

E-commerce: What It Means for Healthcare Delivery Systems

Guest Editor: David Pedersen, VP, First Consulting Group

Executive Summary

After the tumult over Y2K dies down, electronic commerce, or e-commerce, is likely to emerge as the next great healthcare industry focus, say experts who watch current trends. E-commerce, which uses the Internet and Web technology to create instantaneous, anytime, anywhere connections among a community of common business interests, changes how healthcare information is shared among all players, including integrated delivery systems (IDSes). Perhaps its most significant impact will be to change the way healthcare is delivered in favor of the customer, especially when that customer is a consumer or health-plan member. However, because of the connectivity inherent in e-commerce, the same type of customer focus can be applied to a physician by a health plan, for example.

This customer focus, while spawned by the Internet, goes beyond technology. It means having to educate and train employees to accept the new role of sharing information directly and in a more timely manner than ever before. Having already begun to transform other industries like banking, retail and the investment community, e-commerce is beginning to change healthcare as well. Companies like Healtheon, for example, provide e-commerce services to health plans and physicians in the form of online claims processing and related transactions.

Some integrated delivery systems are aggressively building electronic connectivity with physicians and medical sites as a prelude to rolling out e-commerce-related initiatives to gather and share information in a direct and real-time manner. Our guest editor for this issue, FCG's David Pedersen, estimates it will take about three years for e-commerce to establish itself as an end-to-end solution in healthcare, beginning with payers followed by providers and consumers.



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Providers offer a fertile ground for e-commerce

The benefits of e-commerce in healthcare—sometimes called e-health—arise from the strategy's role in helping solve the many and varied challenges that face provider organizations today. In looking at e-commerce in healthcare, however, it's important to keep focused on specific problems that e-commerce can address. Most of the healthcare industry's cost, quality and access problems are economic and structural and can only be ameliorated, not solved, by information.

Information-related problems in healthcare are these:

- Information is scattered, inaccessible, and often out-of-date or otherwise incorrect.
- Information is separated from the processes it should govern.
- Information is too expensive.

In the IDS, these problems appear as:

- Patients have difficulty accessing care because they don't know where care is or how to arrange for it.
- Caregivers make errors or incur unnecessary costs because they make the wrong decisions.
- Business processes—for example, reimbursement—go awry because people act on incorrect data or because they misunderstand how the process works or what their roles are (i.e., separation of information from process.)

While it is difficult to assign specific costs to these problems (because in most cases there are no benchmarks against which to assess them) the costs are undoubtedly high.

Meanwhile the Internet has emerged as the future technology backbone for all players. Healthcare organizations must learn to exploit the connectivity and communications opportunities of this ubiquitous, easy-to-use platform in addressing the challenges of integration and customer service. While e-commerce is helping create many new opportunities, few organizations are beginning to focus on it. There may be no choice but to do so for organizations that want to lead healthcare into the next millennium.

The e-commerce solution

The e-commerce model can help solve the shortcomings of vertical and horizontal integration by yielding solutions that truly are better, faster, and cheaper...all at the same time. Examples include:

- Hospitals that post patient status and lab results to patient-profile pages so that attending, reviewing or consulting physicians can see results in real-time securely from any computer using a Web browser.
- Hospitals that have integrated the supply chain to include online order and replenishment with vendors as a way to dramatically reduce

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inventories and constantly update their materials-management processes.

- Health plans that provide various enrollment, status checking, provider directories and selection to their members in an online, browser-based model that improves service levels and customer satisfaction.
- Pharmaceutical companies that promote new drugs and treatments by providing both information and clinical studies to physicians and hospitals through direct links to the physician desktop. This improved access to information equips clinicians with the latest data to respond to better informed patients who want to participate in their treatments.

E-commerce can help health-delivery systems address the issue of cost-management through better, more timely access to contract information and to direct eligibility and coverage information about patients. An e-commerce strategy also results in more timely and direct access to reporting information from payers, which avoids long delays for minor errors or corrections.

In the face of more intrusive regulatory standards, e-commerce can enable a provider organization to more quickly adopt and use emerging standards to comply with the mandates.

As physicians struggle to adapt amidst growing consumerism, e-commerce—defined in the largest sense as Web-based connectivity—allows them to stay current with the latest information sources which can organize, categorize and deliver meaningful information to them. E-commerce allows them to assist patients with their own research and health management questions and issues.

As providers are forced to invest more in information technology with fewer resources, e-commerce allows them to leverage low cost PCs with inexpensive Internet Service Providers and standard Web browsers that handle an ever increasing number of daily transactions and information exchanges. The universal interface and easy-to-use browser cuts training cost and time, makes staff immediately productive and allows users to complete multiple tasks in less time than previously.

The options and opportunities presented by e-commerce result in rethinking processes and operations that affect every healthcare IT decision. The Internet's universal access is literally reshaping healthcare services from the operating room to the physician desktop to health-plan back-office operations. The basic premise underlying proponents of e-commerce: When technology is free or inexpensive and information is readily available online and in real-time, new processes replace older, paper-based processes with dramatically improved results.

E-commerce will change the way healthcare is delivered in favor of the customer.

Customer focus means having to educate and train employees to accept the new role of sharing information directly and in a more timely manner.

Writ large, an e-commerce strategy, relying as it does on a Web infrastructure, can equip patients with more information to understand and manage their own health, resulting in improved outcomes. Investing in standard e-commerce tools that cost less to use and maintain will yield more bang for the IT buck.

A hypothetical IDS using e-commerce:

Today's Integrated Delivery Systems face tremendous challenges. Their leaders are responding by embracing e-commerce tools and capabilities and leveraging scarce resources—dollars, staff, and skills—in creative ways. Their e-commerce strategies follow a progression of services that yield quick results and may be adapted and improved based on user or patient feedback (Future IE reports on e-commerce will focus on specific case studies as they develop. For the purposes of this report, however, we highlight the following ideal strategies):

Enable patients and staff to do more with less support:

All basic information about the hospital, staff, services, hours, contacts, directions, etc. can and should be available to the internal and external users via attractive, informative and creative Web Home Pages. While fairly fundamental at this stage of Web development, this function is vital and allows users to be more self-selective and informed without resorting to telephone calls or lengthy interactions with staff.

Streamline administrative support and internal documentation by storing (or basing) on the Intranet:

As part of an organization's earliest Web initiatives, all internal forms, policies, documentation, ordering, tracking and review functions should be moved to Intranets or secured Extranets. Expect to be able to document a 10-to-1 cost improvement and days-to-hours cycle-times improvements.

Establish two-way communications and interactions with patients:

Offering e-mail communications to patients provides them with access and an organization with feedback critical to patient satisfaction. The posting of reminders about medications, appointments, pre-surgery instructions and related items is cost-effective and time-saving. Sending test results or posting them to a secured site where patients can check-in with their own password allows access to both patient and care-givers without the manual hassle and expense associated with paper files or films. This strategy includes directing patients to reliable Web sites for medical information and support groups.

Accelerate interaction with business partners to reduce costs:

Many health plans, vendors and suppliers are aggressively trying to connect with IDS organizations via Web access and tools. Using these portals and exchanging information via EDI or browser-based software can be more cost-effective for both parties by a factor as high as 10. Organizations should consider every interaction, eligibility checking,

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claims-status checking, referral and reporting task as an opportunity to streamline a process and improve services using the Web. It's important to urge partners to "e-commerce-enable" interactions.

Consider core competencies and roles carefully, then partner or outsource the rest:

No single organization can do it all anymore. Even the biggest firms in the world identify core competencies and grow those while finding partners who will do the rest through a variety of creative outsourcing arrangements. Like the use of external services to handle food service, house-keeping and parking, IDSeS need to find long-term partnerships with vendors, consultants and suppliers who can manage technology changes and new service developments. Such a strategy becomes a matter of survival considering the industry's shortage of skills, staff and capital to invest in the new infrastructure of e-commerce. At the same time, partnering allows IDS organizations to focus on healthcare delivery.

Conclusions and recommendations

The 21st century will mark a new beginning in history, ushered in with extraordinary tools and technologies. The computer and now the Internet have the potential to create a truly global village of information sharing and intellectual development—and the rate of change is accelerating. While no one can do it all at once, there is a logical and workable progression of steps that will make e-commerce work for you.

1. **Know where you are starting from:** Take an inventory of LANs, Web pages, Internet sites, etc. that are now part of your organization. You may be surprised! If the infrastructure is consistent and supports your goals and mission, encourage its growth. If it is out of control and lacks focus, rein it back in.
2. **Determine what you are doing well:** Make an assessment of what functions are enabled and what metrics should be used. Define current processes and costs before changing to something else. Most processes and operational aspects of healthcare could benefit from Internet tools and e-commerce enabled functions—but if the operation is working well now, don't change everything at once. You need to have solid comparisons and keep what's working to ensure a smooth transition.
3. **Know where you are heading:** Set clear business goals and objectives, as they will become even more critical to prioritizing e-commerce initiatives. There will be tough decisions regarding what projects to keep and what to drop. You need to know which ones will help you reach those goals and objectives. It doesn't have to be a long list—just needs to be documented.
4. **Find partners to help support your efforts:** It is impossible to go it alone in this new, networked world. You need to partner with

E-commerce can help health-delivery systems address cost management through better, more timely access to contract, eligibility and coverage information.

vendors, suppliers, consultants and even competitors to reduce costs and continue development. There are many creative solutions for outsourcing, financing, development and content sharing. Be flexible in thinking about your values and core competencies; then find others to do the rest.

5. **Educate everyone in the organization about the changes and the direction for the future:** Good organizations will use the rapid changes of the e-commerce world and the Internet to help them change the way they act. Great organizations will embrace the changes of e-commerce to help them change the way they *think!* **Open-minded**, learning organizations will be successful in the new information-based economy. Sharing information and being seen as an innovator will keep patients happy and physicians practicing medicine, not following paper or policies.



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