Getting Back to Basics: Leading Integrated Delivery Networks (IDNs) Can Achieve Strategic Cost Advantages By Focusing on Back-Office Efficiency

U.S. healthcare organizations face unprecedented financial pressures, making it more difficult than ever to maintain the vital re-investment capital required to sustain high levels of care and improve operating efficiency. More than 34% of hospitals reported operating losses for the first half of 2009 and more than 70% of healthcare organizations have slowed down or canceled capital projects as one result. In this environment, the need to optimize investments and deliver a quantifiable return has never been more acute – especially when one adds the uncertainty of pending healthcare reform to the mix.

Competition for capital budget dollars has always been intense, and prioritizing between numerous high-priority and other equally worthy investments is never easy. Every year, hospital chief executive officers (CEOs) must turn down many projects they would like to fund, especially those that are not directly patient-care focused. For this reason, many investments in back-office IT infrastructure and automation have been on the proverbial “back burner” – for decades in some organizations. This prolonged investment hiatus has left many organizations with very inefficient and labor-intensive supply chain, financial and human resource management processes. Even a cursory review of benchmarks across other industries reveals the negative impact that insufficient investment in back-office automation and process improvement has had on efficiency and financial performance in the healthcare sector.

Over the past four years, Oracle’s Healthcare Insight team performed detailed process analyses with more than 30 of the largest U.S. integrated delivery networks (IDNs), encompassing more than 270 hospitals. The team looked at supply chain management, human resources and financial processes and efficiency. The research revealed not only the substantial negative impact of long-term under-investment in back-office infrastructure and processes, but more important, the significant financial benefits achieved by organizations that have made back-office automation and process improvement a higher priority. Through detailed process and performance metric reviews across this broad group of organizations (including interviews with more than 100 C-Level executives and 600 operating managers), the researchers mapped a number of operational best practices for improving financial performance. The team’s analysis shows, unequivocally, that healthcare providers making greater investments in back-office automation and process improvement enjoy operating cost ratios 2 percent to 4 percent better than their peers. In an industry in which 4 percent margins are the norm, this is, arguably, a strategic, structural cost advantage.

Oracle Healthcare Insight reviews its key findings in this article and discusses their implications for senior healthcare executives. For the convenience of quantifying financial benefits, the researchers have defined a “Model IDN” with approximately 10,000 employees and $1 billion in annual revenue to calculate “average” benefits in each of the primary business areas outlined below. In addition, the values shown for “Leaders” in the charts and tables in this article represent the average of the top quartile performers in each category, and “Peer Average” is the average of the remaining groups.

Leaders Achieve Lower Supply Costs + Increased Productivity
Leaders in Supply Chain Management are able to produce supply costs that are a full 2 percent to 4 percent lower than their peers (as a percent of overall operating costs), and do it with fewer personnel. Using the “Model IDN,” this equates to a savings between $20 million and $40 million annually.

There is no question that product standardization, which is minimally dependent on outright automation, represents a major opportunity for supply cost savings once often-elusive physician buy-in has been achieved. As important, however, there are several basic procurement automation steps...
that can yield significant savings and do not necessarily require physician buy-in. In examining organizations achieving the best overall supply chain cost metrics (Table 1), automation of certain key processes stood out as important enablers of success. As prior studies have shown\textsuperscript{2,3}, certain specific automation efforts can be easily mapped to particular metric improvements, such as eProcurement and electronic order exchange increasing spend per buyer. However, the Oracle Healthcare Insight researchers believe strongly that it is the combination of multiple process efficiencies freeing skilled buyers to focus their time on critical contract negotiation and enforcement that yields the most significant results.

Investing in increased electronic exchange of information and transactions with suppliers is paramount. Process changes that range from automating catalog and price synchronization to sending orders and receiving order acknowledgements (with automated catalog price updating) will reduce the time that buyers spend simply processing transactions and updating catalogs, freeing them for more strategic initiatives. As important are efforts to require suppliers to send electronic advanced shipping notices (ASNs) and invoices. ASNs not only promote greater efficiency for receiving staff, but often eliminate laborious manual processes related to back-order management. The combination of automated catalog updating, ASNs and electronic invoices significantly reduce matching discrepancies in Accounts Payable (AP) – a portion of which always flow back to buyers for assistance. The net result is often as much as a 20 percent time gain for buyers, allowing them to focus on high-value contract negotiation and oversight. Many readers may think they have invested adequately in electronic data exchange improvements, but the researchers’ experience shows most have not begun to scratch the surface. As a simple test, providers should ask their supply chain leaders to provide a summary of the percentage of current transactions that are fully electronic for orders, order acknowledgements, ASNs, invoices and catalog updates. The results will likely be quite telling.

User-friendly (“Amazon-like”) eProcurement systems that enable unit managers to easily order supplies \textit{within the system}, as well as auto-source as many purchase orders as possible are also key drivers for procurement efficiency. These systems cut the need for buyers to spend time on needless transaction processing and help to significantly curtail “maverick spend.”

Strong analytics are also a driver of success. Leaders had a penchant for careful monitoring – whether for closely monitoring PAR levels to optimize inventory levels or carefully looking for the next opportunities to increase product standardization.
In the area of inventory optimization, the majority of organizations that the researchers reviewed did not place a high priority on monitoring efforts. The root causes of this appear to be the low financing costs enjoyed in the United States in recent years coupled with an all-too-common challenge of producing timely utilization analytics for specific supply locations. The former has undoubtedly lowered focus on this area, and the latter is mostly a result of older systems not being upgraded for many years. The researchers found a peer average annual inventory turn rate of less than 12, when the best performers achieve nearly double that. Even without significant current holding costs, this still represents – using the “Model IDN” – more $5 million in unnecessary inventory costs that could be put to better use elsewhere in the organization. (Interestingly, $5 million would come close to paying for the average total cost of upgrading every major area of back-office automation outlined later in this review.)

Human Resources (HR)/Pay Labor Savings, While Improving Employee Satisfaction

There are many complex and often regional or demographic factors that influence employee turnover. As such, the research team did not attempt to map that key metric against automation efforts in this review. The team did, however, analyze productivity metrics as researchers could identify conclusively the automation and process tools that leaders used to achieve greater performance. As shown in Table 2, leaders reduced HR and payroll processing administrative staffs by 20 percent and 60 percent respectively.

The use of shared services for HR and payroll had the greatest impact in larger organizations. Those that utilized shared services centers for HR and payroll administration processes saw ratios of employees to HR staff 25 percent better than those of their peers. Using the “Model IDN,” this equates to approximately 14 fewer administrative staff in an organization of 10,000 – or nearly $600,000 in annual savings.

The optimal use of employee and manager self-service tools to reduce transactional loads is a second driver for HR and payroll efficiency. Use of these tools drove an average 13 percent reduction in required HR staffing levels for leaders – with some achieving nearly twice that benefit. The added bonus of these tools is that they normally improve employee satisfaction.

Another important area in HR efficiency identified during the team’s analysis is a focus on automating end-to-end recruiting and on-boarding processes. While data collected in this study was insufficient to document a statistical correlation between automation and improved performance in the areas of recruiting and on-boarding, prior studies have documented the relationships. From automation of hiring requisition workflow to recruiter assignments, job postings, and, ultimately, rollover of successful candidate demographic information to the new electronic employee file, workflow automation has a big impact. Having a recruitment platform that is an integral part of the core human resources information system (HRIS) has also been called out as a strong enabler in this area. The time
savings produced by eliminating the tremendous volumes of manual data entry in these areas often lowers HR full-time equivalent (FTE) requirements in both the recruiting and on-boarding areas.

**Greatly Improved Labor Costs in Accounting**
In the areas of general accounting and AP management, leaders in the study, on-average, outperformed their peers by roughly 65 percent on standard efficiency measures (See Table 3). The nature of the Oracle Healthcare Insight team’s work restricted its reviews to general accounting and AP management; the team’s analysis, therefore, did not cover revenue cycle processes.

Not surprisingly, two of the most important drivers for improved performance in general accounting and accounts payable management were common to other functional areas reviewed. Emphasis on electronic data exchange of invoices and payments brought significant efficiencies to AP, and shared services drove benefits in both areas. Electronic receipt of invoices is a particularly beneficial area for AP, as it reduces wasteful manual data entry time as well as the entry errors that further increase matching discrepancies. Because hospitals receive on average only 8 percent of their invoices electronically, this represents a tremendous area of opportunity. If moving a provider’s supplier community to electronic invoicing quickly is difficult, automated scanning solutions with optical character recognition (OCR) capabilities can serve as a useful alternative. Also, many enterprise resource planning (ERP) vendors offer portal tools for vendors that enable them to enter their invoices directly into a provider’s system if they are unable to transmit them electronically. Any process improvement or automation designed to reduce manual entry load and human errors is beneficial.

As one could expect for transaction-intensive areas, implementing shared services groups is beneficial in both AP and general accounting. As shown in Table 4, organizations utilizing shared services groups processed 45 percent more invoices per FTE and had 74 percent fewer General Ledger FTEs per staffed bed. (Note: In most cases, an important underlying factor in the benefits achieved via shared services was the existence of a common ERP platform.)
While the performance gaps are certainly compelling on their own, it is noteworthy to note that the absolute top performers (versus the simple average of the top quartile) in deploying electronic exchange and shared service use, achieved performance more than 200 percent above the peer average.

**Shared Services Centers Drive Significant Savings**

In every area we reviewed, the use of shared services centers for transaction-oriented functions was an important driver of cost savings, independent of organization size. Most IDNs have grown, at least in part, through mergers and acquisitions. A stated goal of nearly all of these organizations is to improve cost structure through garnering economies of scale and common systems. Yet, as the Oracle Healthcare Insight team works with large IDNs across the country, it frequently finds delays in the deployment of shared services centers – often for years (usually due to the budgetary competition issues addressed earlier in this paper and sometimes simply due to poor execution).

**TABLE 5: CROSS-INDUSTRY SHARED SERVICE BENEFITS**

<table>
<thead>
<tr>
<th>Function</th>
<th>Average % Annual Revenues</th>
<th>World Class % Annual Revenues</th>
<th>HR Labor $ / Employee</th>
<th>% HR Labor Reduction</th>
<th>Average % Total Spend</th>
<th>World Class % Total Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Costs</td>
<td>1.57%</td>
<td>5.19%</td>
<td>Average</td>
<td>World Class</td>
<td>89</td>
<td>47</td>
</tr>
<tr>
<td>HR/Payroll Costs</td>
<td>47%</td>
<td>47%</td>
<td>Average</td>
<td>World Class</td>
<td>42000</td>
<td>42000</td>
</tr>
<tr>
<td>Procurement Costs</td>
<td>40%</td>
<td>50%</td>
<td>Average</td>
<td>World Class</td>
<td>586,207</td>
<td>586,207</td>
</tr>
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Why does this area need more focus? Numerous industry studies have quantified the significant savings achieved through use of shared services across key back-office functions. It is striking how closely the results described in this paper for IDNs align with broader industry findings (Table 5). More important, the Oracle Healthcare Insight study allows one to quantify the savings potential for shared services specifically for the HR, accounting and procurement staffing areas, which in the case of the study’s “Model IDN” would be approximately $1.2 million annually (Table 6).

**TABLE 6: SHARED SERVICE RELATED - ANNUAL FTE SAVINGS**

<table>
<thead>
<tr>
<th>Function</th>
<th>Avg. FTEs w/ SSVCs</th>
<th>Avg. FTEs w/o SSVCs</th>
<th>SSVC FTE Reduction</th>
<th>Avg. Annual Cost</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>71</td>
<td>57</td>
<td>14</td>
<td>$42,000</td>
<td>$586,207</td>
</tr>
<tr>
<td>Procurement</td>
<td>16</td>
<td>12</td>
<td>4</td>
<td>$52,000</td>
<td>208,000</td>
</tr>
<tr>
<td>Accts Payable</td>
<td>13</td>
<td>9</td>
<td>4</td>
<td>$42,000</td>
<td>159,783</td>
</tr>
<tr>
<td>General Ledger</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>$42,000</td>
<td>265,162</td>
</tr>
<tr>
<td>Totals</td>
<td>114</td>
<td>86</td>
<td>28</td>
<td></td>
<td>$1,219,152</td>
</tr>
</tbody>
</table>

Labor savings estimates for a model $1B IDN – comparing staffing models of organizations with and without shared services in key HR, Procurement and Finance functions.

While not as sexy as many projects that come up for budget approval, the researchers would argue that implementing these proven shared services “blocking and tackling” programs, which permanently lower structural operating costs, should be given greater priority.
The Power of Daily Dashboard Metrics
While the research team was not able to gather sufficient data from its studies to make broad statistical comparisons on analytics, the team would feel remiss in not mentioning their importance. As part of its broader work with IDNs, the Oracle Healthcare Insight team has observed important individual cases in which simply putting timely dashboard data in front of departmental and nursing unit managers helped to drive substantial reductions in overtime and agency staffing costs. In one specific case, an IDN with just over $1 billion in annual revenue drove down overtime costs by $5 million in one year, simply by publishing daily labor utilization data to all nursing unit managers and setting goals for reductions. Similarly, a recently published report from an IDN in Florida showed even greater results in eliminating agency staffing use by combining proper analytics with strong management training.8

With the array of improved and less costly tools available today, analytics represents another opportunity for driving savings in most organizations.

Small Investment for Strong Returns
The cost of implementing improved processes and systems can vary widely depending on an organization’s current state of automation and shared services deployment. However, the researchers’ experience in working with a large group of IDNs reveals that most organizations have existing systems that require relatively modest enhancements to achieve significant gains. Most often, it means adding only a handful of software modules to an existing ERP infrastructure, optimizing business processes using those new capabilities, adding a small number of dedicated resources to accelerate electronic exchange initiatives, and putting renewed focus on implementation or enhancement of shared-service efforts.

Using the study’s “Model IDN,” total project costs required to move from “average” to “leading” performance – and achieve the substantial savings outlined in this article – would range from $4 million to $6 million. Even with conservative implementation time estimates, payback periods tend to run closer to two years than three. Most important, these structural efficiency improvements continue to pay dividends well into the future and allow much more cost-effective long-term growth.

Summing It Up
Healthcare organizations make hard budgetary choices each year based on myriad requests and limited funds. Certainly, choices that favor patient or clinically focused investments over those that are not directly patient-facing are appropriate on an individual basis. However, if providers do not formally recognize the need to allocate an ongoing portion of investments to maintaining proper operational efficiency (just as they do for the maintenance of other infrastructure), they will continue to see efficiency erode and will miss an opportunity to leverage millions of dollars that could be utilized for advancing patient care. With total potential savings for most IDNs in excess of $25 million annually, and margins under intense pressure, perhaps 2010 is the year to begin. As important, taking similar improvements across the entire U.S. hospital system would save approximately $13 billion annually – a significant down payment toward the cost of proposed healthcare reform initiatives.
PROCUREMENT SNAPSHOT: Harris County Hospital District Saves Millions

Using fully integrated supply chain and financial applications with strong electronic data exchange capabilities, HCHD achieved significant savings.

- Cut average procure-to-pay cycle from 131 days to just 38 days
- Automated 78% of its purchase order lines
- Achieved supply replenishment times as low as 34 hours, reducing inventory levels by more than $2 million
- Saved more than $500,000 annually with a single vendor via electronic funds transfers (EFT) and shorter payment cycles
- Increased revenues by more than $20 million through direct charging of patient supplies

“Leveraging a well-designed automated solution, we have systematically removed obstacles to efficiency throughout our supply chain management processes. Requesters now enter requisitions online, and they automatically flow through our workflows for approvals online. Purchasing staff members now only manually process exceptions or special requests, which has eliminated redundant overhead costs related to ordering everyday supplies. When nurses use supplies from our Pyxis carts, the automated inventory system now automatically generates a re-order request and delivers the supply the same day. It also automatically enters the supply charge directly to the patient’s bill, thus significantly reducing lost charges.”

Chris Williams – Director, Enterprise Resource Planning Systems, Harris County Hospital District

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HR/PAYROLL SNAPSHOT: Catholic Healthcare Partners Seeing Early Shared Service Gains

Catholic Healthcare Partners operates 34 hospitals in 9 geographic regions, all of whom joined our organization with their own HRIS platforms. Having widely disparate systems not only made it difficult to rationalize basic metrics on overall staffing needs and the makeup of our existing talent pool, but also made it nearly impossible to implement shared services to take economic advantage of our growing scale. Over the past few years we have progressively begun to migrate all regions to a common HRIS platform, implementing shared services for payroll & benefits administration, as well as IT and Help Desk support.

Still in the early stages of our corporate migration to a single common HR Information System and implementation of self-serve technology and related shared HR and IT services, we have already seen some important benefits, including:

- Payroll labor savings of over $200,000 annually in participating regions
- A decrease in transactional cost in excess of $200,000
- Reduced Benefits Administration support staff
- Improved regional collaboration on HR Best Practices

Molly Seals – Senior Vice President for Human Resources, Catholic Healthcare Partners Eastern Division
References:

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