

Using Hospital Web Sites to Enhance Communication

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INTRODUCTION

A large number of patients currently utilize the Internet to access healthcare-related information (Tobin, 2002). Many physician and health-related Web sites have been information portals lacking interactive services that could benefit healthcare partners through decreased costs, increased convenience, and communication. Patients typically visit Web portals to learn more about medical topics, often discussing this information with physicians.

Emerging Internet technologies can be a strategic asset for hospitals to impact physician bonding, patient self-service, and overall enterprise performance efforts. We conducted an investigation of Web sites of 10 hospitals listed in *U.S. News and World Report's* Best Hospitals of 2004 Honor Roll, as well as a random selection of seven other hospital sites. An examination of each hospital's site was performed to determine what features were provided to enhance communication between the partners in healthcare. Partners are defined as patients and their families, referring physicians, insurance companies, vendors, pharmacies, job seekers, and the media. Communication-enhancing features are any features that have the potential to increase communication between the hospital and its partners. We focused on patient communication-enhancing features, since patients are the primary partners of healthcare entities.

BACKGROUND

Healthcare Basis

A medical Internet Usage Survey conducted by the Health on the Net Foundation (2002) found that 57.95% of the respondents had used the Internet for more than four years. Of the patients who responded, 21.62% correspond with their providers through e-mail and 75.52% have used online medical consultation services; 69.47% of physicians that responded stated that patients discuss infor-

mation they found on the Internet with them, while 62.75% of those providers recommend specific information-based sites to their patients.

Healthcare can be improved through e-health services such as online patient pre-registration for admission, access to test results and medical records, insurance referrals and eligibility, access to reputable links for accurate healthcare information, patient forms and brochures, online support groups, access to clinical trial information, appointment scheduling and reminders, refill requests and authorizations, and e-mail capabilities. In implementing e-health "there is an urgent need for healthcare organizations to re-engineer their processes" (Wickramasinghe, Fadlalla, Geisler, & Schaffer, 2004), and physicians face obstacles such as "technologic barriers, resource priorities, and privacy issues" (Zingmond, Weilim, Ettner, & Carslile, 2001) that are secondary to providing excellent healthcare. Hospital and medical office sites can be enhanced to offer patient-centered services, while informing patients of their strongest services/specialties, convincing the patients that their organization is better than any general Web portal for accessing health-related information (Anonymous, 2001).

The drive for e-health initiatives can be patient driven, physician driven, or government mandated. "What is less clear is whether or not the services offered by healthcare organizations and the services that patients desire are the same" (Wilson & Gustafson, 2003). Government-driven initiatives include electronic health record implementation within the next 10 years which serves a dual-purpose: to allow hospitals and healthcare providers to access patient records in a standard format, and to decrease medical care errors. Veterans Affairs Secretary Anthony Principi stated that "one in every seven hospital admissions and 20% of lab tests occur because health records are not available to the clinician. More than one of every seven hospitalizations is complicated by medical prescription errors" (CNN, 2004). Thus, comprehensive electronic medical records which the patient, physician, or pharmacist can access are critical to reducing such errors. Access to these records may also be offered online so that

patients can access them and check for accuracy or take them to a physician's office to which they have been referred for further tests.

In a related initiative, the National Quality Forum (NFQ) sponsored a National Summit on Information Technology and Healthcare Quality in March, 2002, to examine a national healthcare infrastructure. The design principles stated by NFQ to aid in the infrastructure development (NFQ, 2002) are:

1. Care based on continuous health relationships
2. Customization based on patient needs and values
3. The patient as the source of control—encourage shared decision making
4. Shared knowledge and free flow of information
5. Anticipation of patient needs

Theoretical Basis

The Internet can be considered a mass medium, and therefore, communications theories have been applied most frequently in this area (Merrill et al., 1996). Such theories applied include the learner-as-a-bucket theory in which the user searches for information and information is "poured" into the brain via a Web portal (Morris & Ogan, 1996). Another theory applied frequently is the critical mass theory, which states that the diffusion of innovation and adoption by about 20% of the population results in critical mass being achieved (Morris et al., 1996). Because use of the Internet, as well as other forms of electronic communication, is widespread now, it can be assumed that these are forms of media utilized by a critical mass.

In an article regarding physician communication skills, Kurtz (2002) outlines the domain of physician communication with patients. This could be expanded to any healthcare partners, and involves goals and approaches. Goals promote collaboration and partnership, and ensure increased accuracy of medical information, supportiveness, improving patient and physician satisfaction, and quality of healthcare. Approaches depend on the type of communication and can involve a well-conceived and delivered message versus communication for

interaction, feedback, confirmation, and relationship. Kurtz (2002) also states that effective communication requires planning and should reduce unnecessary uncertainty—a critical factor in healthcare communication. Examples of Internet communication include e-mail, listserv, discussion forums/support groups, chat, and interactive site features (December, 1996). Features that enhance the communication between the doctor and the patient have not been explored. Prior studies analyzed sites of specialty practices (Smith-Barbaro, Licciardone, Clarke, & Coleridge, 2001), one specific type of communication such as e-mail (Moyer, Stern, Dobias, Cox, & Katz, 2002), Web portal information (Zhang, Zambrowicz, Zhou, & Roderer, 2004), or healthcare support groups or forums (Zrebiec & Jacobson, 2001). Our study specifically examines communication features offered on hospital Web sites.

WEB SITE ANALYSIS

Seventeen hospitals were chosen, with 10 of the Top Honor Roll hospitals (Group 1) selected from *U.S. News and World Report's* Best of Hospitals 2004 Report. Our premise was that the top 10 hospitals will be more likely to utilize technology to communicate better with patients, vendors, and insurance companies. Seven additional hospitals (Group 2) were randomly chosen from the *American Hospital Directory* (2004) for comparison of size and specialty, and site technology. Tables 1 and 2 display the selected hospitals.

Background information regarding bed sizes, hospital type, specialty areas, and accreditation were verified through the *American Hospital Directory*, the individual hospital sites, and the Directory of America's Hospitals (*U.S. News*, 2004b). Web site addresses listed in the *Directory of America's Hospitals* were selected as the URL locations to be examined.

Sites were examined in August 2004. Criteria chosen were adopted from related surveys by Zingmond et al. (2001) and Kind, Wheeler, Robinson, and Cabana (2004), and supplemented with features determined to be communication enhancing. The Zingmond et al. (2001) and Kind

Table 1.

Top 10 from Best Hospitals 2004 Honor Roll List (GROUP 1)		Bed Size
1	Johns Hopkins Hospital, Baltimore, MD	886
2	Mayo Clinic/St. Mary's Hospital, Rochester, MN	797
3	Massachusetts General Hospital, Boston, MA	875
4	Cleveland Clinic, OH	999
5	UCLA Medical Center, Los Angeles, CA	552
6 TIED	Duke University Medical Center, Durham, NC	758
	University of California, San Francisco Medical, CA	544
8	Barnes-Jewish Hospital, St. Louis, MO	906
9 TIED	New York-Presbyterian Hospital, NY	2,163
	University of Washington Medical Center, Seattle, WA	410

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