4-2019

The Dehumanization of the American Healthcare Professional: The Impact of Technology on the Ever-Evolving World of Medicine

Carli Maddock
DePauw University

Follow this and additional works at: https://scholarship.depauw.edu/studentresearch

Part of the Medicine and Health Sciences Commons, and the Social Psychology Commons

Recommended Citation
https://scholarship.depauw.edu/studentresearch/112

This Thesis is brought to you for free and open access by the Student Work at Scholarly and Creative Work from DePauw University. It has been accepted for inclusion in Student research by an authorized administrator of Scholarly and Creative Work from DePauw University. For more information, please contact bcox@depauw.edu.
The Dehumanization of the American Healthcare Professional

THE DEHUMANIZATION OF THE AMERICAN HEALTHCARE PROFESSIONAL:
The Impact of Technology on the Ever-Evolving World of Medicine

Carli Maddock
DePauw University

Honors Scholar Program
Class of 2019
Sponsor: Dr. Ted Bitner
Committee:
Colleen McCracken, Ph.D, Catherine Sherwood-Laughlin, Matthew Beekley, Ph.D
Abstract:

With the evolution of technology well underway, many of the consequences of its changes to our social interactions between doctor and patient have gone unnoted. With a computer in the room, healthcare professionals may be less likely to listen, touch, or communicate in the same way that they have in the past. This change appears to alter the relationship building process between a doctor and their patient. If trust and faith in the professional are tampered with, this could directly correlate to patient follow-through and outcome. In order to better understand the psychological response to the new means of communication, touch, time and malpractice are analyzed. Since there is little information on some of these topics, related articles are used to make correlations and hypothesize on the outcome of different relative practices. An empirical study of the impact of these factors was done via Amazon Mechanical Turk (n=60). Results show that there does seem to be an effect of the computer on the doctor-patient relationship and the resulting care of the patient.
Introduction

The development of the industrialized world brought about an era of technological advancements with unforeseen implications. The computer, television, smartphone, etc. have completely altered the ways in which we communicate, correspond, and form relationships. There are many positives that have resulted from these new capabilities, including the ability to make emergency calls from almost any location, maintain relationships across distances, and remain in-the-know on current events. Although these devices have become a large part of daily life, many of the consequences of its impact on social interactions have gone undocumented. Due to the abundance of educational information available by means of the Internet, the everyday person may feel that they are nearly as knowledgeable as an expert on a given topic. This makes it exceedingly difficult for these experts to maintain the ritual and authority that they once had within relationships with their subordinates.

Marie Haug hypothesized the decline in professional expertise in 1975, referring to the decrease in expert authority as the “deprofessionalization” of the expert. This change in dynamics has gone on to impact many fields, including that of medicine. As a result of having the ability to self-educate, the gain in authority that many patients assume has placed healthcare professionals in a position that they had not previously been accustomed to. Ergo of the introduction of these technologies, healthcare professionals may have to alter their approach to their patients. The blind faith that once led patients to doctors and to follow their direction has been replaced with a plethora of questions and the desire for verification.
The Dehumanization of the American Healthcare Professional

The appeal of physical evidence in the form of scans, electronic medical records (EMRs), lab results, etc. has developed from what can be assumed to be a lack of trust that patients have developed over time. As “trust is faith without proof,” the assumption that overall trust in the medical field has diminished is not eccentric (Haug, 1975. p. 207). Health professionals are now being asked to create physical evidence of their findings, which are oftentimes a necessary step in the process of treatment. The benefits to the patient are great, in that physicians are taking additional steps to be sure of a diagnosis and treatment. The patient's’ ability to understand the results of such steps lead to more informed healthcare choices, and thus greater patient outcome. Due to the benefit of the patient and the potential to decrease rates of malpractice suits, insurance companies began to make these verifications a necessity as well (Schaffer, 2017). The demand for physical proof by insurance companies began at about the time of increasing rates of malpractice suits, and have accelerated as insurance companies attempt to diminish the risks associated with these legalities.

Although rates of malpractice suits are currently declining, technology continues to play an increasingly large role in the doctor-patient relationship. This has many benefits that can lead to a healthier patient outcome. Previously, the patient sitting within the examination room was the only source of clues for the physician. Now that this is not the case, the attention of the health professional is split between the technology and the patient. Although many of the new capabilities are of great benefit to the patient, we do not want to lose sight of the human being sitting within the examination room. This may seem to go without saying, but there is a true risk
of disconnect. With a technological device in the room, healthcare professionals may be less likely to touch or communicate in the same way that they have in the past. The element of touch within the decades-old ritual of bedside manner is vital, and it should not be minimized. The reliance of the physician on technology within the examination room seems to be influenced by the elements of time and malpractice as well. The EMR and several other medical technologies were developed to positively impact both of these substantial factors. Both appear to play a vital role in the social interaction as well as the perception of the quality of the appointment by the patient. However, little research has been done on the influence of technology on the practice of medicine due to the rapidly expanding role that these technologies are given. Due to the lack of related research, the information gathered from this research project will be used to further understand the role of technology and its impact on the doctor-patient relationship. The results will also be used to aid in determining how the practice of bedside manner can be perfected to provide the best possible patient outcome despite the negative implications of increased use of technological advancements in healthcare settings.

**Changes in Social Behavior**

There is no doubt that social behavior has changed as a result of the continuous integration of technology. Some inventions have strengthened social interactions and the resulting relationships, while others have caused “significant declines in social involvement and psychological well-being” (Kraut et al., 1998). The telephone—the very first invention in communication technologies—quickly became an everyday item in households. It developed into
a very common means of communication that strengthened ties by providing a way to speak to
others without having to be in the same room (Kraut, et al, 1998). The television, on the other
hand, did quite the opposite; it gave people a source of entertainment that could be enjoyed in the
absence of other human beings. By creating a way for individuals to be supplied with virtual
human contact without ever having to leave the house, the sedentary and removed lifestyle that
we find common began to develop. The Internet and computer have had a similar impact on
lifestyle, but one is arguably of a much greater influence. Originally, their purpose was to
provide a means of communication in the event of a telephone shutdown during the Cold War
(History.com Staff, 2010). Once the World Wide Web had been created, it was used to send files
back and forth (History.com Staff, 2010). It could be argued that within this specific time period,
the Internet was very similar to the landline telephone in its impact. As simply a means to easily
transport information, it could have strengthened communication with little consequence. The
government opened up the network for commercial use in 1992, which is when vast
developments took place. It has since been developed into a network that would have been
unimaginable at the time of its invention. The network has since expanded to provide television,
social media, libraries, search engines, etc. It was during this time that the consequences similar
to that of television usage would have begun to appear.

The impact of this ever-growing network, the Internet, has been felt by society. Kraut et
al. (1998) mentioned that “over the past 35 years…citizens…generally get together less for civic
and social purposes” (p.1017). This was written exactly twenty years ago, when the computer
had recently become a household item. The Internet has played a large role in the transition that Kraut is depicting, specifically in terms of relationships. During the 1990’s, people were consistently choosing to engage in relationships with both weak and strong ties over phones or computers rather than voting, going to church, discussing government, and volunteering (Kraut et al). Although this can be positive if the strong ties are strengthened, it is all too easy to replace these strong ties with weaker ones. Kraut and his team at Carnegie Mellon University made this observation through a yearlong study that analyzed the impact of Internet usage in its earlier stages (Kraut et al). They found that even strong relationships diminish without physical proximity, and noted that “frequency of contact and nature of the medium” may have an effect (Kraut et al.). It seems clear that stronger relationships are made and maintained in person, as opposed to over the Internet. This is in part due to the impact that the individual will have on the life of another as well as the social dependence we have on our community that demands more than a virtual connection. The development of social media in the years after the study by Carnegie was published have most likely only strengthened and expanded their argument. These applications have created an additional hurdle within the already chaotic world that we live in, and the results do not appear to be psychologically healthy.

**Professionalization, or Deprofessionalization?**

In the year 1964, Wilensky wrote about the professionalization of the workforce and the development of extensive certifications, specialties and professions (Wilensky, 1964). This idea that soon the United States would be a well-oiled professionalized machine was a largely
supported hypothesis at the time. Education should always be acknowledged as positive, but it became an additional factor, altering the dynamics of society. With power being awarded in almost all fields to almost every individual by means of a title, there had to have been a change to the psyche of these workers. In 1975, Wilensky’s work was contradicted by a hypothesis that proposed the exact opposite impact on society; Marie Haug argued that although there was greater access to information and the means to professionalize oneself, it in turn deprofessionalizes those that used to be treated as society’s most respected professionals (Haug, 1975). Haug used the doctor-patient relationship to illustrate her point. She argued that the result of the professionalization of a larger population would consequently create a “decline of trust in professional decisions and diminution of professional power and authority over clients” (Haug, 1975, p. 197). In the world of medicine, this trust is vital to the health and wellbeing of humanity. In order to determine how this trust can be solidified between doctors and their patients, it is important to understand why it might be diminishing in the first place.

In years past, “doctor’s orders” were met with the utmost respect and trust, though never quite accepted blindly (Haug, 1975). Unfortunately, the Internet is responsible for the deterioration of that respect in a multitude of ways. For example, if a health professional has been accused of doing something that endangered a patient, it is now broadcast widely via multimedia outlet to be made available for review by millions in a matter of seconds. The ease at which we can access information in this manner may bring people to question the ethical manners of their own doctors. Media and advertising can also bring patients to question the
medical advice that includes prevention and treatment methods provided by health professionals. Some of their skepticism can be attributed to the myriad of pharmaceutical-related commercials that have become the “most prominent type of health communication that the public encounters” (Ventola, 2011. p. 669). This marketing technique has such a strong negative effect on the health of individuals due to the “inverse benefit law” (Brody & Light, 2011). This law defines the relationship between the benefit and the use of marketed drugs as inverse in nature (Brody & Light). This means to say that the more a drug is marketed, the more risk it has to the health of the population it is being marketed towards. The law creators argue that the marketing side of pharmaceutical companies is turning “good drugs into bad drugs, in effect, by extending their use beyond the proper evidence base” (Brody & Light, 2011. p. 400). If patients then begin to question whether these drugs could work for them and their specific problem, the provider now has to be prepared for some tension that may be created if there is a disagreement in regard to the best option moving forward (Gellad & Lyles, 2007). The same may be true for surgical procedures, care options, treatments, and about every medical-related category that has profited from as a result of advertising.

With a perceived increase in the understanding of medicine, some patients may enter into relationships with their physicians with the perception that they have an equal level of understanding and knowledge. It is then hypothesized to lead to a decrease in patient compliance and acceptance of medical advice. It should be noted that refusing to follow doctors’ orders can be beneficial in some instances, but can lead towards negative consequences in others.
Cross-checking of physician advice by the patient can be of benefit if it leads to further explanation of decisions by the physician to the patient. This could present the patient with additional information that supports the notion that the physician is truly acting as the advocate, which in turn increases trust. As a result, an increase in deliverance of the context of a decision made by the physician could potentially facilitate an increase in compliance. On the other hand, if a health professional advises a patient in a way that the patient disagrees with due to his or her own conflicting ideas and/or lack of understanding, the likelihood of compliance will likely not be nearly as high. Haug’s hypothesis, which states that “unquestioning obedience to the doctor’s authority” is a thing of the past, doesn’t seem too far-fetched.

A point that has not yet been discussed is whether or not the increased questioning of physicians by their own patients has changed the way health professionals practice medicine. Perhaps due to the increased usage of the computer in the examination room, and not just to log information in the EMR, healthcare providers can check proper prescription dosages, schedule procedures, and review medical literature. This could be further deprofessionalizing the physician, and it may be self-inflicted. It seems that a positive-feedback loop is being created within the examination room. When the patient begins to question medical advice and directives, the physician has the opportunity to reexamine his or her thought-process by using the same technology as the patient—the computer and the internet. If they take the opportunity to do so in front of the patient, the patient could become uncomfortable with the doctor’s perceived lack of knowledge or confidence in their medical advice. This could result in further questioning, and
thus a psychological barrier between the two may form due to the lack of trust. This can be frustrating for both parties, especially when it has happened on more than one occasion. A study explored the nature of frustrations amongst physicians, and noted that it “may interfere in the provision of the highest quality of care or lead to personal distress for the doctor” (Levinson, Stiles, Inui, & Engle, 1993, p. 286). It should not be ignored that physicians’ ability to double-check medical advice should not be seen as completely negative, as it may ensure that mistakes are not being made. However, technology should not become so much of a adjutant that physicians can no longer complete the same tasks in its absence. With the increasing impact of technology across generations, it would not be surprising if the use of the Internet in the exam room to research medical information may become common practice amongst current and future healthcare professionals.

**Quantity over Quality:**

An additional burden placed on both the health professional and the patient is the element of time. With the hectic lifestyle and work ethic that Americans are accustomed to, production is almost always analyzed by quantity rather than quality. The same is true in the world of medicine. Physicians feel a constant pressure to see as many patients as possible during their shift. This number is subject to change as patients cancel, request, and reschedule appointments. The EMR was created to alleviate some of the time-intensive recording that was often inadequate and lacked an easy way to provide proper continuity of care (Atherton, 2011). It would seem that this would allow for greater time spent with the patient, but in reality the time allotted per patient
The Dehumanization of the American Healthcare Professional

has stayed relatively constant over the years. Even though resources and technologies have been implemented to aid in increasing efficiency, there is a greater patient demand than in previous years. This rise in demand can be partially attributed to a rise in the number of Americans insured (Hellerstedt, 2013). Even though there are more patients in healthcare centers, it seems that the main motivator for the diminishing appointment time allotment is financially based. In order for healthcare centers to remain competitive, they are driven to increase profit and employ more “productive” doctors (Goold, S. D. and Lipkin, M., 1999).

There are many problems associated with this conveyor-belt model. If healthcare institutions sincerely believe this is the most beneficial and economically efficient way to treat patients and provide care, then they are far from understanding the importance of the quantity and quality of time spent within the examination room. When a doctor is managing the health of another human being, the life of that patient should be the priority. When rushing through the many EMR steps that doctors are required to sort through during their time with the patient, mistakes can easily be made. These mistakes often carry financial weight, and have the risk of placing a large burden on the patient’s health. This is precisely why “a penny of good communication time may avert a pound of unnecessary or even harmful spending” (Goold & Lipkin, 1999, p. S29). The idea that more time upfront may save more time and money later on gives way to the current attempt to bring healthcare away from treatment alone, placing more emphasis on preventative care. This is an important alteration, because in the past few decades there was simply not enough time within the patient appointment to allow for the preventative
care that has been recommended by the United States Preventive Services Task Force (USPSTF) (Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Only 25% of the patients within the same study that determined the latter received any kind of preventative care or mention at all (Yarnall et. al). This is partially why measures to begin providing these services are being implemented outside of the examination room. These programs and services are being funded within communities through a public health approach due to the inability to fit it into an appointment (Hellerstedt, 2013).

With great limits placed on what can be accomplished during a single doctor’s appointment, the doctor-patient relationship itself might be considered a low priority. As “time is another prerequisite of trust,” shorter amounts of time correlate to a weaker relationship between doctors and their patients (Goold et. al). Studies examining patient satisfaction have noted that increased appointment time leads to increase in positive perception and follow-through, which can be attributed to the greater amount of time available to develop a proper doctor-patient relationship (Goold et. al). These results are upheld by further research that provides evidence that physicians that spend less time with their patients are more likely to be subject to malpractice suits (Dugdale, Epstein, & Pantilat, 1999). In a study completed by several physicians, a common theme emerged among those that choose to file a malpractice claim. A majority of those that filed, 71% of those included in the study, reported “problematic relationship issues” when asked about the relationship they they had with the defendant (Beckman, Markakis, & Suchman, 1994).
The Dehumanization of the American Healthcare Professional

It is commonly assumed that doctor’s spend their time at the office with their patients, but that has become far from the truth. Although time spent face-to-face with patients still accounts for a majority of the day, 55%, the rest of the time spent in the office is dedicated to other duties. Activities completed outside of the examination room “included reviewing the medical record and writing notes, completing the encounter form, arranging for tests or consultations, and writing prescriptions” (Gottschalk & Flocke, 2005. p. 491). Another study shows that increased time away from the patient during the workday leads to decreased physician satisfaction, which indirectly impacts the patients receiving care (Dugdale, et al). On the contrary, there is a “correlation between higher physician satisfaction and higher quality of care as assessed by communication patterns (e.g., explaining care to patients), attention to psychosocial aspects of care, and prescription rates” (Dugdale et al, p. S35). It seems that less doctor-patient contact is not in the best interest of either the doctor or the patient. These findings suggest that optimal patient care requires as much communication time as possible for patients and their providers. As a result, it is imperative that a means to create that opportunity exist if room for improvement in the doctor-patient relationship is present. It is on administrations in clinics, hospitals, family practices, etc. to recognize that a profitable institution requires positive patient outcomes. To be able to do so, providers should be allowed to speak up if they believe they do not have the option to increase time with their patients as needed.
The Dehumanization of the American Healthcare Professional

**Touch- The Dying Practice:**

There are multiple elements impacting the doctor-patient relationship that have not yet been discussed, one of which is touch. Although time appears to play a large role in determining the depth the relationship’s development during a given appointment, the element of touch may be a vital liaison between provider and those seeking healing. In the context of this paper, touch will be referred to as physical contact between doctor and patient in the context of the physical examination with the intent to learn more about the cause of disease -- or lack thereof -- “through the use of observation, palpation, percussion, and auscultation” (Campbell 1990). This practice appears to have lost some of its importance in the minds of the average provider. Dr. Verghese, an American physician and Professor for the Theory and Practice of Medicine at Stanford University Medical School, makes it a point to reiterate the significance of touch. By doing this, he hopes to remind doctors and patients alike that at times, progress -- in regard to patient outcome and care -- requires examination of the past.

In a TED talk presented at the 2011 TEDglobal convention, Dr. Verghese explains how his approach to medicine has been altered by his increased awareness of the impact of the human hand. His speech, titled “A doctor’s touch,” discusses the necessity of touch and the overarching shift of its usage. He describes his realization of the lack of time for a complete medical history and physical examination within a single appointment for the treatment of his chronically ill patients. In order to gain the trust of new patients and their families, two initial appointments were held. The first appointment would focus solely on the patient and his or her medical history.
He would allow them to speak freely, careful not to interrupt. He emphasizes the degree to which physicians interrupt their patients, and the reasons for which he believes it to be necessary to avoid doing so. He notes that “the average American physician interrupts their patient in 14 seconds” (Verghese, 2011). By avoiding interrupting his patients, he makes it clear that the appointment is at the discretion of the patient and not under the control of his own biases. By doing this the conversation is led by the patient, and allows the patient’s presence to reemerge as a function of their care. By doing this the conversation is led by the patient, and allows and not under the control of his own biases. This allows the patient to feel that they have been allowed to discuss their extensive history in its entirety. He then makes it a point to leave the second appointment to be solely focused on the physical exam, as they have already had an introductory 45-minute appointment to discuss all other factors. In his TED talk, Dr. Verghese describes his experience after setting the appointments up in this fashion:

I remember my very first patient in that series continued to tell me more history during what was meant to be the physical exam visit. And I began my ritual. I always begin with the pulse, then I examine the hands, then I look at the nail beds, then I slide my hand up to the epitrochlear node, and I was into my ritual. And when my ritual began, this very voluble patient began to quiet down. And I remember having a very eerie sense that the patient and I had slipped back into a primitive ritual in which I had a role and the patient had a role. And when I was done, the patient said to me with some awe, ‘I have never been examined like this
before.’ Now if that were true, it's a true condemnation of our health care system, because they had been seen in other places. (2011)

Unfortunately, patients will not always have the experience that Dr. Verghese was able to give his patients. Nonetheless, there is still a lot to be said about attitudes of his patients after their encounters with his unique approach. Although the treatment options he presented to these patients did not differ from those of previous providers, the patients responded differently to the telling of said options and associated fates. Although they had left to find additional opinions after visits with previous providers, they demonstrated their trust in his opinion through their continuation of treatment under his care. He attributes their willingness to remain his patients to the trust formed by means of the ritual that is the physical exam. Most technologies used in the examination room threaten to take away said experience, as they have the ability to offer much of the information of a physical examination and more. As this is the case, it is all too easy for providers to rely on scans, tests and screenings, which can lead them to forget the importance of touch.

Although one could argue that touch is no longer an absolute necessity for determining the nature of an illness or other problem, we should not ignore the fact that it was once our only tool for just that – diagnosis. As such, this is part of the expected and respected execution of an appointment with a provider. It is part of the thousands of years of history that has led to the trust that we instill in physicians that no other profession experiences. It is hard to find another profession entrusted with such delicate information as that of the physician. As Dr. Verghese
mentions, we open up to them in ways that we would not even dare to do with those in other positions of respect, such as religious figures and loved ones. Doctors are our source of refuge both physically and mentally, and much of their authority in being the one we turn to has been gained indirectly by means of touch.

The element of touch has been essentially present within the doctor-patient relationship since the beginnings of discovery in relation to the human body. Although most historical documentation has been lost to the test of time, we have documentation of multiple accounts in which various deformities, symptoms and signs of disease are carefully recorded, dating back to the Neolithic period. For example, a Chinese book titled, *Yellow Emperor’s Book of Internal Medicine*, mentions the physical examination and its findings as far back as 4500 years ago (Phoon 2000). According to this work, “a patient’s coloring, the condition of the tongue, and other detailed clinical observations, including auscultation, were important to Chinese diagnostics” (Phoon 2000). The many years of physical observations were essential in developing means of treatment and diagnosis, including some still used today as well as others that were necessary in the development of modern medicine. The stethoscope, for example, would not have been made possible if interest in learning through the human body via physical examination was not seen as an important function of healing years ago. Hence, discovering the true cause of a disease or condition via diagnosis by means of the physical examination became preferable over older types of “treatments,” such as cupping and bloodletting with no clear rationale (Phoon 2000). It should be noted that the stethoscope is now regarded as an extension
of the physical exam, as it is simply an accentuation of sounds that are too quiet to be observed by the human ear without assistance. Imaging and other testing is not encompassed by the title of physical exam, as these tests require technologically-advanced means of reading waves and transcribing that information into a visible image. They are not capabilities that we readily possess as human beings, and often not performed by the main provider.

This poses us with an important question: Even though there is an abundance of technology that can be used in place of the physical exam for diagnosis, is it ignorant to assume that its absence or decreasing significance goes without consequence? The importance of an act as simple as touch has been lost in a multitude of settings, and the doctor-patient interaction is one of them. We seem to forget that studies have proven time and time again that touch does in fact mean something. The study of Harlow’s monkeys suggested that touch, even by means of cloth, was comforting in times of fear (Harlow 1965). Furthermore, doctors recommend skin-to-skin contact when babies are first born due in part to the potential psychological benefits for the infant (Moore 2016). The importance of contact amongst humans is primitive in nature, but transformative in practice. Those studying the psychological impacts of touch have determined it to be “the most fundamental means of contact with the world,” yet we do not seem to appreciate its importance within one of the most important relationships in modern society - that between doctor and patient (Barnett 1976). There is no other relationship that so readily holds life in the balance, yet we continue to trust brand-new, never-before-seen technologies in place of a ritual that has proven trustworthy over thousands of years.
If touch were to be used effectively, many more patients would have the opportunity to form exemplary relationships that are similar to those of Dr. Verghese and his patients. When reflecting on the physical examination of his own patient just hours before time of death, Dr. Verghese says, “And the message, which I didn't fully understand then, even as I delivered it, and which I understand better now is this: I will always, always, always be there. I will see you through this. I will never abandon you. I will be with you through the end.” Like Dr. Verghese was at the time in which he delivered this message, many are unaware of the ability that touch has to exhibit emotion (Hertenstain & Keltner, 2006). When acting in the role of the physician, touch can effectively communicate a sense of empathy and sincere commitment, just as Dr. Verghese realized. An undying and relentless presence through the cycle of health and sickness is one that individuals frequently receive in even the most unbreakable bonds within marriage and amongst family. If they are able to physically sense these emotions through touch, the relationship will undoubtedly be strengthened immensely. To return to the question posed earlier, it does appear to be necessary to recognize the damage to the doctor-patient relationship and the resulting medical care if touch is to become a thing of the past. There is a chance that this change is due to the system we have come to accept as commonplace -- the computer and the electronic health record.

**A Doctor’s Opinion:**

Now that several elements of the doctor-patient relationship have been discussed, it is important to consider the opinions of doctors in the masses in addition to the limited opinions
already explored. There are several meta-analyses from collections of independent studies that have been done to review doctors’ feelings regarding the introduction of the EHR. As the implementation of this system has been on the rise all over the world, there have been numerous subsequent studies conducted in many different countries. Although the United States and the doctor-patient relationships formed within its bounds are the main focus of this paper, the inclusion of several studies done outside of the United States will be included due to the limited information and research on these topics. Although not all of these papers specifically analyze the hypotheses proposed within this paper, they do acknowledge similar sentiments that offer greater insight and context in regard to the current state of the doctor-patient relationship and its specific focus in the examination room. The meta-analyses and studies chosen provide quantitative data that either supports or denies correlation between prevalent physician opinion and the true outcomes of the practices that they are implementing into their care.

One such review of its kind was done in 1998 with aims to form a consensus amongst clinical trials that had been done to “[assess] the effects of computer-based clinical decision support systems (CDSSs) on physician performance and patient outcomes” (Hunt, Haynes, Hanna & Smith, 1998). After examining articles for quality, the review comprised of 65 studies, the majority of them having been done within six years of the review’s publication. Interestingly, 66% of the studies demonstrated benefit in some area of medicine as a result of CDSS implementation. These results were further analyzed to reveal that these systems “can enhance clinical performance for drug dosing, preventative care, and other aspects of medical care, but
not convincingly for diagnosis” (Hunt et al., 1998). When further analyzing the elements they noted as possible enhancements to the medical field, the simple majority of studies was needed to make a positive correlation implying the CDSSs benefit for their study. For example, it was determined that drug dosing can be benefited, but only nine of fifteen studies were able to indicate a benefit of some kind. Upon mentioning a lack of convincing evidence in regard to the benefit of diagnosis, it is revealed that only one in five studies done at the time had shown any benefit.

There are several things that should be kept in mind when analyzing the results from this review. First, the computer-based systems likely in place at this time were not physically brought into the examination room. As a result, they probably did not distract the patient in ways previously discussed. Second, the capabilities that have been developed since the publication of this review have been quite remarkable. Although the studies available at that time showed that only one in five studies showed any benefit to diagnosis through use of these systems, this does not mean that there have not been improvements in this area. At the same time, it is important to recognize that the computerization of a network as large and important as the medical field is going to be a long and complex process. We cannot expect perfection in the very beginnings of its usage.

In 2008, a full decade after this review was published, an additional study took place in Australia. By this point, computers had become “commonplace in the general practice consultation,” with 90% of general practitioners having a computer on their desktop during
patient consultations (Pearce, Trumble, Arnold, Dwan & Phillips, 2008). Continuous encouragement by those creating the software to fully implement their product was backed by claims that they were going to be able to have endless benefit with little drawback (Pearce et al., 2008). Those conducting the study note that “the future involves greater computerization of the clinical encounter” and that computers have already been shown to impact the interaction between practitioner and patients. They choose to describe the new “triad” as the “patient-doctor-computer relationship” (Pearce et al., 2008). Due to the emphasis that “general practice training…[puts on] the importance of the initial interaction with the patient in creating a personal connection,” they chose to study the first minute of 141 consultations between providers and their patients (Pearce et al., 2008). They found previous speculation that the computer can be a distraction to be fairly accurate, stating that the study “suggests it is a mistake to minimize the impact of the computer, treating it as just another tool in the consultation or a passive repository for medical records” (Pearce et al., 2008). One of their main findings showed that the triad relationship truly had become the new relationship in the examination room. The computer had direct say and input in regard to the flow of the appointment, topics discussed, and it was given attention from both parties. There is risk that the addition of the computer and the shift away from the patient-centered approach to medicine “will once again demote the needs of the patient” (Pearce et al., 2008). Although this attention and the reaction to it varied dependent upon the patient, it serves as strong evidence in support of some of the theories that have been introduced within this paper.
By the year 2013, plans to expand the usage of the electronic health record system (EHRS) were in place. Countries all over the world had begun to use the system due to its “crucial role in provision of quality patient care, ensuring patient safety, data collection, quality management, disease surveillance and many more future perspectives” (Chao, Hu, Ung & Cai, 2013). The United States was planning to fully enact the EHRS to its full capabilities beginning in 2015, which was a mere two years away. The uses and capabilities of the system were widely discussed and anticipated, but adoption and usage remained low. Just a decade prior to suspected full implementation, “only 24% of physicians [in the United States] were using the EHRS in outpatient settings” (Chao et al., 2013). This means that 76% of physicians were still resisting the change. A year before anticipated, in January of 2014, the American Recovery and Reinvestment Act mandated that “all public and private healthcare providers and other eligible professions were to adopt and demonstrate ‘meaningful use’ of electronic medical records…in order to maintain their existing Medicaid and Medicare reimbursement levels” (Federal Mandates for Healthcare). This acted as an incentive to implement a system despite the readiness of the software, relationships, comfortability with the computer and privacy of the infrastructure within which this change would be taking place. In other words, the dehumanization of medicine may have been forced before its time.

Some of these challenges that had been holding physicians back from adoption are highlighted in this study. In summary of their findings, they describe the benefits and challenges for three different sets of stakeholders in the EHRS: the patient, the physician and the
administration. For patients, they found that benefits included convenience of checking the
record, drug safety and reduced duplicated medical testing. All of these are benefits to the patient
and the quality of their care, as doctors are able to take care to make choices based on a more
complete view of the patient’s medical record and drug history. Conversely, we have not yet
discussed privacy as a reason for reservation with the EHRS. As perceived lack of privacy
conveys a lack of trust, this response to the computer in the examination room could easily
correlate with a decreased amount of trust with the operator – the physician. The challenge that
they noted for the patient was fear of lack of privacy. Amongst physicians, benefits again
included convenience for assessing record and time saving.

A systematic review titled “The Use of Electronic Health Records (EHR) in the Exam
Room and Patient Satisfaction” noted greatly endorsed positives as well. For example, the Future
of Family Medicine was reportedly encouraging use of the EHR amongst physicians. They
referred to the system as “the central nervous system of of the practice” (Irani, Middleton,
Marfatia, Omana & D’Amico, 2009). The article mentions several other organizations supportive
of complete implementation, including the American Medical Association, Joint Principles of the
Patient-Centered Medical Home and the United States government. The systematic review aimed
to analyze the impact of EHR’s on patient satisfaction, and authors felt this was possible based
on the 2107 articles that they first presented with. After combing through them, they realized that
they could only make use of 7 articles with qualitative data and, three with cross-sectional
studies and four with pre-post. The lack of consistent information on the impact of such an
important relationship makes the push for complete implementation of the system slightly before its time, and possibly accounting for part of the pushback from providers. Not only is there a lack of data, but there is a lack of consensus as to what the true effects of the EHR really are (Campanella, Lovato, Marone, Fallacara, Mancuso, Ricciardi & Specchia, 2015). Although most articles are positive, several studies have come out that have shown the exact opposite correlation. For example, one article “reported an unexpected rise in mortality after the EHR implementation in a tertiary care children’s hospital” (Campanella et al., 2015). Whether or not that data is accurate, an increase in the mortality of children is enough to make any doctor weary, given that their sole job is to uphold nonmaleficence and beneficence of their patients.

A meta-analysis was completed in Rome as recently as 2015 that was able to make use of more articles than the last article mentioned. They were able to sort through 23398 articles to create a sample size of 47. Through analysis of these articles, they were able to find sufficient evidence to conclude that “the use of EHR can improve the quality of healthcare, increasing time efficiency and guideline adherence and reducing medication errors and ADEs” (Campanella et al., 2015). They argue that through reductions in areas like time efficiency and medical errors, there may be “considerable cost reductions” involved (Campanella et al., 2015). If this is the outcome, they also argue that the EHR will be effectively promoting “improved patient outcomes and more cost-effective care” (Campanella et al., 2015). They even hypothesize that there’s a chance that the money saved due to fewer errors could pay for the implementation of the EHR system itself. In the concluding statements they mention their limitations, which has a similar
The Dehumanization of the American Healthcare Professional

tone to that of the last article. They admit that “they focused on different indicators and although [they] did a comprehensive search, [they] only found a limited number of articles with quantitative data” (Campanella et al., 2015). A separate meta-analysis based out of Chicago, IL analyzed similar factors. After analyzing thousands of articles they were limited to 28 studies, none of which were negative in terms of the resulting doctor-patient from the implementation of the EHR. They concluded that “despite objective evidence that EMR use may negatively impact patient-doctor communication, studies examining patient perceptions found no change in patient satisfaction or patient-doctor communication” (Alkureishi, Lee, Lyons, Press, Imam, Nkansah-Amankra, Werner & Arora, 2016). There seems to be true disparities amongst meta-analyses about whether the implementation of the EHR is positive or negative overall. Many of these articles make it evident that additional research is not only needed, but required to get a true representation of what is happening behind closed doors in one of our most cherished and necessary relationships.

“Doctors Save Patients, Scribes Save Doctors”:

The title above is currently the slogan for one of the largest companies employing a very new and unique position in the medical field. Scribe America, along with other emerging companies, have made it their mission to provide a solution to many of the problems that we have touched on thus far. They employ “unlicensed individuals hired to enter information into the EHR under clinician supervision” (Gellert, Ramirez & Webster, 2015. p. 1315). The
The introduction of the scribing role does not come without a cost, and a steep one at that. Hospitals and medical facilities pay thousands of dollars to employ scribes as contractors to limit the amount of work in the EMR that the provider has to complete during each shift. Studies have shown that “scribes decreased time both on shift...and post shift,” but “did not significantly decrease the amount of time [that providers] spent reviewing medical records or placing orders” (Heaton, Wang, Farrell, Ruelas, Goyal, Lohse, Sadosty & Nestler, 2018). They also did not play a significant role in “time spend at patients’ bedside or time spent discussing patient care with team members” (Heaton et al., 2018). There is also data to suggest an increase in the number of patients seen by a doctor with the presence of a scribe (Heaton, Castaneda-Guarderas, Trotter, Erwin & Bellolio, 2016). If scribes are in fact altering conditions under which providers are working, could there still be an inverse relationship benefiting the patient? With a scribe taking control over the EMR, is there more time for the patient to be the focus in place of the computer? It seems that this would have to be the case, as the doctor will no longer have the triad to focus on. It will simply be a conversation between doctor and patient.

**Study #1: Patient Survey**

**Introduction:**

The aim of this paper is to provide a new, unbiased outlook on the current state of the doctor-patient relationship. There have been many ideas and theories suggested within this work concerning the current state of this dynamic, however, the research drawn upon within it does
The Dehumanization of the American Healthcare Professional

not always aim to analyze the same factors between doctor and patient that are discussed here. Without a wide set of data analyzing these topics, it is difficult to provide direct evidence for many of these claims. As is true for most areas of study, there is a plentiful amount of research that would need to be done in order to legitimately shed light on these specific topics. To properly begin that process and satisfy the incessant need of those in our society to be shown physical evidence, a small-scale research project was created. The project makes use of a survey to begin to unearth the true feelings of healthcare consumers on the health of the doctor-patient relationship in a way that is more directly in tune with this paper’s foci on touch, time and trust within the examination room.

**Methods:**

Participants:

The study was conducted by use of a survey distributed via Amazon Mechanical Turk (MTurk) and limited to a sample of 60 individuals. MTurk “is a crowdsourcing marketplace” that creates a means of gathering data from any individual with access to the internet. Participants were each paid $1 for their responses, which were reported anonymously.

Design:

The survey consisted of a series of questions designed to receive an honest, unbiased response of patients’ experiences within the examination room without divulging information on personal medical concerns and the nature of the discussion that took place. To ensure that this privacy was not disclosed, there are no questions relating to names, age, the chief medical
The Dehumanization of the American Healthcare Professional

complaint of the patient, tests performed, diagnoses, etc. To rule out differences in practice amongst specialties, participants were instructed to answer the survey based on their most recent visit to see their primary care provider.

The survey begins by asking the patient about the type of greeting that they were presented with. These questions are included to analyze the nature of the relationship. A simpler, more distant greeting may be suggestive of the type of relationship between the doctor and patient. There were a series of generic greetings including handshake, wave, hug and none of the above that the participant could choose from. They were instructed to check all that applied. They were then asked if there was a difference between the greetings of the nurse and healthcare provider with the choices of yes or no to choose from. This question was included to analyze whether or not the power dynamic between doctor and patient resulted in a lessened comfortability in comparison to the nurse, who may be viewed as having a more intimate relationship with the patient if the power dynamic is not present within that relationship.

As touch is a significant point of interest, the physical examination --or lack thereof-- is questioned. Participants were requested to answer whether or not they received a physical exam in a simple yes or no question. They were then asked to provide the type of physical exam in a short answer format question. To scale the degree to which the physical exam was prioritized, they were asked to score the physical exam on a Likert scale with 1 indicating no exam and 5 indicating an excellent exam. To establish whether or not the main healthcare provider is involved in touch, they were then asked to indicate who had provided the physical exam. The
The Dehumanization of the American Healthcare Professional

participant was given the option of nurse, N.P., P.A., and M.D./D.O. in a multiple choice format. It was hypothesized that nurses have a more abundant opportunity to physically interact with the patients, so several additional options were given in a different question to see if they had physical interaction with their primary care provider (PCP) by means of blood pressure assessment, temperature assessment, listening to respirations/heartbeat and none of the above. Participants were instructed to select all answers that applied.

The participants were then asked more direct questions about their experience. The definition of touch as “coming into contact with another human” was provided. They were then asked whether or not touch, by this definition, was important to them in terms of the doctor-patient relationship. A Likert scale was provided to allow responses ranging from 1- not important to 5- very important. As a follow up question, they were asked whether or not they found the amount of touch in the examination room to have changed since the introduction of the computer. This was a Likert scale question as well, with 1 being no difference and 5 being extreme difference.

To determine what factor patients seem to desire the greatest upgrade in, they were asked what elements of an appointment healthcare providers should focus on improving the most, with options: touch (thorough physical exam), time (duration of appointment) or relationship. They were given a short answer textbox to answer. To determine what factor was most important, they were given the same options in a multiple choice format. This helped to determine if an area needing improvement was the same as the choice deemed most important.
To investigate time, they were asked if they felt that they had a long enough appointment to discuss all of their concerns. They were given a Likert scale with 1 being not enough time and 5 being too much time. To follow up, they were then asked if they felt rushed in any way, with very rushed and very relaxed being the option choices. They were also asked whether or not any preventative measures were discussed with them, as research has shown that there is not enough time for these discussions (Yarnall et al., 2003). As trust can be influenced by the time spent getting to know the patient, they were asked whether or not they felt the provider was able to get to know them on a personal level over the duration of the appointment. A Likert scale was again utilized to scale their impression from 1- no relationship developed to 5- deep relationship developed. Trust was hypothesized to be influenced by the level of the relationship formed with the provider, so a Likert scale question was formulated to determine what level of trust the patients felt in the relationship. After questioning the participants on their emotional comfortability with the provider, it became important to have feedback on physical comfortability as well. They were simply asked to rate whether they were physically comfortable on a Likert scale with 1 being not comfortable and 5 being very comfortable.

A major consideration that needs to be accounted for is the language barrier between provider and patient. As discussed more in depth earlier, there are several factors that can lead to disconnect in dialogue in the doctor-patient relationship. Difference in first language and even medical terminology can make it difficult for patients to understand doctors and vice versa. For this reason the participants were asked to rate their understanding of the provider’s response to
their concerns on a Likert scale with 1 being little understanding to 5 being full understanding. They were also asked to choose whether the physician prioritized and listened to their concerns with: no priority given, some priority given and full priority given.

At the root of the changes taking place within the examination is the addition of the computer. Naturally, the participants were asked about their experience with computer use in the examination room. It was inquired whether they felt that the computer, or the participant as the patient, was the focus of the physician’s attention. There were three options for answers: more attention given to the computer, even interaction between computer and patient, and most interaction given to patient. Due to the power dynamic, it is hypothesized that the patient may feel like a distraction to the provider while they are using the computer. They were asked to rate their feedback on how they felt on a Likert scale, from 1- not feeling like a distraction and 5- very much feeling like a distraction. To allow room for new perspectives, they were asked to submit their own opinion of the most negative and positive aspects of allowing the computer into the examination room in a text box provided to them.

Finally, they were asked how likely they are to follow up with the advice that they were given. The answer to this question is hypothesized to be dependent on the multitude of factors that have been discussed, including touch, time, trust and focus of attention. The answer to this question is, at root, the answer to whether or not the goal of the field of medicine will be met: “the relief of pain and suffering, the promotion of health and the prevention of disease, the
The Dehumanization of the American Healthcare Professional

forestalling of death and the promoting of a peaceful death, and the cure of disease when possible and the care of those who can not be cured” (Callahan).

The survey was submitted to DePauw University’s Institutional Review Board to ensure the rights of the human subjects participating, as well as ensure that the rights of such participants are presented. The IRB board granted approval for the survey as a Category II research project, and the Asher Grant through DePauw University was used to carry out incentives and allow for full-time work. The survey was created through Google Forms and a link to the survey was provided on the Amazon Mechanical Turk page for this project. A code at the end of the survey was used to ensure that responses were not reported by robots, which has been a reported problem with MTurk.

The responses were then analyzed via an arrangement of tests supported by SPSS, which is a computer program for data analysis. The data was processed from an excel sheet created by the survey, and the data output was placed into tables to be presented. The initial tables created were representative of the frequencies in which answers resulted. Several are included in the main body of the results for simplified ease in reference. An analysis of these frequencies was then completed, and those that appeared to be of interest in correlation to one another were paired. These pairs were then tested via an array of t-tests, mediation tests, ANOVAs and paired sample tests to be able to determine relationships between the responses to questions. The data from these tests is presented as well.
The Dehumanization of the American Healthcare Professional

Results:

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>13</td>
<td>21.7</td>
<td>21.7</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>5.0</td>
<td>26.7</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>18.3</td>
<td>45.0</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>26.7</td>
<td>71.7</td>
</tr>
<tr>
<td>5</td>
<td>17</td>
<td>28.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 1. The level to which the patient felt the physician gave a thorough physical exam. Patients were asked to rate the physical exam on a Likert scale, with 1 meaning no exam and 5 meaning excellent exam. According to the results, 21.7% percent of patients did not receive a physical exam, while 55% of the remaining 78.3% that received an exam scored it as a four or five on the Likert scale.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>24</td>
<td>40.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Touch</td>
<td>5</td>
<td>8.3</td>
<td>48.3</td>
</tr>
<tr>
<td>Trust</td>
<td>31</td>
<td>51.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 2. The most important part of the physician-patient relationship according to patients (n=60). Results show that over half of the sample (51.7%) found trust to be the most important factor.
The Dehumanization of the American Healthcare Professional

Figure 3. The degree to which the patient felt that their physician was able to get to know them on a personal level over the duration of the appointment (n=60). Patients were asked to rate the depth of the relationship on a Likert scale, with 1 meaning no relationship developed and 5 meaning deep relationship developed. Results show that the majority of patients (59.3%) developed relationships with their physicians that they rated as a 3 or below.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>8.3</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>25.0</td>
<td>25.4</td>
<td>33.9</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>25.0</td>
<td>25.4</td>
<td>59.3</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>33.3</td>
<td>33.9</td>
<td>93.2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>6.7</td>
<td>6.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>98.3</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Missing System 1 1.7

Total 60 100.0

Figure 4. Level of patient trust in the physician based on the level of relationship developed during the appointment (n=60). Patients were asked to rate their level of trust on a Likert scale, with 1 meaning no trust and 5 meaning full trust. Based on responses, 66.6% of the sample felt that they had high levels of trust in their physician.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>8.3</td>
<td>8.3</td>
<td>10.0</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>23.3</td>
<td>23.3</td>
<td>33.3</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>33.3</td>
<td>33.3</td>
<td>66.7</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>33.3</td>
<td>33.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Total 60 100.0 100.0
The Dehumanization of the American Healthcare Professional

Figure 5. The patients’ opinion on the main focus of the physician’s attention between the patient and the computer (n=60). The majority of patients (56.7%) recall the attention of the physician being directed evenly between the computer and patient, or with most attention given to the computer. The rest report being the main focus.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td>9</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Evenly</td>
<td>25</td>
<td>41.7</td>
<td>41.7</td>
<td>56.7</td>
</tr>
<tr>
<td>Patient</td>
<td>26</td>
<td>43.3</td>
<td>43.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6. The patient’s perception of the level at which the physician prioritized and listened to patient concerns (n=60). The majority of patients responses (51.7%) recall the physician giving them some priority during the appointment. Full attention was reportedly given to 45.0% and only 3.3% felt that they received very little of the physician’s focus.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>2</td>
<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Some</td>
<td>31</td>
<td>51.7</td>
<td>51.7</td>
<td>55.0</td>
</tr>
<tr>
<td>Full</td>
<td>27</td>
<td>45.0</td>
<td>45.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7. The degree to which patients felt that they were distracting the physician while they were using the computer (n=60). Patients were asked to rate the level to which they felt like a distraction on a Likert scale, with 1 meaning not at all feeling like a distraction and 5 meaning feeling very much so like a distraction. The majority of patients (63.3%) rated their level of distraction to the physician as a one or two out of 5.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26</td>
<td>43.3</td>
<td>43.3</td>
<td>43.3</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>20.0</td>
<td>20.0</td>
<td>63.3</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>13.3</td>
<td>13.3</td>
<td>76.7</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>18.3</td>
<td>18.3</td>
<td>95.0</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>5.0</td>
<td>5.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
The Dehumanization of the American Healthcare Professional

Figure 8. Patients indicate how likely they are to follow up with the advice that they were given. Patients were asked to rate how likely they are to follow up with the advice given to them by the physician on a Likert scale, with 1 meaning not likely to follow up and 5 meaning very likely to follow up. The majority of the sample (86.7%) rated their likelihood to follow up as a 4 or 5 on the scale. There were

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>3</td>
<td>8</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>28</td>
<td>46.7</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>24</td>
<td>40.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 9. Relationship between patients’ opinions on the importance of touch in the doctor-patient relationship and whether or not there has been a change in the amount of touch since the introduction of the computer to the examination room (n=60). There was a positive correlation of 0.521 with a significance of .000.

** Correlation is significant at the 0.01 level (2-tailed).
Figure 10. Test to determine whether or not there is mediation by the level of patient trust in the physician that causes the presence of the physical exam to determine the likelihood to follow up with physician advice. The test was significantly conclusive that trust was a mediating factor between the physical exam and likelihood of follow up that allowed the two to have a cause-effect relationship.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>3.491</td>
<td>.345</td>
</tr>
<tr>
<td>Did your appointment involve a physical exam of any kind?</td>
<td>-.241</td>
<td>.178</td>
</tr>
<tr>
<td>How would you rank your level of trust in the physician?</td>
<td>.242</td>
<td>.081</td>
</tr>
</tbody>
</table>

Figure 11. Relationship between patients’ opinion of the level of relationship they have with their physician and likelihood of the patient to follow up with physician advice. Both questions were scored on a Likert scale from one to five. Significance of .000 indicates a significant difference between level of relationship and likelihood to follow-up.

<table>
<thead>
<tr>
<th>Paired Samples Test</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paired Differences</td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-1.850</td>
<td>.685</td>
<td>.088</td>
<td>-2.027</td>
<td>-1.673</td>
<td>59</td>
<td>.000</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std. Error Mean</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval of the Difference</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>df</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td>-20.933</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Dehumanization of the American Healthcare Professional

Figure 12. Relationship between patients’ opinion of the level of relationship they have with their physician and patient opinion of whether they were distracting their physician while using the EMR. Relationship had a negative correlation of -.400 and was significant (.002).

Figure 13. Relationship between the patients’ opinion on the main focus of the physicians’ attention and the level to which the patient felt the physician prioritized and listened to the patient during the appointment. The relationship had a positive correlation of .419 and was significant (.001).

**. Correlation is significant at the 0.01 level (2-tailed).
Figure 14. ANOVA testing on patient opinion of level of relationship with their physician and physicians’ priority and focus on the patient.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5.231</td>
<td>2</td>
<td>2.615</td>
<td>1.527</td>
<td>.226</td>
</tr>
<tr>
<td>Residual</td>
<td>97.619</td>
<td>57</td>
<td>1.713</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>102.850</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 15. Relationship between the patients’ opinion of the priority and listening that the physician conveyed during an appointment and the likelihood that the patient will follow up with the advice they were given by said physician. The two variables had a positive correlation of .411 and was significant (.001).
The Dehumanization of the American Healthcare Professional

Figure 16. Relationship between patients’ likelihood to follow up with physician advice and whether or not the patient felt that they were distracting the physician while they were using the computer. The relationship is slightly significant at 0.72 with a -.234 correlation.

Figure 17. Relationship between patients’ level of trust in their physician and likelihood to follow up with advice given. Both variables were measured on a Likert scale. There is a positive correlation of .358 with .005 significance.
Research Discussion:

It was hypothesized early on that touch would be an important factor in the doctor-patient relationship. The results within our sample show that our particular set of patients may have not held those same sentiments. In Figure 1, the frequencies of physical exams show that most patients are receiving exams that they believe to be done thoroughly, as indicated by a score of four or five. However, almost a quarter of the patients are not receiving a physical exam. This appears to be problematic, in that every patient should be listened to according to what they say in words and by what their physical signs can exhibit. This is also one of the best times to communicate care. As discussed earlier on, touch can communicate emotion as well as show true attentiveness. Despite the positive influences that touch can have, Figure 2 shows that it was only chosen by three percent of the sample as the most important part of the doctor-patient relationship. The sample was much more likely to choose time (40%) or trust (51.7%) instead. This finding is not necessarily surprising, as touch is not always recognized consciously. Time and trust, on the other hand, are readily acknowledged. A correlation was run between the importance of trust and change in the amount of touch between doctor and patient (Figure 9), which showed a significant correlation of .521 between the two. This can be interpreted to mean that those considered touch to be very important were the same individuals that felt the amount of touch in the examination room to have changed. This specific question does not allow us to find out with certainty whether these individuals felt that the amount of touch has increased or
decreased, but research discussed earlier would suggest that they would be indicating a decrease in touch as a result of the increasing reliance on technology.

When asked about the degree to which the physician was able to get to know the patient on a personal level, the highest percentage of individuals chose to rate the level of their relationship as a three out of five; one being no relationship developed and five being deep relationship developed. Thankfully, only 8.5% of individuals felt that there was no relationship developed, but only 6.7% felt that they were able to form a deep relationship. This finding is intriguing due to the uniqueness of the level at which patients open up to doctors. In comparison to other relationships in professional settings, this one could arguably have the most depth. Many trust their doctors with personal information that they would not even dare to share with those closest to them, so it was expected that patients would readily form strong relationships with their physicians. Interestingly, an ANOVA test in Figure 14 shows that the level of priority and focus that the patient is feeling will predict their answer to the question of whether or not the amount of touch in the examination room has changed. If they felt like they were the focus and priority, then they would respond in feeling that the level of touch had changed. This does not support Figure 9’s interpretation that the change in the amount of touch has a negative connotation, due to the positive connotations relating to the physician's attention and priority level of the patient. The exact reason for contradiction is unknown, but could be discovered through further testing. The sample responses in Figure 4 show that 66.6% of the patients had a strong level of trust in their physicians that was based off of the depth of the relationship
developed during the appointment. About 10% of patients responded with indications of a lack of trust. Although the majority experiencing a trusting relationship should be regarded as positive, it is also important to acknowledge those that have not found that confidence with their physicians.

To see if the element of touch was impacting the likelihood that patients would follow up with advice from their doctors, the test in Figure 10 was conducted to determine whether or not a correlation was present. Although the presence of a physical exam did not directly correlate with the level of trust developed, there was a correlation in the presence of a mediating factor -- the level of trust in the physician. It could be interpreted that in the presence of a thorough, well-done physical examination, an increase in trust could be developed. This trust would then cause an increase in likelihood of follow-through of advice by the patient, which is one of the main goals of the appointment itself. These findings are supportive of the conclusion that touch may be a factor in building the doctor-patient relationship and the relative benefits that come with it.

One reason reason for which trust would not be developed is a lack of attention from the physician. When asked to what level patients felt that they were the focus of the physicians’ attention, 56.7% responded with indication that the majority of focus was not spent on the patient. This response is supportive of earlier hypotheses and studies indicating that computers are in fact being treated as a third entity in the room, receiving partial or a majority of the physicians’ focus. To follow up, patients were asked to what degree they felt they were
The Dehumanization of the American Healthcare Professional

prioritized and listened to by their provider. A solid 45% of the sample felt that they had been given full priority, while 55% were left feeling that they had been given partial or no priority in the appointment. It could be assumed that those teaching the concept of the patient-centered approach to medicine may not be thrilled with this response. If this practice is carried out successfully amongst doctors, we would expect to find a higher percentage of patients indicating that they were made to be the priority. In Figure 13, the relationship between the focus of the physician’s attention and level to which the patient felt the physician listened and prioritized their concerns was determined. The test shows that there is in fact a significant relationship between these two factors, and that the amount of focus will determine the level to which the patient will feel that their concerns are being paid attention to.

As the priority, patients are expected to feel that they are at least in partial control of their appointment and not a distraction from the other entity -- the computer. Results indicate that the highest percentage of patients (43.3 %) did not feel like a distraction to the physician while they were using the computer. However, nearly a quarter (23.3%) expressed feelings of being a distraction to a significant degree. This result is concerning if it is indicative of the degree to which patients’ conversations with their providers are being steered by the presence of the computer in the examination room. Figure 12 shows the results of a correlation test between level of priority and perception of distraction. Findings reveal that the two have a significant negative relationship of -.400. This can be used to conclude that those that felt like a distraction were not feeling prioritized and listened to, and those that did not feel like a distraction were
feeling prioritized and listened to. This clearly demonstrates the role of the computer in the room, and the possible decline in the degree of patient centrality if proper attention is not given to the patient.

To conclude the survey, patients divulged whether or not they felt that they would follow up with the physicians’ advice. The vast majority (86.7%) of the sample stated that they would be highly likely follow up with the advice they were given. There were no responses indicating a lack of intent to follow up, with only 13.3% of patients feeling stuck somewhere between not likely and very likely to follow up. This was a truly positive finding, as it indicates that patients are still willing to follow physician direction. To determine whether or not the level to which the physician prioritized and listened to the patient was playing a role in follow up, the correlation shown in Figure 15 was run. Results indicate that there is a significant positive correlation between the two, which only further supports the notion that patient-centered appointments will lead to greater patient outcomes. Additionally, the degree to which the patient felt like a distraction and the level of the relationship developed during the appointment were separately correlated to the likelihood that the patient will follow up. Figure 16 shows a slight significance of a negative correlation. This can be read as implying that the less the patient felt that they were a distraction, the more likely they were to follow up. Figure 17 showed a much more significant correlation between the level of trust and the degree to which the patient will follow up. A positive correlation of .358 at a significance of .005 strongly supports the conclusion that relationships are truly impacting the care and outcome of patients.
A limitation of this study should be noted, in that exact definitions were not always stated before asking a question in reference to them. For example, a physical examination within this paper is discussed as means of examination of the body in some fashion. It does not have to be a full-body exam in the sense that annual physical exams are regarded. This may have not been made clear, and there may be other instances where this language could cause confusion. There were also some questions that could have been made slightly more direct or specific. With too much room for interpretation, the results may have been impacted. There was some information from the patients that was not obtained due to the increased level of difficulty of gaining approval for research. This impacted some of the context in which the results were interpreted. For example, the ANOVA test shown in Figure 14 would have been more conclusive if we knew whether or not there had been large changes in the amount of computer usage in the examination room during patients’ lifetimes. As a result, knowledge of the patients’ ages would have been helpful. An additional limitation is the sample size, which was limited to 60 patients due to financial constraints. A larger sample would have been more accurate due to the increased likelihood of creating a clear representation of perceptions and experiences.

Conclusions:

Amidst the evolutionary changes of technology in the healthcare setting, doctors and patients will continue to have to fight to find a new normal. The past several decades have brought about an era of changes, both expected and unexpected, for doctors and their patients to
navigate, but the trust in the relationship appears to remain. Although not entirely conclusive, the empirical data for the survey accompanied by the analysis of multiple studies within this paper provides the ultimate message that change is happening. The EHR has created a shift in the dynamic within the examination room, and things have had to change accordingly. This appears to result in a mild dehumanization of all involved: the doctor, the patient, and the relationship between the two. However, there are still means of improving and maintaining trust and depth within the doctor-patient relationship. Whether it be by means of touch, other forms of communication, or an entirely different realm of significance, the patient and the centrality of their voice in the appointment appears to be vital. At the rate at which the field of medicine continues to expand and evolve, it will remain difficult to properly assign measurements on what it means to feel connected to another human being; especially a doctor. That sentiment was discovered within this paper, as well as many others discussed within it. However, that should not limit the pursuit to provide the best possible care to patients and the means to provide it. That is the duty of the doctor, and the service that they have sworn to provide. As there are surely multiple means to this end, I have faith that doctors will continue to implement ideas of their own on how to help the patient regain their voice. This open template discussion between doctors and patients known as the patient-centered approach is evidently important in patient follow up with provider advice, and thus patient outcome. In order to continue to remember the patient sitting on the examination chair or hospital bed,
The Dehumanization of the American Healthcare Professional

As an Honors Scholar student at DePauw University, the pursuit of the truth has always been something I find endearing. Whether it is in classes, conversations, or the workplace, I always try to analyze a situation from every viewpoint possible prior to forming an opinion. The same can be said for my opinions on the fate of the dehumanization of the American healthcare professional. As a current scribe for an Indianapolis emergency room and hopeful future physician’s assistant, I am very passionate about understanding what it means to have a positive provider-patient relationship and acknowledging the mindfulness it takes in the attempt to constantly provide an experience that is meaningful. I feel lucky to have the opportunity to provide a service that aids doctors, and hopefully the patients indirectly as well. As a result of my position, I have been given a front row seat to many doctor-patient interactions. This opportunity has given me a lot of the insight that I used to form my various hypotheses and thought-processes. Through the writing of this paper, I have not only been able to solidify clear opinions on many of the topics discussed, but I have also learned what it means to be a good provider. Although research is never going to be conclusive without a doubt, there is important material that can be internalized and learned from despite the opinions of the population at large. However, meta-analyses and research of the like is necessary for growth and development on a larger scale. Having personally developed a better understand for what it means to present data, limitations and all, I feel confident that this paper will aid in altering the doctor-patient relationship for the better. Information such as the topics discussed in this paper can be beneficial, even if it simply encourages the reader to look at information with a new and unique
The Dehumanization of the American Healthcare Professional

perspective. In doing so, there is hope that additional research and understanding of the
doctor-patient relationship will divulge and paint an even clear picture of the occurrences
preceding. It is my hope that the yearning to improve will always be present, and that physicians
will consistently be reminded of their oaths.
Acknowledgements:

I would like to make my sincerest appreciation known to all that have made this opportunity possible. I would like to thank Dr. Kevin Moore, who gave the mock Honors Scholar seminar during my visit as a potential student. You ended up being one of the most influential figures in my decision to come to DePauw. You proved to me that this school was not only going to be my home away from home, but the space where I would be encouraged to explore my deepest interests with encouragement and support. I would also like to give mention to Amy Welch and Tonya Welker, both of whom have been central to my Honors Scholar experience. I don’t know how I could have accomplished all that I have within this program without the two of you. My sponsor, Professor Bitner, will forever be in my memory and given infinite thanks. He has gone above and beyond in every way imaginable to support me. I truly thank you for every ounce of advice, encouragement and motivation that you have blessed me with in our time working together. In our estimated 75 meetings together over the past year and a half, you have become much more than a professor or mentor. Thank you to all members of my committee who have stuck with me over the course of my struggles and accomplishments within this work.

I would also like to thank my friends, who have been there when I needed someone with whom to discuss my thoughts, some added motivation, or a caffeinated beverage. Whenever a time presented that I doubted myself, you were the ones that restored my faith through the belief you have in me. Lastly, to my family, who have always support me in my ventures. You provide some of the most supportive, unconventional love that I have been so blessed to receive in all of my adventures at DePauw. Thank you all -- for everything.
References:


Appendix:

Patient Survey
Please answer the following questions based on your most recent doctor's office visit with your primary care provider.

1. When greeted, are you typically welcomed with a… Check all that apply.  
   Check all that apply:
   - Handshake
   - Wave
   - Hug
   - None of the above.

2. Was there a difference in the greeting between the nurse and healthcare provider?  
   Mark only one oval.
   - Yes
   - No

3. Did your appointment involve a physical exam of any kind?  
   Mark only one oval.
   - Yes
   - No

4. If so, what kind of physical exam was performed?

5. Was the physical exam thorough?  
   Mark only one oval.
   
   1  2  3  4  5
   No exam
   Excellent exam
6. Who performed the physical examination?
   Mark only one oval.
   - Nurse
   - Nurse Practitioner
   - Physician's Assistant
   - M.D. or D.O.

7. Was there physical interaction by means of:
   Check all that apply.
   - Blood pressure assessment?
   - Temperature assessment?
   - Listening to Respirations/Heart Beat?
   - None of the above.

8. We define touch as coming into physical contact with another human. Do you find this to be important in the doctor-patient relationship?
   Mark only one oval.
   1  2  3  4  5
   Not important  0  0  0  0  0 Very important

9. Do you find the amount of touch in the exam room to have changed since the introduction of the computer to appointments?
   Mark only one oval.
   1  2  3  4  5
   No difference  0  0  0  0  0 Extreme Difference

10. What elements of an appointment should healthcare providers focus on improving the most: touch (thorough physical examination), time (duration of the appointment) or the relationship?

11. What part of the physician-patient relationship is most important to you?
    Check all that apply.
    - Time spent
    - Touch
    - Trusting relationship
12. Did you feel that you had time to discuss all of the concerns that you wanted to address?  
*Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Too much time</td>
</tr>
</tbody>
</table>

13. Did you feel rushed in any way?  
*Mark only one oval.*

- [ ] Very rushed
- [ ] Very relaxed

14. Did you feel that the physician was able to get to know you on a personal level over the duration of the appointment?  
*Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No relationship developed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Deep relationship developed</td>
</tr>
</tbody>
</table>

15. Based on the relationship developed, how would you rank your level of trust in the physician?  
*Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No trust</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Full trust</td>
</tr>
</tbody>
</table>

16. Were preventative measures discussed with you?  
*Mark only one oval.*

- [ ] Yes
- [ ] No

17. Were you physically comfortable within the examination room?  
*Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not comfortable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very comfortable</td>
</tr>
</tbody>
</table>
18. Did you understand the response to your concerns?
Mark only one oval.

1  2  3  4  5

Little understanding  ○  ○  ○  ○  ○  Full understanding

19. Was the computer, or you as the patient, the focus of the physician’s attention?
Check all that apply.

☐ Most attention given to computer
☐ Even interaction between computer and patient
☐ Most interaction given to patient

20. At what level do you feel that the physician prioritized and listened to your concerns?
Check all that apply.

☐ No priority given
☐ Some priority given
☐ Full priority given

21. Did you feel that you were distracting the physician while they were using the computer?
Mark only one oval.

1  2  3  4  5

Not at all  ○  ○  ○  ○  ○  Very much so

22. What do you feel is the most negative part of having the computer in the examination room?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

23. What is the most positive?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
24. How likely are you to follow up with the advice you were given?
*Mark only one oval.*

1 2 3 4 5

Not likely  □  □  □  □  □  Very likely

**Survey Code**
05182016