
Effective US Health System Websites: Establishing Benchmarks and Standards for Effective Consumer Engagement

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EXECUTIVE SUMMARY

Hospitals and health systems are playing increasingly important roles as care coordination hubs and consumer information sources. In particular, the accountable care organization (ACO) and medical home models promoted in the Affordable Care Act place hospitals at the center of many activities related to health information exchange. Therefore, it is important for these organizations to have effective websites, and the need for a social media presence to connect with consumers is growing quickly.

The purpose of this study is to assess the websites of hospitals and health systems on four dimensions: accessibility, content, marketing, and technology. In addition, an overall score is calculated to identify the top 25 hospital and health system websites. Specific website elements that healthcare managers can inspect visually are described for each dimension in the discussion section.

Generally, hospital and health system websites can be more effective from an end user's perspective. In particular, hospitals and health systems lagged on the accessibility scale that measures the education level required to understand the language used on a site. The scale also assesses the extent to which web pages are designed for ease of movement from page to page using embedded links. Given that healthcare consumers come from every demographic and stratum of society, it is important that user-friendliness be optimized for a broadly defined audience. Hospital and health system websites can also be improved on the technology scale, as many sites do not return clear descriptions of links to search engines such as Google and Bing that use web crawlers to collect information.

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For customers seeking information about a facility's services and quality, a hospital's home page is an important first point of contact in many instances (Alpay, Overberg, and Schonk 2007; Revere and Robinson 2010). As a result, the website for a health facility or system has become an important tool for marketing the organization to current and potential customers, as well as to visitors accompanying a patient (Coile 2000; Randeree and Rao 2004). In instances when consumers are able to make a choice in the location and type of care they seek (e.g., elective surgery, maternity services), it is increasingly likely that information gathered from a health system's website plays a role in helping the customer decide which facility to use.

In 2011, more than 80 percent of adults report using the Internet as a resource for healthcare decisions (Reid and Borycki 2011; Szokan 2011). However, many of them have difficulty understanding such information (Kesselman, Browne, and Kaufman 2008), and people seeking information related to illness behave differently than those seeking wellness information (Weaver et al. 2010). Based on these trends, many health system websites have begun to include tools and information for patients and visitors that make navigating complex health encounters more user friendly and that create a positive organizational image (LaPenna 2009). In so doing, hospitals are increasingly seeking to take on the role of trusted adviser that is closely aligned with the ACO model (O'Donnell et al. 2011; Simborg 2010; Wen et al. 2010).

Customers' evaluations of a health system's website, and by extension their perceptions of the facility itself, will be based in part on comparisons to their experiences using other consumer websites such as Amazon and eBay (Liang and Chen 2009). If a hospital's website does not conform to or exceed a customer's expectations based on those previous experiences, customers may make inferences about facility quality that may negatively influence their decision-making process.

The competitive advantage gained from building an effective web presence has led researchers to establish accessibility, content, marketing, and technical standards that define best demonstrated practices in website design (Oermann, Lesley, and VanderWal 2005; Oermann, Lowery, and Thornley 2003; Oermann and McInerney 2007) based on the application and adaptation of Health Information Technology Institute criteria for healthcare websites, including credibility, content, disclosure, links, design, interactivity, and caveats. Accessibility is derived from aspects of design and caveats; content is derived from credibility and content; marketing is derived from disclosure, design, and interactivity; and technology is derived from links, interactivity, and caveats. As a result, an exploration of US health facility and system websites against the design standards used in other commercial endeavors is warranted as a starting point.

The purpose of this article is to identify the degree to which health system and facility websites comply with Internet-industry standards for commercial usability. Using an automated

webcrawler to scan the sites of all organizations providing a URL in the American Hospital Association (AHA) directory, we evaluated four dimensions—accessibility, content, marketing, and technology—using weighted multi-item scales. In addition, a weighted composite overall score measures a website's quality across all four dimensions. Using these summarized scales, we provide current benchmarks on the state of health system websites. We describe those summarized scales, provide an overall summary score on the performance of the organizations tested, and then identify the top 25 performers on each summarized scale and the overall summary score.

For hospital and health system decision makers, our analyses provide quantifiably objective and immediately actionable recommendations for enhancing the quality of their organization's website. Compared to other health information technology upgrades that are being made to meet meaningful use goals set by the federal government, the capital investments required to create a state-of-the-art website are relatively modest and immediately visible. In addition, having an effective website can create a competitive advantage when attracting consumers. For policy-makers, assessing health systems' websites for indications that they are striving to become ACOs is a simple test. Given the scope of organizational change required to become an ACO, it stands to reason that a health system's website would document and reflect such efforts in order to take advantage of the effort in the market. As a result, website quality may be a simple and reliable leading

indicator of efforts to make this critical transition.

METHODS

Using the AHA's Fiscal Year 2009 Annual Survey, the authors conducted a search to identify unique organizational and corporate websites for US hospitals. Initially, 4,037 facilities were identified from the AHA dataset. Google was used to identify the home page for each facility. A total of 3,079 facilities were part of larger organizations (i.e., members in a system) and did not maintain unique domains or did not have a clear web presence. In cases where a hospital did not maintain a unique domain name for the facility, the master domain for the system was tested. In addition, 65 sites could not be assessed due to the inaccessibility of their web page's sub-pages by the webcrawler algorithm used. The final sample included 636 facilities throughout the United States that were successfully tested. Website testing took place during the third week of January 2011.

The website of each organization was mapped using an analysis tool referred to as a webcrawler. A webcrawler begins at the top-level web page for the domain of each facility or system (e.g., for the Kaiser Permanente domain, the webcrawler starts at <http://www.kaiserpermanente.org>) and drills down into successive sub-pages to build a topographical map of the links within a site. The analytic engine then samples 100 of these sub-pages and evaluates them based on a battery of assessment items. A few websites were not assessed by the webcrawler due to technical problems, including timeout

due to slow web pages or web serves, server-side page redirections, or missing or unavailable host names (e.g., <http://www.example.com>).

To create summarized scales of website performance, the analytic engine scores content along four dimensions—accessibility, content, marketing, and technology—and also gives an overall summary score. The summarized scales are reported on a range from 0 to 10, with a higher score on any given scale representing better comparative performance.

Consistent with industry standards in assessing websites (Oermann, Lowery, and Thornley 2003), several individual items assessed are based on a logarithmic scale and are relative measures. In other cases, individual measures are benchmarked against sites from other industries that rely on the Internet as a primary business tool. For example, the popularity test is based on the Alexa ranking system (www.alexacom) and measures how popular the website is relative to all other sites in the world, and whether that popularity is rising or falling. In this case, the most popular site in the United States is Facebook, and it has a relative score of 10. A website with a score of 8.0 is therefore 1/1,000th as popular as Facebook. The popularity test figures in the marketing scale (7.9 percent of the score) as well as in the overall score, but to a far lesser extent (3.9 percent of the score).

The five summarized scales provide broad assessments of dimensions of website quality based on a set of underlying individual metrics. While it is important to note that some specific metrics contribute to more than one of

the summarized scales, the scores themselves provide a basis for comparing two or more sites. The definitions of the specific items measured and how they are weighted in the summarized scales are presented in an online exhibit, "Website Evaluation Items and Their Contribution to Scales," on www.ache.org/pubs/jhmsub.cfm. The general descriptions of the major scores are detailed in the next sections.

Accessibility Scale

The accessibility scale is an assessment of a website's ease of use for individuals with lower computer literacy levels, including those with physical disabilities that limit their use of a mouse or non-standard browser (such as mobile phones or tablet devices). Accessibility is a critical factor for reaching as many users as possible, but at-risk groups may not be familiar with access features that require higher levels of computer literacy, such as hovering over highlighted phrases to see additional information. Given the service domain in healthcare, the issue of accessibility is all the more important.

Four individual items contribute the most in calculating the accessibility scale. The first and most important is spiderability. If a website is spiderable, it ensures interoperability with search engines. This enables individuals to more easily find the information they need without navigating a complex site hierarchy. For users with disabilities, spiderability ensures they can access all of the organization's sub-pages.

Similar to spiderability is the measure of Flash reliance. While many Internet browsers have Flash capabilities, a

growing base of users (e.g., many using Apple mobile products) do not. Therefore, websites that have features relying on Flash systematically limit some users' access levels.

The third major element of the accessibility scale is the use of link states. The link state assesses the dynamic capabilities of a web page as it relates to moving across the site. One indication of effective link state design with which Internet users are familiar is when the cursor changes from an arrowhead symbol to a hand with the index finger extended to indicate a link to another page or site. The more common use of link states is through the use of color to identify potential new links (light blue) and previously explored links (dark blue) versus simple unlinked text (black). The change in color serves as a visual cue for users. The effective use of link states helps individuals navigate websites by highlighting potential links and identifying links previously followed to recreate users' earlier experience or avoid previous paths that were not fruitful.

The last major measure that contributes to the accessibility scale is the use of alternative text. For individuals who are visually impaired, the reliance on images to convey meaning can be problematic. Alternative text provides a text-only tag for images that enables sight-impaired individuals to navigate a text-based web page through screen readers, creating an experience that is similar to what their sighted counterparts have. Alternative text also provides quick access to the website from limited bandwidth locations, as the text often loads first and the images load second.

Content Scale

The content scale is an assessment of a website's overall content quality without taking into consideration the technical limitations of the site. Content quality is considered high if the text is grammatically correct, relevant, and updated regularly. Good content maintains effective engagement between the user and the website. The quality of the site's imagery (i.e., photos and graphics) and metadata (i.e., information about the data content in specific locations) is also assessed. Elements contributing to the content scale include individual tests of spelling, the degree to which the site adds new material, and the calculated reading age of the text on the pages. In particular, the Flesch-Kincaid readability metrics used in other health-related website studies are included as part of the content analysis (Friedman, Hoffman-Goetz, and Arocha 2006; Stinson et al. 2009). The major measures that contribute to the content scale are freshness and the amount of content. The freshness measure is calculated by reading the dates that appear on a website's pages. Up-to-date content is a positive indicator to consumers that the organization is engaged in state-of-the-art activities. For example, monthly updates to the CEO's message may be understood to imply that a facility is customer-focused, while out-of-date content may foster a perception that public impressions are less important to the organization. Therefore, routinely adding and changing content to remain current and explicitly documenting the dates that web pages are updated should be standard practice.

The amount of content is measured by averaging the number of words on the website's various pages. Text-dense websites can make it hard for individuals to identify components of the site that meet their needs, but the absence of text can make finding answers equally challenging. The easiest cue to poor content management is the number of pages that are under construction or filled with boilerplate text.

Readability and visual interest are also major contributors to the content scale, although they are not as significant as the previous two. Readability assesses the grade level of the words and grammar used on the site. Higher scores indicate that content is designed for individuals with more extensive educational experiences. Experts suggest that web pages aimed at most consumers should be somewhere between an eighth- and eleventh-grade reading level (Tripathi and Singh 2009).

In addition to lowering the text elements' reading levels, organizations should strive to increase the visual interest of their websites. Decision makers can evaluate this feature by asking the following questions:

- Is the home page dynamic, with rotating photos?
- Do the images and symbols used provide clear indications of the content on the page being viewed?
- If consumers envision themselves in the images provided, is it a positive experience?

All these questions lead directly to the next element of the evaluation—the marketing scale.

Marketing Scale

The marketing scale is an assessment of how readily and reliably information is accessed using search engines, including the appropriateness of content to hyperlinks, the rank and popularity of the website, and other technical aspects related to search engine optimization (SEO). SEO is an important aspect of the marketing scale. As content within a page becomes more accessible to search engines, the organization's profile in online searches becomes higher. Contributing individual tests include search engine results, search placement, and the use of content keywords that search engines rely on to prioritize websites.

Two items have the maximum weighting for the marketing scale: (1) the amount of content, which also contributes to the content scale and is described above, and (2) the website's popularity. The popularity measure is drawn directly from the website of web information company Alexa (www.alexa.com), which tracks site traffic. In addition to ranking the current popularity of a site, the measure incorporates a tracking assessment to determine if the website has seen an increase or decrease in traffic over the previous three months.

Other items that contribute to a website's popularity are how it appears in search engine results; the ease of understanding the URL format employed; and the website's social media links. A website controls most of the text that appears in search engine results. Thus, well-chosen titles and descriptions can encourage people to select one entry over other alternatives in search results through SEO and

increase traffic to well-designed websites. The use of tags, metadata, and headings in a website will cause it to place higher in search engine results. As search engines refine their strategies, the rise of location-aware searching that ranks local resources higher than global ones will result in increased competition among local organizations. As a result, better-designed and -organized sites will tend to attract more local customers. Such efforts are already integrated in location-aware technologies used by contemporary mobile devices.

Closely related to the search engine measure is the assessment of URL format. A site's uniform resource locator (URL) is its identifying address in the form of "http://www.myorganization.com." Within each site, every sub-page also has a unique URL, and organizations have significant latitude in selecting what consumers see in the address bar of their web browser. An easily deciphered web address has many benefits. The organization's web pages are more likely to appear high in search engine results. Easy-to-remember addresses are easier for consumers to exchange socially, and clear website addresses convey information that makes it easier for consumers to estimate the content likely to be on a page.

An effective web address uses whole words rather than numbers and symbols. For instance, the web address automatically assigned to the University of North Carolina at Greensboro's Healthcare Information Technology Management Certificate is http://www.uncg.edu/bae/online/Post_Bac_Cert_IT_Healthcare.html. The use of abbreviations and numerous forward slashes,

called URL chopping, makes web address difficult to remember or quickly convey to someone verbally. For example, the site just mentioned was purposefully renamed to <http://hitm.uncg.edu/>. This form of the address is far easier to remember and communicate to others. The issue of URL chopping has become significant enough for URL redirection services such as bit.ly to take hold in the market. These much smaller URLs are easier to exchange using tools such as Twitter, which limits posts to 140 characters.

Technology Scale

The technology scale is an assessment of how well a website is designed, built, and maintained. Technical issues affect the user's experience and therefore can have a direct impact on the overall utility of the website for making decisions. Elements contributing to the technology index's scores include website download speed, site structure, code quality, and the use of cascading style sheets to organize content. The technology scale focuses purely on the performance aspects of a website without respect to its content. The major contributor to the score is the speed measure.

Overall Score

The overall score is a cross-sectional composite of a number of metrics used in other tests; it is a composite of metrics, not a composite of summarized scales. This measure attempts to answer the question of how good a particular website is. Having this at-a-glance metric that rates the overall quality of a website as a single number enables comparisons across a number of critical areas of site

presentation. The analytic engine also provides clear information about how each individual organization performs and, by extension, offers clues as to how improvements in these scores might be implemented.

RESULTS

Organizational characteristics of the 636 included organizations are presented in Exhibit 1.

Histograms representing the distribution of observations in each of the summarized scales are presented in Exhibits 2 and 3.

Across the full panel of metrics, we find the scores to have a single mode with skewed distributions, with the exception of the marketing scale, which demonstrates a bimodal distribution.

A listing of the top-scoring 25 hospitals for the *Overall Summary Score* is presented in Exhibit 4. The top-scoring 25 hospitals in each of the other categories are provided in the appendix. In ties, all the hospitals were listed, resulting in a list that was at times longer than 25.

The mean overall score for the health systems studied was 6.37. The maximum score of any facility was 8.40, achieved by the Arizona Cancer Center (www.azcc.arizona.edu). This

organization was also in the top five for the accessibility and technology scales. Organizations' websites performed best in the content (mean score = 6.42) and technology (mean score = 5.98) categories. The marketing scale was the third-best-performing element of the websites studied (mean score = 5.96). Organizations have the greatest opportunity to improve by increasing the accessibility of their website (mean score = 5.79). Each of these elements is discussed in greater depth next.

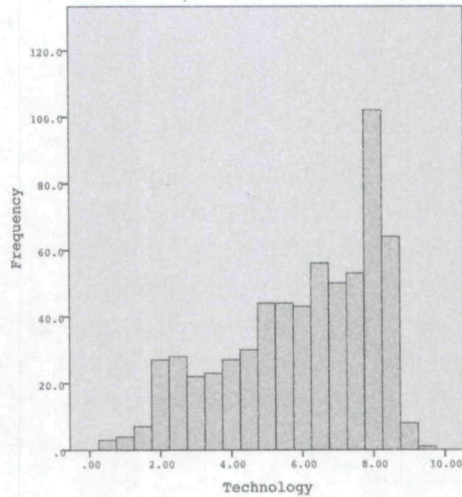
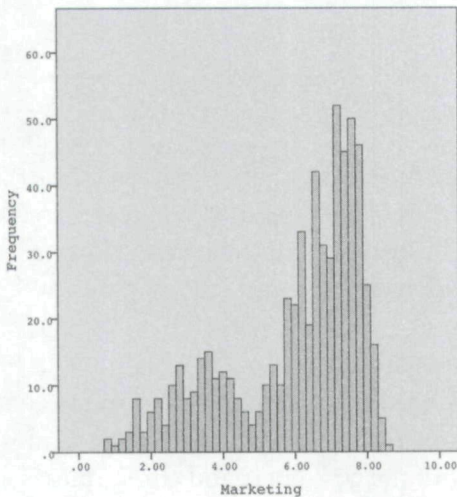
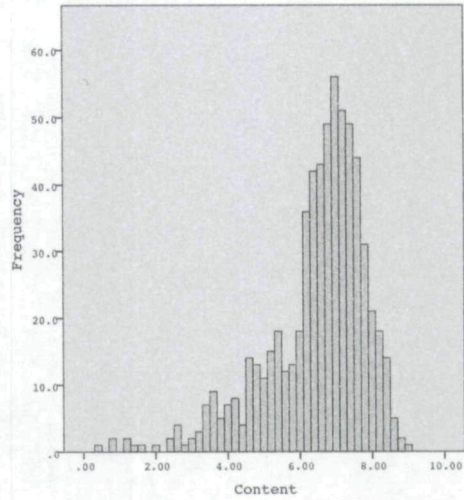
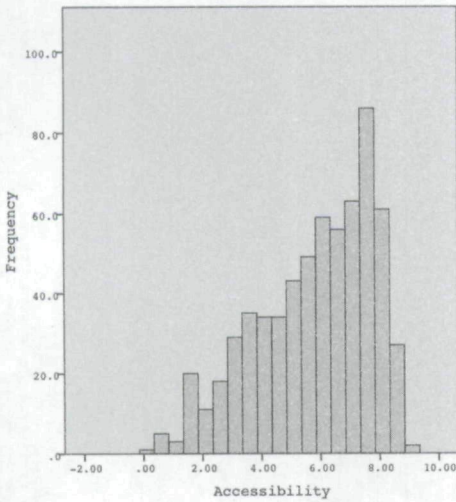
DISCUSSION

In order to make a complete and effective assessment of a healthcare organization's website, it is necessary to have the site evaluated using a webcrawling and analytic engine. Nevertheless, there are many contributing measures that organizational leaders can assess by a simple visual inspection of their site. The overall score of 6.37 indicates that organizations' websites, on average, have a significant potential for improvement. While we did not test for the relationship between organizational type and website performance, a cursory review of the top 25 reveals that children's hospitals and specialty facilities—cancer facilities in particular—

EXHIBIT 1

Descriptive Statistics for Major Scales and the Overall Score

	n	Min.	Max.	Mean	Std. Dev.
Accessibility	636	0.10	9.00	5.7934	1.96241
Content	636	0.40	8.90	6.4201	1.39582
Marketing	636	0.80	8.50	5.9582	1.83995
Technology	636	0.50	9.40	5.9769	2.07857
Overall Score	636	2.20	8.40	6.3651	1.22969

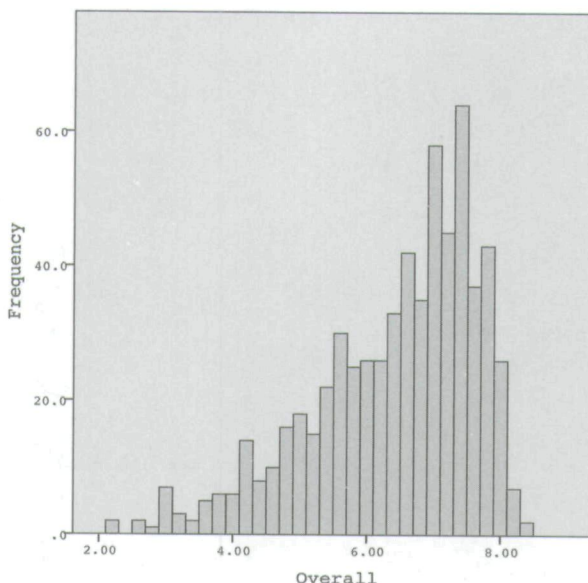
EXHIBIT 2**Histograms of Summarized Scales (n = 636)**

performed well. One explanation for why these types of hospitals tend to build better websites is that because there are fewer of them, they may compete for customers across larger geographic areas. Consumers in urban areas typically go to a local facility for routine care or common procedures, but customers in rural areas may bypass their local facilities. In particular, con-

sumers may travel for specialty care that is inaccessible locally, shopping for a facility and turning to the Internet for information (Saunders et al. 2009). Another explanation for these sites' success is that the complex and high-risk nature of cancer and childhood illnesses makes selecting an organization with high quality ratings and a reputation for innovation particularly

EXHIBIT 3

Histogram of Overall Score



important (Kim and Kwon 2010; Kinnane 2011). Both reasons may contribute to the impetus for specialty facilities to develop high-performing websites for their marketing purposes. The balance of the discussion will focus on the sub-measures that are most heavily weighted in the major scores' calculation.

Accessibility Scale

Compared to the other sub-scales, organizations' websites scored worst on the accessibility scale. A mean score of 5.80 indicates that the sites evaluated are not user-friendly for many groups of consumers with lower levels of either computer or health literacy. If organizations are to serve as ACOs, then it stands to reason that consumers are going to use their websites as a portal to their personal health record, as a means to coordinate care, and as a tool for assess-

ing provider quality (Wen et al. 2010). If this is the case, then far greater accessibility will need to be designed into these sites.

Content Scale

The federal government's push to enhance health systems' engagement with the customers and communities they serve will hinge on the quality and usability of the content the health systems provide. Many of the hospital websites evaluated required the end user to have a high reading comprehension level above that recommended for most health information (Gazmararian et al. 2010; Norman and Skinner 2006). In addition to written content, well-designed websites give viewers visual cues.

Providing end users with graphics and images that complement a web page's content is an area in which the

EXHIBIT 4**Overall Top 25 Health System Websites***

Ranking	Facility or System	Score
1	Arizona Cancer Center	8.4
2	Scripps Health	8.3
3.5 (tied)	Hospital for Special Surgery	8.2
3.5 (tied)	Charles A. Dean Memorial Hospital and Nursing Home	8.2
7 (tied)	Palo Alto Medical Foundation	8.1
7 (tied)	American Family Children's Hospital	8.1
7 (tied)	Vanderbilt-Ingram Cancer Center	8.1
7 (tied)	The Children's Medical Center of Dayton	8.1
7 (tied)	Avera Health	8.1
16.5 (tied)	The Children's Hospital of Philadelphia	8
16.5 (tied)	Nationwide Children's Hospital	8
16.5 (tied)	Sutter Health	8
16.5 (tied)	MD Anderson Children's Cancer Hospital	8
16.5 (tied)	National Jewish Health	8
16.5 (tied)	The Children's Hospital, Denver, Colorado	8
16.5 (tied)	PinnacleHealth	8
16.5 (tied)	Mayo Clinic	8
16.5 (tied)	Children's Hospital of Pittsburgh	8
16.5 (tied)	Genesis Health System	8
16.5 (tied)	Meriter Hospital	8
16.5 (tied)	Johns Hopkins Children's Center	8
16.5 (tied)	SUNY Upstate Medical University	8
16.5 (tied)	University of New Mexico Health Sciences Center	8
24.5 (tied)	Mills-Peninsula Health Services	7.9
24.5 (tied)	Doernbecher Children's Hospital at Oregon Health and Sciences University	7.9

* There are 26 websites listed because of a tie in the 25th place.

health sector needs to improve. Consumer sites such as HealthGrades, the Leapfrog Group, and Hospital Compare each use different graphics to depict quality and outcome measures. Providing consumers with a common standard would ease the comprehension issue and better serve marketing purposes.

Marketing Scale

One marketing activity growing in importance for health systems is the use of social networking (Rooney 2009; Thackeray and Neiger 2009). The assessment strategy also included an effort to identify social media presence by checking for a Twitter account link. The absence of a Twitter account

usually indicates that a website has no following in the social media domain. Organizational decision makers can evaluate this feature relatively easily by determining if their organization has an account on Twitter for their facility and how recently posts were made in that presence.

Technology Scale

The ideal loading time for a web page is 0.5 seconds or less. A loading time of 10 seconds scores a zero on the measure. Slow pages have been shown to lead to consumers abandoning sites (Rajamma, Paswan, and Hossain 2009). If a page takes more than eight seconds to display a reasonable portion of content, most people will abandon it. Conversely, fast pages give visitors a better opinion of a website and encourage them to explore more links.

The hospital websites studied performed relatively well with respect to their technology. However, this was also the measure with the highest standard deviation. Therefore, many hospitals are using state-of-the-art systems, but many are lagging. The increased use of video and graphics as web page content is a trend that will make good performance in this area more difficult to attain, and managers need to ensure they are budgeting for continued upgrades.

PUTTING YOUR WEBSITE'S RANKING TO USE

In an industry awash in rankings, the discerning administrator is wise to ask three questions.

1. What is the value of this ranking?

The value question can be defined by two parts of a ratio: the cost of improv-

ing the website and the return on that investment. In terms of cost, spending on website maintenance has a large fixed-expense component because it is an essential part of business in the twenty-first century. Therefore, the real question becomes whether the funds spent on the website are being put to good use. The ranking answers this question.

2. Is pursuing this ranking a worthwhile endeavor? The simple answer is yes. Having a website that patients, families, and other stakeholders know has been vetted for their ease of use is a message worth sending. Patients and families see useful websites as part of quality service. Having a website that meets the needs of stakeholders such as physicians is no longer a question, as physicians, too, are being pushed to exchange health information. While many of their needs may be met through other portals, such as electronic health records, when physicians refer patients to the hospital, the hospital's website becomes either an asset or a liability.

3. Will customers notice if the effort succeeds or fails? Yes. Not only will customers notice if the effort succeeds or fails, they will also determine if a website is helping or harming a health system's reputation compared to the facilities with which it competes. A highly ranked website gives customers a clear message that a health system cares about their needs and wishes to meet them.

CONCLUSIONS

The current analysis presents the first systematic assessment of hospital web-

sites. Our findings identify several areas in which the average organization's website can be improved. Given the movement toward having health systems serve as ACOs that can empower consumers (Simborg 2010), the number of poorly performing websites across all the scores is concerning in the near term. Early adopters of technology will benefit in an environment in which customers use the Internet to evaluate facilities. The web presence of many of these organizations represents the first contact healthcare consumers make with the organization. If such contact fails to make a positive impression on the consumer, alternatives may be explored. In saturated markets where several organizations' services are interchangeable, a strong and well-designed web presence can be the difference between patients taking the first step into a facility or doing everything they can to avoid it. Health organizations should strive to standardize the quality of information presented on their websites (Suchy 2010), but they should also take care to deal with issues of accessibility, standards compliance, and SEO.

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APPENDIX: Top-Scoring Organizations on Each of the Website Rating Scales**Accessibility Scale Top 25 Health Systems***

Ranking	Facility or System	Score
1	Duke University Medical Center	9
2	Arizona Cancer Center	8.9
3	Abington Memorial Hospital	8.8
5.5 (tied)	Vanderbilt-Ingram Cancer Center	8.7
5.5 (tied)	Mayo Clinic	8.7
5.5 (tied)	Houston Healthcare	8.7
5.5 (tied)	The Hospital of Central Connecticut	8.7
10.5 (tied)	Southern Regional Health System	8.6
10.5 (tied)	National Jewish Health	8.6
10.5 (tied)	Nemours/Alfred I. duPont Hospital for Children	8.6
10.5 (tied)	Austen Riggs Center	8.6
10.5 (tied)	St. Anthony's Medical Center (St. Louis, MO)	8.6
10.5 (tied)	Lourdes Health System	8.6
16 (tied)	Madonna Rehabilitation Hospital	8.5
16 (tied)	Genesis Health System	8.5
16 (tied)	Rush Oak Park Hospital	8.5
16 (tied)	MassGeneral Hospital for Children	8.5
16 (tied)	Cabell Huntington Hospital	8.5
22 (tied)	Northeast Rehab Hospital	8.4
22 (tied)	Avera Health	8.4
22 (tied)	Avera McKennan Hospital and University Health Center	8.4
22 (tied)	Scripps Health	8.4
22 (tied)	Charles A. Dean Memorial Hospital and Nursing Home	8.4
22 (tied)	Community Hospital of the Monterey Peninsula	8.4
22 (tied)	St. Vincent's Medical Center (Jacksonville, FL)	8.4
22 (tied)	Vermont State Hospital	8.4
22 (tied)	Mt. Washington Pediatric Hospital	8.4
22 (tied)	Memorial Sloan-Kettering Cancer Center	8.4
22 (tied)	Palms of Pasadena Hospital	8.4

* There are 29 websites listed because of a tie in the 25th place.

Content Scale Top 25 Health Systems*

Ranking	Facility or System	Score
1	Campbell County Memorial Hospital	8.9
2	St. Luke's Hospital (Cedar Rapids, IA)	8.8
3	Scripps Health	8.7
5 (tied)	Mount St. Mary's Hospital and Health Center	8.6
5 (tied)	Children's Hospital of Pittsburgh	8.6
5 (tied)	Beth Israel Deaconess Medical Center	8.6
7.5 (tied)	Children's Healthcare of Atlanta	8.5
7.5 (tied)	John Stoddard Cancer Center	8.5
12.5 (tied)	Charles A. Dean Memorial Hospital and Nursing Home	8.4
12.5 (tied)	The Children's Medical Center of Dayton	8.4
12.5 (tied)	Hospital for Special Surgery	8.4
12.5 (tied)	WakeMed Children's	8.4
12.5 (tied)	Nationwide Children's Hospital	8.4
12.5 (tied)	Roswell Park Cancer Institute	8.4
12.5 (tied)	Pen Bay Healthcare	8.4
12.5 (tied)	Baltimore Washington Medical Center	8.4
19.5 (tied)	Sutter Medical Center (Sacramento, CA)	8.3
19.5 (tied)	Sutter Auburn Faith Hospital	8.3
19.5 (tied)	Chandler Regional Medical Center	8.3
19.5 (tied)	Mills-Peninsula Health Services	8.3
19.5 (tied)	Broward Health Coral Springs Medical Center	8.3
19.5 (tied)	Woman's Hospital (Baton Rouge, LA)	8.3
24 (tied)	Mercy Medical Center (Cedar Rapids, IA)	8.2
24 (tied)	Meriter Hospital	8.2
24 (tied)	Palo Alto Medical Foundation	8.2
24 (tied)	Akron Children's Hospital	8.2
24 (tied)	Sutter Health	8.2
24 (tied)	Brigham and Women's Hospital	8.2
24 (tied)	Mission Hospitals	8.2
24 (tied)	Texoma Medical Center	8.2
24 (tied)	NorthShore University HealthSystem	8.2

* There are 31 websites listed because of a tie in the 25th place.

Marketing Scale Top 25 Health Systems*

Ranking	Facility or System	Score
1	Memorial Sloan-Kettering Cancer Center	8.5
2.5 (tied)	Palo Alto Medical Foundation	8.4
2.5 (tied)	Hazelden	8.4
5 (tied)	Hospital for Special Surgery	8.3
5 (tied)	St. Anthony's Medical Center (St. Louis, MO)	8.3
5 (tied)	The Children's Hospital of Philadelphia	8.3
7 (tied)	Scripps Health	8.2
10.5 (tied)	Nationwide Children's Hospital	8.2
10.5 (tied)	Sutter Health	8.2
10.5 (tied)	American Family Children's Hospital	8.2
10.5 (tied)	University of Maryland Medical Center	8.2
10.5 (tied)	MD Anderson Children's Cancer Hospital	8.2
10.5 (tied)	National Jewish Health	8.2
10.5 (tied)	The Children's Hospital, Denver, Colorado	8.2
18.5 (tied)	Children's Healthcare of Atlanta	8.1
18.5 (tied)	Mills-Peninsula Health Services	8.1
18.5 (tied)	Brigham and Women's Hospital	8.1
18.5 (tied)	PinnacleHealth	8.1
18.5 (tied)	The Hospital of Central Connecticut	8.1
18.5 (tied)	Doernbecher Children's Hospital at Oregon Health and Sciences University	8.1
18.5 (tied)	Community Health Network of Connecticut	8.1
18.5 (tied)	Detroit Medical Center	8.1
24 (tied)	NorthShore University HealthSystem	8
24 (tied)	Sharp HealthCare	8
24 (tied)	University of Rochester Medical Center	8
24 (tied)	New York-Presbyterian Hospital	8
24 (tied)	Weill Cornell Medical College	8
24 (tied)	Wake Forest Baptist Medical Center	8
24 (tied)	Nemours/Alfred I. duPont Hospital for Children	8
24 (tied)	Mayo Clinic	8
24 (tied)	Cincinnati Children's Hospital Medical Center	8

* There are 31 websites listed because of a tie in the 24th place.

Technology Scale Top 25 Health Systems

Ranking	Facility or System	Score
1	Duke University Medical Center	9.4
2	Arizona Cancer Center	9.1
3.5 (tied)	Abington Memorial Hospital	9
3.5 (tied)	Madonna Rehabilitation Hospital	9
5	Northeast Rehab Hospital	8.9
7.5 (tied)	Vanderbilt-Ingram Cancer Center	8.8
7.5 (tied)	Lexington Medical Center	8.8
7.5 (tied)	Southern Regional Health System	8.8
7.5 (tied)	Duke Children's Hospital and Health Center	8.8
12.5 (tied)	Avera Health	8.7
12.5 (tied)	Mayo Clinic	8.7
12.5 (tied)	Genesis Health System	8.7
12.5 (tied)	SUNY Upstate Medical University	8.7
12.5 (tied)	Avera McKennan Hospital and University Health Center	8.7
12.5 (tied)	Abbott Northwestern Hospital	8.7
20.5 (tied)	Scripps Health	8.6
20.5 (tied)	National Jewish Health	8.6
20.5 (tied)	Comer Children's Hospital at the University of Chicago	8.6
20.5 (tied)	Port Huron Hospital	8.6
20.5 (tied)	Providence Hospitals	8.6
20.5 (tied)	VillageCare	8.6
20.5 (tied)	Houston Healthcare	8.6
20.5 (tied)	Tomball Regional Medical Center	8.6
20.5 (tied)	Lucile Packard Children's Hospital	8.6
20.5 (tied)	Marengo Memorial Hospital	8.6

PRACTITIONER APPLICATION

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Within the past 15 years, web presence for healthcare organizations has moved from a nice-to-have marketing tool to a must-have front door for the organization. Many of today's healthcare consumers of all ages look first to the Internet to inform their healthcare decision making. Formerly commonplace communication

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