Telemedicine in Healthcare Organisations

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INTRODUCTION

Diminishing funds from the government and cost control led many health care providers across the globe to search for alternative and more cost-effective means of providing care (Edelstein, 1999; Neame, 1995). In many cases, this has become necessary for survival (Edelstein, 1999) in order to sustain the increased competition as well amongst health care providers. The business of health care has become so competitive that many small rural hospitals are trying to align themselves with larger tertiary care centres in a community health information network, a telemedicine network, or some other type of partnership in order to survive and to retain their local patients (Huston & Huston, 2000).

Telemedicine means medicine from a distance where distant and dispersed patients are brought closer to their medical providers through the means of telecommunication technologies (Charles, 2000; Noring, 2000; OTA, 1995; Perednia & Allen, 1995; Wayman, 1994). Noring (2000) provided an interesting comparison between the former definition of telemedicine and tele-health, where the term tele-health is defined as expanding the capacity of telemedicine to provide the full continuum of care, from health promotion and disease prevention through curative treatment and terminal care. Tele-health also implies including non-physician based health care providers.

Some researchers even envision telemedicine to be an important building block in the strategic plan of many health care organizations (Charles, 2000). Within these challenges, telemedicine emerges as one possible solution to health providers in reaching out to rural patients (Charles, 2000; Harris, Donaldson & Campbell, 2001), to areas where patient volumes for certain services are limited (Edelstein, 1999), to conduct administrative and clinical meetings, and to conduct different training courses to: patients (smoke treatment centres), doctors, nurses, and other medical staff (Perednia & Allen, 1995; Wayman, 1994).

This research is interested in introducing the concepts underlying the telemedicine technology. The research will highlight the different advantages/disadvantages of this technology, and hence project different motivators and inhibitors to the adoption and use of this innovative technology in health care delivery.

BACKGROUND AND IMPLICATIONS

The first telemedicine initiative emerged in 1959 by employing video conferencing (VC) sessions for medical purposes by using microwave link for telepsychiatry consultations between the Nebraska Psychiatric Institute in Omaha and the State Mental Hospital 112 miles away (Perednia & Allen, 1995). Since then, telemedicine started to grow in different parts in the world. For example, in the late 1980s telemedicine was being used routinely to deliver general health services to remote regions of Norway (Noring, 2000). In the 1990s, telemedicine started to emerge in New Zealand and to be used successfully in Australia. In the United States, interest in telemedicine was initially focused on its use in the military, in space programs, on offshore oilrigs, in prisons, and in rural areas (Noring, 2000).

Telemedicine covers a wide spectrum of benefits through its use in areas such as consultations, diagnostics, therapeutics, transfer of patient related records, case management, training, and meetings. In a rural setting, telemedicine could help health care providers in supplying quality, fast, and economical medical services to rural patients, and hence saves doctors and patients valuable time wasted in commuting large distances. Specialists could utilise this extra time in seeing more patients at the main hospital.

The applications of telemedicine vary from full-motion and interactive video consultations to “store and forward” technologies where static images or audio-video clips are electronically captured, stored, and transmitted to a remote server such as electronic mail (e-mail) using public or private communication channels. The advantage of store-and-forward technology is that it prevents the need for simultaneous availability of the consulting parties. Radiology, dermatology, and pathology are especially suited to a store-and-forward format. Let’s not forget that the earliest form of telemedicine technology was the telephone system, where physicians used to call their patients (e.g., psychiatry) to follow-up a treatment or to check whether they are taking their medicine on time.

However, the telemedicine technology was not successful in its initial stages. Perednia and Allen (1995) reported limited telemedicine growth and pointed to the fact that only few telemedicine projects were instituted in