REFLECTIONS ON TELEMEDICINE, CIRCA 2014

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Abstract
This commentary reflects upon the status of tele-medicine in 2014. The environment is complex, with challenges that include: inadequate reimbursement, the need to assure privacy and security, and restrictions on inter-state US practice. While technological advancements are fueling a burgeoning global telemedicine market, these continue to outpace the development of tele-ethics, regulatory policies, and training programs. Most importantly, consumers have yet to become fully engaged as partners in shaping the future of value-driven tele-medicine.

Keywords: telemedicine; telehealth; tele-ethics; privacy and security; consumers.

Reflections on Telemedicine

On September 12, 1962, John F. Kennedy (United States President, 1961-63) heralded the promise of the nascent US space program. He contextualized its significance within the scope of human knowledge and discovery and observed: “the greater our knowledge increases, the greater our ignorance unfolds.”8 The same might be said about telemedicine’s trajectory since its inception in the 1800’s.

The American Telemedicine Association defines telemedicine as “the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology.” Telemedicine, closely related to eHealth, often incorporates health information technologies such as electronic health records.2

Telemedicine can virtually connect a healthcare provider to a patient any time of the day or night, relieving both of the need for physical travel. Telemedicine can also transcend geography-based work force shortages by connecting specialists to patients and their healthcare providers in remote or underserved settings.

That telemedicine outcomes can be equivalent (or even superior) to traditional health care delivery has been demonstrated to some degree for virtually every medical and rehabilitation specialty. Indeed, the high expectations for telemedicine are heralded in a burgeoning terminology that leads with “tele”: telecardiology, teledermatology, tele-ICU, telenursing, tele-ophthalmology, telepsychiatry, teleradiology, tele-rehabilitation, telestroke, telesurgery, etc. While telemedicine outcomes have been promising, there is still much evidence to gather. Is telepractice always equivalent to traditional in-person care? When might hybrid or in-person approaches be better?

Despite indicators that telemedicine will be transformational and positive, two significant barriers persist in the United States. Reimbursement has not been resolved, and state professional licensure inhibits inter-state telepractice. With few exceptions, a health care provider must hold a professional license in the state in which the provider is located, and, if different, in the state wherein the patient is located. In contrast, multiple state licenses are not required to practice within the pioneering and exemplary US military and Veterans Administration telemedicine systems.3,4

The 2012 European Commission’s document “on the applicability of the existing EU legal framework to telemedicine services,”5 and the “Communication from the Commission to the European Parliament, The Council, the European Economic and Social Committee and the Committee of the Regions,”6 provide legal clarity and advance Europe’s Digital Agenda wherein telemedicine is to be widely deployed by 2020. In contrast, the requirements for telepractice between non-EU countries are variable, ranging between non-regulation and excessive restriction. Both extremes disadvantage patients. The mechanics of consumer protection on an international scale are currently unfathomable given current regulatory and information
infrastructures, but must be addressed if global telemedicine is to achieve full maturity.

Telemedicine also presents challenges concerning the privacy and security of protected health information. The technologies that ensure the highest levels of security are often too expensive for all but the largest institutions. While providers of more affordable Voice over the Internet Protocols (VoIP) often declare that their services are private and secure (e.g., employees uphold patient confidentiality; data is not transmitted to third parties without permission; and users are informed of security breaches), these claims can be difficult to verify.7,8 Telemedicine use could even compromise the privacy of providers. The possibility of patients easily recording their healthcare interactions is not a comfortable thought for many professionals who fear spurious malpractice claims.

Applying the wisdom of President Kennedy, we have much to learn about telemedicine. In many ways, telemedicine’s development appears to be following the templates of current healthcare systems - amplifying both their positive features and flaws. Telemedicine in 2014 seems unsettled, with cautionary signals that the paradigm is immature and even shifting. Even the preferred over-arching nomenclature (e.g., telemedicine, telehealth, telepractice, eHealth, mHealth, etc.) varies between professions. Most universities have not yet instituted telemedicine training programs for healthcare professionals.

Though not often publicly articulated, it seems that telemedicine’s current evolution is highly profit driven. And why wouldn’t it be? BCC Research’s March 1, 2012 report projected: “The global telemedicine market is expected to grow from $9.8 billion in 2010 to $11.6 billion in 2011 and to $27.3 billion in 2016, a compound annual growth rate (CAGR) of 18.6% over the next five years.”9 Profit is not inherently objectionable if patients and societies also benefit; the best telemedicine systems will flourish. Yet, it is not clear what combinations and alliances of constituencies (e.g., industry; professional and trade associations; universities; state and federal legislators; military; healthcare systems; insurers; and/or financial institutions, etc.) will drive telemedicine’s future regulation, access, costs, and quality. What and whose values will prevail as telemedicine continues to evolve?

Who is acutely missing from this scenario? It is ironic that as a “virtual healthcare delivery system” has been developing, consumers have been virtually silent – with many not even “owning” their own electronic health care records. While creating conveniences for consumers, telemedicine may not necessarily expand patients’ choices, nor empower their fullest participation on treatment teams.

What is most concerning about the future of telemedicine? Tele-ethics10 and regulatory policies could continue to be out-paced by technological developments, allowing for disturbing patterns of practice. Telemedicine could be used to “outsource” health care to a distant, less expensive, and potentially less competent labor force that is not culturally attuned to a patient, family, or community. It would be tragic if telemedicine evolved into an insurer mandated “lower cost” health care delivery system, such that non-affluent patients seldom relate in-person to their primary health care providers within their community-based settings. And, while telemedicine should not be used to enable institutions and health care workers to avoid in-person contact with a demographic they consider to be undesirable or stigmatized, that guiding principle is infrequently articulated.

Once again, the wisdom of President John F. Kennedy applies to the current promise of telemedicine,

“We sail on this new sea because there is new knowledge to be gained and new rights to be won, and they must be won and used for the progress of all people.”

Conflict of Interest. The author declares no conflict of interest.

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