

## *Net Effect: Professional and Ethical Challenges of Medicine Online*

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From computerized medical records to databases of pharmacological interactions and automated provisional EKG readings, the emergence of information technology has significantly altered the practice of medicine. Information technology has been widely used to enhance diagnosis and treatment and to improve communication between providers. The advent of the Internet also brings far-reaching implications for patient–physician communication, challenging physicians, patients, and policymakers to consider its impact on the delivery of medical care and the therapeutic relationship.<sup>2</sup> A new set of practices by patients and physicians is unfolding in cyberspace, ranging from the use of e-mail to communicate between physicians and patients in an existing relationship<sup>3</sup> to one-to-one consultations with an anonymous physician and ongoing online treatment, such as psychotherapy.<sup>4</sup> These practices are emerging in both the for-profit and not-for-profit spheres.<sup>5</sup>

Physicians have begun to incorporate cyber-communication such as e-mail into their practice, providing advice, prescriptions, and information to their patients. Significantly, on some web sites, physicians are advising and treating patients they have never met or examined, responding to unsolicited e-mail requests for medical advice, or offering online medical consultation for a fee.<sup>6</sup> Leading academic medical centers, such as the Cleveland Clinic and Partners Health

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Care now offer second opinions over the Internet, providing their medical opinion to the patient's referring physician to overcome licensing requirements across state lines. On these sites as well as others, physicians examine X rays, medical records, and other clinical data, approximating the practice of long-distance consultation that has traditionally taken place between physicians.<sup>7</sup> Reflecting the diffusion of cybermedicine into daily practice, major insurance plans now reimburse physicians for "e-visits."<sup>8</sup>

No prior analogue exists for certain practices online, including most notoriously, the prescription of medications such as sildenafil (Viagra) and orlistat (Xenical) as well as narcotic medications, provided at sites without a medical history or screening.<sup>9</sup> Psychotherapy online also enters uncharted waters, with a very slim evidence base to determine the benefits or risks of online treatment between a therapist and patient who are strangers to one another. On some sites, patients may seek "live" consultation with physicians but are informed that they are neither receiving medical advice nor entering into a patient-physician relationship. Disease management sites take this new model of "informational consult" one step further, charting patients' current medications and dosing schedules and providing usage instructions from nurses, physicians, and other healthcare professionals.<sup>10</sup>

The term "cybermedicine" has been coined to describe the practice of medicine online, encompassing both new Internet-mediated relationships and cyberpractices within an existing physician-patient relationship.<sup>11</sup> To date, online encounters have been primarily text based, but emerging technologies will provide the platform for visual and audio communication, facilitating medical diagnosis and treatment online, including, for example, wider uses of online consultation and long-distance surgery.<sup>12</sup>

At present, the practice of cybermedicine is growing, with 31% of physicians communicating with patients online,<sup>13</sup> and 90% of patients who use the Internet wishing to communicate with physicians online,<sup>14</sup> raising compelling questions for physicians, for the medical profession, and for public policy. Which interactions should be defined as medical practice for the purposes of regulation by professional organizations and government entities? What are the professional duties that attach to these online relationships, and can care online in new patient-physician relationships meet acceptable standards of in-person medical practice? Finally, what ethical guidelines, legal constraints, and public policies are necessary to protect patients in cyberspace?

### **The Benefits and Challenges of Medicine Online**

The practice of medicine online holds great promise for improving medical care. In its second major report on healthcare quality, the Institute of Medicine (IOM) urged that information technology, including the Internet, should be used to enhance access, inform patients, and improve patient satisfaction. The IOM suggested a new paradigm for the healing relationship, with face-to-face visits during business hours supplemented by e-mail, telemedicine, home monitoring, and links to information that can improve shared decisionmaking and patient self-care.<sup>15</sup>

Even in new patient-physician relationships, medicine online can offer clear benefits to patients, including access to a vast array of medical expertise that

would not otherwise be available to patients who are homebound or in medically underserved areas. It may also provide valuable access to nationally renowned medical experts for individuals with rare diseases who are geographically far from academic medical centers. Online consultation is available round-the-clock from the convenience of the patient's home. Some patients may also value the fact that they can have relative anonymity while consulting on sensitive medical issues.<sup>16</sup>

At the same time, medicine online poses clear risks. On the Internet, patients seek medical advice in a fundamentally new way, obtaining prescriptions or consulting with physicians whom they have not and may never meet. Physicians in turn are providing medical advice and treatment to patients they have never examined and for whom they may have no medical record or even a way to verify the most basic facts about the patient's age, symptoms, and medical condition. Though some general model guidelines have been offered,<sup>17</sup> clear professional standards for medical practice online have not yet emerged, nor is there any effective mechanism to oversee the delivery of medical care delivered across state boundaries that have long provided the framework for assuring quality and enforcing practice standards.

The interaction of physician and patient online, especially when there is no preexisting relationship, presents important and unique professional challenges. In the first instance, the practice of medicine online must be defined and distinguished from the provision of healthcare information. Once a patient-physician relationship is established online, the professional obligations fundamental to the practice of medicine must be satisfied in this new medium.

#### *Defining the Practice of Medicine Online*

Whether the online interaction between physician and patient constitutes the practice of medicine has important implications. If a doctor-patient relationship is established, certain ethical and legal duties follow inexorably, including the duties of care, fidelity, informed consent, and confidentiality. In the absence of a doctor-patient relationship, these legal duties do not apply to the interaction, and accountability for harm is much more difficult to establish and pursue.

The practice of medicine consists of diagnostic evaluation, advice and consultation, or a medical or surgical intervention.<sup>18</sup> In traditional medical practice, several factors establish a patient-physician relationship: implied or express consent by the patient and physician to the relationship, the provision of medical advice, and foreseeable reliance by the patient on advice extended. Creation of a physician-patient relationship does not depend on a particular setting; even medical advice imparted in an informal setting may establish a physician-patient relationship and concomitant legal responsibility. In liability suits, payment for services has provided decisive evidence of the relationship, reflecting agreement between the physician and patient. Like the telephone, the Internet can provide the conduit for advice that constitutes medical practice, although determining when information or advice provided online creates a patient-physician relationship is often more difficult to discern than in traditional practice.<sup>19</sup> Interactive health information as well as "ask the doctor" one-on-one consultations offered to attract traffic on many sites pose novel questions about the demarcation between medical information and advice.

In general, the publication of medical information in a magazine, textbooks, or other context has not been equated with medical practice; the courts have held that publishers do not have a relationship with readers that establishes a legal duty of care and concomitant potential liability.<sup>20</sup> Specifically, court cases have determined that published medical information does not give rise to a reasonable expectation that readers will act in reliance on the information.<sup>21</sup> In addition, in contrast to medical practice that is subject to extensive regulation, the provision of medical information implicates the First Amendment rights of both patients and healthcare professionals and is protected from government intervention by the United States Constitution.<sup>22</sup>

A clear, identifiable line between medical information and practice is critical for patients, physicians, and public policy. As physicians interact with individuals seeking advice and information online, they must understand the scope of their obligations, the requirements for licensure, and the standard of care to which they will be held accountable. Patients in turn must differentiate when they are interacting with physicians as consumers and as patients. From the perspective of public policy and law, two entirely different frameworks govern accountability, privacy, and the duties imposed.

In distinguishing medical practice from medical information online, certain characteristics fundamental to medical practice can provide important guidance: (1) direct or personal communication between patient and physician, (2) the provision of professional judgment tailored to the patient's particular medical circumstances, and (3) closure to the encounter or foreseeable reliance by the patient.

*Direct or personal communication.* Personal or one-on-one communication has traditionally been central to a professional relationship and the assumption of care for the patient, although a physician on call or those consulting with another professional can have or assume responsibility for the patient's care without direct personal contact. On the Internet, however, information posted on a web site, even if highly specific and targeted to patients with a particular medical condition, is unlikely to generate a doctor-patient relationship in the absence of one-on-one or other personal communication that creates a duty to the particular patient.

*Tailored advice.* Medical advice is premised on both diagnostic tests and evaluation as well as information patients provide about their symptoms, medical history, social circumstances, and personal concerns. The extent to which physicians render a professional judgment tailored to particular medical information from and about the patient will be an important factor in determining whether online encounters between patients and physicians constitute medical practice.

*Closure and foreseeable reliance.* The expectation that patients will act in reliance on medical advice is implicit in the physician-patient relationship. If medical information or advice is sufficiently specific that physicians can reasonably foresee that the patient may act in reliance on the information without seeking further medical advice, the encounter will share a critical attribute of medical practice.

In general, consistent with the analysis of traditional medical practice, no single factor will be decisive; a judgment about the existence of a physician–patient relationship online and legal liability will depend on an analysis of the facts of each case. Many web sites contain disclaimers that the consultation with physicians does not constitute medical advice or establish a patient–physician relationship, despite payment for the consultation. These disclaimers will not withstand judicial scrutiny if they fly in the face of the facts of the online encounter between patient and physician.<sup>23</sup> Nor do they meet an acceptable ethical or professional standard for any relationship that crosses the line from information to medical advice. Even when physicians participate on the Internet in providing information, they have an ethical obligation as professionals to assure the accuracy of the information.

*Setting Parameters: Competent Medical Practice and Accountability Online*

Though medicine online holds the promise of expanding access to medical care to far-flung and underserved populations, it should not be allowed to expand access at the expense of creating substandard practice. Medicine online has been furthered, in part, because of its vast potential as a commercial endeavor. Nonetheless, the maxim *caveat emptor*, which may apply to some online enterprises, should not apply to medical interactions online. If a practice would not be acceptable in an in-person encounter, it should not be acceptable online.

*Addressing conflicts of interest.* Physicians have a duty as fiduciaries to act in their patients' best interest and to place patients' interests above their financial gain. In general, however, ethical standards set by the medical profession do not bar conflicts of interest, but instead advise physicians to disclose their financial interests or to ensure that the care provided to patients is not affected by the conflict.<sup>24</sup> Under current practice, physicians generally do not disclose most conflicts. Indeed, the failure to address conflicts adequately in medical practice has been the subject of recent commentary, amidst mounting calls for change from within and outside the profession, including prohibition, mitigation, or disclosure of conflicts of interest by physicians with pharmaceutical companies and device manufacturers.<sup>25</sup> Some legal mandates do exist that address conflicts in medical practice. In some states the courts have held that failure to disclose the conflicts violates physicians' duty to obtain informed consent. More expansively, Federal laws including the anti-kickback and Stark laws,<sup>26</sup> increasingly enforced by government and *qui tam* plaintiffs, prohibit certain conflicts in in-person medical practice and apply equally to medicine online. State laws also bar certain conflicts and incentives in online medical practice.

Industry codes have been developed that seek to address potential conflicts of interests. Codes promulgated by the healthcare industry include, for example, Health on the Net (HON) Foundation<sup>27</sup> and the American Accreditation Health Care Commission (URAC).<sup>28</sup> These industry initiatives are voluntary and relate primarily to information, not medical practice. None addresses disclosure of risks of the medium and delineation of the parameters of the relationship.<sup>29</sup>

With respect to conflicts of interest, the codes of ethics have a varied approach. The HON code does not address conflicts of interest at all, whereas the URAC

standards only require that an organization that has a system for reimbursement or incentives to healthcare providers must implement mechanisms to ensure that consumer healthcare is not compromised. So long as consumer healthcare is not compromised, no disclosure of incentives is necessary.

Disclosure as one mechanism to address conflicts of interest is even more important online than in traditional medical practice because of the lack of transparency of financial relationships and the ease of dissimulation of identities and relationships in cyberspace. On web sites for their own practices, physicians should be held to high standards of disclosure, revealing financial relationships they have related to site content, to sites that they refer patients to, and to services and products the site promotes directly or through links to other sites.

*Meeting the duty of care.* The duty of care is a nonwaivable, core obligation of medical practice, requiring physicians to provide treatment in accord with the standard of care, namely the knowledge, skill, and ability that a reasonably prudent physician would exercise under similar circumstances. The threshold challenge to the profession of medicine is whether online medicine can meet the duty of care that applies to in-person medical practice.

Online medical interactions necessitate a reevaluation of three core elements of the standard of care for in-person medical practice: the capacity of physicians to gather sufficient information online to diagnose and treat the patient appropriately in the absence of a physical examination, the efficacy and quality of communication online, and the importance of physical presence in the clinical encounter.

*Importance of physical examination in the encounter:* Physical examination has traditionally been an essential component of the medical encounter, providing data and an opportunity to observe the patient, identify signs of illness, and develop trust. As part of the physical exam, physicians also routinely assess the patient's ability to understand information, weigh choices, and make a decision to accept or refuse medical treatment. Nonverbal cues such as demeanor and affect are integral to this evaluation, especially for some patients, such as those with psychiatric conditions or impaired cognitive capacity due to neurological disorders.

However, the physical exam is not a required element of all medical encounters. Physicians on call provide medical advice to patients they have not examined. In addition, relying on clinical summaries, radiological films, and laboratory test results, clinicians routinely provide a diagnosis and treatment advice to a referring physician. At the same time, the lack of a physical examination significantly increases the risk of misdiagnosis for many conditions. Moreover, a physical examination is essential to the diagnosis in many cases.

Under what circumstance, then, should the lack of a physical examination in online encounters be acceptable medical practice? In the face of a growing practice of medicine online, professional guidelines are needed to provide clear guidance by specifying the circumstances under which medical care online can meet accepted medical standards without an in-person examination. The American Medical Association has adopted principles on the use of e-mail between patients and physicians<sup>30</sup> and on Internet prescribing that support use of the Internet for communication and to prescribe medications with appropriate



safeguards for established patient–physician relationships, recognizing that in many cases, a physical examination will be needed.<sup>31</sup> Neither the Model Guidelines for Use of the Internet developed by the Federation of State Medical Boards nor the guidelines for online communication developed by the eRisk Working Group, a consortium of professional liability carriers, medical societies, and state licensure board representatives delineate the circumstances under which a physical examination is necessary.<sup>32</sup>

Guidelines for many clinical services will be highly dependent on the area of specialty and the patient’s medical condition.<sup>33</sup> Professional bodies such as the AMA and specialty societies should take the lead in providing concrete, practical guidance for physicians as to the specific conditions under which the lack of a physical examination is acceptable as the standard of care online, recognizing both the potential benefits and harms to patients.

Medicine online also calls for development of distinct practices in information gathering online. For example, a history of present illness and past medical history online must be more thorough to take into account information such as gender, physical disabilities, and other physical symptoms or characteristics that are self-evident in person. Inherent risks in communication online with patients are that the physician will not obtain an adequate history due to lack of appropriate questions or inadequate patient communication and that the patient will not recognize or adequately describe the physical signs of illness. National standards should be developed for taking a patient history online with clear delineation of those conditions for which online communication would be an unacceptable standard of care.

*The quality of online communication:* Studies have consistently shown serious shortcomings in existing patient–physician communication: insufficient information to inform patient consent and self-care, inadequate attention to clues about psychosocial concerns, and lack of expressed empathy.<sup>34</sup> Online communication is ideally suited to address some of these limitations while posing unanswered questions and the risk of exacerbating certain aspects of communication between patients and physicians.

Online communication offers many advantages over the medical visit or telephone, including the fact that it is asynchronous, allowing patients and physicians to communicate at their convenience. E-mail is highly effective for some aspects of care, eliminating the need for some office visits or potentially maximizing time in the visit. Some patients are less embarrassed and more willing to reveal information while communicating online rather than in person. E-mail also generates a written record that patients can use to enhance self-care and compliance with treatment and provides a platform that facilitates a link to information sites recommended by physicians. A patient communicating with a physician in cyberspace may feel that the physician is more accessible and can express concerns without interruption.

At the same time, online communication presents drawbacks that physicians must consider as they practice in this new medium. Significantly, studies show that nonverbal aspects of communication are important to patient satisfaction, trust, and the expression of empathy<sup>35</sup> and may be missed by physicians in an in-person encounter.<sup>36</sup> Certain techniques long relied on by physicians to establish trust, such as shaking hands and laying hands on the patient, are lost in

electronically mediated exchanges. The significance of relinquishing this physical contact is uncertain.

Moreover, without visual or audio contact, nonverbal and some verbal cues are lost, including the patient's tone of voice, hesitation in speaking, and visual signs of emotional and physical distress. In many cases, it will be more difficult for a physician to evaluate the patient's understanding of the medical problem, and the patient's confidence and comfort with medical decisionmaking. The psychological and emotional underpinnings and factors of disease may also be harder to identify in e-mail communication. Nonverbal cues can also enable physicians to determine whether the patient is giving false information purposely, such as patients who may be drug-seeking. Finally, online communication may be too "thin" a medium for dialogue about complex decisions that require the patient to weigh the risks and benefits of multiple treatment modalities. E-mail also seems poorly suited to convey distressing information, especially between patients and physicians who have never met in person.

Research is needed to determine which aspects of communication essential to convey compassion, engender patient trust, and address patient expectations are attenuated or lost in online medical encounters.<sup>37</sup> In particular, research should determine whether and how physicians can use text online to express empathy and detect cues from patients by their written comments of concerns that might be missed in person. Systematic research about online communication and physician training should focus on both the limits of this new medium in the dialogue between patients and physicians and the opportunities presented to strengthen patient satisfaction and trust.

*Physician identity:* The ability of the patient to know the identity of the practitioner is a given element of in-person practice. Practitioners would hardly be able to practice anonymously in person, but physicians can provide advice anonymously online. Anonymity is not acceptable for in-person practice and should not be acceptable online. Anonymity flies in the face of the duty of care, accountability, and human interaction intrinsic to medical practice. Given the lack of transparency and complexity of identifying physicians online, disclosure is also essential to public trust. Just as physicians are identified in medical practice, whether at their offices or in large institutions, so they should be identified online. In addition to basic information about identity, other information should be routinely disclosed, including professional licensure, board certification, education, training, experience, and professional privileges and affiliations. Moreover, physicians who see patients in person have an affirmative duty to refer patients as needed for additional treatment and to provide essential information, such as test results, diagnosis, and advice or treatment, to other care providers at the patient's request. This same obligation applies to physician-patient encounters online.

*Informed consent.* Reflecting both the ethical and legal obligations to obtain informed consent, physicians must provide information about the benefits, risks, and alternatives of treatment and assure that the patient's consent is voluntarily and freely given. Online communication can improve some aspects of informed consent by providing a written record of physicians' responses to questions and links to decision support and other information resources. Outside a preexisting



relationship, however, online communication may complicate the determination of decisionmaking capacity and the patient's legal right to decide about treatment.

Informed consent should encompass disclosure of the risks, benefits, and alternatives that relate to both the medical treatment and the provision of treatment online. The risks inherent in the medium include the inadvertent disclosure of confidential information to other parties and the fact that information disclosed will be integrated into the medical record. Informed consent should also delineate the parameters and expected duration of the relationship. By design, many online encounters are intended as short-term or one-time interactions. This expectation should be clearly spelled out for the patient in the informed consent process. In addition, physicians and patients should reach an understanding about whether communication will be encrypted, whether certain highly sensitive matters such as HIV will be discussed online, the expected response time to e-mail questions, and the need for patients to communicate by telephone for urgent or emergent matters.

*Privacy and confidentiality.* To date, concerns of both patients and physicians about the confidentiality of medical information online have been a major barrier to Internet communication between patients and physicians. For example, in a 2007 poll, over half of participants expressed privacy concerns regarding their medical records and information.<sup>38</sup> These concerns will likely increase as the federal government moves forward to establish the National Health Information Network (NHIN), a national system of electronic health records, which will electronically connect all patients' records to healthcare providers, insurers, pharmacies, labs, and claims processors by 2009.<sup>39</sup> To address these concerns, two major health information organizations have issued a joint position statement delineating principles and practices for protected health information confidentiality.<sup>40</sup>

Broad rules imposed by the Health Insurance Portability and Accountability Act (HIPAA) cover patient-physician communication online for medical providers who transmit medical information such as billing, claims, or patient medical records online. Under the Act, among other obligations, providers must give patients notice about the use and disclosure of their health information and seek consent to certain disclosures.<sup>41</sup> HIPAA does not apply to some medical sites, which might provide advice but do not engage in transmission of identifiable patient information. However, because many physician practices use electronic billing and communications between physicians and patients that may contain protected healthcare information, such as identifiable names and health conditions, HIPAA would apply to these communications. HIPAA would also apply to access to online patient medical records.

Best practices would include explicit consent from the patient to engage in online communication, password protection of e-mail access from work or home as well as on portable devices such as laptops or hand-held devices, and limits on extraneous medical detail in communications. Whether HIPAA applies to any particular case, protection of patient privacy remains an ethical obligation of the profession.<sup>42</sup> In short, physicians should not communicate with patients online or participate in sites without meeting accepted ethical standards for patient confidentiality.

## Conclusion

Technology, consumer demand, and practitioner participation are likely to accelerate reliance on the Internet both within and outside an existing patient–physician relationship. We are in the midst of a transformation that offers the potential to enhance care and patient satisfaction but also poses profound challenges for the quality of care delivered online and the relationship of patients and physicians. In light of this transformation, physicians should engage both as individuals and as a profession to adopt professional standards that promote patient interests, the physician–patient relationship, and the integrity of medical practice.

Undoubtedly, the in-person visit will remain essential to the practice of medicine and to the human dimension of medical care. Currently, consumers are using information and connectivity online to supplement, not replace, in-person relationships with their physicians. This may shift as video and audio technology are more broadly disseminated and available for the medical visit. In existing patient–physician relationships, physicians must seek to integrate the new capacities of the Internet into their practice in a way that retains the core values and standards of face-to-face medical practice.

New patient–physician relationships online pose significantly greater risk, requiring careful attention to clinical outcomes, patient trust, and the personal interaction integral to medical practice. Medicine online in this context may be best limited to second opinions or short-term interactions where trust and continuity are less important. Online referrals by physicians through an in-person visit or reliance on an existing physician–patient relationship as a conduit for online advice or a second opinion should be explored as vehicles to ensure accountability and quality. Such arrangements might also address the difficulty of conveying complex information to a patient in the absence of personal contact and communication. Research is needed to delineate the limitations of the Internet as a medium for diagnosis, treatment delivery, and communication.

Finally, motivated by a broad array of financial interests, many third parties are seeking to participate in the online relationships occurring among patients and physicians. Yet, most patients want to connect to their own physicians online, for convenience, for guidance about how to navigate high quality information, and for medical advice. Rather than regard the Internet and health information online as an intrusion on medical practice, physicians should seize it as a tool to drive change in ways that increase efficiency, improve care, and enhance their relationship with their patients. If physicians do not respond to the challenge and opportunity the Internet presents, other stakeholders, who may not have the interests of patients as a priority, are likely to become intermediaries in their relationship with patients online, diminishing the leadership that physicians should play in this transformation in medical practice.

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