Investigating Health Information Seeking and Internet Access Among Parents

Jordan Jobs
Information Systems
Drexel University, College of Information Science and Technology (iSchool)
3416 Powelton Ave, Apt 3
Philadelphia, PA 19104

Faculty Advisor: Dr. Prudence Dalrymple

Abstract

Online health information provides access to medical related answers and a better way of life. Despite the popularity of medical information searches, the quality of life in low-income communities is impacted negatively due to lack of health information. Limited access to technology in underserved communities hinders access to online medical information. To improve this problem, urban communities need Internet access, the desire to seek health information, and finally the ability to understand it. Surveys of parents at four of The Children's Hospital of Philadelphia (CHOP) clinics served as the research base for this study. We utilized the time usually spent in the waiting room for survey administration. The results from these surveys offer clues for how to best bridge the digital divide in terms of access to health information in underserved communities. This research will help CHOP utilize technology to improve the communication between the clinics and the patients they serve.

Keywords: Health literacy, Internet, Information Seeking

1. Introduction

The ability to access medical information from the Internet has revolutionized the way we process and obtain health information. However, there is a gap in accessibility and usability that is known as the "digital divide." The "divide" has many definitions, but for purposes of this study it can be explained as "differences in access to information through the internet and other information technologies and services in the knowledge, skills, and abilities to use information"[1]. In the 1990s, the digital divide was defined by the ownership of technical devices, the availability of technology, and the ability to afford it. Today, more people have technical devices, but the digital divide has expanded to problems of lack of access, low usage, and lack of online skills [8]. Despite this improvement in technology ownership, the information gap is still apparent in the health domain. In communities where low socioeconomic status correlates with low access to primary care providers, it is especially important to have access to online health information.

   Accessibility to Internet-based health information can be critical to those with low socioeconomic status. Lacking health information leads to health illiteracy, the inability to comprehend health information whether online or in medical forms. The World Health Organization has defined health literacy as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health" [14]. Health literacy issues are highly related to those who are less educated, have less money, and do not have consistent access to the Internet [5]. Health disparities exist in both rural and urban communities and have been connected to lack of technology [2]. These communities require attention and answers to questions such as "why don't these communities seek health information?"

   Technology's effect on healthcare has provided vast opportunities to improve the information provided for patients, and the tools used by doctors. The Internet can provide answers for patients that can save time and make them better informed about their health [11]. Online health resources are an important component of today's healthcare

information base for patients. Barriers such as low socioeconomic status, lack of knowledge of technology, or lack of the opportunity to search for information online can hinder people's lifestyle in terms of health. The amount of health information available due to constant enhancements of technology can have an impact if everyone has access to technology, the motivation to seek health information, and the ability to comprehend it. Unfortunately, studies have shown that people living with chronic conditions such as high blood pressure, diabetes, lung condition, heart condition, and cancer are less likely to be connected to the Internet [6]. Minorities and ethnic groups with English as a second language are more likely to be health illiterate and have less access to online health information [5]. The health information seeking habits of people who fall in these various categories must be investigated before further technological implementations can be made.

The work conducted through this project received contributions through the participation from the parents, the collaboration between Drexel University and the Children's Hospital of Pennsylvania, and the continued relationship with the Drexel University 11th Street Clinic from the previous study. The exposure to the importance of the HIPAA laws was a contribution to the project as well because it instilled the importance of the protection of every patient's medical records. Limitations to the work included lack of manpower to conduct the surveys in a concise amount of time, working around the doctors' schedules in the clinics affected when surveys could be conducted, and awaiting the credentials to be approved, such as the HIPAA tests and background checks, which delayed the work from the beginning.

2. Literature Review

Healthcare has been affected in a multitude of ways due to the advancement of technology in recent years. In particular, patients who have a chronic illness are able to access health information and they have proven to be more self-reliant in appropriate situations [11]. Studies show health information seeking leads to a positive change in health behavior [7]. The knowledge obtained through sources of online health information has changed communication patterns between patient and doctor. Patients who seek health information are more likely to ask doctors new questions based on their findings [11]. In Israel where the digital infrastructure is well developed throughout the country, studies have shown that patients who are more "eHealth literate" have better relationships with their doctors [12]. Thanks to information provided through technology, oral communication between the patient and doctor has shown improvement, and the medium of technology as a means of communication for health information is reaching new heights. Health information seeking has shown a positive effect on visits to the doctor [12].

Visits to medical care providers are proven to be valuable experiences for patients, but challenges do exist for those who lack health literacy. Patients that live in low socioeconomic conditions are more likely to lack health literacy which can have a negative effect on their communication with their doctor [10]. Patients in urban and low income settings are less likely to engage with their physician and ask questions that pertain to their health because they either do not feel comfortable to ask or they do not know enough about the condition to question their physician [10]. It is the lack of information that contributes to health problems in low-income communities and communities with low Internet use. Patients who lack health literacy have a harder time trusting or relating to their doctor for reasons including differing backgrounds in terms of race, socio-economic status, language, and other characteristics [5]. Low health literacy patients have more of a challenge with doctors because they may not be aware that they should have consistent healthcare. Patients with low health literacy could have difficulties with comprehension in the doctor's office because they do not want to show the doctor that they cannot understand the information given to them. These patients do not know what questions to ask and they fear challenging the doctor in any way [5]. Low health literacy has negative effects on patients' health and their interactions with doctors, if online health information was available and sought after those suffering from a lack of health knowledge could live healthier lifestyles.

Information on the Internet has had a great impact on how people seek questions about their own or a loved one's health. Access to health information has increased with the growth of the Internet. Recent surveys have shown that health information is the most sought after topic on the Internet [7]. In 2010 The Pew Internet & American Life Project reported that 80% of Internet users searched for health information, and it has been a growing trend since 2002 [6]. In 2000, 27.5% of people looked for health information; that number increased to 40% in 2002 and then to 61% in 2008 [11]. This rapid growth of health information seeking exemplifies the impact of the Internet.

There is evidence that people who are more connected to the Internet are more likely to be health literate and utilize the Internet for health information. Those with better digital access and health knowledge are more likely to comprehend health information in various forms [8]. The ability to use emerging information and communication

technologies to improve one's health or healthcare is referred to as being eHealth literate 8. Technology has the potential to increase access to healthcare, enhance efficiency of service, and improve diagnosis [3]. Access to healthcare professionals may be constrained by time and people's schedules, which cannot always allow time for a visit to the doctor. In these situations, people have developed the need to access information outside of the office. Health information seeking has a lot of benefits that should be available to all patients.

3. Objective

This study examined whether or not underserved people search online for health information. It is part of an ongoing collaboration between library and information science researchers and the Children's Hospital of Philadelphia (CHOP) to learn more about the ways members of urban and rural communities use the Internet and whether their use includes looking for health information. This study developed from a previous research in which a team of Drexel University iSchool faculty conducted a similar study in 2009 in a medically underserved neighborhood. The research took place in the waiting room of Drexel University's 11th Street Family Health Center, a Federally Qualified health Center serving a low income, urban, minority population. Using a structured interview technique, patients were asked questions that identified the relationships between Internet access and health information seeking. The results showed that the most common barrier to Internet access was the lack of a computer or a cell phone, that the health center was the primary source of health information for participants, and that the most popular use of the Internet amongst the participants was recreational use [13].

The current study took place in four pediatric clinical practices, two of which are urban and two are located in rural communities. It is one piece of a larger program to examine health information seeking. By collecting data about individual's health information seeking habits in a trustworthy and convenient way, we hope to determine if a correlation exists between health information seeking and Internet access. The results of this study will help CHOP achieve their part of the HiTech Affordable Care Act by understanding the factors that will encourage patients to access the patient portals that are part of the requirements for "meaningful use of health information technology by patients" [9]. Research regarding health information can make a significant difference in one's health and the results of this study can suggest interventions in future work.

4. Method

The survey was piloted at the previously mentioned, Drexel University 11th Street Family Health Center, in July 2012. The author was able to pre-test the instrument and practice approaching potential participants; revisions were made to the survey based on the pre-test results and commentary. The study was conducted over a period of four weeks in August and September 2012 at three CHOP clinical practices; a fourth one was surveyed in January 2012. The later date in January occurred due to scheduling conflicts with the clinic. In the first phase, two of the three clinical practices were located in an urban area and the other was located in a rural community. The fourth, also rural, was surveyed in January. These practices were chosen because of their differing demographic profiles in order to gain a fuller picture of health information seeking and Internet access across a wide variety of patients. The two urban clinics, the South Broad Street and the Market Street clinic, have 66% Black or African American patients, while the rural clinics--Coatesville and West Grove-have 9% Black or African American patients [4]. Thus, the study was designed to be as inclusive and as generalizable as possible.

The paper and pencil surveys were administered in the waiting rooms of the four clinics where it is believed subjects would be more willing to partake. Before each survey collection at a new clinic the author was introduced to each clinic's director by the research coordinator, James Massey. The clinic director would approve the research beforehand to ensure it did not interfere with patient care of clinical workflow. The parents were approached based on how preoccupied they looked with their child, how long they were waiting to be seen, and how their demeanor appeared at the time. Since this survey was administered in a pediatrics office, the survey was aimed at the parents who were required to be aged 21 or over, and they were assured of anonymity and privacy. The subjects were also given a $15 gift card incentive as thanks for their participation. The survey entailed sections pertaining to the subject's Internet access and use, how the subject searches for health information for his/her self or family member, the subject's cell phone use, and finally how the subject obtains and uses health information. Preceding all of those sections was a general anonymous demographics questionnaire that provided more contexts into who has access to the Internet and who is seeking health information.

5. Results

Administration of the survey started in September 2012, when children needed physicals and flu shots for the new school year. The first two clinics completed were the urban clinics, South Broad Street clinic in Philadelphia and the Market St clinic in Philadelphia. The other two surveys were completed in West Grove, PA and Coatesville, PA. The collection ended in January 2013 and 200 surveys were collected for the research. The surveys were shown to take no more than fifteen minutes during the usual thirty minute wait at the clinics.

The data was tabulated in Survey Monkey and significant differences were shown based on clinic's urban and rural locations. The urban clinics, Broad Street and Market, are labeled as clinics 1 and 2 respectively and the rural clinics, West Grove and Coatesville, are labeled as clinics 3 and 4. Demographically, African-Americans were the majority ethnicity in clinics 1 and 2 and Caucasians were the majority ethnicity in clinics 3 and 4. Females were the majority in all clinics. Clinics 1 and 2 had a majority of high school graduates as the highest completion of education as compared to clinics 3 and 4 where the majority reported having a college degree. Reported household incomes in all clinics ranged from less than $24,999 up to over $100,000 a year.

The responses to questions that dealt with the Internet did not differ according to the clinic locations as much as the demographics did; all clinics reported over 90% of subjects had Internet access through either a laptop, desktop, tablet, or smartphone. Similarities were found also with how people accessed the Internet; each clinic's majority was through a computer or laptop and each had the same majority of using a 'cable/modem' to access the Internet at home. Although the majority at all clinics dealing with how often they use the Internet was 'Several times a day' clinics 3 and 4 had over 20% more subjects answer that question than clinic 1 and over 10% more than clinic 2. Also the choice, 'Very Confident' was a popular pick under the question of how comfortable one feels when using the Internet; however, clinics 3 and 4 had over 30% more subjects choose 'Very Confident' than clinic 1 and over 20% more than clinic 2.

Clinics 1, 3, and 4 answered 'General Information' as the majority for what they looked for when seeking information online, and clinic 2's majority was 'Job Searching'; 'Health Information' ranged between 38% and 50% amongst the four clinics. Each clinic had 'Usually' as a majority as opposed to 'Always' in terms of how often is health information found successfully with results ranging from 26% to 48%, clinics 3 and 4 had the highest percentages. Also, 'Confident' as opposed to 'Very Confident' was the majority for all clinics for the question of how confident one feels when they find health information with results ranging from 44% to 64%, once again clinics 3 and 4 had the higher numbers. When questioned how often subjects would use an application that would allow administrative online tasks like scheduling appointments and contacting the doctor clinics 1, 2, and 3 answered as a majority they would use it 'Sometimes' and clinic 4's majority was 'Always'. There were similarities amongst all four clinics with the question about if all medical records could be accessed online and how often it would be used, each clinic's majority was 'Always.'

6. Discussion

The results inform our understanding of who does have access to the Internet and how seeking health information differs amongst people. This study will further aid what researchers in this field and clinics want to learn, and it will improve how health information technology impacts communication with patients. Parts of this work could encourage more intervention to allow patients to seek health information, and discover the necessity of Internet access for those with low socioeconomic status. This impact will allow members of these underserved populations to obtain the knowledge pertinent to be health literate and enjoy a better quality of life. The contribution of this work will help answer the broader questions of health information seeking in the future.

The demographic results showed the rural clinics, 3 and 4, to make more money and have a majority of white residents, and the urban clinics, 1 and 2, made significantly less money than the rural clinics and had a majority of black residents. Despite differing financial states and ethnic majorities, clinics were predominately connected to the Internet. The clinics had similar majorities in topics such as how they accessed the Internet and how often they would use an application that would allow them to view medical records. These similarities between these clinics show evidence to the bridging of the digital divide.

Although there are differences between the clinics even when they share the same majorities in topics, there is a positive move forward in Internet access and use. As noted in the results, all four clinics shared a majority that they

are 'Very Confident' with their use of the Internet, but in the rural clinics 30% more parents felt 'Very Confident' than the parents at the urban clinics. Also the majority of how often one uses the Internet was 'Several times a day,' clinics 3 and 4 had over 20% more parents answer that question than the other two clinics. The differences in these results makes a valid point that differences in use and understanding of the Internet still exists, but the divide is closing. The improvement is shown through the similar numbers from the survey results.

6.1 Discussion Charts

Chart 1. Parents that are 'Very Confident' with using the Internet
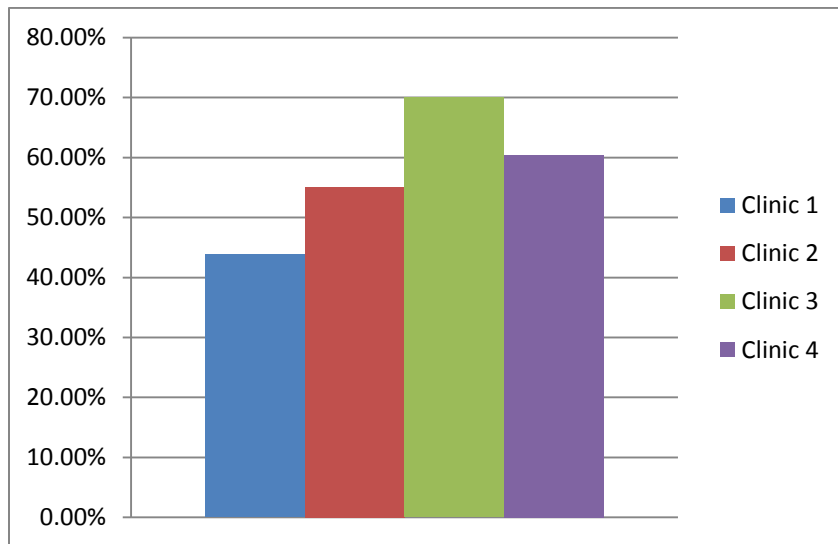
Chart 1. although each clinic has 'Very Confident' as their majority when asked how confident they are when using the internet, this chart exemplifies that clinics 3 and 4 still have more parents who are 'Very Confident' than clinics 1 and 2

Chart 2. How confident parents feel when finding health information on the Internet
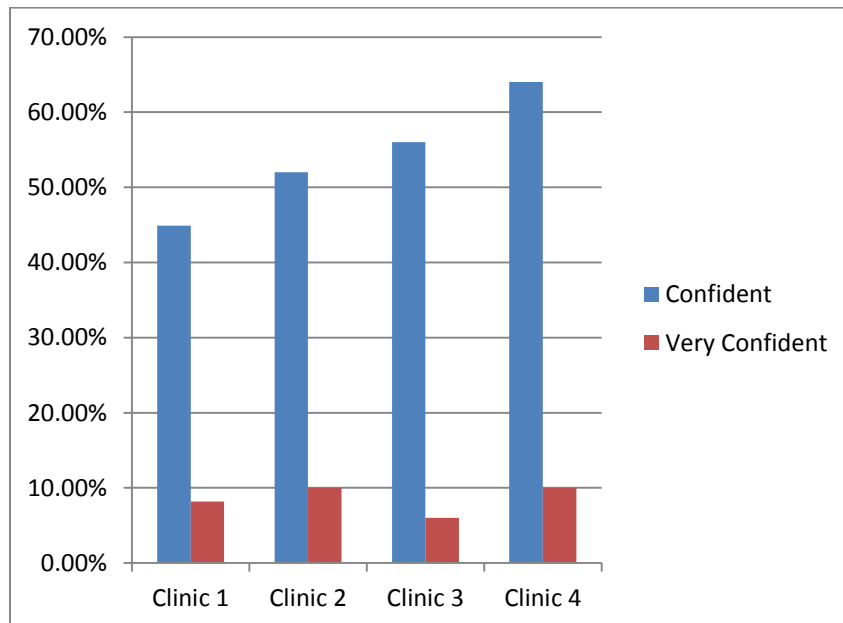
Chart 2. This chart exemplifies that there is common trend amongst parents from the rural and urban clinics in terms of health information seeking that their searching habits are similar

7. Conclusion

The results are a positive indication that CHOP's patients and their families are connected to the Internet and it gives hope for the implementation of a patient portal. The parents indicated that they would use an application that would allow for them to communicate schedules and contacting their doctor. Also, the parents were interested in viewing their child's medical records online. Aforementioned, CHOP's goal is to achieve their part in the HiTech Affordable Care Act and if parents are already showing an interest based on this survey the patient portal will be a success in CHOP's health system.

While the full survey results are still being analyzed by the team, the results indicate a closing of the gap in Internet access. There are similarities in health information seeking at CHOP's urban and rural clinics. During data collection there was a verbal report from parents who commented that a patient portal would be something great for them to use, and they were very excited to take part in the study. Comments varied from, "CHOP should have something like this by now" to comments that indicated that they already find themselves instinctually going to the Internet if they have a question about their health.

8. Acknowledgements

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