Centralized Asset Management Operating Model

The operational, economic and clinical benefits of moving from transactional site-specific processes to a systematic enterprise-enabled management platform for mobile assets

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Introduction

Health systems continue to be challenged to reduce costs to meet regulatory and financial realities, and most probably feel that there is little left to be cut. There is one area, however, where opportunity remains for most health systems: namely, the cost burden associated with acquiring, distributing, and maintaining mobile equipment. This class of devices—which includes ventilators, infusion pumps, telemetry units, and other workhorse equipment on the front lines of patient care—accounts for approximately 95 percent of a hospital’s clinical asset base. In a multi-facility health system, mobile assets can represent thousands of devices and millions of dollars in capital and operating expenditures.

The cost burden is growing. The volume of clinical devices per hospital bed has jumped 62 percent over the past 15 years (Fig. 1). In 1995, a patient was surrounded by eight devices; by 2010, there were 13 devices at bedside. As a result, service and maintenance costs per bed have skyrocketed to 90 percent (Fig. 2), despite the fact that per device maintenance costs increased only about 15 percent during the same period (roughly the rate of inflation.) The core of the problem is that the average utilization of mobile devices is only around 42 percent; which means that health systems today spend nearly double what they did 15 years ago to maintain a bloated and severely underutilized asset inventory.
Health systems have the opportunity to save hundreds of thousands of dollars currently being misspent on underutilized assets through a two-pronged approach that combines improved distribution processes with technology that enables tracking and monitoring of mobile assets. In our experience, many multi-facility health systems seek to make improvements on a per facility basis. Addressing asset workflow and utilization issues at the local level, however, is just the first step on the pathway to reining in mobile asset inventories and the excessive operating and capital expenditures they generate.

Even greater potential for improvement, in our view, lies in attacking mobile asset management at the system level. We contend that many health systems are leaving money on the table by not leveraging the scale of their operations to manage assets via a centralized distribution model. Using information supplied by an integrated hardware/software solution, such a model is demonstrating the ability to help health systems:

- Drive higher utilization with reduced inventory levels
- Address fluctuations in demand across multiple facilities
- Exercise fiscal responsibility on excess inventory and rentals
- Deliver desired economic and quality outcomes

Fig. 3. Overview of Centralized Distribution Model
From transactional to strategic asset management

With a Centralized Distribution Model for asset management, a health system moves from traditional “intra-facility” transactional management of mobile assets in which each facility controls its own assets to an “inter-facility” model in which the health system coordinates and distributes assets for all facilities according to patient care needs and operational objectives. In this comprehensive approach, all processes associated with clinical asset management—procurement, utilization, infection control, equipment maintenance and service, supporting technologies (integrated hardware/software solution and informatics), and governance—are controlled and supported centrally.

In the Centralized Distribution Model (Fig. 3), site-specific demand for assets is met by drawing on a dynamic par level stocking location, known as a “super market,” located within each facility. The Central Distribution Center supports appropriate stocking of par levels at the respective facility super markets, moving assets as needed among the facilities to meet fluctuating demand. The AgileTrac™ “informational backbone” provides continuous data on asset location and movement across the enterprise so that the Distribution Center staff can effectively manage asset flow and divisional supply chain processes.

The Centralized Distribution Model provides enterprise-level capabilities to support effective mobile asset availability at each site, including:

**Asset Optimization** – Asset management workflows at each site in the system are optimized. Minimum and maximum par levels of equipment are established for each facility and an efficient distribution process put in place to operationalize the model at the local level.

**Informatics and Technologies** – The technology-enabled operating environment tracks equipment with organized and accessible data for effective decision-making. The AgileTrac integrated hardware/software solution deployed in our engagements provides an enterprise-level view of asset utilization with alerts defined for each facility and system to trigger replenishment requests and reviews.

**Quality and Regulatory Compliance** – Documented policies and processes are established with oversight and audits to validate compliance and understanding among staff members at all facilities.

**Equipment Maintenance** – A quality maintenance program helps to maximize equipment uptime and minimize repair time while keeping operating expenses low.

**Technology and Capital Planning** – Utilization data and other informatics available to Center managers through the RTLS enables more knowledgeable oversight of the installed base and more effective decision-making regarding future spend.

**Governance** – Clear ownership, metrics, and operating mechanisms are established to measure success and identify continuous improvement opportunities in asset management processes and policies.
Operating and capital budgets stretch further

By harmonizing divergent processes across departments and facilities into a standard process for mobile asset utilization based on demand, the Centralized Distribution Model offers the potential for significant benefits.

Reduced capital and operating spend.

A key feature of centralized asset management is the ability to balance supply-demand for mobile medical equipment across the enterprise based on census, acuity, utilization, and other variables at individual sites. Coupling centralized control with standardized distribution processes and site-specific allocation, many health systems find they can meet equipment demand and maintain quality of care with a significantly smaller asset base. In our experience, asset optimization initiatives typically produce a 15 to 25 percent reduction in inventory per facility. When that reduction is multiplied across two or three facilities in a system and the excess units allocated according to need, the overall system-wide mobile equipment inventory often can be reduced even further. A smaller inventory costs less to replenish as equipment ages out. With fewer units to procure, the health system can reduce or avoid capital spend that may otherwise be in the million dollar range. Operating spend is impacted as well, since maintenance and service costs correspond to the size of the inventory. Rental and leasing costs are typically reduced by 10 percent since the health system has the infrastructure and utilization intelligence to meet fluctuation in demands from the Central Distribution Center rather than having individual sites engage outside suppliers.

Potential impact on patient care.

When mobile clinical devices are “patient ready”–immediately accessible, clean, and in good working order–good things happen clinically and operationally in a healthcare facility. Physician orders can be fulfilled in a timelier fashion. Nurses can spend less time looking for equipment and more time looking after patients. Clinical staff more productive and focused. All of these factors play a role in improving outcomes such as Length of Stay (LOS) and hospital readmission rates, which are increasingly important performance metrics for hospitals and health systems to meet payer and regulatory demands.

More informed asset management decisions.

The Centralized Distribution Model brings together uniform processes, technologies, and informatics to improve operational decision making. By centralizing governance and fiduciary oversight of mobile asset inventories, a health system gains greater visibility into and control over utilization and total spend across its constituent facilities. Armed with this information, leadership can implement a strategic capital planning process to drive replacement decisions–a process that ensures that the organization has the proper type and number of mobile assets on hand to meet patient needs in all care areas in all facilities.

Greater alignment and accountability.

Centralized control is a powerful tool as health systems seek to replace random, transaction-based activities at individual facilities with more efficient, standardized processes. Increased standardization and accountability, in turn, lead to a higher degree of compliance with regulatory requirements, policies, and quality objectives. Last but not least, the model helps to promote a unified culture in which staff at all facilities in the system share a framework and vision for mobile asset management. Working from a common set of roles, responsibilities, and accountabilities aligned to strategic operating principles, employees are better prepared and motivated to accept, utilize, and sustain the new processes going forward.
Potential for 25 percent reduction in costs

In terms of Return on Investment (ROI), health systems that successfully adopt the enterprise asset management model can expect to reduce overall costs associated with asset management by approximately 15 to 25 percent. Potential reduction in future capital spend can be achieved through right sizing of equipment inventory based on actual need. Streamlining of the mobile asset inventory leads to a potential reduction of the annual equipment maintenance cost. Typically, health systems that are suited for enterprise management comprise three or more hospitals within a 50 mile radius.

The example below is a composite of 7-10 hospitals that manage approximately 20,000 mobile assets. Mobile assets include IV pumps, Sequential Compression Devices (SCDs), specialty beds, ventilators, and other devices. The table indicates that a $1.5 million investment for an in-house centralized distribution model (with limited consulting services) covering the centralized model infrastructure and large mobile assets such as beds will yield an ROI within 12 months.

<table>
<thead>
<tr>
<th>Sample ROI of In-House Centralized Distribution Model</th>
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<tr>
<td><strong>Upfront Investment</strong></td>
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<td><strong>Asset Turnover Ratio</strong></td>
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<tr>
<td><strong>ROI</strong></td>
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<td><strong>Payback Period in Months</strong></td>
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1. Upfront investment based on coverage of at least 70% of the hospital needs
2. Annual operating expense of central depot included in calculation but not listed

Distribution Models: which one is right for your organization?

There are three basic configurations for Centralized Distribution: in-house, co-sourced, and outsourced.

**In-House** – In this model, services are performed by in-house staff with consulting support to drive organizational change and accelerate implementation of the centralized distribution center. Key considerations for organizations evaluating this approach revolve around the significant effort required: Do you have the internal resources to devote to developing, staffing, and sustaining the Center? Is there sufficient institutional knowledge to handle the people, process, and technology issues involved? How will you manage the time constraints and disruption to the organization?

**Co-Sourced** – This model utilizes consulting/service provider resources to supplement in-house resources in the implementation and operation of the centralized delivery center. This approach still requires significant internal effort and financial considerations must be weighed.

**Outsourced** – In this model, a consulting/service provider is engaged to provide comprehensive resources for implementation and operation of the Center in strategic collaboration with the health system. This approach mitigates the level of internal effort required by the other two models and often reduces the cost burden, albeit with some institutional loss of control.

Every health system is unique and a model that is ideally suited for one organization may be unworkable for another due to a host of considerations, including geographic footprint, human resources, capital investment, IT capabilities, space, and logistics interface. The key common themes for success of all the sourcing models include but are not limited to:

- Buy-in from personnel from each facility with strong executive and/or corporate support
- Readiness for change management
- Flexible and scalable centralized model from design to implementation
- Standardize processes, technologies, and platforms through an Asset Optimization program at each facility
To better manage your assets, you first need to manage change

Implementing the Centralized Distribution model requires a significant change in organizational culture and working practices to be successful. Staff members need to relinquish the intra-facility processes they are accustomed to (“the way we do it here”) and adopt new, perhaps radically different ways of working. In our experience, change management techniques such as Work-Out, Lean, Six Sigma, and GE’s Change Acceleration Process (CAP) provide a common language, processes and tools to guide change activities in the organization. Working with a proven approach helps leaders systematically analyze situations, identify key stakeholders, anticipate obstacles, and create a workable strategy. Utilizing a framework such as CAP over time establishes structures and systems that help organizations instill desired behaviors necessary for continuous and lasting change.

There are pros and cons to each approach and experienced help is required to determine which distribution model is right for your enterprise. Among the issues that an asset distribution expert can help you evaluate:

**Strategy Development** – What are your health system’s vision, goals, objectives and strategies around asset management? What challenges do you face in distributing mobile medical assets? How will centralized asset management help you create more value for your organization? Gain a competitive edge in your market?

**Solutions Delivery and Management** – What physical environment and operational and logistics framework will best support the business objectives of the Distribution Center? What design will have the flexibility, control, and scalability you desire? How can you standardize processes and technologies at each facility so that self-service is a critical component?

**Resource Management** – How will you manage the human, information, and financial resources required to support the organization? How can employees be deployed to best leverage skills and competencies? How will you manage vendors and consultants? What performance measurement system will you put in place?

**Infrastructure Management** – What infrastructure architecture and platforms will best support the Center’s business processes, communications, and end user needs—including management of the data center, telecommunications, and service functions? How will you enable real-time predictive modeling and other automated tools to provide the informatics required for successful operation?

**Governance** – What role will the leadership team take in guiding the direction and implementation of the Distribution Center? How will the initiative be rolled out to the organization? What change management processes and tools will help you engage staff and support them in understanding, accepting, and utilizing the new processes?
A serious problem, an exceptional opportunity

Mobile devices are managed in a random, transactional manner in most hospitals today. Often, there is no reliable, systematic process to ensure that, for example, a nurse can find a clean, usable IV pump when one is needed. Processes vary from unit to unit, floor to floor, hospital to hospital. As a result, the most meaningful markers of hospital performance suffer: quality of care, efficiency, patient safety, productivity, and cost control. When that scenario is compounded across multiple facilities in a health system, there is at once a serious problem and an exceptional opportunity to make a meaningful improvement in care delivery through centralized asset distribution.

The Centralized Distribution Model enables a health system to leverage its multiple institutions to create an enterprise-level operating model that drives more effective mobile medical equipment allocation, distribution, and management across the system. It can enable an organization to significantly downsize its asset inventories, reduce capital and operating spend, provide timelier care that supports reduced LOS and improved outcomes, make more informed asset-related decisions, and engage staff in using organizational resources more wisely.

The first step in exploring the benefits of Centralized Distribution is to begin a dialogue with Asset Management Professional Services to discuss the challenges your organization faces in the effective distribution of its mobile medical assets.

References


iii. The figures and calculations herein are estimates made for informational purposes only, and are based on GE Healthcare's prior experiences with its clients. The potential opportunities estimated in this tool are not intended to be a commitment, guaranty, or warranty from GE Healthcare. As each hospital is unique, your facility may have other costs, capacities, or other variables that may not be reflected herein.