Telehealth: The Need for Evaluation

This issue of the Journal presents reports of five health care telecommunications projects that span a wide range of methods, applications, and users. One clearly discernible theme joining these projects is the celebration of the technical feasibility of conveying health-related information and direct patient services at a distance. For example, London et al. describe a demonstration project to improve cancer-related communications between a university cancer center and its affiliated community hospitals.[1] Their information system components include use of the World Wide Web to communicate content and eligibility information for cancer clinical trials—an approach shared and expanded upon by Afrin et al., also in an oncology context[2]—and a low-cost teleconsultation system built on commercially available teleconferencing software and Integrated Services Digital Network (ISDN) phone service.

Preliminary data presented for the oncology teleconsultation system point to the intuitively satisfying notion that videophone consultations appear better than voice-only communications among providers. An increase in patient referrals to clinical protocols at the university cancer center is described in the first year of system operation, although a cause-and-effect relationship is uncertain. Appealing as these observations are, there are still difficult, unanswered questions about the use of even the least-expensive two-way video systems used in support of health care provided collaboratively among institutions.

In the case of the university–community network, the authors note that approximately $7,630 would be needed to purchase, equip, and pay annual telecommunications costs for each teleconsultation workstation if acquired solely for this purpose. In a year of operation on their nine workstation system, nine consults occurred, making per-consult costs unusually easy to estimate. Not included in the resource estimates were the labor costs of the time spent by the two interacting physicians and the approximately 30 minutes of staff time needed to gather and convert physical records, including diagnostic images, to electronic form (or to convert electronic information to a form usable by the teleconferencing system) prior to the consult session.

Comparably detailed expense data are not available in the demonstration telemedicine and health information projects described by Lindberg,[3] Balch and Tichenor,[4] and Morris et al.,[5] although evaluations are planned or under way. In an increasingly cost-conscious health care environment, information systems developers will confront blunt questions of comparative economics: If the same resources were applied to the same goal (in the cancer center case, increasing the number and quality of specialty consultations and improving inter-provider relationships) but with entirely different approaches, would more success result? The starkest contrast would be to simply "buy" the allegiance of community providers by nontechnical incentives, such as providing them office personnel support to assist with clinical trials and to promote communications opportunities. In Volume 1, Number 1 of this Journal, members of the Biomedical Library Review Committee of the National Library of Medicine provided guidelines for improving the quality of grant applications in informatics by project plans that support careful evaluation beginning with their earliest design phases.[6] The same methodologies of rigorous evaluation will increasingly be needed to convince chief financial officers of health care organizations that telemedicine systems have a sound business justification as well as intuitive appeal. Whether we will achieve information systems for telemedicine that will not only save lives and advance the state of evidence-based medical practice but also make good economic sense is still an unanswered question in many health care settings, and this is fertile ground for innovation and evaluation.

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■ **J Am Med Inform Assoc.** 1997;4:69–70.

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Correction

An error appeared in the article "Remote Analysis of Physiological Data from Neurosurgical ICU Patients" by Valeriy Nenov and John Klopp (J Am Med Inform Assoc. 1996;3:318–27). The reference to Clinicomp, Inc., San Juan Capistrano, CA, on page 326 should read CliniComp, Intl., San Diego, CA.