



# Trust between physicians and patients in the e-health era



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## ABSTRACT

With the expanding availability of Internet capabilities in the recent two decades, many Americans have used these services to search about medical information for multiple purposes. Americans are using the Internet for acquiring information and alternate treatments regarding their health care issues; including the selection of a physician based off of online physician ratings. Many questions derive from societal changes that come about when technology advances such as the development of the Internet. Medical sociologists have a long history of concentrating on the doctor-patient relationship. This study focuses on the determinations that influence the trust between the patient and their doctor. Millions of people now have access to the World Wide Web, allowing medical advice to be just a click away. A closed-ended questionnaire on the above topics was administered at the end of 2014 to a random sample size of 240 people. The age of the participants were 18 years and older and they resided in the Greater Cincinnati area during the time of data collection. The purpose of the questionnaire was to examine data from various age groups and study those respondents' attitudes concerning any changes in the trust between patients and their physicians due to technological advancements. The results of the study revealed that the respondents continue to retain a high level of trust with their physicians and still prefer face-to-face consultations. This is even though they have access to massive amounts of information right at their fingertips. The respondents also showed high levels of maturity and rationality when using online medical information in their decision-making regarding their healthcare needs and choices.

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Trust between a physician and a patient has always been a major topic of concern in any societal structure. The initial level of trust that occurs between them lays the foundation of the relationship. Trust levels impact how well the relationship will prosper and develop. Sociologists and other social scientists have monitored and studied the doctor-patient relationship and have discovered many components between the two that influence one another. In the past, the relationship between patients and doctors was imbalanced. Physicians, for the most part, had full control over medical information and the decision making for treatment was rendered at the doctor's discretion. This type of relationship left the patients with little power concerning their healthcare. Technological modernization in the current e-health era has allowed for the treatment of ailments to be a joint decision by both a physician and his/her patients. If inadequate levels of trust occur within the described relationship, the treatments and diagnoses of the patients becomes more vulnerable. Currently, the relationships and levels of trust have been impacted by the public access to medical

resources, which helps those who are not knowledgeable about healthcare find medical information online rather quickly. Cybernauts are browsing information for either themselves or others around them, while assessing the credibility of the doctors' diagnosis or investigating online ratings for a current or future physician. The accessibility and use of the Internet has allowed public forums to be created. Patients or loved ones can now search the web for medical issues, explain their conditions, and receive feedback from others who have suffered similar medical symptoms [11]. E-health information varies and many different sources are available for all medical topics, from mild sicknesses to those that are more serious. The information that is explored by the patient is certainly advantageous, but if misunderstood or misused it can be detrimental to the individuals' health. The purpose of this study is to focus on how massive amounts of e-health information online will improve, influence, or damage the level of trust between physicians and patients.

## 1. Theoretical framework

Historically, doctor/patient relationships were altogether uncomplicated. The patients would seek medical attention, and

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depending on the ailment, doctors would make a visit to the patient's home or if possible the patient would make their way to the local clinic. The physician would examine the patient and for the most part solely make decisions based upon their patients' needs [10]. The physician and the patient normally developed a long lasting and trust-filled relationship. Patients traditionally relied on the expertise of their physician; this was usually the only endorsement they needed. They had high levels of trust within their physician and depended on them [4] for the proper diagnosis and treatment without questioning their professionalism or authority. The patients' confidence was built around the fact that the physician had received specialized training in the medical field [12]. According to Ludwig and Burke [12], the relationship between a physician and a patient has changed in the second half of the 20th century. The relationship has shifted toward a mutual decision making process, allowing the patient to have an opinion in their health care treatments. This perspective creates patient autonomy, allowing the individual a right to make decisions based on their own personal values or virtues. This mutual trust has declined a bit in the turn of the 21st century. The impact of technological advancement and rapid social change has influenced how the medical field has come to be managed in modern society. In addition, the vast availability of medical information has influenced the interactions between physicians and patients [19]. Today a patient is likely to encounter a more impersonal experience. Healthcare has turned into a lucrative matter; the experience is more about money than in decades past. From many aspects the doctor is viewed as a supplier of services, and the consumer of the services is the patient, who is paying, at times, exorbitant costs to seek medical care [14]. Medical services continue to improve, and studies have begun to focus on positive technological influences on the relationships between doctors and patients due to these advancements in the healthcare field. Chen [3] explained that these improvements occur daily, and when he compared female and male patients he found that females were more likely to be dissatisfied with their physicians, their communications with staff or nurses, and their medication and/or healthcare facilities. Males, however, were more positive about their medical experiences.

A relationship can be defined as the interaction or connection between two or more people. Relationships between a physician and a patient are considered to be a central feature within the health care field, and tie into the quality of diagnosis and treatment. Physicians and patients enter into a social contract, in which the physicians understand the patients' needs and the patients acknowledge the care provided [18]. This concept is fundamental to modern medical ethics and trust. Medical ethics and trust are important when studying the relationships between physicians and patients. High levels of trust are more likely to result in the patient accepting the medical advice given to them and vice versa [12]. Banerjee and Sanyal [2] claimed that this type of social contract can lead to higher levels of cooperation between both the physician and the patient. High levels of trust in most medical cases have resulted in quicker rates of recovery for the patients. If low levels of trust are established, this can result in the patients refusing to follow through with the diagnosis and treatment; ultimately, lowering the level of recovery rates.

Evaluating the levels of trust that exist within the relationship between a physician and their patient has been a special focus of the social sciences. This is largely due to the fact that medical health services can be impacted by several social factors, such as the aforementioned technological advancements that allow patients to search online for medical information. According to Anderson et al. [1], the estimated number of Americans who have searched online for health related information has reached at least 70 million people. The information sought after is not for condition research and

treatments; the searches also include doctor ratings, inquiries for home remedies, and/or searches for educational purposes. The e-health era has shifted medical treatment and diagnosis towards becoming a more sophisticated process [16]. The process now includes technologically advanced resources, including, but not limited to, access and availability of medical information online. With such readily available data, the patient may now convey an opinion that ultimately results in a disconnected relationship between the doctor and her/his patient. Haskard-Zolnieriek and DiMatteo [8] investigated communication within the doctor-patient relationship. They claimed patients' adherence to the doctor-patient relationship needs to be established at high levels in order for the patient to fully cohere to the recommendations of their physicians. This is a vital and essential factor during the process of diagnosis, treatment, and aftercare. Haskard-Zolnieriek and DiMatteo [8] considered communication to be a salient determining factor throughout the entire medical care process including aftercare and prognosis. They also reported that about 25% of patients who have visited the physician experienced a non-adhering relationship. Now that patients have access to the Internet, the speculation arises as to whether or not nonadherence to the relationship will increase, decrease, or be uninterrupted. Online browsing for medical information allows for patients to track and manage their personal health information [15]. Patients are currently researching their health care issues and sometimes they find a second opinion by an alternate healthcare professional. Patients who feel comfortable with the research acquired online may simply turn to online remedies instead of scheduling a face-to-face consultation from their healthcare provider [5]. Given that patients have an alternative option to surf the web, they are often able to strengthen their communication skills with their doctor. When the patient understands more about their medical concerns, they are less likely to have a misunderstanding with their physician. When doctors and patients agree with each other on a certain level about the health issue at hand, the trust levels between the two are increased. Trust establishes confidence, which can result in a better prognosis for concerning health issues [2]. Modern society has established an equal social position between doctors and patients. This is one of the major characteristics of the current doctor-patient relationship. Social changes such as these can help strengthen the relationships, thus, improving the quality of medical care as well as services [17].

Since the launch of the Internet, Manhattan Research [13] surveyed over 5000 people [6]; of those respondents, 54% reported that they had used the Internet to search for medical information. The findings of the research concluded that a consistent trend is showing that people in today's society are more comfortable using the Internet for health care decisions than they have ever been before. Dolan [6] indicates that many of the people who are browsing for health information are searching for: different symptoms, determining which treatment is the best choice, and which clinical facility they should use for healthcare services. Fox [7] focused on the fact that many people participating in online medical searches still maintain higher trust levels and value their doctors' opinion over what they had discovered online. Online sources offer a bulk of information that is sometimes difficult to filter out for those who are skilled and unskilled in healthcare. Unlike Dolan's findings, Fox [7] claims that the majority of the people he studied had searched for health care advice on particular medications or other people's health experiences. In his study, very few participants had used the Internet for doctor, staff, or hospital reviews.

Banerjee and Sanyal [2] observed the consultations between doctors and patients, they discovered that patients with lower levels of education, and/or patients coming from rural backgrounds, were more likely to be passive during their consultations compared to those with higher levels of education and/or from

urban areas. Age and sex were also found to be influential factors in the relationship between doctors and their patients. According to Hesse et al. [9], people aged 18–34 were nearly 9 times more likely to search the Internet first before going to their providers.

## 2. Methodology

There are many factors that influence the behavior of patients using medical information from the Internet, including economic status, education level, and other determining demographic variables. In order to understand a person's attitude toward their online medical searches, a self-answered questionnaire was completed at the end of 2014 in the Greater Cincinnati area by a random sample of 240 respondents aged 18 and older. The statistics are crosstabs used to analyze the demographic factors that influence online medical search behavior and the levels of trust that patients hold within their physician.

The majority of the participants (35%) in this study were under 30 years old, 23% of them were under the age of 20. A near 7% of the respondents were at least 71 years and older. Of all the samples obtained, 56% of the respondents were female and 44% of them were male. The majority of the respondents' level of education was some college to a bachelor's degree (61%). Income levels at \$50,000 or higher were 45% and 81% of them lived in cities and towns (see Table 1).

Table 2 represents three categories of the given survey. The first category examines whether or not the respondents have reviewed service ratings of their doctors online. This initial category involved four variables. The first variable measured how many respondents were influenced by online ratings for their decision in continued care from their current doctor. This was followed by whether or not the ratings influenced the patient to seek a new healthcare provider. After determining how many had actually used the service ratings in decision-making, the third variable then inquired about the fluctuation of trust. Participants were asked if the online ratings had changed their trust in their doctor(s). The last variable in this category revealed that 58.7% of the patients checked online ratings only out of curiosity regarding doctor(s) credentials. Of the 240 respondents, almost half (49.1%) of them responded that they had checked online for doctor ratings. Among those participants, 40% agreed that the online ratings influenced their decision for continuing the care received from their current doctor(s). With a similar percentage of the respondents, 30.9% of them were unsure if they would continue the care provided by their physician(s), and 29.1% of respondents disagreed that the online rating would not have an impact or influence upon their decision to continue to receive care from their physician(s). Overall, the respondents displayed similar behaviors when selecting a new doctor. The online ratings helped the respondents increase their trust in their healthcare provider (64.5%).

The second category in Table 2 measured the reasons that respondents decided to conduct online medical searches, this section includes the following eight variables: to acquire more knowledge of health issues, find answers to questions unasked, understand treatment(s), prepare for improved communication for an

upcoming office visit, immediate help, become knowledgeable about home remedies, and to learn more about upcoming procedures and/or prescriptions. A vast majority of the survey participants (79%) disagreed that their reasoning for searching online was to learn more about their doctor's diagnosis for either themselves or a family member. One third of the respondents reported (32.1%) checking online medical resources because they had unanswered questions after visiting their doctor. The percent of participants that had used Internet information for discussions about alternative treatments was 56.9%. Some simply looked for information to have a better discussion with the physician about the outlining issues during the time of the appointment (71%). The majority of the respondents (58%) expressed that they had conducted searches because they were intrigued to find home remedies as alternatives to medicinal needs. Nearly half (44.8%) represented those who had used the Internet for a "quick medical fix" because they could not get a fast appointment to visit their healthcare provider. A large number of the participants did online searches seeking information about prescribed medicines (74.6%) and 60.3% wanted to find information about an upcoming treatment or surgical procedure.

The third category of Table 2 analyzed the effects on respondents after their online medical search. This section includes eight measured variables: of the participants, how many were able to communicate better with their doctor, if talking face-to-face is a better interaction than with online searches, change in anxiety levels, altered trust levels between patient/doctor, how misleading can online information be, if online data is a substitute for a doctor's advice, trust in self-diagnosis from online readings, and if the respondents felt that they were challenging their doctors' authority by searching online for medical information. The data revealed that the majority of the respondents (68.2%) felt that they had been able to improve their communication with their doctor(s) after researching information online about their symptoms and/or diagnoses. Regarding the participants decision to collect medical information online, 74.1% claimed that their healthcare provider is able to provide a better explanation about the health issues they are facing; coinciding with the majority of the sample trusting more in their doctor(s) (77%). The data also indicated that more than half of the respondents (60%) disagreed that online medical searches could cause misunderstandings between doctors and patients and then resulting in a misdiagnosis. Online searches were found not to be a reliable substitution (80%) for a doctor visit and 88.3% did not trust a self-diagnosis from information that they sought online. Of the participants that had searched online for additional information, 73.8% did not feel they were challenging the doctor's credibility. One third of the participants (37.1%) agreed or disagreed that the online medical information would increase levels of anxiety, in turn, causing the patient to want an appointment with their healthcare provider as soon as they could.

Table 3 displays the crosstabs between the respondents' socio-demographic variables including age, sex, income, level of education and locality (see Table 1) and four variables from online ratings of doctors (see Table 2, category 1). The data revealed that the three age groups (under 40 years, 40–60 years, and 61 years and older) agreed that the online ratings did not influence their decision for

**Table 1**  
Demographic information of the respondents (n = 240).

	% of participants	% of participants	% of participants	% of participants
Sex	Female (56%)	Male (44%)		
Age range	16–30 (35%)	31–40 (15%)	41–60 (27%)	61 and up (23%)
Education	High school/below (28%)	Some or college (61%)	Graduate levels (11%)	
Household Income	\$30,000/lower (20%)	\$50,000/lower (35%)	\$50,000/above (45%)	
Locality	City (42%)	Town (39%)	Rural (19%)	

**Table 2**

Doctor Ratings, Purposes of searching online for medical information, Overall Effects/Attitudes of Participants (n = 240).

	Agree N. of people/%	Unsure N. of people/%	Disagree N. of people/%
<b>1. Physician Rating Reviews</b>			
Continue to receive doctor's care (n = 110)	44 (40%)	34 (30.9%)	32 (29.1%)
Search for new doctors (n = 110)	43 (39%)	31 (28.2%)	36 (32.8%)
Increased patients' trust (n = 110)	71 (64.5%)	29 (26.4%)	10 (9.1%)
Just check doctor's credibility (n = 109)	64 (58.7%)	24 (22%)	21 (19.3%)
<b>2. Online medical search purposes</b>			
Learn more about health issues	32 (13.4%)	18 (7.6%)	188 (79%)
To ask treatment alternatives with doctor	136 (56.9%)	38 (15.9%)	65 (27.2%)
Become knowledgeable about home remedies	139 (58%)	32 (13.3%)	69 (28.7%)
Search for unanswered questions	77 (32.1%)	29 (12.1%)	134 (55.8%)
To discuss found information with doctor	169 (71%)	28 (11.8%)	41 (17.2%)
Seek immediate help from online sources	107 (44.8%)	24 (10%)	108 (45.2%)
Familiarize with treatment procedure	144 (60.3%)	29 (12.1%)	66 (27.6%)
Familiarize with prescription(s)	179 (74.6%)	18 (7.5%)	43 (17.9%)
<b>3. Effects of online medical search</b>			
Improve communication with doctor(s)	163 (68.2%)	56 (23.4%)	20 (8.4%)
Face to face communication with doctor is preferred over online search	178 (74.1%)	41 (17.1%)	21 (8.8%)
Online search increases anxiety	89 (37.1%)	62 (25.8%)	89 (37.1%)
Trust doctors more than online findings	184 (77%)	34 (14.2%)	21 (8.8%)
Misunderstanding causes misdiagnosis	58 (24.2%)	38 (15.8%)	144 (60%)
Online search is a substitution for doctors	15 (6.2%)	33 (13.8%)	191 (80%)
Trust a self-diagnosis based on online search	7 (2.9%)	21 (8.8%)	212 (88.3%)
Use to challenges the doctor's authority	34 (14.1%)	29 (12.1%)	177 (73.8%)

continuing to receive care from their current doctors. However, there was a large amount of people in the age group of 61 years and older who indicated that they were not sure (27.8%) or that they disagreed (38.9%) that they would continue to receive the care from their physicians after checking the online ratings of their doctors. Online ratings also influenced the age group of 41–60 years old ; they (33.3%) claimed to not continue their physicians' care after searching their credentials. The statistics also showed that almost equal amount of respondents for the age group of less than 40 agreed (45.7%) or felt unsure (42.9%) to continue the care by their physician. The income category also indicated that individuals with less income were more likely to make decisions after checking online ratings to either continue (41.7%) or felt unsure to continue (41.7%) the care with their current physicians. The statistics also show that after checking online ratings, more males (39.2%) than females (20.3%) disagreed that they would continue to have the same healthcare provider. The demographic variables measuring

the income under \$50,000 (0%), the rural residents (0%), the age group of 41–60 (0%), as well as the higher education levels with a graduate degree (2.4%) indicated that they disagreed that online ratings would increase their trust in their doctors. The statistics showed that the majority of the respondents agreed that the reason they did online rating search was to check the doctor's credibility. Overall, the demographic variables of the respondents in this survey displayed clear impacts on the levels of trust with their physicians.

Table 4 revealed similar results in the crosstabs representing the respondent's demographic categories, such as age, sex, income, locality, and level of education. These sociodemographic variables are compared with the participants' different reasoning for doing online medical searches. The respondents search online because they would like learn more about health issues, find some home remedies, understand a treatment procedure, or know more about prescription drugs (see Table 2, selected variables from category 2).

**Table 3**

Crosstab of demographic background and online ratings of doctors (n = 240).

	Continued the care			Search new doctor			Increase of trust			Doctor credibility		
	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree
<b>Age</b>												
Under 40	45.7%	42.9%	11.4%	40%	31.4%	28.6%	71.3%	22.9%	5.8%	57.1%	28.6%	14.3%
41–60	47.6%	19%	33.3%	47.6%	14.3%	38.1%	66.7%	33.3%	0%	66.7%	14.3%	19%
61 & up	33.3%	27.8%	38.9%	35.2%	31.5%	33.3%	59.3%	25.9%	14.8%	56.6%	20.8%	22.6%
<b>Sex</b>												
female	47.5%	32.2%	20.3%	40.7%	30.5%	28.8%	64.4%	28.8%	6.8%	58.6%	19%	22.4%
male	31.4%	29.4%	39.2%	37.3%	25.4%	37.3%	64.8%	23.5%	11.7%	58.8%	25.5%	15.7%
<b>Income</b>												
Below \$30,000	41.7%	41.7%	16.6%	41.7%	37.5%	20.8%	62.5%	25%	12.5%	54.2%	33.2%	12.5%
Below \$50,000	54.5%	9.1%	36.4%	54.5%	9.1%	36.4%	72.7%	27.3%	0%	72.7%	0%	27.3%
Above \$50,000	26.9%	30.8%	42.3%	34.6%	19.2%	46.2%	61.5%	27%	11.5%	57.7%	19.2%	23.1%
<b>Education</b>												
High school	28.1%	28.1%	43.8%	43.8%	28.1%	28.1%	56.3%	28.1%	15.6%	56.3%	21.9%	21.9%
college	56.1%	31.7%	12.2%	39%	29.3%	31.7%	80.5%	17.1%	2.4%	61%	19.5%	19.5%
Graduate	32.4%	32.4%	35.1%	35.2%	27%	37.8%	54.1%	35.1%	10.8%	58.3%	25%	16.7%
<b>Locality</b>												
City	28.9%	40%	31.1%	48.9%	20%	31.1%	71.1%	17.8%	11.1%	64.4%	17.8%	17.8%
Town	48.8%	22%	29.2%	34.1%	29.3%	36.6%	58.5%	29.3%	12.2%	57.5%	22.5%	20%
Rural	45.8%	29.2%	25%	29.2%	41.6%	29.2%	62.5%	37.5%	0%	50%	29.2%	20.8%

**Table 4**

Crosstab of demographic background and reasons of doing online medical search (n = 240).

	Learn more			Home remedies			Treatment procedure			Prescription drug info		
	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree
<b>Age</b>												
Under 40	11%	6.1%	82.9%	66.3%	9.6%	24.1%	54.2%	14.5%	31.3%	69.9%	12%	18.1%
41–60	16.7%	5.6%	77.8%	61.1%	11.1%	27.8%	66.7%	13.9%	19.4%	91.6%	2.8%	5.6%
61 & up	14.3%	9.2%	76.5%	50.8%	16.7%	32.5%	62.2%	10.1%	27.7%	72.5%	5.8%	21.7%
<b>Sex</b>												
female	10.5%	8.3%	81.2%	59%	12.7%	28.4%	62.4%	12.8%	24.8%	76.2%	6.7%	17.1%
male	17.3%	6.7%	76%	56.2%	14.3%	29.5%	57.1%	11.4%	31.5%	72.4%	8.6%	19%
<b>Income</b>												
Below \$30,000	12.6%	8.3%	79.1%	70.8%	10.4%	18.8%	54.2%	20.8%	25%	68.7%	14.6%	16.7%
Below \$50,000	3.2%	12.9%	83.9%	54.9%	16.1%	29%	66.7%	20%	13.3%	71%	9.7%	19.3%
Above \$50,000	12%	8%	80%	61.5%	9.7%	28.8%	55.7%	5.8%	38.5%	75%	5.8%	19.2%
<b>Education</b>												
High school	9.2%	15.4%	75.4%	54.5%	18.2%	27.3%	60%	15.4%	24.6%	66.7%	13.6%	19.7%
college	11.9%	5%	83.1%	60.8%	10.8%	28.4%	59.8%	12.7%	27.5%	77.5%	6.9%	15.7%
Graduate	19.4%	4.2%	76.4%	56.9%	12.5%	30.6%	61.1%	8.3%	30.6%	77.8%	2.8%	19.4%
<b>Locality</b>												
City	18.2%	8.1%	73.7%	56%	11%	33%	59%	12%	29%	74%	8%	18%
Town	11.8%	5.4%	82.8%	55.9%	16.1%	28%	58.7%	12%	29.3%	71%	8.6%	20.4%
Rural	6.7%	11.1%	82.2%	67.4%	13%	19.6%	67.4%	13%	19.6%	82.6%	4.4%	13%

Overwhelmingly, the respondents of different demographic backgrounds showed variation in what they learned when doing online medical searches. The younger generations of the respondents, under 40 years old (66.3%), were more likely than older respondents (61 years and older) to search for home remedies online (50.8%). Those respondents with an income level below \$30,000 (70.8%) and rural residents (67.4%) enjoy searching online for home remedies. Participants (61 and older) had a relatively lower percentage of reporting online searches for home remedies. When comparing localities, more rural people (82.6%) searched online for information on prescription drugs than those participants who reside in a town (71%) or in the city (74%).

The crosstabs in Table 5 examine the respondents' demographic variables and selected variables from Table 2, category 3, which measure the respondents' attitudes toward the effects of online search. The data revealed rather close percentages for the majority of the respondents with different demographic background who agreed that the best way to understand their health issues was a face-to-face conversation with their health care provider. The statistics indicated that respondents with a higher

income (80%), under 40 years old (79.5%) as well as residing in rural areas (82.6%) were more likely to talk to their doctors as opposed to searching for a medical solutions online. The majority had high levels of trust within their physicians. Younger respondents (81.9%) and female participants (84.2%), when compared with those aged 61 years and older (69.7%) or male respondents (67.6%), revealed that they had higher level of trust/confidence in their doctors. The respondents who had a higher education (94.4%), compared with those respondents who received only a high school diploma (78.8%), disagreed that they trust a self-diagnosis from online information over the doctor's diagnosis. Overall, the results for the majority of people seem to indicate similar attitudes toward the effects of online search for medical information.

### 3. Discussion and conclusion

This research study revealed a variety of results in regards to technological advancement and the impact it can have on social structures found within the healthcare field; especially the doctor-

**Table 5**

Crosstab of demographic background and effects of online medical search on respondents' attitudes (n = 240).

	Better to talk to Dr.			Trust doctor			A self-diagnosis			Challenge authority		
	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree	Agree	Unsure	Disagree
<b>Age</b>												
Under 40	79.5%	15.7%	4.8%	81.9%	13.3%	4.8%	2.4%	9.6%	88%	14.5%	12%	73.5%
41–60	69.4%	16.7%	13.9%	88.9%	11.1%	0%	5.6%	2.8%	91.6%	13.9%	13.9%	72.2%
61 & up	71.7%	18.3%	10%	69.7%	16%	14.3%	2.5%	10%	87.5%	14.2%	11.7%	74.1%
<b>Sex</b>												
female	76.1%	16.4%	7.5%	84.2%	11.3%	4.5%	1.5%	7.5%	91%	14.9%	10.4%	74.6%
male	71.4%	18.1%	10.5%	67.6%	18.1%	14.3%	4.8%	10.5%	84.7%	13.3%	14.3%	72.4%
<b>Income</b>												
Below \$30,000	70.8%	18.8%	10.4%	75%	16.7%	8.3%	4.2%	8.3%	87.5%	10.4%	14.6%	75%
Below \$50,000	64.5%	25.8%	9.7%	80%	16.7%	3.3%	3.2%	6.5%	90.3%	12.9%	6.5%	80.6%
Above \$50,000	80.8%	13.4%	5.8%	75%	9.6%	15.4%	2%	11.5%	86.5%	17.3%	9.6%	73.1%
<b>Education</b>												
High school	69.7%	19.7%	10.6%	81.6%	10.8%	7.7%	6%	15.2%	78.8%	18.2%	16.7%	65.1%
College	76.5%	17.6%	5.9%	74.5%	16.7%	8.8%	2%	7.8%	90.2%	12.7%	10.8%	76.5%
Graduate	75%	13.9%	11.1%	76.4%	13.9%	9.7%	1.4%	4.2%	94.4%	12.5%	9.7%	77.8%
<b>Locality</b>												
City	69%	18%	13%	78.8%	11.1%	10.1%	3%	11%	86%	18%	16%	66%
Town	75.3%	19.4%	5.3%	73.1%	16.1%	10.8%	3.2%	6.5%	90.3%	11.8%	10.8%	77.4%
Rural	82.6%	10.9%	6.5%	80.4%	17.4%	2.2%	2.2%	8.7%	89.1%	10.9%	6.5%	82.6%



patient relationship. Compared to other studies of the topic, this particular research found that online searches might not be an important factor affecting respondents' levels of satisfaction/dissatisfaction with medical care services as well as trust of their physicians. Most respondents in the survey displayed overall satisfaction with the availability of medical information. The data indicated that rapid social and technological changes have altered the interactions between physicians and patients. The changes have occurred for the betterment of the relationship by increasing levels of trust between the patient and his or her physician. The questionnaire revealed that in the current e-health era, communication between doctors and their patients is not weakened even though physicians are becoming more dependent upon modern equipment. Participants also claimed that online search by someone other than a healthcare provider would not or do not have an impact on expertise within each doctor. The survey results correlated with Fox's finding [7] that there are many people participating in online medical searches; however, they still have higher levels of trust and value their doctors' opinion over medical searches online.

As discussed throughout this article, doctor and patient relationships have changed for a variety of reasons. This change is especially evident when social scientists study the technological influences that impact people's relationships in the medical field. Medical information is acquired from TV shows, books/journals, as well as from the Internet. The findings, however, indicated that despite all of these advancements, the trust level between doctors and patients has not been negatively affected overall. The survey showed that the majority of the patients checked online to learn the doctor's credibility. Only some respondents believed that the ratings for doctors helped them understand more about those doctors, as well as helped them in deciding to seek out a new healthcare provider. On the basis of checking the doctor online ratings, the majority felt that this would increase their levels of trust with their doctors.

The majority of the respondents stated that their decision to search online was influenced by the following factors; first, there was a desire to uncover any unanswered questions from their physicians, followed by searching for alternative treatments, including home remedies. The second factor was that patients wanted to learn more about their prescriptions and/or future procedures. The last factor was that the majority indicated that they did not conduct searches to learn more about their own health issues. Furthermore, they did not search to simply find questions for their doctors or to look for medical help online.

Many of them believed that online medical searches helped them have better communication with their physicians. After checking online for medical information, they believed that talking to their doctor face-to-face was much more effective than checking online for information. The respondents felt that online searches for medical information could not be used as a substitute for their medical doctors' advice, nor would they trust a self-diagnosis, based off of the information acquired online. The online medical information was not considered to be a challenge to a physician's authority.

This study further examined different demographic groups, such as age, sex, income, education, and residential areas, to determine whether these variables would reveal similar or different social behaviors of online searchers. Some influential factors are worth noting. For example, after checking the ratings of their doctors, the variables of age, sex, education, and income had different responses regarding whether they would continue to receive healthcare from their current doctor(s). The statistics showed that fewer respondents under the age of 40 would agree to discontinue the care they were receiving from their physicians

after checking their online ratings. Males are less likely than females to agree that after checking online ratings they are influenced to continue seeing their current doctor(s). Based solely off of online ratings, mid-level income respondents are more likely than lower and higher income respondents to continue with the healthcare provider. The respondents who lived in cities had higher trust levels than those who lived in small towns or rural areas.

With rapid technological advancement, people can use different Internet capability devices to search for medical information or to communicate with others about the health issues at hand without the need of visiting a physician. This survey found that when discussing the respondents' health issues, the majority agreed that face-to-face communication with doctor(s) remained the preferred method for gathering medical information and thus receiving care. The respondents clearly stated that they would like to use the Internet to check for home remedies or to receive medical information on treatment procedures or prescriptions. Other respondents claimed that online medical information would only make them feel anxious to immediately visit their doctor if the information sought online was not in their favor. In conclusion, face-to-face communication with doctors may not be replaced by technology in the near future. The respondents' attitudes toward online medical searches indicated that they are mature and rational when discussing their health care issues. They are able to compartmentalize the relationship between the massive medical information but remain dependent upon their doctor(s) discretion.

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