

Buried Alive: The Presence of Nursing on Hospital Web Sites

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Abstract

Background: Increasingly hospitals are using sites on the World Wide Web (Web) to market their services and products and to advertise employment opportunities.

Potentially these Web sites can be a resource for information about the hospitals' nursing care and nurses' impact on patient outcomes.

Objective: The purpose of this study was to describe the presence of nursing, — accessible and visible data about nurses, nursing practice, or nursing care — on hospital Web sites.

Method: We examined a random sample of 50 hospital Web sites from the *U.S. News and World Report's* 2003 list of *America's Best Hospitals*. Using a tool developed to capture the characteristics that denote a presence of nursing, we examined Web sites maintained by *hospitals* that appeared on the list to determine the presence of nursing on the sites.

Results: Nurse-related content on these hospital Web sites was minimal and was frequently located on pages deep within the hospital Web site.

Discussion: Based on our analysis, we cannot infer that the presence of nursing on hospital Web sites represents the importance of nursing, nursing practice or nursing care for patients entering hospital systems. Instead, nursing content on hospital Web sites focuses on employment opportunities and processes.

Key Words: Communications media; hospital marketing; nursing service, hospital; World Wide Web.

Background

The portrayal of nurses in traditional forms of communications media has been well documented. Historically, the entertainment media have underplayed the importance of nurses and downgraded their contributions (Kalisch & Kalisch, 1982, 1986). Moreover, the print media virtually have omitted references to nurses and their roles in health care delivery (Sigma Theta Tau International, Woodhull Study on Nursing and the Media, 1997). Following the health care quality initiative launched in 1996 by the Institute of Medicine the nursing shortage and its impact on the quality of care have been emphasized extensively, however, by the mass communications media. Even though media coverage has informed consumers that decreased levels of nurse staffing can have a negative impact on the quality of care and patient safety (Aiken, Clarke, Cheung, Sloane & Silber, 2003; Kovner, Jones, Zahn, Gergen & Basu, 2002; Needleman, Buerhaus, Mattke, et al. 2002; Page, 2004), unfortunately it has only informed the public about the nursing profession's *current* problems or failings and has neglected the many accomplishments of nurses (Gordon, 2005).

A newer type of communications media, the World Wide Web (Web) on the Internet, is popular in the United States and is used throughout the health care industry. For instance, Johnson and Johnson developed a Web site (www.discovernursing.com/) as part of its advertising program, *The Campaign for Nursing's Future*. The site contains in-

depth information about nursing education and careers and targets recruitment of potential candidates into the profession. Also countless Web sites offer health and medical information and increasingly health care consumers visit those sites (Fox & Fallows, 2003).

The popularity of the Web among health care consumers has not gone unnoticed by hospital marketing professionals. More and more, hospitals are using the Web as a marketing tool to promote their health care products, services, and employment opportunities (Fell & Shepherd, 2001; Sanchez, 2000; Sanchez & Maier-Donati, 1999). A small but growing body of literature has addressed hospital Web sites with respect to their content and purpose. For example, Sanchez and Maier-Donati (1999) derived descriptive categories of Web site characteristics from reviews of the literature and actual Web sites to guide site evaluation and recommendations for site content. Zingmond, Lim, Etter, and Carlisle (2001) reported that hospitals were using the Web for marketing care that emphasized wellness, health information, and quality of services and that promoted their affiliated physicians. Other researchers included indicators of quality of care in their evaluation of Web sites (Kind, Wheeler, Robinson, & Cabana, 2004). Finally, Fell and Shepherd (2001) reported on specific online marketing activities such as employee recruitment. Although it is unknown whether a nursing product was marketed on any of the Web sites in the above studies, these published reports have not mentioned nurses or nursing care.

The lack of nurse-related findings in the above reports support Gordon's (2005) observations that nurses are invisible on hospital Web sites but physicians are not. Medicine is the focus of advertising that highlights descriptions of physician accomplishments and pictures of physicians providing care to patients. Additionally, a

lack of a presence of nursing on hospital Web sites may well be one of the standard industry practices that undervalue nurses' knowledge and skills and that underestimate contributions by nurses to hospitals and to patient care (Weinberg, 2003).

Although Gordon's reference to the invisibility of nurses on hospital Web sites is revealing, further research could substantiate that claim. Clearly, reports of hospitals' use of the Web as a communication medium that promotes nurses and the quality of nursing care and advertises employment opportunities for nurses are lacking. We addressed this problem by defining the *presence of nursing* as accessibility of visible data about nurses, nursing practice, or nursing care. We posed and addressed the following questions: (a) what proportion of a sample of U.S. hospital Web sites has a presence of nursing? (b) what is the accessibility of the presence of nursing on a sample of U.S. hospital Web sites? and (c) what are the characteristics of the presence of nursing on a sample of U.S. hospital Web sites?

Even though the low visibility of nurses and nursing care on the Web is apparent from casual observation, scientifically derived data to document this invisibility and to promote changes in the current practice of focusing almost exclusively on medical care and physicians do not exist. The absence of messages about the contributions, qualifications, and accomplishments of nurses on hospital Web sites may subtly but negatively influence the public's perception of care they can expect to receive in hospitals. Omission of positive messages about nurses and their work also hinder efforts to attract (a) people available and qualified to work in hospitals and (b) individuals who might want to enter the nursing profession. However, the most damaging effect of this omission is the subliminal message that misleads the public by failing to recognize nurses

as important members of the health care team who are responsible for overseeing most of the care patients will receive.

Methods

Sample

The Web sites for this descriptive study were selected from all hospitals and medical centers¹ ranked in 2003 by the *U.S. News and World Report*. U.S. News advertises and reports this ranking of *America's Best Hospitals* annually in the print and Web media so that hospitals can use that ranking to market services. The public are most likely to assess this ranking than they are, for example, the lesser known and available *HCIA-Sachs Institute 100 Top Hospitals* or *Solucient's 100 Top Hospitals*, which are more likely to be accessed by people in the health care industry.

The 2003 online publication of the rankings (http://www.usnews.com/usnews/nycu/health/hosptl/directory/hosp_alph.htm) included Web site addresses for all 203 of the ranked hospitals in 17 specialties. Seventeen of the 203 hospitals were recognized and appeared on an *Honor Roll* that denoted leadership and high quality-care across six or more medical specialties. The sample ($n = 50$) for this study included all 17 hospitals and an additional 33 selected randomly from the remaining 186. Each of the 50 Web sites in this sample was accessed via the link provided on the *U.S. News and World Report* Web site.

Development and Use of Study Checklist

¹ Note: The term "hospitals" will denote both hospitals and medical centers.

Development of the “Presence of Nursing: Hospital Web Site Checklist” included in-depth preliminary work to identify and categorize nurse-related content on hospital Web sites. This work was completed in March 2003 using hospitals ranked in 2002 by *U.S. News and World Report*, the latest ranking available at the time from which nurse-related categories could be derived. Forty hospital Web sites from the 2002 ranking were reviewed and a list of characteristics relevant to the nursing profession was compiled. The research team, composed of faculty with expertise in health care systems, health care informatics, and the communications media, reviewed this initial list of characteristics. To refine the list of characteristics, a session was held during which the research team used the checklist to guide an extensive examination of 4 Web sites selected from hospitals in the 2002 list.

During our examination of these 4 Web sites, items to capture the geographical location and type of each hospital were added to the checklist. We organized the final list of 75 characteristics into five major categories, each of which included an *other* item to capture nurse-related characteristics not listed on the checklist. The five categories included (a) Hospital Web Site Home Page — 13 characteristics, (b) Nursing Organization — 17 characteristics, (c) Nursing Employment, Recruitment, and Retention — 19 characteristics, (d) Nursing Education and Research — 18 characteristics and (e) Nursing News — 8 characteristics. Table 1 includes examples of characteristics for each of the five major categories. The research team also formatted the checklist to include a column for notation of comments during data collection. This categorical list was formatted in tabular form for purposes of data collection; one column was designated for placement of a checkmark to indicate that the characteristic was present on the Web site.

During the checklist development phase of the study, the research team created a scale to rate the hospital Web sites according to the total number of characteristics found on a given site. The total number of characteristics, which could range from 0 – 75, was rated using a scale of (a) *absent* — no characteristics; (b) *minimally present* — having between 1 and 15 characteristics; (c) *somewhat present* — having between 16 and 37 characteristics; (d) *moderately present* — having between 38 and 59 characteristics, and (e) *very present* — having between 60 and 75 characteristics.

A second scale was developed to measure accessibility of the presence of nursing on the hospital Web sites. Accessibility was defined according to the number of layers of Web pages encountered before nurse-related content, if present, was found. The accessibility categories included (a) *absent* — having to navigate through six or more layers; (b) *minimally accessible* — having to navigate through five layers; (c) *somewhat accessible* — having to navigate through four layers; (d) *moderately accessible* — having to navigate through three layers; and (e) *very accessible* — having to navigate through one or two layers.

Data Collection

Data collection was completed in two phases. In both, the *U.S. News and World Report's* 2003 list of *America's Best Hospitals* published on the Web was the source of hospital Web site links. In phase 1, which took place during the second week of December 2003, three members of the research team used the study checklist described previously and evaluated the first 5 Web sites in the random sample of 50. Findings were compared to promote a consistent evaluation of sites. All discrepancies in data collection

were discussed to reach 100% consensus and to establish a plan for consistently reviewing study Web sites.

In the second phase between December 23, 2003 and January 6, 2004, the remaining 45 hospital Web sites were accessed and evaluated. The data collection time period was kept to a minimum to decrease the influence of any site changes and updates. The checklist data were entered into an Excel database.

Analysis

Data were analyzed using descriptive statistics to determine whether there was a presence of nursing on hospital Web sites. Frequencies and other descriptive statistics were used to describe the demographic characteristics of hospitals, the proportion of hospital Web sites with a presence of nursing, the accessibility of nursing information on the hospital Web sites and the distribution of the individual characteristics reflecting the presence of nursing. Additional information noted in the comments column was reviewed to identify themes and characteristics that could be used in a revision of the checklist for use in future studies.

Findings

All hospital Web sites in the sample ($n = 50$) were available using the links on the Web version of the *U.S. News and World Report: America's Best Hospitals* report for 2003. Geographical breakdown revealed representation from throughout the United States: 12 sites (24%) were from the North Atlantic region; 6 sites (12%) were from the South Atlantic region; 14 sites (28%) were from the North Central region; 7 sites (14%)

were from the South Central region; and 11 sites (22%) were from the Pacific and Mountain region. Of 50 sites, 47 (94%) were academic institutions, 2 (4%) were non-academic, and 1 (2%) was unidentifiable.

All 50 sites had at least one occurrence of visible data in the form of pictures, graphics, or text that related to nurses, nursing care, or nursing practice. The presence of nursing was further analyzed according to the total number of characteristics summed across the five categories. From the possible 75 characteristics on the checklist, the number identified for the 50 sites ranged between 2 and 42 ($X = 18.2$; $SD 10.56$). Twenty three (46%) sites had a *minimal* nursing presence and 23 (46%) had *somewhat* of a presence; 4 sites (8%) had a *moderate* presence; and no site achieved a rating of *very present*.

The scores for accessibility of the presence of nursing reflected the number of layers of Web pages viewed before encountering the presence of nursing (see Table 2). Whereas the presence of nursing on 11 sites (22%) was *absent* until six or more layers of Web pages were viewed, only 1 site (2%) displayed a presence that was *very accessible*.

Descriptive frequencies for the categories of characteristics assessed in this study are presented in Table 3. Whereas the *Nursing News* category was absent in most ($n = 34$; 68%) sites, all but 1 (2%) had some nursing information in the *Employment/Recruitment/Retention* category. No themes or additions to the checklist were revealed in the items listed as *other*. Details of characteristics within the five categories follow.

Hospital Web Site Home Page

A hospital home page was considered to be the main Web page that served as an entry to the remaining pages on the site. Most Web sites, 44 (88%), had an internal search engine on the hospital home page. The search engine allows a site visitor to look for specific information on pages throughout the site. Using *nurse* and *nursing* as key search words disclosed nurse-related content on 24 (48%) sites, but for many sites, several links had to be followed to locate nurse-related content. Magnet status, the highest level of recognition awarded by the American Nurses Credentialing Center (ANCC) to nursing services in the United States and international healthcare communities, was acknowledged with a Magnet symbol on five (10%) home pages. Interestingly, 15 of the 50 (30%) hospitals had been granted this prestigious award, as was noted on pages deeper in the site. Six hospital sites (12%) included testimonials from patients regarding the quality of nursing care as they perceived it, and 5 (10%) of the hospitals recognized quality nursing care as an important aspect of services provided.

Nursing Organization.

Ten hospital Web sites (20%) identified nurse leaders or administrators in the organization. Eleven (22%) stated a nursing philosophy, 9 (18%) gave information about the missions or visions of their nursing departments, and 7 (14%) had developed a nursing slogan or phrase. Although nursing departments are typically organized by specialty areas and job vacancies may be organized and advertised accordingly, only 15 sites (30%) had any description of specialty areas. At least one message from a staff nurse describing nursing practice within the organization was found on 19 sites (38%).

Nursing Employment, Recruitment, and Retention.

Forty-four sites (88%) gave information on how to apply for vacant positions in nursing, 43 (86%) listed job vacancies with a direct link to employment opportunities for nurses, and 40 (80%) allowed a prospective nurse to complete an employment application on-line. Employee benefits also were listed on 42 sites (84%). Innovative scheduling options that described work shifts considered to be anything other than the traditional 8 and 12-hour shifts were described on 11 sites (22%). Recognition of clinical expertise such as a clinical ladders program was present on 11 sites (22%) and 6 sites (12%) identified some form of nurse retention program.

Twenty-three sites (46%) gave information about a summer intern/extern program for nursing students who were about to enter their senior year of study. Details about these programs indicated that nursing students worked under the supervision of a nurse within the organization, practiced skills learned in their nursing program, learned about the real world of nursing in practice, and began an acculturation into the organization. One site described a flexible work schedule that allowed nursing students to attend classes and work at the hospital.

Nursing Education and Research.

Seventeen sites (34%) had a link to a college of nursing (CON) or school of nursing (SON) affiliated with the organization. But only 4 (8%) identified any collaboration between nursing services and a CON or SON on projects or research that might indicate endeavors to study and improve nursing practice. Nursing research endeavors had very little visibility; 10 sites (20%) listed a nursing research center or department, but none described research programs or initiatives.

Nursing News.

Only 6 (12%) of the sites had some forum, such as an on-line nursing newsletter or list of current nurse-related events, to communicate information about the achievements of nurses. Some sites noted accomplishments of nurses, professional awards were published on 12 (24%) sites and educational achievements were noted on 6 (12%) sites.

Limitations

Because this study looked exclusively at a sample of hospitals from the *U.S. News and World Report's* 2003 ranking of *America's Best Hospitals*, an obvious study limitation is that other hospital Web sites on and off of the list, but not in our sample, could produce different results. Also, the instrument to evaluate the presence of nursing on the Web sites was developed specifically for this project and may not contain an exhaustive list of characteristics. Further, the checklist needs further testing. The data also were collected and analyzed primarily by a single investigator and thus are subject to bias. However, attempts were made to overcome this limitation by clearly defining the characteristics, using specific criteria for evaluation, and comparing the reviews of three researchers across 5 randomly selected sites. As with any research, potential bias exists when subjective data are interpreted.

Discussion

In general, hospital Web sites varied greatly in content and appearance, as did the presence of nursing represented on those sites. All the sites studied had at least two or more characteristics denoting a presence of nursing. Further data analysis revealed that the presence is minimal and somewhat difficult to access, often occurring several layers deep within the Web site. These results are consistent with other study findings such as the Woodhull (Sigma Theta Tau, 1997) study that reported minimal nurse-related content in print publications and that lends credence to the statement that the nursing profession is invisible. The unstated message revealed by findings in this study is that the nursing profession is not important, they do not play an important role in the delivery of services, and in turn they do not warrant space on hospital Web sites. Further, if information such as Magnet status is buried within a Web site and not easily accessible, site visitors may not be aware of this recognition of nursing excellence or have the patience to search for it or any other indication of the quality of care provided by nurses. It is established that Web users who desire specific information have little patience with searching the Web (Spink, Jansen, Wolfram, & Saracevic, 2002) and content located deep within a Web site is beyond the major search engines and deemed by Gil (n.d.) to be invisible.

The overall finding that hospital Web site development in general lacks a strong presence of nursing is consistent with the literature. Hospital marketers have not focused on nurses or nursing care on Web sites but have focused on medicine and employee recruitment. Although all sites had some nurse-related content for nurse recruitment, most lacked content about the nursing service department leadership and the mission or vision of the nursing department. The omission of a nurse-related focus is a missed opportunity for healthcare organizations to display information about the nursing service

department that would attract nurses to the organization and perhaps attract individuals into the profession.

The primary reason patients are admitted to healthcare facilities is to receive care that they cannot receive elsewhere, such as in their homes or in a doctor's office. Nurses are generally the largest group within most healthcare organizations, and they provide the hands-on care to patients during most hospital admissions. The public has a poor understanding of the complexity of nursing care and its influence on patient outcomes, and information that would enlighten the public on the crucial service it receives from nurses is basically absent from information on hospital Web sites. Interestingly, an ever increasing number of hospitals are developing Web sites yet little of the content addresses the hands-on care patients should expect to receive or the qualifications of those providing most of the care. The message that nurses collaborate with other health care providers to promote appropriate, safe, competent, and timely care to achieve optimal outcomes should be communicated to the public.

Hospital marketers could use Web sites to promote the profession of nursing to current and prospective patients, family members of patients, and other Web site visitors. Information about nurses can include the role of nurses in quality improvement initiatives; specialty areas of care and nurse-patient ratios to inform patients about the care they can expect in these areas; achievements of the nursing staff; the use of evidence-based practice by nurses; results of nursing research focusing on innovations in care delivery that improve patient care and nurses' working conditions; and collaborations between nurses and professionals from other disciplines as partners or team members in care delivery. Nurses are very much present in these processes and they are also essential. Information about nurses and nursing care could and should be

present on hospital Web sites as a means of providing the public with important information so that decisions about care delivery might be better informed.

The health care industry is fraught with problems that are complex in nature and warrant further study. The portrayal of nurses and nursing care on hospital Web sites is one aspect of those problems that could be addressed rather easily, especially if the health care industry and the nursing profession seek to attract and retain qualified candidates to deliver high quality care to patients. In keeping with previous research, the degree and type of presence of nursing in all communications media must be recognized as a serious concern. A positive image of the nursing profession will cause prospective students to understand and appreciate the merit and worth of a career in nursing and will help consumers to understand and appreciate the care they receive. The professional standards upon which nurses base their practice, instead of being advertised, remain unstated, which contributes to the public's lack of comprehension of nurses. This omission sends a subliminal message to the public: Nurses are not valued as critical members of the health care team or as major contributors to the hospital services. Hospital Web sites have the potential to inform the public of the important role nurses play in patient outcomes and the role their collaboration with other disciplines plays to make comprehensive care possible. By touting the roles and contributions of nurses on hospital Web sites, hospital marketers could give the nursing profession a visible presence.

While nurse-related characteristics were used to denote the presence of nursing in this study, the characteristics that are appropriate and beneficial on hospital Web sites are largely unknown. Further research could show whether the five categories of characteristics and individual characteristics of presence should be weighted in terms of the importance or quality.

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Table 1

*Categories and Examples of Characteristics from Presence of Nursing Hospital Web Site**Checklist*

Category	Characteristic
Hospital Web Site Home Page	<ul style="list-style-type: none"> Direct link to nursing website on home page Nursing link under health professions Recognition of nursing care on hospital Web site
Nursing Organization	<ul style="list-style-type: none"> Identification of nursing leaders/ administrators Mission/vision for nursing department Nurse/patient ratios or nurse-staffing
Nursing Employment, Recruitment, and Retention	<ul style="list-style-type: none"> List of positions Job descriptions Programs for new graduate nurses (preceptorship/nurse internship or residency)
Nursing Education and Research	<ul style="list-style-type: none"> Continuing education programs and descriptions Nursing research center or department/ program Importance of nursing research emphasized
Nursing News	<ul style="list-style-type: none"> On-line nursing newsletter Professional awards / recognition Educational achievements

Table 2

Accessibility of The Presence of Nursing on Hospital Web Sites (n = 50)

Accessibility of Nursing Presence	Frequency	Percent
Absent – (= 6 layers)	11	22
Minimally accessible (5 layers)	16	32
Somewhat accessible (4 layers)	11	22
Moderately accessible (3 layers)	11	22
Very accessible (1-2 layers)	1	2

Note: The presence of nursing on these hospital Web sites was measured by the number of layers of Web pages encountered before nursing content, if present, was found.

Table 3

Frequency of Nursing Presence Characteristics Within Major Categories on 50 Hospital Web sites.

Category	Number of Characteristics	Frequency	
		(n)	Percent
Hospital Web Site	0	4	8
Home Page Information	1-3	26	52
	4-6	15	30
	7-9	5	10
	10-12	0	0
	13	0	0
Nursing Department in the Organization	0	17	34
	1-3	17	34
	4-6	14	28
	7-9	2	4
	10-12	0	0
	13-15	0	0
	16-17	0	0

Category	Number of	Frequency	
	Characteristics	(<i>n</i>)	Percent
Employment, Recruitment, and Retention	0	1	2
	1-3	4	8
	4-6	10	20
	7-9	18	36
	10-12	12	24
	13-15	5	10
	16-18	0	0
	19	0	0
Nursing Education and Research	0	14	28
	1-3	18	36
	4-6	9	18
	7-9	5	10
	10-12	4	8
	13-15	0	0
	16-18	0	0

Category	Number of Characteristics	Frequency (<i>n</i>)	Percent
Nursing News	0	34	68
	1-3	9	18
	4-6	2	4
	7-8	5	10
