

# The Web Sites of Medical Centers in Taiwan

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*Abstract:* In Taiwan, the prevalence of Internet is high. Hospital web site is a source of health information. The purpose of this study is to investigate current status of medical centers' web sites in Taiwan. The sample came from the certified list of the hospital accreditation; there were 17 medical centers. We found that all of the medical centers have utilized the websites to provide general health information. Few hospitals' web sites facilitate interaction function. We concluded that hospitals have to make the efforts to build interaction web sites for their potential and current patients.

*Key-Words:* Taiwan, medical centers, web sites

## 1 Introduction

In the Brown University's 2005 Global E-Government Report, Taiwan's government was the top 1 in 198 countries analyzed [1]. Nevertheless, Taiwan Institute for Information Industry quoted the result from an ITU (International Telecommunication Union) report, indicating that the prevalence of Internet in Taiwan was 54%, making Taiwan as the 17<sup>th</sup> country in Internet prevalence [2]. It seems that Taiwan's government has taking a leading role to make Taiwan as an "e-country", but the public has been slightly behind the track.

Beside infrastructure in telecommunication, content of website will also influence internet prevalence. Therefore, the Pew Internet and American Life Project estimated that 52 million Americans who used the Internet for medical information and advice [3].

Seeking medical services from hospitals have taken note of this trend towards online health services by adding web sites to their marketing plans. As more and more people use the Internet to gather health information, many are addressing their own health needs [4]. Manhattan research [5] indicated that 10.3 million online consumers in America had used a hospital website in the past three months, up from three million in the last year.

In Taiwan, there are 590 hospitals, and 496 are certified by Taiwan Joint Commission on Hospital Accreditation (TJCHA) [6]. These hospitals have been accredited by TJCHA, and are classified as medical centers, regional hospitals, community hospitals and psychiatric hospitals.

The medical centers take the leading role, and have the capability of research and teaching. As the Internet population increased, the hospital

web sites should strengthen their web sites function to offer complete and correct health information for people.

## 2 Problem Formulation

When deciding what contents should be added to a Web site, the organizations must have a comprehensive consideration. Turisco and Kilbridge [7] addressed a list of components as below: (1)medical information for patients, (2)medical content for physicians, (3)capture and storage of patient information, (4)branding and links to other Web sites, and (5)advertising. Gruca and Wakefield analyzed America's Best Hospitals and concluded that half of the sites enable visitors to easily search for pertinent information [8].

We argue that the academic medical centers' websites have utilized the computer technology to provide information for people. The aim of this study is to investigate the contents of medical centers' web sites.

## 3 Problem Solution

The sample came from 17 web sites of medical centers. Table 1 describe the characteristics of the 17 medical centers. Nearly half of the medical centers had been equipped with more than 1500 beds. More than half of them were general hospitals. In the north of Taiwan, there are 8 medical centers, and only one medical center was located at east of Taiwan.

Geiger, Monkman, and Karlinsky proposed an analytic framework to evaluate websites [9]. This framework sorted the websites contents into 5 categories: hospital information, site design, technical aspects, external links, and interactive tools. Service content was added as our analytic

framework. The result was shown as table 2.

Table1. Description of 17 medical centers

Characteristics	N	%
No. of beds		
500-1000	4	24
1001-1500	5	29
>1501	8	47
Type of hospital		
General	10	59
University	4	23
Veteran	3	18
Distribution		
Northern	8	47
Central	3	18
Southern	5	29
Eastern	1	6

### 3.1 Hospital information

It was found that almost all of the medical centers offered sufficient hospital information. The statement of mission would present a good image for people. The information of transportation, mail, phone, and fax would guide the patients to access their service.

Health education and health news/papers on websites were the electronic brochure for patients. There were 9 hospitals offered staff contact information, and staff profiles. The message would offer the availability to contact with medical professionals. Volunteer information was presented on 10 medical centers' website. The volunteers were helpful for non-medical service and the message announced on websites was suitable for recruitment.

### 3.2 Site design

All of the websites had graphics, but not motion

video. The static message with motion video would pull the attention of people to view the website. Besides, the electronic documents always have many letters of small size; the motion video would be more convenient for the elders to understand the message.

Table2. Contents of Hospital Web Sites

Item	N	%
<u>Section1:Hospital information</u>		
Hospital's name	17	100
Mission statement	17	100
Statistics(beds, employees)	17	100
Transportation	17	100
Mail, phone, fax	17	100
Description of departments	13	76
Health education information	17	100
Activity information	13	76
Health research	13	76
Health news/papers	13	76
Staff contact information	9	53
Staff profiles	9	53
Recruitment	17	100
What's new in the hospital	17	100
Volunteer information	10	59
<u>Section2: Site design</u>		
Consistent style throughout	15	88
Graphics	17	100
Motion video	10	59
Art design	17	100
<u>Section3: Technical aspects</u>		
Alternative language choices	16	94
Copyright date	14	82
Update information	12	71
Visit counter	13	76
Web site map	12	71
Search engine	12	71

Table2. Contents of Hospital Web Sites (continued)

Item	N	%
<u>Section4: External links</u>		
Links to government	12	71
Links to other hospitals	14	82
Online journal	10	59
Links to health-related agencies	8	47
Links to other search engines	2	12
Links to libraries	9	53
<u>Section5: Interactive tools</u>		
E-mail	16	94
Patient satisfaction survey	5	29
Guest book	3	18
Online medical consultation	6	35
E-news	10	59
Q&A	10	59
Drug consultant	6	35
Inpatient room number query	1	5
Disease consultant	7	41
E-mail to Webmaster	3	18
<u>Section6: Service content</u>		
Ambulatory service schedule	17	100
Web-appointment	17	100
Treatment categories	17	100

### 3.3 Technical aspects

Alternative language choice is a very important function for foreigners to seek medical service. Almost all of the medical centers had this function. The medical center without this function was a veteran hospital. Most of the patients were ex-service men. This might be the reason why its website did not offer alternative language.

Of these websites, 12 had update information, website map, and search engine. They all would be helpful for patient to search information through the hospital website. And it would

increase the contact with people.

### 3.4 External links

More than half of the medical centers had links to government, other hospitals, or schools. Less than half of the medical centers had links to health-related agencies, libraries, and other search engines. The links showed the cooperation between hospitals and organizations. The links with other search engines increased the opportunity for patients to search information through the hospital web site, and increased the opportunity to contact with people.

### 3.5 Interactive tools

Obviously, interactive tools were not the item that all medical centers offered. In Taiwan, Chung and Yang's study indicated that there were few hospital's web sites offering interactive function [10]. In America, Gruca and Wakefield's analysis showed that half of the sites enable visitors to easily search for pertinent information [8]. It was not surprising, in this study there was not more than 6 medical centers that offered drug consultant, inpatient consultant, and e-mail.

### 3.6 Service content

All the medical centers had the function of web-appointment. It would promote the availability of remote patients and relieve the load of appointment counter.

The procedure of clinic service was not the same for different hospitals. There were 15 medical centers offered the message of procedure. It would be helpful for patients.

## 4 Conclusion

The medical centers take the leading role, and all of them have the mission of research and teaching. We found that all of the medical centers have utilized the websites to provide health information for people. However, there were few hospitals' web sites facilitate interaction function. We concluded that hospitals have to make the efforts to build interaction web sites for their potential and current patients.

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