Origin of Telemedicine

Telemedicine can be traced back to the mid to late 19th century with one of the first published accounts occurring in the early 20th century when electrocardiograph data were transmitted over telephone wires. Telemedicine, in its modern form, started in the 1960s in large part driven by the military and space technology sectors, as well as a few individuals using readily available commercial equipment. Examples of early technological milestones in telemedicine include the use of television to facilitate consultations between specialists at a psychiatric institute and general practitioners at a state mental hospital, and the provision of expert medical advice from a major teaching hospital to an airport medical centre.

Recent advancements in, and increasing availability and utilization of, ICTs by the general population have been the biggest drivers of telemedicine over the past decade, rapidly creating new possibilities for health care service and delivery. This has been true for developing countries and underserved areas of industrialized nations. The replacement of analogue forms of communication with digital methods, combined with a rapid drop in the cost of ICTs, have sparked wide interest in the application of telemedicine among health-care providers, and have enabled health care organizations to envision and implement new and more efficient ways of providing care. The introduction and popularization of the Internet has further accelerated the pace of ICT advancements, thereby expanding the scope of telemedicine to encompass Web-based applications (e.g. e-mail, teleconsultations and conferences via the Internet) and multimedia approaches (e.g. digital imagery and video). These advancements have led to the creation of a rich tapestry of telemedicine applications that the world is coming to use.

Case Study of Existing System

The Cochrane Database of Systematic Reviews, Medical Literature Analysis and Retrieval System Online (MEDLINE), Excerpta Medica Database (EMBASE), and Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases were searched from January 1999 to January 2010 using the following search terms: ‘telemedicine’, ‘developing countries’ (medical subject heading terms); and ‘telemedicine’, ‘tele\*medicine’, ‘telehealth’, ‘tele\*health’, ‘developing countr\*’, ‘developing world’ (text words). The literature search further included searching of WHO regional indexes including African Index Medicus (AIM); the Eastern Mediterranean Region Library Network (EMLIBNET); Latin American and Caribbean Health Sciences (LILACS) produced by the Pan American Health Organization (PAHO) Institutional Memory Database; the WHO Library Database (WHOLIS); and the Western Pacific Region Index Medicus (WPRIM) using the WHO Global Health Library platform (www. globalhealthlibrary.net), and hand-searching of the telemedicine journals Journal of Telemedicine and Telecare and Telemedicine Journal and e-Health using terms corresponding to those listed above. It also included a limited search of references from retrieved articles. However, it did not include extended searching of Internet web sites and conference abstracts or contacting authors for unpublished data. Duplicate articles were excluded