Chapter 69

Enhancing the Reach of Health Care Through Telemedicine:
Status and New Possibilities in Developing Countries

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ABSTRACT

Healthcare sector is now using telemedicine solutions to increase the reach of its services to population. Target areas are highly sparsely distributed devoid of basic amenities which makes the job of Governments difficult. Further people don't have enough disposable income to travel long distances and take preventive health care from urban areas. Problems are uniformly the same across the developing countries. The mindboggling developments in Information and Communication Technologies (ICT) particularly the web based technologies have opened up exciting new possibilities for health care across the world. These developments have evoked significant policy response in developing countries where the quality of health care is poor, resources are scarce and demands have to be immediately met. Telemedicine is gradually coming up as a viable policy option for the Governments in developing countries. This chapter gives an account of the telemedicine initiatives taken in India, describes emerging regional cooperation and its contribution for Sustainable Development Goals.

BACKGROUND

India, with its huge population of more than 1 billion and diverse geography that includes inaccessible hilly regions, tribal areas, deserts, coasts and islands, has long been struggling to provide minimum required health care to the people. The existing healthcare infrastructure is largely urban based. About 75% of health infrastructure, medical man power and other health resources are concentrated in urban areas where 27% of the populations live (Patil et al 2002). Government supported three tier healthcare

delivery system with limited medical experts and resources, is unable to provide healthcare facilities to the rural population (constituting about 70% of India's population).Further, most of the specialists are located in the urban areas and are reluctant to serve in the rural areas due to lack of basic amenities.

Contagious, infectious and waterborne diseases such as *diarrhea, amoebiasis, typhoid, infectious hepatitis, worm infestations, measles, malaria, tuberculosis, whooping cough, respiratory infections, pneumonia and reproductive tract infections* dominate the morbidity pattern, especially in rural areas. However, non-communicable diseases such as *cancer, blindness, mental illness, hypertension, cardio vascular disorders, diabetes, HIV/AIDS, accidents and injuries* are also on the rise (Patil et al, 2002 ; MOHFW, 2016). There is no health insurance policy and the common people are unaware of basic healthcare problems such as sanitation, hygiene, malnutrition, family planning, prevention, and preventive health. As India is struggling with these basic issues, new challenges of chronic diseases mostly cardiovascular illnesses and diabetes are creeping in due to changing life styles. There is growing threat of epidemic of HIV/AIDS, Malaria, Japanese Encephalitis, Chicken guinea etc. Providing healthcare and disease prevention to India's growing population is a challenge in the face of limited resources (MOHFW, 2016).Poor health care systems have adversely affected India's pursuit for Sustainable Development Goals (SDGs) and has significantly lowered important developmental indicators like life expectancy (63 years), infant mortality rate (80/1000 live births), maternal mortality rate (438/100 000 live births).

Why E-Health?

The India's performance on SDGs has to be taken seriously as one sixth of world's poor population lives in India (UN, 2016). Improved health care (SDG-3) for rural poor will directly or indirectly improve our performance on all the SDGs. However with the existing resources, infrastructure and expertise the demand cannot be met. There has to be paradigmatic changes in our policy concerns for the rural health. We have significant research base to conclude that e health is the only immediate solution available to meet the requirement. This is to be done in a holistic way, with a genuine effort to bring the poorest of the population to the centre of the fiscal policies. A paradigm shift from the current 'biomedical model' to a 'socio-cultural model', which should bridge the gaps and improve quality of rural life, is the current need (Patil et al 2002).The telemedicine coincides with worldwide developments of advancement in ICTs, need for continuing medical education, concerns for improved health care and its implications for poverty reduction. The following few developments have necessitated the practice of telemedicine in developing countries.

1.   Increased Availability and Drop in cost of ICTs

Advances in Information and Communication Technologies (ICTs) have unfolded paradigmatically new ways of providing health care at affordable cost particularly for rural and underserved communities in developing countries which have long been confronting with lack of access to health care (World Bank, 2010). Such possibilities can help provide health care in critical situations, give rural practitioners access to specialist support and most importantly break the isolation of rural practice by upgrading their knowledge through tele-education or tele-CME. Developments have sparked interest in developing countries primarily due to increasing availability, utilization and drop in the cost of ICTs (World Bank, 2010).

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