

How Hospitals Should be Using the Internet By Jeff Goldsmith

The Internet and hospitals appear to be creatures of two different geological eras. Like automobile factories, hospitals are very much creatures of the industrial-era “old economy”. Sadly, however, in the fog of hype over the so-called “new economy”, most analysts have ignored the possible role of the hospital in a connected health system.

This lapse in thinking about how hospitals can use the Internet is most unfortunate. Wedded to advances in enterprise computing, network computing applications have the potential for markedly improving hospital customer service, as well as markedly reducing hospital clerical and administrative expenses, a topic of vital concern to Boards and senior management in this exceptionally harsh and unforgiving economic climate.

Marketing the Hospital- Version 6.3- “Is That All there Is?”

Certainly, the initial thinking about hospital use of the Internet has been less than inspiring. For many hospitals, Internet strategy has meant: creating a hospital Web page, renting and repackaging content from a small number of depressingly shallow, commercial data bases, publishing the hospital’s brochures, facility pictures and medical staff directories on it, and, for the venturesome, bringing pictures of newborn children to the e-mail inboxes of new families. Consumers seem to trust hospitals as sources of health information. Yet the payoff from these initial strategies seems difficult to quantify.

To the extent that medical Internet use is driven by a focused patient/family search for disease-specific solutions, no hospital is going to add much value by itself. The knowledge domain in which these solutions reside is national, even international. No hospital (not even the Mayo Clinic) owns enough proprietary knowledge to make much difference by itself. Simply repackaging commercially available knowledge under the hospital’s mark does nothing meaningful to bolster the hospital’s reputation or add measurable consumer value. Nor does there appear to be a large, unslaked consumer thirst for reformatted public relations messages from the hospital.

Where’s the Hospital’s Leverage in Cyberspace?

However, progressive hospitals realize that what the Internet represents is a fundamental shift in power toward patients/families, and away from institutions and professionals. Assisting in this shift in power is the counterintuitive thrust of an effective hospital Internet strategy. The highest and best use of the Internet is not to “market” the hospital, but to make the use of the hospital easier and more transparent to consumers.

Hospital executives should view Internet applications as a rich and diverse toolbox for restructuring their relationships to their customers and reducing the cost of resolving their health problems. Equally important, the Internet may help replace brick and mortar-based administrative and clinical processes (and attendant clerical costs) with electronic processes that are more responsive and transparent to their users.

The Personal Health Record- An Impending Collision in Cyberspace

The Internet has made it possible for hospitals (as well as health plans, integrated physician groups and others) to supply patients with a personal health record (PHR), which they own and control. Internet connectivity enables networked providers to populate this personal health record with all the encounter information generated by patient visits to their physicians, the hospital and its related services. In turn, at the patient or family's direction, this record can be sent (along with related insurance information) to any future site of care in the sponsoring health system to help frame the impending clinical encounter. This electronic record can also be backed up onto a smart card people can carry with them if they leave the community, which can be read by other providers they may encounter in their travels. The most obvious potential consumer PHR application will be to enable mothers to aggregate and control personal health information on their children.

Despite the fact that citizens in some European countries have been using smart-card based PHR's for years, the idea has yet to catch on in the United States. A number of Internet startups have attempted to supply consumers with PHR's, with less than dazzling results. Self-reported PHR's are likely to contain significant gaps in patient history, and may not be sufficiently accurate or detailed to be clinically useful. The lack of linkage to physician- and hospital-maintained records limits their usefulness.

To execute the PHR strategy requires hospitals to make a huge leap forward in managing patient information- banishing the paper chart and order entry process and creating a unified, user-friendly electronic patient record that unites patients and the clinical team, and helps structure their interaction. The Gartner Group, which tracks the readiness of information technology, has concluded that hospital electronic medical record systems have matured to the point where commercially available software can reliably replace paper records and orders. Encouraging physicians to use this software, and, critically, to convert their own records to compatible electronic formats, is the needed intermediary step to make the hospital-assisted PHR a reality. An important test of the concept will be the community-wide health connectivity initiative being pursued by the Cerner Corporation in the community of Winona, Minnesota, which has the broad co-operation of the Winona physician community, hospital and pharmacies.

We can easily envision a collision in cyberspace in the next few years between competing institutional suppliers of PHR's – principally hospitals and health plans – which can link to their existing records of patient history. In my view, hospitals have an advantage over most health plans in this competition. That is, hospitals are more likely to be viewed as a favored PHR sponsor. The potential access of health information contained in the PHR to the **health plan's** sponsor (e.g. the employer) and the potential use of health encounter data to compromise the future insurability of the patient or family member may cause consumers to shy away from health plan-sponsored PHR's.

The Personal Web Page- Making the Hospital Easier to Use and More Transparent to Patients

Many hospitals enrage patients with balky and user-unfriendly scheduling and chronically inept and unresponsive billing systems. Multiple legacy information systems require patients to supply the same information over and over again, often maintaining as many as a dozen medical records on the same patients. Fixing these problems through network computing is a major opportunity to improve customer service.

Hospitals can give their consumer/users an Internet accessible dashboard that enables the family to control its relationship to and use of the health system through a personal web page. The personal web page enables the family to connect to hospital clinics, the ER, physicians and other care givers electronically, as well as schedule appointments, supply medical and financial information, and receive logistical information related to the clinical encounter, and structured feedback, including test results, patient education information and disease management program content.

Linked to the hospital's financial systems, the personal web page can also help patients and families track the bills and insurance claims that results from a medical encounter, and even pay the patient portion of the encounter's cost electronically. The personal webpage can, of course, be customized to provide patient or family specific health information, or the links to trusted sources. Supplying this access in a HIPAA-compliant manner that safeguards privacy and the security of transmitted medical information is complex, but not intractably so.

Building the interfaces from the personal web page to all these diverse sources of patient information and points of access in the hospital and medical staff is an enormous technical and political challenge. One cannot simply lay a web browser on top of the existing departmental infostructure (typically with multiple legacy IT systems, supported by incompatible software on multiple machine platforms) and expect integrated consumer functions magically to appear. To make this happen will require not only patience and funding, but also a partnership between vendors, the hospital's IT staff and the departmental managers and doctors who control its administrative systems.

Further, given the large number of citizens who are not yet online, these new access points will supplement, not replace, the existing telephone and paper-based interactions. This strongly implies that cost savings from discontinuing use of existing paper and telephone-based scheduling and billing systems will probably not materialize for many years.

Outsourcing- Using Internet Applications to Improve Service and Administrative Support

Hospitals have traditionally been willing to outsource their hotel management functions – food service, housekeeping, laundry, property management, etc. What the Internet is likely to do is expand the list of outsourced services to the full suite of core administrative applications – business office functions, including patient accounting, billing and collection, information processing and management, materials management and human resources, including payroll, benefits management, and training.

Some clinical services, notably laboratory and radiology interpretation are also amenable to support through network computing applications. As radiological images and pathology slides become digitized, the images can be moved literally anywhere (in the world) for interpretation, given sufficient bandwidth, data security and interactivity with the clinical decisionmakers who require the interpretations.

Both administrative and clinical applications will reside not in dozens of computers under the desks of hospital personnel, but will, rather, be hosted on servers controlled by the vendor, and delivered through so-called ASP (application service provider) arrangements. The complexity of maintaining and updating the applications will be reduced to maintaining network software at the server, not enterprise, level. The complexity will come “out of the wall” in the clinical or administrative unit of the hospital, and be accessed through a web browser.

Many outsourcing firms will be spun off by hospitals or health systems from successful, innovative inhouse operations. Liberated from the traditional constraints of hospital operating budgets, these firms will seek to grow through local and regional contracts with hospitals or systems that have historically competed clinically, but will find economic advantage from collaborating to reduce administrative services. These services will be particularly helpful to smaller hospitals that cannot afford large inhouse administrative operations. Larger firms, such as traditional IT consultants and product companies such as imaging equipment and service firms, supply and distribution firms, and enterprise software companies, can also be expected to be major players in this emerging market.

The emergence of these outsourcing capabilities will not take place overnight. Rather, I see this capacity emerging over the next five to ten years, driven by successful execution of remote computing models. As with any changes in hospital operations, fierce cultural resistance to shared administrative and clinical services can be expected from hospital department heads and the clinical personnel they support. A recent bold attempt by Catholic Healthcare West to “virtualize” administrative and support services across their system, which was called Shared Business Services, was a colossal and expensive failure, owing both to poor execution and fierce resistance from CHW’s regional and local hospital bureaucracies.

Nevertheless, a more agile, responsive and networked health system seems an inevitable, if painful, adaptation to an era of constrained public and private healthcare payment. It took manufacturing sectors like steel and automobile industries more than a decade to move away from exclusive reliance on inhouse resources to a networked model based on strategic alliances. (Steven Goldman of Temple University has written extensively on this movement). It was, most emphatically, not a voluntary process: these firms faced ruin from overseas competition and pressure for higher quality, more affordable products from their customers. The result has been marked improvements in product quality, higher productivity and more responsive customer relations – all things which hospitals must strive diligently to achieve if they are to survive and grow through this difficult period.

The Acid Test- Chief Operating Officers Must Own the Hospital’s Internet Strategy

Among hospital CEO’s, there is a major debate over who should “own” the hospital’s Internet strategy- IT or marketing. This article’s premise is that the correct answer to this question is: neither. While it is important for the hospital to have a marketing “presence” on the Internet, the true test of an effective hospital Internet strategy is whether the hospital’s chief operating officer has embraced network computing applications as a vehicle for improving efficiency and customer service.

To the extent that this is not the case, the significant implementation challenges discussed above (a unified electronic medical record projected through networks to patients, building electronic bridges from the hospital’s clinical systems to the physician community, efficient interfaces with “patient-facing” administrative functions like billing, etc.) will not be addressed. These challenges are sufficiently daunting that unless their bosses, the CEOs, make implementing a customer- friendly network computing environment their number 1 or number 2 strategic priority, neither funding nor political support for getting the job done are likely to materialize. To manage this change, CEO’s and COO’s must shed their lingering aversion to computing, and become IT literate change management advocates.

Implementing change is the soft underbelly of any health enterprise. Network computing applications promise to help hospitals turn their traditional inward gaze outward toward an increasingly restless and demanding healthcare consumer. Hospital executives must raise their sights beyond promoting their existing service offerings through the Internet. Rather, they must use network computing tools both to make their institutions easier to use and to improve service responsiveness and patient safety. If patients and their families do not notice a tangible, measurable difference in their experiences with the hospital, the strategies are not worth pursuing.