

Using the Internet to Empower Patients and to Develop Partnerships with Clinicians

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ABSTRACT

In combination with computerized and networked information systems, the Internet is poised to significantly alter many aspects of the clinician-patient relationship. In this paper, the clinician-patient relationships of cybermedicine are conceptualized as an elaboration of the democratizing power of the information age. This paper identifies common applications of what is known as cybermedicine and e-health and examines the implications of the Internet for the clinician-patient relationship, addressing concerns about standards of care, clinician duties, and interpersonal communication. It also looks at both the role of HIPAA legislation in shaping the clinician-patient relationships of cybermedicine and the economic issues involved with health websites. Further, the argument that an informational model for the clinician-patient relationships of cybermedicine would be appropriate as a normative framework is put forth. The article concludes that even though through we should be cautious and judicious in our adoption of various forms of cybermedicine, the Internet has the potential to create the conditions necessary for a real partnership between patients and clinicians and to improve patient care and health outcomes.

Keywords:

cybermedicine, e-health, Internet, clinician-patient relationship, ethical guidelines, and duties

Almost overnight the gizmo-laden jargon of web designers and information technologists has irreversibly altered the lexicon of healthcare professionals. Neologisms such as cybermedicine and e-health are now being used to describe online healthcare services and are frequently turning up in the popular media and healthcare literature. In short, cybermedicine and e-health are subsets of telemedicine, which is the provision of healthcare services and health-related information over distance using information and communication technology. More specifically, cybermedicine and e-health refer to the electronic medium of the Internet and to those patients and consumers who access healthcare information from medical websites or have portions

of their healthcare managed online by healthcare professionals (Bashshur, Sanders et al. 1997)

It may seem odd to think of the Internet as medical technology. This is clearly not the typical subject matter of bioethics. But, medical technology is not limited to high-profile medical devices and techniques such as genetic tests, IVF, dialysis machines, and ventilators. According to the Office of Technology Assessment, medical technology includes "the drugs, devices, and medical and surgical procedures used in medical care and the organization and support systems within which such care is provided" (Lashof 1981, 36-37). Because the Internet as well as other information and communication technology can be subsumed under "the organization and support systems within which such care is provided," the Internet can be broadly construed as a type of medical technology under the OTA's definition.

The healthcare industry has increasingly used more sophisticated computer and software systems for decades, but has been reluctant to use the Internet owing to technical, economical, and legal obstacles, (Field 1996; Armstrong 1998). Many of these obstacles are now being overcome. Technically, concerns about interoperability have been partially solved with the establishment of universal standards for hardware and software systems. Economically, efforts are under way to obtain financial reimbursement for telemedical services, especially the time clinicians spend online communicating with patients via e-mail (Hsieh 2000). Legally, licensure standards and clinical guidelines are being developed for e-health and other telemedicine applications that make use of the Internet.

As these obstacles are gradually eliminated, the healthcare industry's goal is to create an integrated system of computer databases that are linked to the Internet, various Intranets, and new technologies such as personal digital assistants (i.e., handheld computers), web cameras, decision-support and voice recognition software, and wireless transmission technology (Freudenheim 2001). When properly employed, it is hoped that the Internet in conjunction with other telecommunications technology will facilitate both clinician-clinician and patient-clinician communications and allow for faster identification, organization, and transmission of health-related information. The expectation is that as the flow of medical information becomes more efficient and deliverable to the point of care, healthcare access and the continuity of patient care will increase and medical errors will decrease.

Therefore, in combination with computerized and networked information systems, the Internet is poised to alter many aspects of the clinician-patient

relationship and the way healthcare services are delivered. Although it is too early to know exactly how cybermedicine will transform clinician-patient relationships and the quality of patient care, there are indications that it has the potential to do more good than harm by creating the conditions necessary for a real partnership between patients and clinicians.

Cybermedicine and Its Applications

Although Internet use by the healthcare industry is relatively new, three distinct applications of cybermedicine have quickly emerged over the past few years: (1) consumer information services, (2) telemedical care, and (3) health business support services.

Consumer Information Services

According to one estimate, approximately 17,000 biomedical websites currently exist and consumers appear to be regular visitors to these sites. In 1998, for example, the Medline website managed by the National Library of Medicine processed 350,000 searches per day in the month of March alone and 30% of these searches were conducted by non-clinicians (McClung, Murray et al. 1998). The number of consumers using Medline has only increased. As of 2001, the number of searches on Medline jumped to 250 million a year and nearly one-third of these searches were conducted by patients and the general public (Landro 2001).

Some consumer health websites target specific disease groups such as Alzheimer's disease and breast cancer, while others provide general health information to consumers. Some sites are managed by non-profit governmental and private-sector organizations such as the National Library of Medicine and the American Cancer Society. Other websites such as WebMD are commercial, for-profit enterprises that provide health information and services to consumers for a fee, allowing, for example, consumers to store their medical records on a secure site, to obtain online prescription drugs, and to communicate with clinicians via e-mail.

Online support groups are another popular feature of some consumer health websites. The primary function of online support groups is to serve as virtual meeting places where consumers can exchange ideas and experiences, discuss their health problems, and obtain emotional support from each other. Generally, support group participants rely on e-mail communication and are members of either a listserve or Internet newsgroup. A majority of these sites are free of charge and do not involve healthcare professionals. However, some online support groups are moderated by a healthcare professional whose role is to help keep discussions focused, not to

consult with support group participants or to provide therapeutic interventions (Ferguson 2000).

Telemedical Care

Although not as common as consumer health websites, the Internet is increasingly being used for the provision of direct patient care services. At the simplest level, consumers with a password can access an individual clinician's or health plan's website and communicate informally with clinicians about health-related concerns by means of e-mail and instant messaging. A growing number of sites, however, now provide more formal consultations that may include a diagnosis, a treatment plan, and even a drug prescription without a face-to-face meeting between consumers (patients) and clinicians.

Beyond simple e-mail applications, additional examples of telemedical care over the Internet include the use of helpbots (i.e., computer-based decision support software), videoconferencing technology, and telemetry-capable medical devices for the remote monitoring of chronically ill patients in their homes. In some cases, patients and clinicians communicate by e-mail and interactive video; in other applications, clinicians and their patients lack all personal communications with each other.

Health Business Support Services

Finally, one of the fastest growing applications of cybermedicine is in the area of health business support services. This particular use of the Internet in healthcare is probably the least controversial type of cybermedicine because it usually does not involve patients and the provision of health information to consumers. Instead, this application of cybermedicine consists of websites and computerized networks designed specifically for the business and management needs of healthcare organizations and clinicians.

For example, WebMD and the American Medical Association's Medem are gradually moving traditional office-based medical practices to the Web by offering online services for physicians that include the electronic transmission and storage of patient information, claims processing, billing procedures, and access to medical databases. Although patients and consumers are not directly involved, a more efficient transmission and storage of health information may eventually benefit patients and consumers through lower healthcare costs and better health outcomes.

Concerns about Standards and Duties of Care

At this time, there is uncertainty about the training required to practice cybermedicine, the scope of clinician liability for equipment failure, the

appropriate level of privacy and confidentiality protections that clinicians should employ, and the threshold for medical malpractice (Darkins 1996; Stanberry 1998). Unlike traditional face-to-face relationships that typically include discrete episodes of hands-on care from identified clinicians, e-health and other telemedical relationships often lack hands-on examinations by clinicians and may include multiple consultants that may simultaneously or at different times review electronically stored patient information from different locations.

As a result of these temporal and geographical distances between clinicians and patients, patient care is less likely to be characterized by tightly circumscribes episodes of hands-on care from identifiable clinicians who know and who are known by the patient (Sanders and Bashshur 1995; Wooton and Darkins 1997). Thus, it is not always evident whether a particular online encounter constitutes a clinician-patient relationship and the practice of medicine under various state laws (Short and Saindon 1998).

The virtual relationships of cybermedicine may have advantages for patients and clinicians, but clinician duties and the standard of care for online encounters are greatly complicated because legal precedent for medical malpractice cases inadequately guide clinician-patient relationships in this context. The courts will likely look at two kinds of cases to help guide the clinician-patient relationships of the Internet. The first involves cases in which the telephone has been used to establish a clinician-patient relationship and in which harm occurred. The second kind of case includes situations where negligent patient care resulted, in whole or in part, from a consulting clinician's advice (Kuszler 1999).

In cases involving telephone communications, a clinician-patient relationship and associated duties are not established until: (1) the clinician agrees to care for the patient; (2) the patient, either directly or indirectly, gives consent; (3) the clinician performs, at a minimum, a simple evaluation of the patient; and (4) the patient acts upon the clinician's evaluation and diagnosis. When these criteria are met, some case law supports the position that a clinician-patient relationship can be established by means the telephone.

Therefore, if the electronic interactions of cybermedicine meet these criteria, a clinician-patient relationship and the duties that attend it could also be established. At this time, however, it remains unclear about what counts as an evaluation and adequate consent in the various applications of cybermedicine. Moreover, assuming that standards for evaluation and consent are established, there is no clearly identified threshold for determining when a patient has acted

upon a clinician's evaluation. These are difficult issues to resolve in many areas of healthcare, but they become more difficult to resolve in cybermedicine.

In cases that involve consultations, at least one clinician-patient relationship has already been established. Two kinds of consultations--formal and informal--are recognized. With formal consultations, clinicians may have access to the patient's medical record and may give advice to the attending clinician about the diagnosis and treatment of a specific patient. In situations like this, the consulting clinician not only bills the patient for services rendered but also has a relationship with the patient and a legal duty to provide competent medical advice and treatment to the patient. With informal consultations, consulting and attending clinicians informally talk together about a patient's medical history and condition, but the patient's identity is typically unknown to the consulting clinician and no fees are charged. In situations like this, no clinician-patient relationship is considered to exist between the patient and consulting clinician and, thereby, no duties of care are legally binding (Kane and Sands 1998; Kuszler 1999).

The problem, however, is that cybermedicine further obscures an already less than clear distinction between formal and informal consultations and may lower the legal threshold for the establishment of a relationship between a consulting clinician and a patient. With the enhanced ability to transmit records and diagnostic images, to access medical websites, and to engage in e-mail and videoconferencing, barriers of time and distance are less burdensome in cybermedicine. This is likely to facilitate the transmission of more information to consultants, prompting more formal consultations and a decreasing likelihood of informal consults. But, the conditions under which informal consults become formal consults and the specific responsibilities that consulting clinicians will have to patients in cybermedicine have yet to be specified.

As discussed above, many of the economic and technical obstacles to e-health are in the process of being overcome. Guidelines and standards of care have been and continue to be established for particular applications of e-health. In all likelihood, these ethico-legal issues will be worked out in a relatively short period of time. Moreover, of the handful of studies evaluating patient satisfaction with Internet-based healthcare services, patients consistently report that they like the convenience of e-health services. Patients are less concerned than clinicians about malpractice and reimbursement issues (Eng and Gustafson 1999).

Also, when we consider the long history of paternalism within the clinician-patient relationship

and problems of healthcare access and allocation, cybermedicine, rather than a threat, can be seen as an opportunity to reshape the clinician-patient relationship and the duties that flow from it. In doing so, patients may gain more control and more options in how, when, and from whom they receive healthcare services and information. Therefore, to draw the conclusion that online healthcare undermines the clinician-patient relationship would be premature at this time.

Concerns about Interpersonal Factors

But even if we assume no ambiguities in clinician duties and standards of care for cybermedicine, there are concerns that physical separation and electronically mediated communications will make the establishment of emotional connections between patients and clinicians more difficult. Some believe, for example, that cybermedicine will make clinicians less adept at understanding their patients' experiences of living with illness and dying from disease. This, in turn, could make it more difficult for patients to have confidence and trust in their relationships with clinicians (Kaplan, Greenfield et al. 1989; Darkins 1996).

Second, since clinicians will have reduced or no physical contact with their patients in some applications of cybermedicine, some fear that the autonomy and well being of patients may be undermined. By means of cybermedicine, it is possible that the subjective experiences of patients may be minimized in favor of greater amounts of quantifiable and objective physiologic data that has been transmitted over the Internet by telemetry-capable medical devices. If this happens, then it is possible that clinicians will inadvertently dehumanize their patients by reducing them to data set objects and fail to include patients in decision-making processes about patient care (Marckmann 1999).

By depending more on abstract information about patients and less on direct communications with patients, cybermedicine may modify the level of interconnectedness that exists between patients and clinicians. Interconnectedness refers to the experiences people have when there are changes in their social relationships. For social theorists, interconnectedness means an increase in the number of relationships and frequency of contacts that people have, but a decrease in the depth of these relationships (Schement and Curtis 1995). Similar notions about the quality of social relationships are expressed in the theory of social presence, which stipulates that social presence is the feeling one has that other persons are involved in a communication exchange. The degree of social presence in an

interaction is determined by the communication medium: the fewer channels or codes available within a medium, the less attention that will be given by the user to the presence of other participants. As social presence declines, messages become more impersonal and task oriented (Walther 1995).

Assuming these theories are accurate, the primary goal of many electronically mediated relationships may turn out to be neither the person nor the relationship, but the information. If the Internet turns out to be a tool used by clinicians more for information gathering rather than relationship building, then clinician-patient relationships in which empathy and compassion are central may be difficult to establish and to cultivate. For example, by concealing the subtle emotive cues expressed in one's tone of voice, e-mail may turn out to be overly mechanical and impersonal when compared to face-to-face communication. Thus, e-mail and chat rooms may be a poor means for developing or maintaining empathetic communication between patients and clinicians.

There are also other problems with e-health that may have negative consequences for clinician-patient relationships. For example, for clinicians who do not regularly check their e-mail, e-mail may be inadequate for time-sensitive information that is crucial to the health and well being of patients (Kane and Sands 1998; Eng and Gustafson 1999). Moreover, many electronic transmissions remain unsecured by means of encryption technology and websites often have the ability to track users by means of cookies and other mechanisms. If e-mail happens to contain identifiable health information, it may be possible to link to specific patients. E-mail can also be stored as part of the patient's electronic medical record.

Patients often remain unaware of these practices and do not have the opportunity to refuse or to self-sensor their e-mail communications (Norton, Lindborg et al. 1993; Rosoff 1999). Patients and consumers should be told of these practices and possible risks to their privacy and confidentiality (Wear 1993; Bashshur, Sanders et al. 1997). If not, clinicians and health plans that offer cybermedicine services run the risk of losing the trust of the public. If patients and consumers lack an adequate understanding of the limitations and strengths of cybermedicine, it is highly unlikely that effective clinician-patient relationships will be possible.

Furthermore, as consumers obtain more of their health information from websites and online support groups, the role of the clinician as a central source of health information is likely to be diminished. In some instances, patients will have more information than their clinicians about specific conditions and

treatments, leading some patients to question the authority and expertise of clinicians (Eysenbach, Diepgen et al. 1999). But, easier access to health information is not the same as having healthcare knowledge. This distinction is important because health information derived from some online sources may not be accurate and reliable. Thus, cybermedicine may not only undermine interpersonal relations and lead patients and consumers to question the authority of clinicians; it may simultaneously provide patients with erroneous and harmful health information (Eysenbach and Diepgen 1998).

E-mail, consumer health websites, and telemedical services may pose risks to the interpersonal aspects of the clinician-patient relationship, but they also offer some potential benefits as well. For example, e-mail can allow patients and clinicians to transmit very detailed and specific medical information to each other that is difficult to do verbally, whether face-to-face or over the telephone (Mandel, Kohane et al. 1998). It may also allow clinicians to provide social support more easily to patients and for patients and clinicians to keep each other informed of treatment progress and complications. The use of e-mail and health information websites may prove especially useful for geographically remote or disabled patients who do not have the time, money, or ability to travel long distances for healthcare services (Kellerman 1993). A number of studies have already established that more and better information exchange can lead to better treatment measures by clinicians and compliance by patients. Therefore, because cybermedicine can improve the flow of information, it has significant potential to improve patient health outcomes (Hersey, Matheson et al. 1997; Grohol 2000).

Online Psychotherapy

Illustrative of the above concerns is online psychotherapy (Sleek 1999). First, much of the success of psychotherapy depends on the ability of a therapist to "read" the non-verbal communications of their patients. This skill is often essential for making accurate diagnoses and in formulating effective treatment strategies for patients. Without non-verbal cues, it is less likely that online therapists will be able to do this well. Moreover, it is less likely that they will feel and be able to convey empathy toward their geographically remote patients. Physical separation may also involve emotional separation between patients and therapists. This is not ideal for those patients who already suffer from depression and feelings of alienation. In an extreme scenario, not only will clinicians be unable to empathize with their patients; they may be unable to ascertain their patient's identity when psychotherapeutic

interventions are limited to text-based e-mail (Shapiro and Schulman 1996).

Online psychotherapy poses risk to clinician-patient relationships, but it also provides some potential benefits that should not be ignored. In addition to convenience, online therapists can screen persons who may benefit from in-person mental health services. Online psychotherapy also permits patients more time for thoughtful communications with their clinicians through asynchronous e-mail communication, allowing the depth of disclosure to be improved by patients who feel inhibited in a face-to-face situations (Zarr 1994; Maheu 2000).

In support of the beneficial consequences of cybermedicine, an expanding body of empirical research consistently shows that patients are generally satisfied with telemedical services (Tang and Isaacs 1993). In a recent pilot study of home telemedicine by the Mayo Clinic, for example, researchers assessed the attitudes of 20 patients of a retirement community for a period of eight weeks in 1998 (Bratton and Cody 2000). Of the 20 participants, 18 completed the survey on the project and 11 of them were comfortable operating a telemedicine work unit that included telemetry-capable medical devices and e-mail. More importantly, this study found that 17 of the 18 patients thought that computer-mediated interaction with clinicians did not harm clinician-patient relationships. In fact, 11 of the 18 patients stated that the Internet and computer-mediated communication enhanced their relationship with their clinician.

HIPAA and the Clinician-Patient Relationship

A legislative development that will have implications for the clinician-patient relationships of cybermedicine is the Health Insurance Portability and Accountability Act of 1996 (HIPAA), which provides the first comprehensive federal protection for the privacy of identifiable health information. If enacted in its current form, the final regulation will cover (1) health plans, (2) healthcare clearinghouses, and (3) healthcare providers who conduct certain financial and administrative transactions (e.g., electronic billing and funds transfers) electronically. In addition, HIPAA will indirectly apply to (4) the business associates of covered entities who have been contracted to receive individually identifiable health information for such things as billing, utilization review, and other health operations functions.

If enacted in its current form, HIPAA will give new rights to patients and impose new obligations on clinicians that will alter the way clinicians and patients interact with each other. First, HIPAA requires that all individually identifiable health information held or disclosed by a covered entity-

whether electronic, paper, or oral--be stored and transmitted using specified security measures such as passwords, electronic signatures and encryption technology. This means that clinicians who make use of computerized databases and electronically transmit identifiable health information will need to be familiar with these technologies and responsible for their proper functioning. If proper security measures are not employed, clinicians could be held legally at a fault.

Second, under HIPAA, covered entities are prevented from disclosing any health information that could reasonably be used to identify the subject of the information. HIPAA requires covered entities to obtain the informed consent before identifiable patient information is transmitted or communicated and to make every effort to limit the use, disclosure of, and request for such information (Lumpkin 2000). This means that clinicians will need to obtain written consent from their patient each time and before identifiable health information can be disclosed.

Third, in addition to placing more demands on clinicians, HIPAA will allow consumers greater control over their health information because it allows them to access, to review, and if needed, update or amend their medical records. In the context of cybermedicine, individuals would likely have electronic access to their records. HIPAA also obligates covered entities to provide individuals with updates that detail most releases of identifiable health information for purposes other than treatment. In fulfilling these obligations, clinicians who practice online will be required to provide their patients with privacy notices that details such things as who is covered, security measures employed, contact information, and instructions for filing a complaint. The overall effect of HIPAA on the clinician-patient relationships of cybermedicine is difficult to determine at this time. There are, however, reasons to believe that consumer control over their health records will increase and that clinicians will have greater legal responsibilities in making personal information available to their patients.

Economics and Cybermedicine

There are a number of concerns about how the economics of cybermedicine will affect clinician-patient relationships. First, there are concerns that if cybermedicine proves to be cost-effective, managed care organizations and health plans, as a way to save money, will require patients to be screened online before gaining in-person access to clinicians or to a specialist, or that patients will be monitored remotely rather than receiving in-person care (Baur and Deering 2000; McGee 2000).

Under clinically appropriate conditions, this may be ethically appropriate. But if economic considerations override what is clinically appropriate and/or comfortable for patients, the use of cybermedicine could be seen as something ethically inappropriate. Before such a scenario could arise, however, reimbursement for online screenings would need to be well established. As of today, this is not the case. There is, however, always the chance that cybermedicine may actually increase healthcare utilization as more people gain access to clinicians and healthcare information via the Internet. This, in turn, could result in greater overall costs to health plans, managed care organizations, and to society at large. In other words, cybermedicine could fall prey to the technological imperative typical of the healthcare industry--if you have the technology, use it regardless of the costs.

Second, advertisers, including, for example, the pharmaceutical industry, medical device companies, and national drug store chains support health information websites, especially the for-profit sites. This development within cybermedicine threatens to obscure the line between e-health and e-commerce and raises concerns about (1) direct-to-consumer advertising and (2) clinician conflicts of interests. In some cases, for example, while searching for information about depression or anxiety, consumers can click links that bring them to the home pages of the companies that produce and distribute specific brands of antidepressants and anxiolytics. In other cases, some health websites endorse hospitals that pay a fee without any indication of a particular hospital's quality or track record (McGee 2000). Moreover, in both the aforementioned cases, clinicians may have financial interests in the success of health websites and the products and hospitals advertised on them.

In an effort to maintain a distinction between e-commerce and e-health, health information websites and various organizations are in the process of establishing ethical guidelines, dealing with issues such as privacy, informed consent, the reliability of healthcare information, and commercial advertising (Boulding 2000). Between 1996 and 2000, four private sector groups proposed ethics guidelines for health websites, specifically addressing advertising and the content of health information websites. In addition, the American Telemedicine Association and the American Medical Informatics Association have established their own ethical and clinical guidelines for healthcare websites, the use of health-related e-mail communication, and various telemedical services such as home-based telemedicine (Bauer 2001).

Ethical guidelines for health websites and telemedical services are useful, but they are not a panacea for cybermedicine. For one thing, there remains a lack of consensus on the fundamental elements of the various ethics guidelines. In many instances, direct comparisons among ethics guidelines are not possible because they do not use the same language to describe their principles or commitments. Second, even if a consensus were obtained, it is not at all clear how these guidelines would be enforced since they are voluntary and not legally binding. Finally, the implementation of online codes of ethics requires technical, economic, and human resources that smaller health websites probably do not have and cannot afford. Ironically, rather than helping consumers, codes of ethics may do more to help powerful health websites that are sponsored by big pharmaceutical companies to eliminate their competition, thereby, giving consumers fewer cybermedicine options (McGee 2000).

More recently, the World Health Organization proposed the creation of a ".health" domain to join the small group of Internet top-level domains such as ".com," ".edu," and ".org" in an effort to control the quality of online health information and to help consumers and clinicians locate quality health websites. Unfortunately, this proposal was rejected primarily because individual organizations and commercial health websites want to maintain control over their websites without external intervention. If the WHO's proposal had been accepted, commercial and non-commercial health websites would have been more easily distinguishable and concerns about conflicting ethics guidelines and enforcement would have become less problematic.

At this time, however, it would be premature to draw a conclusion about the impact of codes of ethics for cybermedicine. On one hand, these measures may help to protect consumers from online quackery and guarantee the quality and reliability of online health information and services. As more is done to minimize the risks to privacy and confidentiality, cybermedicine may become more popular with patients and clinicians. On the other hand, codes of ethics for cybermedicine may simply turn out to be a smoke screen that promotes the economic self-interest of large for-profit websites and further obscures the distinction between e-health and e-commerce.

The information Age and the Clinician-Patient Relationship

As discussed, concerns about the possible implications of cybermedicine for the clinician-patient relationship have emerged. However,

questions about the risks and benefits of telecommunications technology in healthcare are not new. As early as the 1880s, for example, some physicians were lamenting the use of telephones to communicate with their patients. They were concerned that geographical distance and the lack of a hands-on approach would undermine their relationship with patients and their ability to care adequately for them (Field 1996). Cybermedicine is only the most recent development in this long history of change within the clinician-patient relationship.

Until very late in medicine's history, the clinician-patient relationship was characterized by a substantial imbalance of power between patients and clinicians. Clinicians, especially doctors, have had more control and authority than their patients have. This arrangement has permitted clinicians to have a dominant and active role while patients have had a subordinate and passive role in the clinician-patient relationship and healthcare decision-making. The unequal distribution of power within the clinician-patient relationship is predominately a consequence of the information and expertise clinicians have but patients lack and need in order to get well and to feel better. Of course, imbalances in medical knowledge and power still exist within contemporary clinician-patient relationships, but they are considerably less pronounced as they once were as a result of a better educated public and a greater dissemination of health information to that public.

The gradual realignment of power within the clinician-patient relationship can be conceptualized in terms of convergent social, economic, and technological forces that began with the process of industrialization. This process of industrialization continues today in the form of a telecommunications revolution that promotes social relations across the globe, moves social life away from traditional practices, and features the progressive use of knowledge to organize and transform society. We now live in an information age that makes medical science and healthcare information increasingly accessible to laypersons. This situation, along with the desire of modern individuals to be in control of their lives, points towards a modification in the clinician-patient relationship away from paternalism toward greater equality. The net effect of these changes is that the power and prestige of clinicians have been incrementally cut away, producing more equal interactions between patients and clinicians (Cockerham 1993).

Cybermedicine can be understood as an elaboration of the democratizing potential of the information age that is reshaping healthcare social practices, healthcare delivery modes, and clinician-patient relationships. First, patients now have the

opportunity to access online medical information about diseases and treatments. In many instances, patients have access to the same medical information that clinicians do and can even obtain specific information about their doctor. Although too much medical information that is poorly understood can be as dangerous as having too little or inaccurate medical information, more accurate medical information often produces better informed patients, giving them more power in decision-making and in the selection of clinicians. As discussed, e-health allows patients to share their experiences of which treatments worked and failed and of which clinicians they liked and disliked. Patients can engage in real "consumer reports" about their healthcare services and clinicians.

Second, as a result of a better-informed public and the unprecedented increase in the production of information and knowledge in the past century, there is greater skepticism toward those who are in positions of power and authority. Clinicians have not been exempted from this skepticism. Through education and the mass media, scientific knowledge, medical practices and the reality of healthcare culture have been demystified to a great extent. Subsequently, patients have increasingly desired to have more control over their healthcare and to be more active participants in the clinician-patient relationship.

But, while today's patient has easier access to more healthcare information, today's clinician has mastery over a relatively smaller body healthcare information. The reason for this is that the exponential growth in medical knowledge and technology has required clinicians to specialize and to practice in narrower and narrower sub-fields. There is simply too much medical information for any one clinician to comprehend, much less read. Clinicians remain powerful vis-à-vis patients, but more medical knowledge and the need for medical specialization have contributed to a diminution in the power and authority of individual clinicians.

The potential synergistic effect of these trends on clinician-patient relationships is a further transition from clinician paternalism to a greater equality between patients and clinicians. Clinicians may have less control in managing health information and their patients' illnesses, whereas patients may have more information and more self-care responsibilities. As more Internet-based telemedical services are developed, it may be possible for patients to receive more of their healthcare services outside hospitals and clinics. If this happens, patients might gain a better understanding of healthcare culture, technology and procedures as they take on a more responsibilities in managing their illnesses. As

patients become more familiar with the language, procedures and norms of healthcare, it is unlikely that patients will wish to remain passive recipients of care.

An Ethical Framework for Cybermedicine?

In order to evaluate fully the ethical implications of cybermedicine for the clinician-patient relationship, a normative standard of what constitutes an ethically ideal clinician-patient relationship is required. This, in turn, requires an understanding of the values that structure clinician-patient relationships and various healthcare professions. The significance of selecting an appropriate ethical framework for clinician-patient relationships is emphasized in the following:

Whether the context is an exotic one or nothing more complicated medically than a routine physical exam, the selection of a model for the moral relationship between the professional and the lay communities will be decisive. This is the real framework for medical ethics in a revolutionary age (Veatch 1988, 15).

Cybermedicine, if not exotic, is surely revolutionary. For our purposes, the revolutionary relationships of cybermedicine can be broadly understood in terms of (1) the science and art of healthcare and (2) the distribution of power between clinicians and patients.

The science of healthcare generally refers to standardized clinical practice guidelines, automated procedures, scientific evidence, and the employment of medical technology. As is the case with science generally, the science of healthcare is always changing as new discoveries are made and better techniques emerge. The art of healthcare generally refers to the individual clinical judgements and intuitions of clinicians, as well as the affective or emotional dimension of the clinician-patient relationship (Hanson and Callahan 1999; Kaplan 2000).

Unlike the science of healthcare, the art of healthcare encompasses what some consider the universal and unchanging aspects of the human condition---the experience of being ill, vulnerable, dependent, and healed.

The temptation to employ technology rather than to give oneself as a person in the process of healing is a "technological fix." The technological fix is much easier to conceptualize and to implement than the more difficult process of a truly human

engagement. The training and the skills of modern health professionals overwhelmingly foster the use of technological fixes. By instinct and proclivity, all persons in modern civilization are tempted by technical rather than personal solutions to problems (Pellegrino and Thomasma 1993, 124).

On this view, then, when the art of healthcare is practiced well, clinicians should be able to genuinely feel and express empathy and compassion for their sick and vulnerable patients. But if the critics turn out to be correct, cybermedicine is likely to place more importance on the science of healthcare than on the art of healthcare. The verdict, however, is out on whether cybermedicine is simply a technological fix, that is, an easy technical "solution" to complex human problems. As discussed above, cybermedicine may improve the continuity of patient care and give patients and clinicians greater opportunities to communicate and to develop relationships than exists in today's healthcare environment.

Clinician-patient relationships can also be understood in terms of the power and authority held by the participants. As alluded to earlier, a paternalistic or priestly approach had been common in clinician-patient relationships until rather late in medicine's history. As a normative model of clinician-patient interaction, the paternalistic or priestly model gives enormous power to clinicians, while diminishing the authority and power of patients (Emmanuel and Emmanuel 1995).

A paternalistic model for clinician-patient relationships in the context of cybermedicine, even if desirable, would be logistically cumbersome and impractical. As more consumers make use of online support groups, receive telemedical care from clinicians, and obtain healthcare information from websites, it is likely that fewer consumers and clinicians will be geographically and temporally centralized. At the same time, more clinicians will need to work in virtual teams that are geographically and temporally de-centralized, lacking, in many instances, any face-to-face interactions with patients and colleagues. Thus, more efforts at coordinating patient care will be needed. This, in turn, will place restrictions on the professional autonomy of clinicians vis-à-vis patients and other clinicians. Patients, on the other hand, will have more information and self-care responsibilities.

Therefore, in light of the economic, social, legislative, and technological forces that are undercutting the paternalism of clinicians, an ethical framework that holds promise for the clinician-patient relationships of cybermedicine is the

engineering or informative model. This model places considerable emphasis on the science of healthcare and on patient autonomy by conceiving of clinicians as technicians who are only responsible for making medical diagnoses, providing therapeutic options, providing medical services, and for delivering accurate and relevant healthcare information to their patients. Under this model, medical paternalism is negligible and the autonomy of patients is considerable. Patient well being is understood in terms of the patient's access to the best medical information and the exercise of his or her autonomy to do as he or she wishes with that information (Veatch 1988).

The informative model has been criticized for minimizing the emotional or affective aspects of the clinician-patient relationship (i.e., the art of healthcare) and is obviously not the optimal framework for all clinician-patient relationships. But, the reality of our current healthcare environment already makes it very difficult for many patients and clinicians to maintain, if not establish, ongoing relationships. Clinicians and patient are not only moral strangers, as Veatch claims, they are complete strangers in greater and greater numbers. This is especially true for those persons who are uninsured or live in health profession shortage areas. There is no opportunity for them to get healthcare services or information, much less a relationship with a healthcare professional. In yet other instances, patients simply want convenient, timely, and accurate health information; they do not want emotional connections with their clinicians. Although not an advocate of the informative model, the following from Veatch is relevant:

The stranger/physician relationship is the norm in urban clinic and hospital outpatient services, student health services, military and veteran's hospitals, as well as tertiary care settings and specialists referrals. Some sense of the growing importance of anonymous contacts can be gleaned from the national and local data (Veatch 1991, 39).

Cybermedicine may increase these "anonymous contacts" between patients and clinicians, but it may also provide patients with more health information and allow clinicians and patients to communicate more efficiently with each other. Given the economic reality of healthcare, the high rate of medical errors, and the unreliability of much of the information on the Internet, an informative model of the clinician-patient relationship, as a normative framework, would be an improvement, not a manifestation of an

unwanted technological fix at the expense of what is truly human (Bero, 1997; Eng and Gustafson 1999).

Conclusion

Before any firm conclusions can be drawn about the specific benefits and burdens of cybermedicine for clinician-patient relationships, more research is required. Moreover, it is unlikely that any general claims can be made about cybermedicine's impact on the clinician-patient relationship. This means that research on cybermedicine will need to be focused on specific applications (e.g., e-mail communication, online support groups, and remote monitoring of patients in their homes). Furthermore, standards and duties of care will need to be clarified in the law and security measures for protecting privacy and confidentiality must be developed and enforced. Also, proposals for developing a ".health" domain may be more useful to consumers than numerous codes of ethics that lack enforcement mechanisms and that appear to do more for the bottom lines of for-profit health websites.

Ideally, all clinician-patient relationships would be governed by empathetic communication producing positive health outcomes for patients. We, however, must be realistic and keep in mind that even without cybermedicine, many of today's so-called clinician-patient relationships are marked by a lack of emotional connections, inadequate exchanges of information, and, at times, unwarranted paternalism. Cybermedicine at least provides opportunities to build strong partnerships between patients and clinicians by giving patients more information and alternatives for support.

At this stage, we need to be cautious about the adoption of cybermedicine; nonetheless, there are good reasons to adopt cybermedicine and to be optimistic about its impact on clinician-patient relationships. Because information is a necessary ingredient for knowledge, and knowledge itself a kind of power, the Internet has the potential to empower patients by facilitating access to health information, health services, and additional psychosocial supports. Unlike any other development in modern healthcare, the Internet and associated telecommunications technology have the potential to make patients less dependent on clinicians and, give them a greater role in healthcare decision-making. If this happens, patients and consumers could have active partnerships with clinicians.

Works Cited

Armstrong, M., Ed. (1998). Telecommunications for health professionals: providing successful distance education and telehealth. New York, Springer Publishing Company.

Bashshur, R., J. Sanders, et al., Eds. (1997). Telemedicine: theory and practice. Springfield, IL, Charles C. Thomas Publisher, LTD.

Bauer, K. (2001). Home-based telemedicine: a survey of ethical issues, Cambridge Quarterly of Healthcare Ethics 10 (2): 137-146.

Baur, C. and M. J. Deering (2000). Proposed frameworks to improve the quality of health web sites, Medscape. 2000.

Bero, L. and A. R. J. (1997). How consumers and policy makers can use systematic reviews for decision making." Annals of Internal Medicine 127: 37-42.

Boulding, M. (2000). Self-regulation: who needs li?" Health Affairs 19(6): 132-139.

Bratton, R. and C. Cody (2000). Telemedicine applications in primary care: a geriatric patient pilot project. Mayo Clinic Proceedings 75: 265-368.

Cockerham, W. (1993). The changing pattern of physician-patient interaction. Sociomedical Perspectives on Patient Care. M. Clair and R. Allman. Lexington, The University Press of Kentucky: 47-57.

Darkins, A. (1996). The management of clinical risks in telemedicine applications. Journal of Telemedicine and Telecare 2: 179-184.

Emmanuel, E. and L. Emmanuel (1995). Four models of the physician-patient relationship. Ethical Issues in Modern Medicine. J. Arras and B. Steinbock. Toronto, Mayfield Publishing Company: 67-77.

Eng, T. and D. Gustafson (1999). Wired for health and well-being: the emergence of interactive health communication. Washington, D.C., Science Panel on Interactive Communication and Health, U.S. Department of Health and Human Services.

Eysenbach, G. and T. Diepgen (1998). Towards quality management of medical information on the internet: evaluation, labeling, and filtering of information." British Medical Journal 317: 1496-1500.

Eysenbach, G., T. Diepgen, et al. (1999). Shopping around the internet today and tomorrow: towards the millenium of cybermedicine. British Medical Journal 319: 1294.

Field, M., Ed. (1996). Telemedicine: a guide to assessing telecommunications in health care. Washington, D.C., National Academy Press.

Freudenheim, M. (2001). Digital doctoring. The New York Times. New York.

Ferguson, T. (2000). Online patient-helpers and physicians working together: a new partnership for high quality health care." British Medical Journal 321: 1129-1132.

Grohol, J. (2000). Best practices in e-therapy: definition & scope of e-therapy, Telehealth.net. 2000.

Hanson, M. and D. Callahan, Eds. (1999). The Goals of Medicine: The Forgotten Issue in Healthcare Reform. Washington, D.C., Georgetown University Press.

Hersey, J., J. Matheson, et al. (1997). Consumer Health Informatics and Patient Decision-Making: Final Report. Rockville, MD, U.S. Department of Health and Human Services, Agency for Health Care Policy Research.

- Hsieh, C. (2000). Latest research reveals that half of physicians interested in using e-mail with patients if reimbursed, *Medem*. 2000.
- Kane, B. and D.Z.Sands (1998). Guidelines for the clinical use of electronic mail with patients. *Journal of the American Medical Association* 5: 104-111.
- Kaplan, B. (2000). Culture counts: how institutional values affect computer use. *MD Computing* 17(1): 23-26.
- Kaplan, S. H., S. Greenfield, et al. (1989). Assessing the effects of physician-patient interactions on the outcomes of chronic disease." *Medical Care* 27: S110-S127.
- Kellerman, A. (1993). *Telecommunications and Geography*. New York, Belhaven Press.
- Kuszler, P. (1999). Telemedicine and the changing face of the doctor-patient relationship. *Health Law News* 13(2): 4, 13.
- Landro, L. (2001). Government is using the web to open medical information to consumers. *The Wall Street Journal*. New York.
- Lashof, J. (1981). Government approaches to the management of medical technology," *Bulletin of the New York Academy of Medicine* 57(1): 36-44.
- Lumpkin, J. (2000). "E-health, HIPAA, and beyond." *Health Affairs* 19(6): 149-151.
- Maheu, M. (2000). Risk management in the re-tooling of healthcare, *telehealthnet.net*. 2000.
- Mandel, K. D., I. S. Kohane, et al. (1998). Electronic patient-physician communication: problems and promise. *Annals of Internal Medicine* 129: 495-500.
- Marckmann, G. (1999). Telemedicine and ethics. *Biomedical Ethics: Newsletter of the European Network for Biomedical Ethics* 4(2): 59-62.
- McClung, H. J., R. D. Murray, et al. (1998). The internet as a source for current patient information. *Pediatrics* 101: 1065.
- McGee, G. (2000). *Economics and net medical ethics*, MSNBC. 2000.
- Norton, S., C. E. Lindborg, et al. (1993). Consent and privacy in telemedicine. *Hawaii Medical Journal* 52(12): 340-341.
- Pellegrino, E. and D. Thomasma (1993). *The Virtues in Medical Practice*. New York, Oxford University Press.
- Rosoff, A. (1999). Informed consent in the electronic age. *American Journal of Law and Medicine* 25(2 & 3): 367-86.
- Sanders, J. and R. Bashshur (1995). Challenges to the implementation of telemedicine. *Telemedicine Journal* 1(2): 115-123.
- Schement, J. R. and T. Curtis (1995). *Tendencies and Tensions of the Information Age: The Production and Distribution of Information in the United States*. New Jersey, Transaction Publishers.
- Shapiro, D. and C. E. Schulman (1996). Ethical and legal issues in e-mail therapy. *Ethics & Behavior* 6(2): 107-124.
- Short, L. and E. Saindon (1998). Telehomecare: rewards and risks. *Caring Magazine* 17(10): 36-40, 42.
- Sleek, S. (1999). Online therapy services raise ethical questions: the internet offers psychology new opportunities and new responsibilities. *APA Monitor* November: 9.
- Stanberry, B. (1998). The legal and ethical aspects of telemedicine. *Journal of Telemedicine and Telecare* 4(Supplement 1): 95-97.
- Tang, J. and E. Isaacs (1993). Why do users like video? *Computer Supported Cooperative Work* 1: 163-196.
- Veatch, R. (1988). *Models for ethical medicine in a revolutionary age*. Bioethics. R. Edwards and G. Graber. Washington, D.C., Harcourt Brace Jovanovich Publishers: 51-55.
- Veatch, R. (1991). *The Patient-Physician Relation: The Patient as Partner, Part 2*. Indianapolis, Indiana University Press.
- Walther, J. B. (1995). Relational aspects of computer-mediated communication: experimental observations over time. *Organization Science* 6(2): 186-203.
- Wear, S. (1993). *Informed Consent: Patient Autonomy and Physician Beneficence within Clinical Medicine*. Boston, Kluwer Academic Publishers.
- Wooton, R. and A. Darkins (1997). Telemedicine and the doctor-patient relationship. *Journal of the Royal College of Physicians* 31(6): 598-599.
- Zarr, M. (1994). Computer-aided psychotherapy: machine helping therapist. *Psychiatric Annals* 24(1): 42-46.