Challenges and opportunities for the adoption of telemedicine in India

Telemedicine is expected to provide better access to health care, especially in developing countries. One service model that has been investigated involves organizations based in industrialized countries providing free teleconsultation services to health-care personnel in developing countries. The idea is to use the relative surplus of medical knowledge and resources in the industrialized world for the benefit of the majority of patients, who live in the developing world. Several different organizations have adopted this service model including the Swinfen Charitable Trust (SCT), RAFT (Réseau en Afrique Francophone pour la Télémédecine) and medicampus. The utilization rate for these services, however, seems to be much lower than might be expected. It has been estimated for example, that existing telemedicine services meet roughly 0.1% of the potential demand.

Why these services are not widely recognized and adopted, even when provided free of charge to the users, is a matter for conjecture. A number of factors, such as lack of adequate infrastructure, computer literacy and the reluctance of physicians to use telemedicine are barriers to adoption. There is also the possibility that potential referrers in developing countries are simply too busy to use such services.

India in particular seems to be a country where services of this type could prove useful. Three-quarters of the Indian population (about 900 million people) live in remote areas, and health services in general are inadequate for these people. In remote villages, some of the health-care providers have formal training in alternative medicine, some have no formal training but are recognized by the government (i.e. Registered Medical Practitioners), and some have no formal qualifications or government recognition. Many of these practitioners could benefit from clinical and/or educational services provided via telemedicine networks. Some organizations in India, such as the Aravind Hospital, the Indian Space Research Organization and the Sanjay Gandhi Postgraduate Institute of Medical Sciences, as well as individual researchers, have expressed interest in telemedicine, but few programmes have been established and have made a significant and lasting impact.

The utilization of services such as those mentioned is still quite low. It is interesting to speculate why this is the case, when India is a country that could benefit from using these services, and why telemedicine in a more general sense is not being investigated on both small and large scales. In our view there are some additional barriers that may limit the use of these services in the Indian context. These barriers are economics, the effect on the doctor-patient relationship, and the general lack of awareness of these services.

Additional barriers

Economic incentives to use telemedicine are significant, because local clinics are often run as businesses (i.e. for profit) by the medical practitioners. A common source of revenue at these clinics is that they receive a percentage of the fees collected from patients who they have referred to hospitals. In the practice of one of the authors, approximately 15% of the author's income was derived from such fees. This creates a major disincentive for using free telemedicine services such as the SCT, since their use is likely to reduce the rate of referral to hospitals. Consequently there would be a significant loss of income for the physician.

A second barrier is related to the doctor-patient relationship. Patients are used to a physician either being able to treat them immediately, or refer them to a hospital for additional care. A doctor asking an outside network for help (and possibly delaying their care) is not something that patients are used to, and could lead them to believe that a particular doctor is not very knowledgeable or qualified. This could harm the doctor-patient relationship unless the use of teleconsultation was kept secret from patients (which of course would be unethical).

The final barrier is related to awareness of these services. In our experience, the availability of services like the SCT is not well known amongst practitioners in developing countries.

Recommendations

We have two main recommendations that may help increase the use of telemedicine services in the future. The first is to increase awareness of these services among those who might be interested in utilizing them by, for example, bringing guest speakers who use telemedicine services to local meetings, or actively sending them out to rural clinics to demonstrate how such services could work and improve their practices. This could also help to reduce the fear of damaging the doctor-patient relationship by providing clear examples of how and when such services are useful. The second recommendation is to consider the economic structure when increasing awareness. Targeting hospitals that may be interested in using these services during staff shortages for example, or public clinics that do not receive income from referrals, is likely to be
more successful than targeting private clinics where a loss in income could be expected.

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References


4 Medicampus. See http://medicampus.uni-muenster.de/startseite.html (last checked 6 February 2011)


7 Das J, Hammer J. Location, location, location: residence, wealth, and the quality of medical care in Delhi, India. Health Aff (Millwood) 2007;26:w338–51


10 Li J. Making telemedicine effective in rural India. See http://www.futuregov.asia/articles/2009/nov/13/effective-telemedicine-villages/ (last checked 6 February 2011)