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Telemedicine and the Future of Healthcare for Our Children

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COMMENTARIES

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Telemedicine and the Future of Healthcare for Our Children

In our times, advances in health care parallel those in telecommunications. Headlines of new discoveries in medicine appear on the same page with announcements of cheaper and faster wireless communication and more powerful computers. Despite these remarkable technologic achievements, physician and patient access to the potential benefits these advances offer are limited in our rural areas. Rural doctors often are too busy to keep up with the latest information and technology. When there is a question, patients are asked to travel to a major medical center to see the specialist. It's not unusual then for a patient to be advised that: "You have a simple problem and don't need my expertise," "You don't need to see me," or "You need a referral to another specialist, but they can't see you today." This is inefficient at best and unnecessarily expensive and inconvenient.

Our current technology allows any number of medical specialists to review a patient's record, laboratory tests, and diagnostic images, "see" the patient, "examine" the patient, and offer an opinion without the patient ever leaving the local physician's office. The article by Marcin et al¹ documents the success that this type of program can have for a group of children with special health care needs. Everyone wins. The patients are well-served, and the physicians and parents/guardians are happy. The technology is so good that there is little likelihood of missing something major. When there is doubt or the needed services cannot be provided locally, the patient can be routed to the more appropriate health care provider with greater accuracy and timeliness.

In an ideal world, patients can be seen by their primary care physician for ordinary problems and referred for teleconsultation when a special need arises. Networks from our medical centers can be established to reach out to rural physicians who need little more than a computer with a modem, a telephone line, and an inexpensive video camera. A schedule of specialists can be established so that the rural physician knows when to call in with a particular problem, or, in some settings, a specialist can be "on call" for teleconsultations just as they are currently to field ordinary phone calls.

Although it sounds good, there are a couple of

roadblocks. First, the medical center must have some basic equipment and a coordinator. Willing specialists must be recruited and be on call for teleconsultation. Local physicians must have some basic equipment and knowledge, and patients must be accepting of the concept. Then there's the problem of who pays for these services. Will the third party carriers cover these expenses, and if so, to what extent? And, finally, there's the issue of medical liability. Is the teleconsultant equally liable if he/she misses a diagnosis as he/she would be if the patient were seen in person? These issues must be sorted out before a program ultimately can be successful.

Despite these obstacles, telemedicine has great potential not only in facilitating consultation from specialists in pediatric medicine but in pediatric surgery as well. Experts from around the world can engage in a two-way audiovisual dialogue when a patient presents an unusual problem. Images from endoscopy or the operating room can be broadcast, and the remote expert can even manipulate images and instruments to better serve the patient. Telemedicine most likely will prove to be the most time-efficient and cost-effective means of consultation with medical specialists in the future as the technology continues to advance and provide us with new tools for improving patient care.

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REFERENCES

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The Diagnosis of Appendicitis: An Evolving Paradigm

ABBREVIATIONS. US, ultrasound; CT, computed tomography.

More than 250 000 Americans, 1/4 to 1/3 of which are children, undergo appendectomy annually for the presumptive diagnosis of acute appendicitis.¹ Although appendicitis evidence-based guidelines reduce variability and control costs

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