

Telemedicine: Extending our Horizons

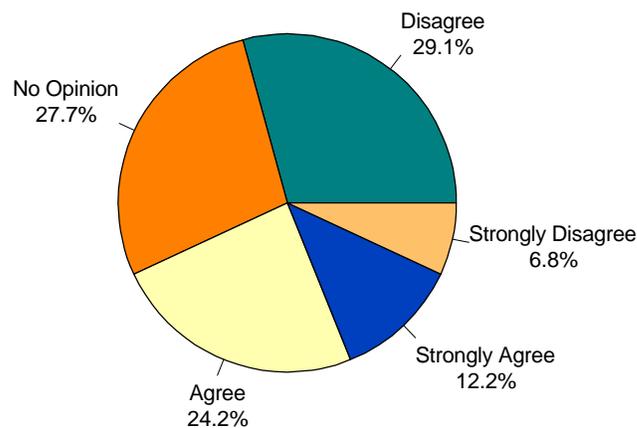
With the explosion of the Internet and electronic applications, "Market reports consistently predict a healthy and steady increase of 15 to 30 percent per year in telemedicine investments over the next five years."¹ Such an increase engenders questions about whether medical training will keep pace with the expanding field. Telemedicine is the use of medical information exchanged from one site to another via electronic communications for the health and education of the patient or health care provider and for the purpose of improving patient care.²

Although Continuing Medical Education (CME) has been the most common way telemedicine is used, available applications of telemedicine are far more diverse. This diversity will likely continue in the future. In August 1999, the AAMC launched a three-round Delphi study, in which 750 medical and medical education professionals were invited to name three ways that information technology and the Internet may change the mission areas of academic medicine by 2010. Among other forecasts, the Delphi study predicts that students will complete the first two years of medical school via the Internet and more sophisticated forms of telemedicine. Though the possible reality of this prediction is many years away, it speaks to the impact that telemedicine will have on medical training and the health field.

According to the 2000 AAMC Medical School Graduation Questionnaire, just over one-third (36.4%) of graduating medical students indicated that they possessed the appropriate knowledge and skills to use a variety of forms

- **About one-third of graduating medical students indicate that they possess the appropriate knowledge and skills to use a variety of forms of telemedicine**
- **Among users of telemedicine, almost one quarter are academic medical centers, while private practice makes up only 10%**

Figure 1: Are Graduating Medical Students' confident about Using a Variety of Forms of Telemedicine



AAMC Medical School Graduation Questionnaire (2000)

of telemedicine (see Figure 1).³ These students are often much more Web-savvy than graduates in previous years, yet these data indicate a need for GME and CME in the area of telemedicine. Fortunately, medical schools, teaching hospitals, and others are rising to meet this need through CME and a few of those programs are featured in this issue.

Telemedicine Training Programs

Texas Tech University Health Sciences Center has the Telemedicine Training Center, where classes are tailored for community leaders and healthcare policy makers, healthcare providers and workers, physicians, and medical students. In a small group setting professionals can develop skills to evaluate their organization's telemedicine needs, build an appropriate system, and manage the delivery of health care via the technology. In addition, information about legal issues and reimbursement policies is also presented. The course also provides a hands-on practicum to allow participants to become familiar with the technology. See <www.ttuhsu.edu/telemedicine> for more information.

Another facility designed to promote CME in this area is the University of Iowa's Telemedicine Resource Center (TRC). The Center was established in 1994 to provide support for project directors and other faculty and staff who are involved in the delivery of health services to remote sites. This support includes on-site training programs and documentation for end-users, coordination of projects and participants at University of Iowa Health Center and remote sites, as well as a host of other services to support telemedicine. See <telemed.medicine.uiowa.edu/TRCDocs/TRC> for more information.

In addition, the East Carolina University School of Medicine began conducting telemedicine consultations in 1992 and to date have completed over 3,000 consultations in 34 different specialties of medicine over its REACH-TV Network. Supporting telemedicine, distance learning and continuing medical education, the REACH-TV Network is made up of a variety of communication links spread out over North Carolina. See www.telemed.med.ecu.edu for more information.

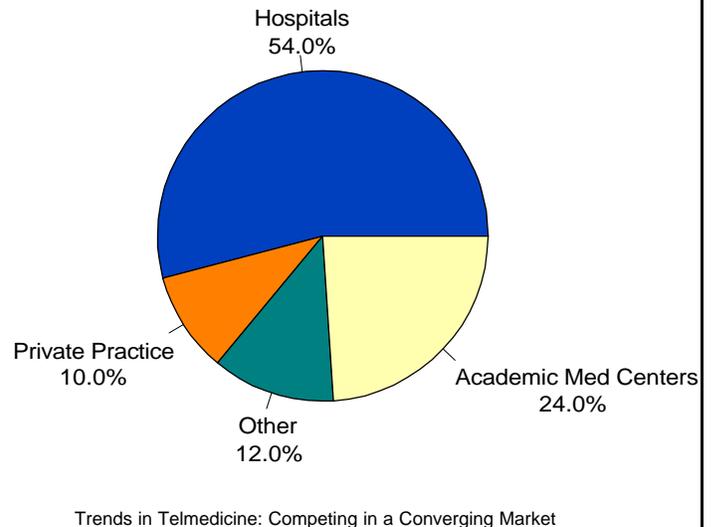
Telemedicine Conferences

CME conferences are also a way to get training in telemedicine. For example, the Georgia Statewide Telemedicine Program Conference is targeted for primary care physicians. The goal of the conference is to promote a collaborative, patient-focused approach to telemedicine in Georgia. This will include enhancing the understanding of how telemedicine facilitates health services availability and delivery, providing information on hot telemedical topics (e.g., reimbursement, risk management, legal issues, and expanding clinical applications), educating participants about telemedicine services and delivery applications, and providing hands-on experience for clinicians. The conference takes place August 3-5, 2000 in Savannah, Georgia. See www.mcg.edu/telemedicine/Conference1.htm for further information.

The American Medical Informatics Association, a non-profit dedicated to the development and application of medical informatics in the support of patient care, teaching, research, and health care administration, has an annual symposium. This year's theme is "Converging Information, Technology, and Health Care." The symposium includes tutorials and workshops, over 250 papers, panels, and demonstrations on health care informatics, and exhibits of innovative health systems and services available in the commercial marketplace. The next conference takes place from November 4-8, 2000 in Los Angeles, CA. For more information see www.amia.org.

Annual conferences, such as the Medicine Meets Virtually Reality Conference, a commercially organized conference that features scholars in academic medicine, are also places to seek CME in the area of technological advancements in medicine and telemedicine. Through lectures and workshops participants discuss innovative tools for medical education, telemedicine, computer assisted surgery, informatics, and mental health. The conferences also allow participants to assess in-person some of the new products in the area of telemedicine and medical technology. The next conference takes place in Newport Beach, CA on January 24-27, 2001. See www.amainc.com for further information.

Figure 2: Where Telemedicine Users Work



Other Information on Telemedicine

There are a number of sites on the Web that may also provide information for those interested in telemedicine.

- The Federal Telemedicine Gateway
<www.tmgateway.org>
- The Department of Defense Telemedicine Website
<www.tatrc.org>
- The National Library of Medicine National Telemedicine Initiative
<www.nlm.nih.gov/research/telemeginit.html>

Conclusion

Although there are opportunities for CME in telemedicine, given the predicted growth in this area, much more training will need to be done in the near future. Arguably this training could be intensified on the undergraduate and graduate medical education levels; thereby lessening the burden on CME programs, increasing research in telemedicine, and solidifying a capable telemedicine workforce.

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References

- ¹ Jonathan D. Linkous, Testimony of the American Telemedicine Association Before the House Committee on Commerce Subcommittee on Telecommunications, Trade, and Consumer Protection, April 11, 2000, Washington, DC.
- ² <<http://www.atmeda.org/whatis/defined.html>>.
- ³ Based on preliminary data as of April 1st, 2000. Medical School Graduation Questionnaire, Association of American Medical Colleges, 2000, Washington, DC.