicated specialists who are proactive in procuring parts based on preventive maintenance schedules. These vendors also have a wide range of sources they can contact immediately for the best prices and, for older equipment, hard-to-find parts. This quick access expedites response time, which means better and more timely patient care. Organizationally, it means sustained revenue. If a catheterization costs \$50,000 per procedure and the lab is down for a day, lost revenue can be substantial. The outsourcing model, which offers a team of experts, is especially effective if you operate a healthcare system with several sites.

Third, outsourcing HTM services helps you manage your organization's HR expenses. Expenses involved in using an in-house program can fluctuate tremendously from year to year, whether you lose a \$240,000 CT tube or no tubes at all. It can be a challenge to nail down an exact figure for budgetary purposes. With an in-house HTM program, if you need to staff a technician with a special expertise, the hospital incurs that expense. With an outsourced program, costs can be capitated and fixed. Your HTM partner absorbs fluctuations in staffing if you require a certain technical expertise.

CAPITALIZE ON HTM OUTSOURCING

Gain access to a wide array of technical expertise

Maximize availability of technical staff

Assume better control of HR expenses

Establish fixed, capitated costs for HTM services



2. Adhere to Schedules for Preventive and Corrective Maintenance

Performance improvement requires an analytic system that, according to an article from Health Catalyst, **“integrates the organization’s data sources, and quickly and easily unlocks data, and enables effective sharing of data and the addition of new data sources. Doing so allows interdisciplinary teams to analyze the data and discover patterns that lead to insights.”**

Having a highly optimized Computerized Maintenance Management System (CMMS) is critical to managing medical technology ROI. It is important to note that not all CMMS programs are created equal, and not all technicians know how to maximize their effectiveness.

According to one roundtable of experts, **“It’s important that the CMMS used by hospitals include the ability to meet Joint Commission requirements, both now and in the future. It is equally important that they choose a CMMS that meets their needs now and in the future. The CMMS selected should be scalable – in order that the hospital can add as their needs increase – and should always be improving and evolving as requirements change.”**

CMMS can help you achieve the best return on your investment in medical technology.

SCHEDULE MAINTENANCE

By using this system to collect and house pertinent data for each piece of medical equipment in your hospital, your HTM partner can schedule and strictly manage preventive maintenance (PM) and corrective maintenance (CM). A robust CMMS not only allows a hospital to set up PM schedules; it also includes the PM procedures. This is an important feature.

When the original equipment manufacturer (OEM) updates a procedure for using equipment, that information is centrally located on the hospital's system, and is also updated and stored on devices at the model level. That way, when clinical staff use the equipment to treat patients, they can be sure of using the most current procedure.

Preventive maintenance records, along with any OEM checklists, must be monitored given the need that hospitals comply with regulatory guidelines. However, it is equally important to document all records related to corrective maintenance. An optimized CMMS can break down corrective work orders into subcategories such as recalls, operator error, damage, and even patient-related incidents.

MAINTAIN RECORDS

This data helps with reporting later on, especially when a regulatory inspector walks in the door and asks about the status of a recall. Being able to quickly access that data demonstrates a highly responsible and transparent system. In the event your HTM partner is having to make the same repairs repeatedly, you can identify who is using the equipment incorrectly and then work with the hospital's education department to provide users with the training they need to use the equipment properly.



ALLOCATE RESOURCES

With the hospital's entire equipment inventory loaded into the CMMS, your HTM partner can schedule preventive maintenance throughout the year for all medical equipment. This feature is beneficial from an HR perspective. The plan allocates specific HTM technicians to each department, and this ensures that preventive maintenance is performed on time and according to schedule. It also enables you to use your HTM expertise most efficiently.

Another benefit of the CMMS is that it allows you to track data related to equipment not just at a single facility, but also across several sites in a healthcare system.

If your HTM technicians see a trend in repairs, for instance, they can adjust PM schedules to prevent equipment from requiring corrective maintenance. The information gleaned from PM and CM reports can help you determine how to maintain equipment more effectively, which might require modifying maintenance schedules.

Based on data tracked by the CMMS program, your HTM partner can let you know when a piece of your medical equipment is nearing the end of its life cycle and whether the time has arrived to invest in new equipment.

This information allows you to budget for a new CT scan or MRI or, if necessary, develop a maintenance plan that allows you to extend the life of your equipment for several more years. Should you need to keep your equipment online beyond its normal lifespan, your HTM partner has access to aftermarket resources so they can locate and procure parts for older units.

ADHERE TO MAINTENANCE SCHEDULES

Maximize effectiveness of equipment

Achieve best return on investment in technology

Extend equipment life cycle



ENSURE
PROPER USE

3. Invest in Training

When you hire an HTM partner, you will want to make sure its technicians can help caregivers maximize the capabilities of your hospital's medical technology. That is why training is critical.

The right training helps you get the most from your HTM program because it ensures that technicians are able to properly maintain equipment. That, in turn, reduces downtime, minimizes the need for repairs and replacement, and helps you attain projected revenue from your medical technology. The expertise and experience of your partner's leadership and technicians should instill confidence that they have those capabilities.

Another measure of expertise is whether and to what extent your HTM partner invests in training. Innovation is the hallmark of medical equipment, and your biomedical technicians must be up to the task of maintaining the latest technology if you want to get the most impact from your investment.

When you outsource HTM, you shift the training expense you once incurred for your in-house program to your partner.



Members of the HTM community can pursue a variety of certifications.

Certifications include Certified Biomedical Engineering Technician (CBET), Certified Radiology Engineer (CRE), and Certified Healthcare Technology Manager (CHTM). While a majority of hospitals are not focused on certifications, the HTM industry is encouraging this sort of training because it shows that technicians are up to speed on maintaining the highly complex equipment hospitals use to provide care.

To get the best return from your medical equipment, it is vital that your HTM partner’s technicians have product-specific training on the technology your hospital or healthcare system uses.

At the beginning of each year, the hospital team charged with overseeing the medical equipment program should sit down with your HTM partner to develop a training plan that best addresses customer needs. That training schedule can be reviewed during the year to make sure your HTM partner adheres to it and, when necessary, pursues additional training.

INVEST IN TRAINING

Ensure proper use of equipment by caregivers

Enable technicians to maintain the latest technology

Monitor ongoing HTM partner expertise with annual training plan



4. Share Best Practices

Training for HTM technicians takes several forms, and each helps hospitals get more impact from their medical technology. Sharing best practices represents a different form of training.

According to John Haughom, MD, a senior advisor with Health Catalyst, knowledge management is crucial:

“Solving problems and making optimal decisions in healthcare is heavily dependent on access to knowledge. In today’s increasingly complex environment, it is rapidly becoming essential for healthcare organizations to effectively manage both internal knowledge and externally generated knowledge in order to provide the best possible healthcare, achieve operational excellence, and foster innovation.”

A well-organized strategy for sharing best practices facilitates decision-making, creates a culture of learning and performance growth, and sparks innovation.

Knowledge sharing can take place extemporaneously during conference calls or team meetings. Sharing best practices can also take place during a planned monthly or quarterly meeting with all site directors. HTM vendors typically encourage their technicians to participate in training sessions/seminars and expos. Large public forums attract experts from around the world and provide an excellent opportunity to share ideas, enhance knowledge, and improve performance.

To reach an even broader audience, knowledge sharing can be achieved via a web-based platform. This format helps ensure that clinical engineers and their peers working at various hospitals can share their experiences with medical devices, ultimately enhancing the quality of care and increasing the professional competency and effectiveness of caregivers.

Ultimately, the goal of sharing best practices is to increase the professional competency of clinical engineers. The outcome? Your hospital can ensure the quality and performance of medical equipment and increase patient satisfaction with healthcare services. Both add to your bottom line.

SHARE BEST PRACTICES

Encourage a culture of learning

Spark networking and innovation

Improve technician performance

Manage knowledge



5. Create Opportunities to Enhance Communication

One strategy for making sure your hospital or healthcare system secures the best return on its investment in healthcare technology is to establish open lines of communication with your HTM provider. These lines of communication should exist at all levels of your organization, from the C-suite to the hospital floor, and with CEOs and COOs, as well as clinical caregivers.

Here are a few ways ongoing communication has a positive impact on your operation.

CONSOLIDATE RESOURCES

First, you gain a clear understanding of precisely what services your HTM partner is providing and what you are paying for when you outsource technology maintenance and procurement services. Suppose your hospital has an in-house program that manages and maintains only biomedical equipment. For the other equipment – ultrasound, MRI, CT scans, and x-ray rooms, for instance – you have contracts with separate vendors. Each service represents a single provider with its own requirements and its own fee. Working with a single HTM partner, you are kept better apprised of costs because you are able to communicate with one service provider instead of several. That single provider is accountable for the figure on the bottom line and communicates with you about total and individual expenses.

**EXPAND
EXPERTISE**

Second, you can enhance communication and gain added value from your technology when you make your HTM partner part of your hospital's "family," not just the technology contractor.

You can ask leaders and technicians from your HTM partner to serve on committees and teams. For instance, they can support your operation by offering their expertise on the environmental care committee, the medical equipment committee, or, given recent events, a COVID-19 response team.

Ultimately, the experts who manage and maintain your medical technology can enhance your ability to provide care and make policy decisions. And because they are expert technicians, using them to provide insight, inform policy decisions, and work with clinical staff allows you to secure even more value from their services.

**ENHANCE
COMMUNICATION**

Understand the range of services provided by your HTM partner

Secure added value from technicians

Build vital relationships between technicians and caregivers

Third, communication is about being engaged not only with the C-suite, but also with caregivers.

Your HTM partner should be interacting with the clinicians themselves, speaking with them every day to monitor the efficacy of their equipment and determine how they might help them improve their job performance. Your partner should also be involved with departmental directors. By being intimately engaged with caregivers and directors, your HTM partner can anticipate problems or perform corrective measures on technology before a CT scan, for instance, crashes.

One way to make sure you maintain an open and productive line of communication from the hospital floor to the C-suite is by having regularly scheduled joint reviews, perhaps monthly or quarterly. This forum will provide you with an opportunity to meet with your HTM partner to discuss their assessment of your technology and its performance over the past reporting period. This strategy enables you to anticipate and avoid equipment failures. In fact, making joint review sessions part of the contractual agreement is advisable.



Quality of Patient Care – Your Standard of Success

To achieve the best return on your investment in medical technology, you need to select an HTM partner that is committed 24/7 to helping your hospital deliver the highest quality of healthcare.

What does that commitment look like?

Your partner, through scheduled maintenance and an astute awareness of equipment life cycle and performance, must make sure your medical technology operates efficiently, precisely, and on demand.

The HTM professionals who serve you must remain abreast of the most innovative technologies in the market. They must also continually cultivate their expertise through training. And they should readily embrace opportunities to share best practices industrywide, always with the goal of strengthening your organization's ability to serve patients.

**LIFELONG
DEVELOPMENT**



Getting the most from that service may involve letting your HTM partner apply their expertise to other areas of your organization. Today's technology, for instance, has become increasingly interrelated with the IT community. All medical equipment works over computer lines. To make sure your medical technology is as effective as possible, HTM providers must build relationships with the IT side of the hospital or health system to make sure information from their cutting-edge technology flows to the electronic medical records department securely, quickly, and without interruption.

**BECOME
FUTURE-READY**

The competition for patients and market share in the healthcare sector is intense, so it is imperative that you partner with an HTM provider that delivers a strong return on your investment in medical technology. The challenges you faced during the COVID-19 pandemic are both a pressing and costly reminder that the healthcare industry and those who serve it must be highly trained, exceptionally experienced, and out in front of the next medical crisis.



About the Authors



Bill Axon

Regional Director

As the Regional Director for TKA's Texas region, Bill is responsible for operational overview of the HTM services provided to our clients throughout the Texas panhandle and Eastern New Mexico areas. Additionally, he is responsible for the oversight of TKA's National Parts Procurement Program that services all of our customers throughout the Texas Region, as well as Northern and Southern California.

Bill has always had a fascination with engineering, beginning his career as an Aviation Electronics Technician for the Navy. When a job posting for an entry level Biomedical Technician job was posted at a local hospital, Bill applied and got the job. That was over 30 years ago, and the rest is history.

Today, Bill manages the operations for the several hospitals and clinics that are currently served by TKA in the Texas region. This includes managing clinical equipment assets valued at over \$188 million, serving more than 819 patient-care beds during construction, as well as approximately 65 clinics, ambulatory centers, and imaging centers across the Texas Panhandle and Eastern New Mexico.

Bill is an active member of AAMI, when he is not at work, Bill enjoys playing guitar and woodworking.



Mike Sirmons

Director of Clinical Technologies

Mike currently serves as Director of Clinical Technologies for TKA at Covenant Health System in Lubbock, Texas. In his role, Mike leads a team of 16 Biomedical Technicians and Imaging Service Engineers. He provides valuable technology consulting to hospital leadership to help with business growth plans and is on numerous system committees.

Mike got his start in the United States Air Force as a BMET in 1991. From there, he went on to work for a national ISO, progressing from a BMET-2 to Division Manager for Imaging before joining TKA in 2013. Mike manages 4 hospital accounts with a combined inventory of \$165M worth of assets.

In addition, Mike is a member of AAMI and a Certified Healthcare Technology Manager. Outside of work Mike enjoys spending time with family, especially his grandchildren

[MEET OUR FULL TEAM HERE](#)



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