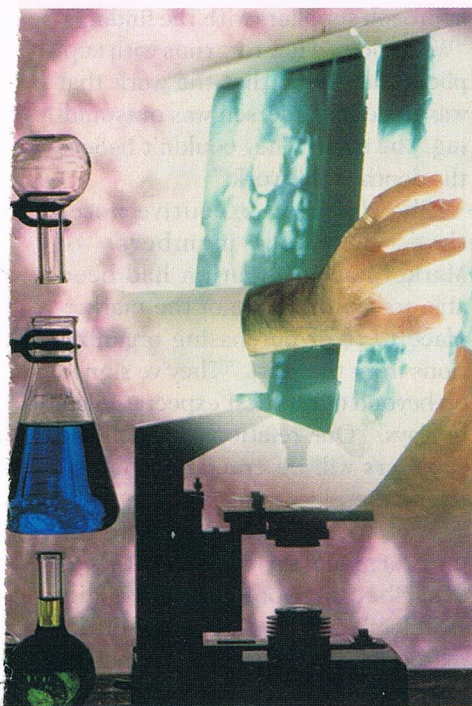


A Supply Chain Prescription for Healthcare Savings



E-commerce planning is spreading rapidly among hospitals and healthcare supply companies, as studies find it is just what the doctor ordered.

By Philip Burgert

The possibility of rapid return on investment by driving costs from the healthcare supply chain is spurring the hospital industry to move more quickly into online marketplace procurement—and luring their suppliers to join the conversion.

Electronic commerce could bring more than \$6 billion in savings to healthcare industry supply chain participants, a newly released study by Arthur Andersen LLC finds.

The study was conducted by Chicago-based Andersen's pharmaceutical, biomedical and health services supply chain practice and was sponsored by Irving, Texas-based hospital supplier Novation LLC and San Jose, Calif.-based healthcare electronic marketplaces developer Neoforma.com Inc.

Ramona Lacy, an Andersen partner, says the study combined an activity-based costing method and interview process to estimate the future potential of healthcare e-commerce. But the study only peripherally looked at the current state of e-commerce in the industry, she adds.

"Only about 30% of all eligible transactions on the hospital side are now being conducted electronically," Lacy says.

Robert J. Zollars, chairman and CEO of Neoforma, describes the healthcare industry supply chain as "very inefficient and high cost," with more than 20,000 suppliers in a highly fragmented industry structure.

Novation and Neoforma last year signed a 10-year agreement calling for Neoforma to manage marketplace operations for Novation, which claims to be the world's largest hospital group purchasing organization and contracts for about a third of the healthcare market.

Luring Suppliers

So far, the Neoforma-run Marketplace@Novation has signed its own contracts with more than 440 of the 2,400 hospitals Novation represents. These marketplace contracts commit the hospitals to channel at least half of their total spending through the exchange.

The largest Novation hospitals have been the first targeted and another 500 hospital agreements are in the pipeline for addition to the marketplace, Neoforma executives say.

As in other industries, the suppliers have been more reluctant to join than buyers, but more than 85 suppliers have been lured to Marketplace@Novation by the involvement of key supply chain player Novation with its network of hospitals and 400 suppliers. Included in that list are such major names as Abbot Laboratories, McKesson HBOC Inc., Allegiance Healthcare Corp., Owens & Minor Inc., Kimberly Clark Corp. and Eastman Kodak Co.

Novation is expected to channel at

least half of its more than \$15 billion in annual purchases through the Neoforma-powered marketplace under the contract. The more than 200 hospitals that have gone live on the marketplace in the first few months of the agreement have boosted Neoforma's transactions to \$80 million in the first quarter from \$34 million in the fourth quarter.

Those transactions were expected to reach \$150 million in the second quarter, \$1.3 billion this year and more than \$5 billion in 2002, Zollars and Andrew Guggenlime, chief financial officer, say.

Despite the rising volumes and financial investments from Novation and technology partner i2 Technologies Inc., Dallas, publicly traded Neoforma's stock price has fallen to under \$1 in recent months on the Nasdaq exchange, from more than \$70 early last year.

More Savings Expected

The Andersen study focused on order management and information sharing in hospital supply markets for medical and surgical supplies, pharmaceuticals and laboratory supplies. But even larger savings are forecast by Novation and Neoforma in other areas being addressed by healthcare e-commerce in such areas as product movement, standardization and collaboration in office and food service supplies, capital equipment and maintenance, repair and operations.

Unique supply chain benefits are found in the healthcare system because of tiered supply pricing structures that currently result in providers overpaying for medical and surgical supplies by 2% to 7%, based on contract prices, Andersen's Lacy says.

"The pricing is very difficult to understand and very complex, and e-commerce could help facilitate improvements there," she says. Different facilities in the same health systems now pay a different price

40% of the time, she notes.

The Andersen partner says the study is intended to help healthcare industry participants beyond Novation and Neoforma.com plan their e-commerce strategies and determine what are the most promising investments.

"The study quantifies the future state of the healthcare industry through the use of e-commerce," Lacy says. "It will be a roadmap for all parties involved in the supply chain."

The 50-page "Value of eCommerce" study looks at such areas as product procurement, order management, operational efficiency, invoice processing, systems integration and contract management. On-site studies were done at such supply chain sites as providers, direct and indirect manufacturers, distributors and pharmacy wholesalers.

Andersen finds that a healthcare

Tiered supply pricing structures offer unique supply chain benefits.

industry-wide potential cost savings of 2% to 10% could come from a 1%-to-2% savings for healthcare providers and a 1%-to-8% savings for suppliers. Academic faculty members from Stanford University and Harvard reviewed the methodology and findings of the study, which began last November.

Determining Value

"The study from our perspective validates what we all presumed, that e-commerce could drive from the supply chain," says Larry Dooley, vice president of e-commerce supplier relations for Novation, a company formed in 1998 in a combination of the supply chain programs of VHA Inc. and University HealthSystem Consortium.

Neoforma has outsourced the Marketplace@Novation supplier

recruitment to Novation, which Dooley says has supplier relationships dating back as much as 20 years. "Even the most efficient suppliers can derive benefit from e-commerce," the executive says. "The study was good at pointing out ways to show them the value of that in the marketplace. Now we can take hard data and explain exactly how they can get that value."

Dooley says it is too early to evaluate the response of suppliers to the study and that Novation's supplier recruitment team has only begun to approach suppliers with the findings. "We've done a few test runs with suppliers who found that the work that was done by Andersen was outstanding," he says. "They couldn't believe the depth of the work."

The Novation executive notes that hospital members of Marketplace@Novation had been able to see the value of the marketplace to their purchasing organizations from the start. "They've signed on beyond our wildest expectations," he says. "Our relationship with the suppliers will be crucial in making the marketplace a success."

The process of connecting to the marketplace for the hospitals is described by Dooley as "virtually seamless" and continues use of the materials management information systems already in place in the hospitals. A transition from a marketplace version using best-of-breed technologies to one using i2 TradeMatrix is currently underway. This will provide essentially the same functionality on a new platform, Dooley says.

Transactions and information moving through the marketplace are also being used to populate a data warehouse, which in a year to 18 months is expected to help develop product standardization information and other data aimed at lowering the cost of healthcare purchasing, Dooley says.

Results for hospitals that have joined Marketplace@Novation are

also too early to evaluate. The University of California at San Francisco Medical Center, for example, has been transmitting transactions to one distributor, Owens & Minor, for more than eight months but is only now completing a switch from earlier use of electronic data interchange.

"One of the reasons we hadn't made any further progress than just the one distributor was that for us EDI was very problematic," says John Cunningham, the medical center's director of material services. Among the problems that had to be resolved, he says, were accounts payable information issues involving three-way matching of invoices and sharing a server with the medical center's campus-wide Internet access.

UCSF Medical Center is now adding additional specialized suppliers of orthopedic and radiology supplies, Cunningham says. "Our experience has been very positive

with the amount of time it has taken to the go-live," he says, noting that it takes about 30 days to bring new suppliers onto the medical centers' materials management information system.

Wireless Options

Cunningham is also evaluating wireless technology along with the Internet-based marketplace to allow staff to use handheld devices for gathering inventory information and other data from throughout the medical center and transmit it directly to the materials system.

"Healthcare has really been very slow to embrace technology in the supply chain," the Cunningham says. "But we've made a lot of progress and we're excited about what's ahead."

Healthcare industry companies have so far been mostly immune to the spending cutbacks that are hitting other industries and undermining the growth of electronic market-

place buying, according to executives of Neoforma. "We're not seeing any reduction in spending," Zollars says. "Our sector is guarded from the downturn."

Despite this, they note that while more than 100 companies were pursuing the business-to-business healthcare marketplace sector a year ago, only four major participants now remain. Along with Neoforma, those are Global Healthcare Exchange, which was started by Abbott Laboratories and four other manufacturers; Medibuy Inc., a Commerce One e-marketplace; and HealthNexis, which was formed by distributors including McKesson HBOC, and Owens & Minor.

Zollars and Guggenhime say Neoforma is sticking with forecasts that put the company on track to break even in early 2002. ^{E_CW}

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