

A glimpse into the future

Shima Gyoh eulogises what ought to be possible in most of Africa today



Doctors are in short supply in all African countries, and in each country they tend to be concentrated around medical colleges and teaching hospitals, limiting their services to the environment of these institutions, and to those who have the means of reaching them from anywhere. Equitable distribution of medical manpower poses formidable problems, and high-tech medicine is difficult to decentralise in poor countries. Rural dwellers are consequently underserved. However, advances in technology have made it possible to minimise these disadvantages – through the use of telemedicine.

Telemedicine (eMedicine) refers to the transfer of medical information, through interactive audio-visual media for patient care. Telephone discussion of patients by two health workers by definition represents the simplest form which has been in practice for a long time. The World Health Organization defines telemedicine as *'The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment, and prevention of disease and injuries, research and evaluation, and for continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities.'*

The term telehealth (e-health) covers the use of this technology in all branches of healthcare. The availability of modern telecommunication signals to rural areas of developing countries has opened up vast possibilities for e-health, as can be seen in India and many African countries, but none has developed the system to anywhere near its full potential. It is possible to conduct video conferences between people separated by thousands of kilometres even in different continents. Specialists in city-based teaching hospitals, working in conjunction with primary healthcare workers can now attend to patients thousands of kilometres away in rural clinics, making skilled assistance available to rural inhabitants and saving them troublesome journeys to the cities. A consultant surgeon in a teaching hospital at the state headquarters can safely guide a trainee surgeon through a complex operation in a distant rural hospital.

The equipment for video-conferencing – computers,

video or web cameras, microphones, loudspeakers, video display units like television sets, analogue or digital telephone networks – are all easily available and reasonably affordable. Technological know-how is also available. No country in Africa has any excuse for failing to extend the services of its specialists to rural inhabitants.

On the clinical side, local management of more advanced conditions would reduce the out-of-pocket travel and accommodation expenses that further impede access to quality healthcare by the poor. Complex emergencies that would not survive the long distances and times involved in referral to major centres could be managed by trainees who would be able to dial skilled assistance when needed.

Teaching hospitals need not stay overcrowded with teachers and trainees. Residents would be able to move to rural hospitals for more rapid acquisition of experience and exposure while still receiving hands-on supervision from their teachers. The quality of care would be improved throughout the country, and skills from developed countries could be linked into the health system of developing countries. This would interest African specialists in Diaspora. They often wish to afford their home populations of their skills, but sadly realise that lack of infrastructural development and other socio-politico-economic factors would make it impossible to practise should they return home.

The start can be immediate and simple. Pictures, questions, and answers can be exchanged between institutions by e-mail. A rural hospital can capture its X-ray pictures on a GSM handset and transmit them to a radiologist at the teaching hospital either through the text messaging or by e-mail. The return of the diagnosis can be quick, and if good synchronisation of time is achieved, the pictures can be discussed between the two centres and detailed advice given by telephone. Arm your rural laboratory technicians with a microtome and the necessary stains, and the rural surgeon can similarly obtain the rapid histological diagnosis needed in the management of malignancies. Many other consultations can be similarly done.

The initiative must come from health workers through friendly cooperation and interest in the use of information technology in medicine. It would take root more easily where there is a strong pre-existing robust culture of joint academic activities and referrals so essential for good medical practice.

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