

Healthcare Technology Support An Updated View from the Market

BACKGROUND

ISS Solutions commissioned research to obtain a qualitative assessment of the issues concerning service delivery executives supporting Information (IT) and Clinical Engineering (CE) technologies. The research was focused on larger hospitals (500 beds or more) and healthcare systems in the Mid-Atlantic region.

The core research was performed by D.F. Blumberg Associates and involved discussions with a broad range of hospital senior executives, department managers and representatives of Group Purchasing Organizations (GPOs). It was supplemented by conversations with senior officers of Independent Service Organizations (ISOs) that provide technology support for hospitals. In total, participants represented over a hundred organizations.

The findings provide insight into the attitudes, challenges and issues faced by healthcare service delivery executives. Not all findings are universal; there was considerable variation by organization. However, in aggregate the findings provide insight into the thinking across the industry.

In addition to the survey results, we have provided several of our observations about the unique environment surrounding the management and maintenance of patient care equipment in healthcare facilities.

ISS Solutions is making this information available to the industry through this paper and other documents published on this research. It is our belief that through an exchange of ideas and viewpoints, the industry's participants can become more efficient and effective in providing healthcare technology support and in improving the quality of healthcare in the United States.

FINDINGS

Cost And Productivity Continue To Be A Challenge – Traditionally, the healthcare industry has a poor reputation for controlling costs. Payers and the public are questioning increasing costs. In addition, a large portion of the population cannot afford healthcare creating a political

problem. We found that industry executives universally feel the pressure to control costs, and this has affected the way that service and support organizations conduct their business.

Costs Are Not Always Known – Despite cost pressures, not all organizations know their technology support costs and consequently cannot control them. Separate cost centers, reporting relationships and procurement processes restrict visibility into the Total Cost of Ownership (TCO) of technology. In addition, we did not find many organizations setting cost and productivity targets based on “best in class” suppliers. We found in some cases annual cost increases are planned based on anticipated higher patient volumes, new technology deployments and required new skill sets.

Support Requirements Are Changing – Our interviews revealed that the need for quality support is increasing. 24 X 7 support is becoming a standard as technology becomes the underpinning of communications, medical records, diagnostic capabilities and healthcare delivery. “Real time” is now a prerequisite for both generating revenue and quality patient treatment.

OEM Support Is Still Perceived To Be Costly – Traditionally, OEMs and software publishers offer service with their products at least through the warranty period. However, it is the industry’s perspective that OEM support is expensive. In addition, healthcare organizations appear to find it difficult to obtain required documentation, training and cooperation when a third party provider is used. It was apparent that arrangements with OEMs need to be negotiated when equipment is purchased to maximize cost economies. Many organizations have limited experience in this area due to the infrequency of purchase. Consultants, ISOs and GPOs can, and in some cases, do add value to this process.

A Single Provider Approach is No Longer Viable – Total IT and CE support programs are complex. We were told that no one party can provide a complete solution. An effective service strategy usually includes internal staff, OEM support and ISOs. Some in the market are referring to this as Open Sourcing.

Healthcare Organizations Face An Outsourcing Paradox – In many industries, organizations outsource low value work in order to concentrate on their core business processes. However, we found in the healthcare service area, there is a tendency to handle “commodity technologies” internally. This includes PC’s, notebooks, hospital beds, pumps, etc. The key question for management is whether these technologies are really mission-critical. On one hand it can be argued that anything involving patient care is mission critical. On the other hand, third parties can adequately handle commodity technologies.

Imperfect Market Knowledge Limits Choices – Our research found that internal service groups are skeptical about the capabilities of third party maintainers. They generally rate the performance of ISOs as adequate, at best. However, when questioned, few knew the major market players or their programs. This suggests that effective alternatives may be available that are not known to the respondents.

ISOs Are Skeptical Regarding The Effectiveness Of Internal Support Programs – Based on their experience with multiple clients, third parties question in-house staff’s effectiveness in optimizing service program cost and quality. They point out that often internal organizations do not know their total program costs and may not be skilled in best practices. However, when questioned, few ISOs have developed capabilities to help a client benchmark and evaluate the cost-effectiveness of their programs.

Service Is Local – Healthcare organizations indicated that the service experience is closely related to the service delivery professional. The service business is a people business. We found that the attitude and skill of the local technicians and managers can greatly influence the overall perception of a company’s service.

The Procurement Process Is A Challenge – Our discussions indicated that in a healthcare organization, multiple parties are involved in the procurement process. This can involve physicians, administrators, service professionals, finance professionals, technology staff, advisors, legal staff and, of course, suppliers. This environment creates a time-consuming procurement process that can result in a less than optimal decision. Effectiveness in this environment requires a high level of trust between the parties, open communication and a shared vision of the organization’s objectives. This is a challenge for some organizations, especially where turnover is evident.

Convergence Has Happened – Participants have looked for the consolidation of IT and CE departments as a sign that convergence has occurred in the IT and biomedical areas. While these departments may not have merged, IT technology has certainly permeated biomedical devices. Moreover, network and IT capacity is actively being deployed to support clinical applications. Organizational structures are changing to keep pace with technology changes.

Management of Complexity Is Required – Interviewees felt that managing technology within a health care facility can be more complex than in other industries. In addition to the critical nature that technology can play in delivering patient care, many modalities contain proprietary technology that creates inter-operability issues and separate service arrangements. In addition, many clinicians have strong hardware and support bias that has to be accommodated in the construction of a service plan.

TAKING THE SURVEY FINDINGS INTO YOUR CLINICAL ENGINEERING ENVIRONMENT

The survey findings are consistent with ISS Solutions’ experience and show that supporting the technology used in the diagnosis and treatment of patients can be a unique, and often complex, endeavor. A well run, comprehensive Clinical Engineering Program is required in order to be successful. Usually the cost of the CE program is a relatively small percentage of the total operating costs of the organization. However, an improperly managed program or one that delivers poor service can cause high costs if patient care or regulatory compliance is compromised. In addition, the hospital’s reputation can be adversely effected if a patient is injured or the organization fails a regulatory inspection due to a problem with clinical equipment

support. When performed correctly, the CE program will have a positive impact on patient care and reduce the organizations overall costs by:

- helping to select appropriate equipment
- ensuring the appropriate use and maintenance and strategies for the equipment
- coordinating and delivering all necessary scheduled and corrective maintenance
- providing proper management of outside vendor services
- removing and disposing of out-dated technologies when appropriate

As pointed out by the respondents to our survey, the most successful programs are often a mix of internal and external resources. Usually internal programs are run as cost centers with constantly increasing annual costs. Often productivity is not monitored or measured and improvements are not mandated as part of the program. When in-house budgets get tight, staff training and support are decreased and staff is eliminated. So, the program looks outside for assistance.

OEM support for their products is an alternative, but usually at a premium price. Some OEMs offer support across a range of products and manufacturers (multi-vendor service), but they have an equipment bias and a need to maintain their maintenance margins. ISOs can help. The best are those that approach their clients as partners, with the objective of driving down the total cost of ownership of patient care equipment while maintaining a high quality of support for that equipment. Insurance coverage to underwrite the cost of equipment maintenance has been used by some. But insurance programs do not provide the full range of services necessary for a comprehensive Clinical Engineering program.

Establishing and maintaining the optimum mix of internal and external resources is the key to a cost-effective program. A number of external options should be considered when developing this optimum mix, including:

- **Supplemental Labor** – The in-house staff is supplemented by skilled technical personnel provided by an external source. The supplemental staff can be used on a long-term basis, or to meet peak demands in workload, or to cover for periods of absence by the in-house staff due to training, illness, vacation, turnover or other prolonged absence. Typically, all systems and processes of the in-house program are used by the supplemental staff. This type of assistance is very flexible and the cost can be managed to meet the need.
- **Traditional Maintenance** – An external organization provides the skilled manpower, as well as all test equipment, testing protocols, tools, processes, procedures and documentation to accomplish inspection, calibration, preventive maintenance and repair, as needed to assist the in-house group. This adjunct to an existing in-house program can cover a type of equipment (e.g. ultrasound) or type of service (e.g. scheduled maintenance) or location (e.g. off-site clinics). This type of service can be provided with or without required replacement parts, and typically uses the systems and processes of the supplier. However, the documentation of all maintenance activities should be consistent and in one reporting system. Service of this type is typically less expensive than that

provided by the OEM; the scope of the service and its cost can vary to meet the need and typically the service is provided at a fixed fee for that scope of work.

- **In-House Program Assistance** – A set of services from an external provider that wraps around the in-house program. The assistance can be in any part of the Clinical Engineering function e.g. technology acquisition, staff recruiting and training, asset tracking, specialty modalities, management of outside vendors, parts acquisition, equipment disposal or quality assurance. In-house employees with an in-house or outsourced manager are supplemented with the skills and knowledge of an external organization in selected areas. The assistance can be one-time or ongoing. Again, the extent of the assistance and its cost can vary to meet the need and the assistance is usually provided at a fixed fee for that scope of work.
- **Managed Services** – A knowledgeable, experienced Clinical Engineering manager, employed by a third-party organization and supported by that organization’s technical and management resources, manages and delivers a complete Clinical Engineering program. This is for the organization that has decided to outsource their entire Clinical Engineering business function. All client services are consolidated into one, coordinated, comprehensive, cost-effective program

CONCLUSIONS

The participants in our survey, as well as the observations made by ISS Solutions, have identified a number of challenges to managing healthcare technology. Many of the concerns, however, are not unique to healthcare. These same concerns are shared by executives in other industries responsible for technology support. Those who are handling the challenges most successfully follow an approach that includes:

- Understanding the service level requirements of each technology and their related costs
- Designing and optimizing a support program using the best available resources, both internal and external
- Choosing knowledgeable, local partners with the right skills and a strong customer service orientation
- Implementing a continuous quality improvement program that measures both program performance outcomes and user satisfaction
- Actively communicating the results of the program and creating a common understanding of its performance and progress

- Developing an external view of the industry that includes routine discussions with OEMs, service vendors, consultants and GPO executives to learn best practices and anticipate change

ABOUT ISS SOLUTIONS

ISS Solutions is the premier provider of Clinical Engineering and Information Technology support programs in the Mid-Atlantic region. For over thirty years we have helped our healthcare clients with timely, accurate and cost-effective healthcare technology solutions. Our services are customized to meet the unique requirements of each of our 100+ clients and specifically designed to provide maximum value to each organization.

Many of the concerns presented by the individuals included in our survey are addressed by Clinical Engineering and Information Technology support programs that ISS Solutions currently offers. A sample of our Clinical Engineering programs is given in the chart below:

Program Components	Staff Augmentation	Traditional Maintenance Program	Self Maintainer Support Program	Outsourced Program
◆ Labor (Full or Supplemental)	✓	✓		✓
◆ ISS Solutions Asset Tracking System		✓		✓
◆ Parts Procurement		✓		✓
◆ Service Management Participation (Committees, Staff Training, Process & Procedures, etc.)			✓	✓
◆ OEM Management (Contract Management, First Call Management, etc.)			✓	✓
◆ Program Management (Cost, Service and Productivity Management)			✓	✓
◆ Technology Management Assistance (Technology Assessments, Replacement Analysis, etc.)			✓	✓
◆ Results	Incremental Cost Program	Stable, Fixed Cost Program	Supplemental Knowledge & Skills Program	Lowest Total Cost Program

ISS Solutions corporate parent is the Geisinger Health System. This \$1.5 Billion integrated healthcare organization serves approximately 2.5 million people in central and northeastern Pennsylvania. As the provider of comprehensive Clinical Engineering and specialized Information Technology services to the health system, we are uniquely positioned to understand our client's needs and qualified to deliver programs of exceptional quality. For more information, visit www.ISSsolutions.com or call 215-752-2221.