Medical professionalism encompasses the conduct and practices of physicians, both as individuals and as a collective organisation. Professionalism enhances the trust and confidence of patients and society in doctors. For a profession that deals with decision making in an environment fraught with medical uncertainty and information asymmetry between the doctor and the patient, a reasonable degree of trust held by patients that medical practitioners will act in their best interests is critical.

But the fiduciary nature of this relationship has come under increasing pressure as the rapid advance in information technology threatens to revolutionise the mode of engagement between patients and doctors, thereby presenting new challenges to the traditional boundaries of the doctor-patient relationship.1

Since the Internet’s official implementation in 1982, and its popular expansion in the 1990s, it has produced a momentous and dramatic effect on culture and commerce.2 The Internet has become a seemingly indispensable part of the modern life, finding its place and application in banking, dining, shopping, vacations, travel, and in maintaining social contact. Electronic mail (e-mail) and the World-Wide-Web (WWW) have revolutionised communication, such that it occurs at a previously unimaginable speed and volume. In recent years, online social networking forums such as Facebook and MySpace have become extremely popular as they raise further possibilities and complexities in how a doctor and patient can communicate.

Although no local data are available, a recent study in the University of Florida, Gainesville, USA suggests that nearly two-thirds (65%) of medical students, as well as a growing number of residents (44%), have a personal profile and regularly use Facebook.3 It is not unexpected, therefore, that such online social networking platforms will soon be adopted and accepted by technology-savvy doctors and patients as a means of engagement.

While information technology in medical practice offers exciting possibilities in improving the effectiveness and efficiency of healthcare delivery systems, concerns have been raised, particularly over the effects on medical professionalism, and integrity of the doctor-patient relationship. Such unease also occurs when medical practitioners participate in online social networking, albeit as individuals external to their professional lives.

The key reservations are mainly in the quality of such e-consultation, as well as its professional and legal implications, and the threat to patient privacy and medical confidentiality. Questions have also been asked about the doctor’s objectivity when engaging patients in such platforms, which can in turn undermine the ability to exercise good professional judgement, honour fiduciary duties, maintain appropriate professional boundaries, and treat patients fairly.

Emails

Healthcare delivery systems in many parts of the world are fast adopting email as a means of sustaining patient-clinician partnerships and facilitating preventive care in patient self-management programmes.4 By avoiding the need to make a physical visit to the clinic for a face-to-face consultation, email communication between doctors and patients may potentially overcome the constraints of space and time, facilitate timely access to care, particularly for those with physical disabilities or those residing in remote places lacking medical services. It may also improve treatment compliance in patients who cannot remember verbal instructions clearly. Email consultation can therefore potentially improve information sharing, enhance the quality of care, and improve efficiency by providing a viable alternative to a personal doctor-patient relationship in a healthcare system that is already “overclocking”.

Apprehension, however, does surround the use of email in clinical engagements, mainly vis-a-vis security risks, which can damage patient privacy and medical confidentiality. Users tend to forget that the Internet does not typically provide a secure medium for transporting confidential information unless parties involved are using high-grade encryption. Studies have shown that security risks are often incurred by users who fail adequately to appreciate the technical limitations and security vulnerabilities of emails systems. Typically they do not adopt necessary security settings that can help safeguard privacy and confidentiality.3,4

Furthermore, medial confidentiality may be breached when emails are sent or forwarded inadvertently by careless users.

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to a wrong or an unintended party.

The other major worry relates to the quality of email as a mode of clinical communication. The absence of a physical examination, and of non-verbal emotive cues from the patient, may increase errors of diagnosis or communication, or both, although video conferencing via the Internet has been suggested as a way to address the limitation. Also, the doctor cannot use touch to convey his empathy and compassion. Physicians can be overwhelmed by the volume of emails, which require time and effort for cognitive processing even before they undergo triage, thereby risking slow responses to messages that might require emergency action. Some clinical judgements can be very challenging. For example, it has been highlighted that in psychiatry, the doctor may have to decide very quickly on the professional, ethical and legal implications of the urgency and manner in which he or she would respond to, say, an email purportedly from a patient expressing suicidal thoughts.

Successful clinical communication by email depends ultimately on a clear and shared understanding by patient and doctor of its role, advantages, limitations and pitfalls. The best way to tackle all the apprehensions is probably not an outright ban on emails in doctor-patient engagement. It may be more constructive to adopt an approach that includes defining boundaries proactively, improving user-knowledge, and implementing practicable guidelines that facilitate email while preserving patient privacy and confidentiality and, more importantly, patient confidence and trust.

The Singapore Medical Council’s ethical guidelines, for example, clearly distinguishes between starting a consultation with a new remote patient over the web, and electronic consultation in the context of providing continuing care to a patient with whom the doctor has an established professional relationship through direct personal contact. The former is deemed inappropriate, while the latter is allowable under defined circumstances.

**Patient Education Websites**

The provision of medical and service-related information via websites can be an effective and efficient means of patient education and empowerment. Professionalism in providing medically-related information to the public depends on recognising patients’ vulnerability (arising from their lack of medical knowledge), and their anxiety that exposes them to misleading information and persuasive influence.

A pivotal point is to steer clear from blatant commercial advertising, as this can mislead patients, undermine trust, and demean the profession. The information should be kept factual and accurate, without any attempt to proclaim the qualities or advantages of a particular practice or practitioner with a clear intent to increase service utilisation. It should also avoid over-promising and sensationalising the benefit of a service, or mongering undue fear for a medical condition among patients and the public.

Textual or visual information that may suggest endorsement for certain brands of drugs or devices, without backing from sound medical evidence, can also mislead and undermine patient trust. In particular, the Singapore Medical Council’s ethical guidelines expressly forbid the posting of contents, including patient testimonials or hyperlinks, which appear to promote or endorse a particular physician, or group of physicians.

**Social Networking**

Online social networking sites such as Facebook and MySpace allow individuals to connect or to build and maintain relationships in cyberspace with others by sharing ideas, activities, events, and interests. In Facebook alone, there are more than 400 million active users, with 50% logging on in any given day, sharing more than 25 billion pieces of content (web links, news stories, blog posts, notes and photo albums).

An Internet tool with such an awesome connectivity and capacity, unsurprisingly gives rise to concerns with its potential impact on medical professionalism, when its active users inevitably include doctors and medical students. In a 2008 study on the frequency and content of online social networking among medical students and residents in a US medical school, researchers made disconcerting observations. Among those surveyed, personal information is readily available on their Facebook account, and many include information that is not usually disclosed in a doctor-patient relationship.

The authors commented that though posting information online is not unprofessional, nor is finding friends, future partners, or associates, their data suggested that medical students and residents may not associate negative professional consequences with their current and future practice of sharing information online that could be misinterpreted by patients or the public. The photo-sharing function of the site was popular and provided a convenient means of accessing friends and family, but some had content that could be interpreted negatively. For example, 70% posted photographs with alcohol, and 10% to 50% of photographs implied excess drinking. Three profiles had unprofessional content readily available, such as drunkenness, overt sexuality, foul language and patient privacy violations.

The professional boundaries of doctor-patient relationships are also blurred, as online friendships with patients may lead to interactions that are extraneous to, and may undermine, the patient-doctor relationship. The treatment interests of the patient may not be well-prioritised, and such online social contacts may also involve potentially problematic
physician self-disclosure. The free sharing of photographs and other highly personal content on social networking sites by either patients or doctors in the context of an online friendship can also unwittingly compromise either party’s privacy. Moreover, privacy and confidentiality can also be inadvertently breached when the doctor discusses the patient’s treatment on the website, leading to legal and social harms such as social stigmatisation, employment discrimination and negative insurability.

Another concern relates to doctors who through participating in online social forums, become privy to information not intended for them as physicians. Depending on the diligence and vigilance of the patient when using an online social networking site, a physician who becomes an “online friend” with patients could discover embarrassing information or compromising photographs of those patients. Guseh et al\textsuperscript{10} cited the example of a physician who unintentionally discovered through Facebook photographs that a patient smokes cigarettes, after he had denied being a smoker in a previous visit. This can raise challenging questions of whether the smoking should be discussed and documented in the patient’s medical records, thus creating an insurance discrimination.

The dilemma may worsen if the patient had not intended the physician to see those photographs. Any reference to or discussion of the finding in a subsequent clinical consultation may risk damaging the therapeutic relationship by offending the patient or violating the patient’s presumption of privacy and trust.

In response, Guseh and his colleagues\textsuperscript{10} wrote the following items of advice, for physicians who are invited to become “online friends” with patients, and who are considering participation in online social forums.

Firstly, they advised physicians against entering into dual relationships with patients. They should not immediately accept an invitation to become an online friend with a patient. The doctor should explain to the patient the professional and therapeutic reasons why a dual relationship may be problematic and unethical. Secondly, to respect patients’ privacy, any private information acquired about them on social networking sites or from other online information sources should not be entered in the patient’s medical record without the patient’s knowledge. Thirdly, doctors should exercise restraint when disclosing personal information on social networking sites or other Internet sites.\textsuperscript{10} Doctors should cautiously choose the content to be displayed and populate their site only with professional information on their services.\textsuperscript{10} Fourthly, the authors urge physicians who use online networking sites not to presume that online forums are used purely for social purposes, as unforeseen breaches of privacy barriers may affect their professional roles and relationships.\textsuperscript{10} They should therefore ensure that presentation of personal information be discreet, conservative privacy settings are adopted. Online interactions with patients are best avoided.

Some have criticised the advice and guidelines as “overly cautious and conservative”, in particular the call for doctors in online networking forums to limit self-disclosure, and provide only professional information even to friends or acquaintances who are known in the non-virtual social life.\textsuperscript{11} However, considering the tremendous power of the Internet tools, we may need the conservative advice of Guseh and colleagues, if we accept the fundamental importance of what is at stake, i.e. medical professionalism.

**Conclusion**

Information technology is merely a tool available for care improvement, and must therefore be used only as a tool, or we will be trapped by the “technological imperative”. New and fast-evolving technologies such as the Internet should not be blindly embraced without knowing their strength and weaknesses. Instead they should be used judiciously to improve healthcare, while preserving medical professionalism through good policies and adequate technical knowledge.\textsuperscript{12} A knee-jerk reaction to reject any new technology or platform that appears to threaten professionalism risks rendering medical practitioners irrelevant. After all, medical professionalism has an imperative to benefit patients by constantly improving the effectiveness and efficiency of care. To this end we need to examine how new technology interacts with professionalism, in order to master it, rather than be enslaved by it.

**REFERENCES**