

Teleradiology and telemedicine: They are not equal

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Most of us are aware that telemedicine and teleradiology have both been useful for several decades. With respect to patients in Third World countries and in rural areas without ready access to physicians, many feel that the limited access to healthcare provided by telemedicine is better than no access at all, and to some extent they may be correct.

Meanwhile, teleradiology, as a subset of telemedicine, has won widespread acceptance as a way for diagnostic radiologists to interpret images off-site and read films for call coverage. Indeed, it's been estimated that "as much as half of all radiology practices outsource their call."¹

But now, telemedicine is finding a new application: as a convenience measure. Touted as a way to avoid the hassles of waiting to be seen at the doctor's office, some telemedicine companies, for example, claim to offer "a higher standard of care."²

Is it possible to offer a "higher standard of care" without having a physician complete a thorough physical examination? Is this approach ethical in terms of quality and safety for the patient?

The American Telemedicine Association's website suggests there is no great difference in the quality of care delivered via telemedicine versus traditional on-site, in-person care. According to the ATA, "Even in the reimbursement fee structure, there is usually no distinc-

tion made between services provided on site and those provided through telemedicine and often no separate coding required for billing of remote services."³

The fact is that telemedicine-based and in-person exams are not equivalent patient assessments, and they should not be compensated equally. Here's why:

Teleradiology relies on static images obtained from diagnostic imaging departments, where the patient herself is not required to be present for study interpretation, except, for example, in such cases as angiograms, biopsies, or complicated ultrasound scans. With telemedicine, however, a proper medical assessment is not possible without a hands-on clinical evaluation of the patient.

As a result, using telemedicine as a convenience measure risks compromising the quality and safety of patient care, and driving up costs due to clinical errors resulting from gaps in important clinical information that can only be obtained from a traditional patient history and physical examination.

A telephone conversation is simply no substitute for the gold standard of performing a thorough history and physical. If we physicians rely only on taking a patient history over the phone, we may be expected to treat only the symptom and provide a quick fix, rather than getting to the root cause of the patient's symptoms and rendering an accurate diagnosis. Indeed, a face-to-face clinical

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evaluation of every patient should be mandatory before any laboratory work, imaging studies or pharmaceuticals can be ordered by a physician. The potential to harm patients by treating them based on a telephone conversation is significant.

Errors abound in telemedicine

Telemedicine has, in fact, fallen short on many occasions. One study of telemedicine applications in melanoma revealed that greater than 30% of malignant melanomas were misdiagnosed.⁴ The authors stated, “Reliance on these applications, which are not subject to regulatory oversight, in lieu of medical consultation, has the potential to delay the diagnosis of melanoma and to harm users.” Another study of telemedicine revealed flaws in the telemonitoring of elderly patients.⁵ The study showed a four-fold increase in mortality risk in the telemonitored patient group, indicating more harm than good was achieved through this method.

What would Hippocrates think?

Nevertheless, at least one company claims that telemedicine is “more Hippocratic and less bureaucratic,”⁶ since patients don’t need to waste time in the waiting room before seeing their doctors.

On the contrary, Hippocrates himself felt strongly that an accurate physical examination of a patient was crucial to making a diagnosis. In a description of his methods, Hippocrates stated the importance of “a careful history, inspection, palpation, direct auscultation....”⁷ The Hippocratic Oath itself reads, “Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption.” Note the key idea: To make a proper diagnosis, the doctor must “enter

the house” of the patient, or the patient must enter the physician’s. In other words, a quick phone call does not qualify as a true patient evaluation.

Patient history and physical exams are the most important portions of a clinical assessment. Without this information, the wrong radiology examinations, laboratory tests, and pharmaceutical drugs are often ordered, driving up healthcare costs. A push for continued chaos, confusion, and ambiguity in medicine will ultimately drive up healthcare costs for everyone—in more ways than one.

With insurance premiums skyrocketing, patients deserve to be assessed in person and correctly—the first time. Telemedicine should be used only in very limited situations, such as when access to physician care and treatment is impossible. It should not be used for convenience’ sake to replace a true, face-to-face patient history and physical examination.

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