What Do Chinese Patients Need from Their Hospitals’ Web Sites?

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Abstract. This user study aims to find out what Chinese patients want most from their hospitals’ Web sites. With the Delphi technique, two online survey questionnaires were designed to collect data from 183 qualified participants, as a purposive sample, recruited through the snowball sampling method. The study has found that what these Chinese patients need most are interactive tools, authentic and updated information, a clear site structure and user-friendly interface, patient education, and patient privacy protection. They especially desire professionally designed Online Inquiry and Online Appointment tools and relevant high-quality e-health videos. The study concludes that, today, making a hospital Web site relevant to its patients is one of the most efficient ways to market a hospital and to make the hospital stand out among competitors. In addition, Chinese hospitals need to encourage their patients to take advantage of their Web sites. The findings and conclusions in this study have made up the missing pieces in the studies involving Chinese hospital Web site development and provided clear guidance to Chinese hospitals’ future Web development.

Introduction

Both healthcare professionals and scholars in the West and in China agree that, in order to serve patients well, a patient-centered Web site is needed[1,2]. First, a hospital Web site should present what the users need instead of what the hospitals want the users to see[3]. Second, active user participation is the key to a user-centered design[4]. Interactive tools and multimedia can invite participation[5], such as asking a doctor a question and paying bills on the Web site to accomplish things that otherwise have to be completed physically at the hospital[6]. Several Chinese studies also conclude that Chinese hospital Web sites should become more interactive so as to better serve patients[2,7]. Multimedia can also be used to present patient education information, in an engaging manner[8]. However, Chinese hospitals lack videos, especially videos with substance that can help patients understand the prevention of a disease, a medical procedure, available expertise in a hospital, and so on[9].

Based on a systematic probability sample drawn from a list of 19,084 Chinese hospitals, Huang, Wang and Liu[10] found in total 14 interactive tools being used on Chinese hospital Web sites in 2013, but the average number of interactive tools used per Web site was only 3. The authors concluded that Chinese hospitals needed to more systematically implement interactive tools on their Web sites to provide quality healthcare online. In a sister study, Huang, Liu and Wang[9] found that only 42% of Chinese hospitals had a Web site, only 21.8% of those Web sites contained video(s), and 44.3% of the Web sites that carried videos carried
only one video. That study concludes that Chinese hospitals need to learn how to turn videos into an integral part of their marketing strategy so as to create both conceptually and technologically user-centric Web sites to serve themselves and, more importantly, to serve their patients.

Nevertheless, extremely few studies have methodically investigated how Chinese patients have used their hospitals’ Web sites to meet their wants, what Chinese patients like and dislike about those hospital Web sites, and what they think can be improved. This study aimed to answer the following two research questions:

1. What are Chinese patients who use a hospital Web site like?
2. What do Chinese patients want most from their hospital Web sites?

Answers to these questions will make up the missing pieces in the studies involving Chinese hospital Web site development and provide guidance to Chinese hospitals’ future Web development so that their designs can be truly patient-centered and so that more Chinese patients will be willing to use their hospitals’ Web sites to get quality service.

Methodology

An online survey questionnaire containing 20 close-ended and open-ended questions written in the Chinese language was designed and posted online for data collecting. Since this study attempted to obtain opinions from those Chinese patients who had used a hospital Web site, a purposive sample was drawn. The authors contacted more than 80 acquaintances, students, and some hospitals in 22 out of 32 provinces, municipalities, and autonomous regions in China and asked them to fill out the online survey questionnaire. These initial contacts were then asked to contact at least another five people who had used a hospital Web site to fill out the questionnaire—a snowball sampling method. These extra five people or more could be from provinces other than those initial 22. A qualified participant was defined in the questionnaire as anyone living in China who was at least 18 years old and who had visited a hospital Web site in the preceding 12 months at least once to seek medical help. When the term “Chinese patients” is used below, it refers only to the participants in this study. The findings and conclusions from this study can only be applied to these participants, but such findings might hint at a pattern in the much larger Chinese population.

The procedure was a simplified model of Delphi technique as described by Allen[11]. In total, 183 Chinese users of Chinese hospital Web sites participated in the survey. The collected data then were analyzed to determine on what issues respondents agreed and disagreed. In the second stage, a shorter follow-up survey questionnaire was designed and posted online. Another invitation for participation was sent to those first-round respondents who had voluntarily left an email address (83% had). Both close-ended and open-ended questions were used for the respondents to provide reasons to their answers to some of the questions in the first round of survey. Fifty-one percent of the participants from the first round who provided an email address answered the questions in the second round of survey. For the open-ended questions, after extensive exchanges of ideas, the two authors encoded the answers independently by clustering themes in answers to each question. The average value of Scott’s Pi for the coding of those open-ended questions in both rounds was 0.91.
Findings

1. What are Chinese patients who use a hospital Web site like?

   **Who:** A typical Chinese hospital Web site user among these respondents was an 18-year-old-to-45-year-old (77%) female (64%) with a bachelor’s degree or who was studying as an undergraduate student (48%), and this patient had visited his or her hospital(s) once or twice over the preceding 12 months (39%).

   **What kind of patients:** Seventy percent of the Chinese patients who visited a hospital Web site had a chronic illness, such as high blood pressure, cancer, diabetes, or asthma while 30% suffered from an acute illness, such as high fever, bone fracture, appendicitis, or an injury.

   **When:** Chinese patients usually visited hospital Web sites before they visited a doctor (74%), some both before and after a doctor’s visit (23%), and only 4% after a doctor’s visit. In the second round of survey, it was found, however, that 87% of the respondents said that their hospitals had never encouraged them in any way to use the hospital Web site.

   **How:** Typically, a user had visited his or her hospital’s Web site only once or twice in a year; 98% had visited with a desktop computer while only 53% had visited with a cell phone. It was found that the more a patent went to see a doctor, the more times he or she tended to use a hospital Web site (Spearman’s rho=.183, p<0.05). This finding corroborates the same finding in Huang et al.’s 2012 study[12].

   **Then what:** After a patient had visited a hospital Web site, the most typical decisions the patient made included which hospital to go to (56%), when to visit a doctor (56%), and which doctor to visit (54%).

2. What do Chinese patients want most from their hospital Web sites?

   The respondents’ three most-often done things on hospital Web sites were: (1) searching hospital or department information (66%), (2) finding a doctor’s schedule (63%), (3) making an appointment online (53%).

   Apart from being able to do what they can now, the respondents also wished to accomplish the following three functions the most: (1) checking lab results (25%), (2) checking fee schedules (25%), (3) using the interactive online inquiry feature (16%).

   Ninety-one percent of the respondents preferred hospital Web sites that allowed users to use the site to accomplish things online, such as making a doctor’s appointment, paying bills, checking lab results, and communicating with a doctor. Interactive online inquiry has been a very popular tool on Chinese hospital Web sites, especially on private hospitals’ Web sites[10]. Sometimes, if a user clicks the window away, it comes back automatically after a few seconds. In this study, 61% of the respondents disliked or strongly disliked such a design. They suggested that the online inquiry window be put on a side so that a user can click to open the window when he or she needs it.

   As of 2013, 31.1% of Chinese hospitals had allowed their patients to make a doctor’s appointment online[10]. The question is whether users were happy about using this relatively new feature. It turned out that the users had many complaints and wished for the following three areas of improvement:

   1. Make it more convenient to use (58%). For instance, the system should be open 24/7, allow a patient to cancel or reschedule an appointment, notify patients if a doctor has canceled certain appointments, and allow patients to see the price and the number of appointments left.
2. Make more appointments available online (29%). Some hospitals have allowed only 5% to 10% appointments online.

3. Show doctors’ information (12%). The doctors’ detailed and updated information, including name, schedule, specialization, successful cases, etc., should be seen in such a system.

This study found that 66% of the respondents expressed interest in getting to know a hospital’s service and using its service via social media, but 67% of them had never accessed their hospitals’ Web site via social media; if they had, most of them had used only once or twice in the preceding 12 months. Those who were interested in using social media said that social media were fast and convenient to communicate with a hospital and other users (93%) and that they could see other people’s reviews on a hospital’s services, and such reviews were more trustworthy (7%).

Seventy-two percent of the respondents said they did not watch videos on their hospitals’ Web sites; 20% watched only one or two and only 8% watched more than three in the preceding 12 months. Forty percent said that the video content was not helpful; 37% said that there was no video or videos were hard to find on their hospital Web sites; 15% said that it took too much time to watch hospital videos; 8% said that video quality was terrible. However, when asked whether the respondents preferred to get to know a kind of disease, a surgery procedure, a doctor, or a hospital’s overview through text only, video only or video and text, 79% of the respondents chose video and text, and 20% chose text only.

Among those 51 (28%) respondents who did watch at least one video on a hospital Web site, the six most watched categories of videos were introduction to a famous doctor, patients’ guidance to hospital visit, hospital news, information about a hospital, hospital promotion, and surgery procedure. These most-watched videos were also the respondents’ most helpful videos (Pearson R=.86, p<0.001).

Finally, the respondents were asked to tell what were the most important features that a hospital Web site should have. The top request was providing interactive tools (50%), and other requests included containing authentic and updated information (29%), presenting a clear site structure and user-friendly interface (11%), providing patient education (6%), and protecting patient privacy (4%).

Discussion and Conclusions

This study has presented overwhelming evidence from different angles that the participants in this study and possibly many more Chinese patients want their hospitals to take urgent actions in remedying some of the serious mismatches between what patients want and what the hospitals are offering and develop many more service functions on the hospitals’ Web sites.

To build such long-lasting relationships, Chinese hospitals need to promote relevant information and functions on their Web sites that their patients need the most. Almost no respondents desired to learn what a hospital’s Communist Party activities are like. Nevertheless, many hospitals have made such content required and promoted.

Developing authentic and updated patient education materials in multimedia formats and interactive self-assessment tools for both pre- and post-doctor’s visits, especially for prognosis and for patients suffering from chronic illnesses, can make a hospital Web site relevant to the patients and, thus sticky.
These respondents expressed clearly that (1) they need videos, and (2) they need relevant videos to help them make informed decisions. Only 8.5% of Chinese hospitals’ Web sites carry videos that tell patients’ stories[9], and only four out of 183 respondents in this study watched such videos. Chinese hospitals can produce more patient testimonials in text and in video and promote them in social media to increase relevancy to patients and build relationships.

In 2013, only 2% of the Chinese hospital Web sites allowed patients to vent their complaints[10]. The respondents in this study ranked “Complaining or suggesting online” as one of the most desirable tools though none of them used it (probably not because they did not want to but because it was not available). Such a simple tool should be made mandatory because it may help relieve the already tense hospital-patient relationships in China.

Most respondents did want to interact with their hospitals via WeChat. Hospitals should be more proactive in establishing a positive public relationship with their patients by publicly acknowledging and rewarding on social media those patients who have revealed what they value most about using a hospital’s service.

The findings from this study have shown that the topmost functions the respondents want on Chinese hospital Web sites are interactive tools that allow them to quickly achieve things online. Based on the findings from this user study, here is a list of 13 recommended e-health tools for implementation on Chinese hospitals’ Web sites: 1. Check Lab Results, 2. Pay Bills Online, 3. Complain Or Suggest Online, 4. Online Inquiry, 5. Contact Us, 6. Site Search, 7. Interactive Maps, 8. Find A Doctor, 9. Online Appointment, 10. Interactive Patient Education, 11. Cost Estimator, 12. Interactive Calendar/Event Finder, 13. ER Wait Times.

This study has found that 53% of the respondents made doctors’ appointments online. Considering the fact that only 31.1% of Chinese hospitals had this function on their Web sites in 2013 (there could be more since then), this usage rate was high. Since this tool has very recently gained popularity, problems are inevitable. Therefore, hospitals need to make it more convenient to use, make more appointments available online, and show doctors’ information so that patients can make informed decisions.

Significantly more private hospitals are using the Online Inquiry tool than state-owned hospitals (Chi-Square=311, df=1, p<0.001) (Ibid.). Since most private hospitals cannot handle medical insurances, most patients do not visit them[13]. It is understandable that private hospitals need to survive financially and that they need to aggressively attract patients online, but their often-seen unprofessional designs of the Online Inquiry tool are alienating their users. Therefore, any hospital that uses the Online Inquiry tool needs to use it responsibly and show respect to its users so as to win their trust.

Finally, another important way to provide convenience to users is to develop smart phone apps because most Chinese people are accessing the Internet via their cell phones today[14]. In 2013, no Chinese hospital had developed mobile apps for their Web sites[10]. In 2014, 53% respondents in this study had already accessed their hospitals’ Web sites with a cell phone. This is a big jump in one year. However, more Chinese hospitals need to get on this technological bandwagon.

Today, making a hospital relevant to its patients is one of the most efficient ways to market the hospital and make the hospital stand out among its competitors, especially considering the fact that 58% of Chinese hospitals do not have a Web site[10]. The average daily visits on many Chinese hospitals’ Web sites do not exceed one hundred[15]. Therefore, apart from designing a patient-centered Web site with relevant information in multimedia formats and user-friendly interactive tools and site architecture, Chinese hospitals should also encourage their patients to
use their Web sites. A Web site is a hospital’s business card. Hospitals need to keep their patients in mind in every stage of online marketing development.

References


