



Chapter XV

Enabling Electronic Medicine at KiwiCare: The Case of Video Conferencing Adoption for Psychiatry in New Zealand

Nabeel Al Qirim, New Zealand

EXECUTIVE SUMMARY

Telemedicine emerges as a viable solution to New Zealand health providers in reaching out to rural patients, in offering medical services and conducting administrative meetings and training. No research exists about adoption of telemedicine in New Zealand. The purpose of this case study was to explain factors influencing adoption of telemedicine utilizing video conferencing technology (TMVC) within a New Zealand hospital known as KiwiCare. Since TMVC is part of IT, tackling it from within technological innovation literature may assist in providing an insight into its adoption within KiwiCare and into the literature. Findings indicate weak presence of critical assessment into technological innovation factors prior to the adoption decision, thereby leading to its weak utilization. Factors like complexity, compatibility and trialability were not assessed extensively by KiwiCare and would have hindered TMVC adoption. TMVC was mainly assessed according to its relative advantage and to its cost effectiveness along with other facilitating and accelerating factors. This is essential but should be alongside technological and other influencing factors highlighted in the literature.

BACKGROUND

Telemedicine emerges as a viable solution to New Zealand health providers in reaching out to rural patients, in offering medical services and conducting administrative meetings and training. This would improve the cost effectiveness of delivering that service from the standpoint of the institution as well as from the patient's perspective (Wayman, 1994).

All the hospitals in New Zealand are managed by regional organizations known as Health and Hospital Services (HHSs). Some HHSs have one hospital and others have more than one. A survey in the present research found that medical schools in New Zealand were among the early adopters and users of the technology. Out of 23 HHSs in New Zealand, only 12 have actively adopted telemedicine utilizing video conferencing technology (TMVC). The adopted systems ranged between one and four TMVC systems with the majority of HHSs adopting one system only. Those HHSs that adopted one TMVC system use it mostly for general purposes such as managerial meetings, case discussion and occasionally for clinical training. Such initiatives were described as being initial and experimental. Where a HHS owned more than one TMVC system, it was oriented for clinical purposes such as psychiatry, paediatric, dermatology and other medical areas.

Hence, an attempt is made to adopt TMVC to provide prompt and quality medical care even to geographically dispersed patients in different parts of rural areas, which was otherwise not possible or was expensive.

However, despite the rapid growth and high visibility of telemedicine projects in advanced countries like the U.S., relatively few patients are now being seen through telemedicine (Grigsby & Allen, 1997; Perednia & Allen, 1995; Wayman, 1994). A study conducted by Perednia and Allen (1995) found that in almost every telemedicine project in the U.S, tele-consultations accounted for less than 25% of the use of the system. It was mostly used for medical education and administration. The low use of TMVC in clinical activities is violating a principal condition in having it in the first place. The important unresolved issues identified revolve around: (1) how successful the telemedicine can be in providing quality health care at an affordable cost; and (2) whether it is possible to develop a sustainable business model that would maintain profitability over time. This further depends on: (1) clinical expectations, (2) matching technology to medical needs, (3) economic factors like reimbursement, (4) legal concerns (e.g., restrictions of medical practices across state lines, called licensure), (5) social issues (e.g., changing physician behavior and traditional practices and workflow), and (6) organizational factors. Wayman (1994) and Anderson (1997) have endorsed some of the above issues as well. For example, Wayman (1994) pointed to other micro-level implications: many doctors have an aversion to technology; scheduling TMVC encounters with patients represents another burden to clinicians and to technicians; the loss of the one-one-one personal interactions with patients; and patient acceptance to the technology.

The obstacles pointed out by the above results raise concerns about the success of telemedicine as a medical tool. Despite the technological sophistication of the TMVC equipment, it was obvious that its uptake and use specifically in medical areas necessitate addressing organizational, social and environmental factors. Clearly the full potential of the telemedicine technology remains to be realized. Whether this assertion applies to New Zealand HHSs has yet to be identified. Above all, the diminishing funds from the

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