Telehealth in rural Canada

Successes and challenges

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With a growing and rapidly ageing population, Canada continues to face numerous challenges meeting the health care demands of its population. Further complicating the situation is the vast geographic area over which 33 million Canadians are distributed. This has created an urban concentration of medical care and left most rural areas severely underserved. Technology is being increasingly utilized to bridge the gap between what essentially morphed into a two-tiered system of health care: one for rural areas and another for urban ones.1 Chief among the technologies used in this arena is telehealth. Despite the many benefits telehealth offers, there is still some hesitation to adopting the technology on a wide scale in rural Canada.

BACKGROUND

An examination of the role of telehealth in rural Canada is not complete without first elucidating the medical situation in rural areas. A defining feature of health care in rural areas is the physician shortage. It is estimated that close to 1400 additional family physicians are needed to equalize rural and urban physician coverage in Canada. Similarly, rural regions suffer from a severe specialist shortage where only 2.4% of specialists practice in rural areas.2 Other issues plague health care facilities, including the unequal distribution and underservicing of rural facilities.3

Combined, the above factors contribute to unequal access and quality of care for rural residents vis-à-vis residents in metro regions. This is reflected in studies showing worse health outcome measures following episodes of illness, worse general health indicators, and increased unmet health needs in rural areas.4,5

TELEHEALTH

Telehealth is the provision of health care over various geographic distances using communication technology—most notably the internet. Telehealth has been employed to connect physicians with distant patients and provide the latter with specialized medical consultations. This saves the patient the time and cost of travel and ensures faster access to medical advice.

In Canada, telehealth has been used for many decades to varying degrees of adoption and success among provinces. Although telemedicine sessions took place in all provinces in 2010, the highest per-capita penetration was recorded in the Territories, underlining the importance of the technology to rural and northern communities. Close to 100,000 clinical telehealth sessions—about half of all sessions—took place in rural Canada.6

Telehealth is increasingly utilized for a number of purposes, with most teleconferencing sessions conducted primarily for clinical purposes, followed by educational and administrative reasons. There has been an overwhelmingly positive patient response to telemedicine.7 With regard to psychiatric diseases, telemedicine is cost-effective as an alternative to expensive travel to seek specialized medical consultations.8 Overall, it is estimated that telehealth saved the Canadian health care system $55 million in 2010—much of the savings came from decreased inpatient costs, emergency department visits, and transports. In a recent feasibility study in a northern Inuit community, Mendez et al showed that only 40% of the cases that would have required air transport prior to telehealth were transported after the technology’s implementation.9

One area where telemedicine has lent itself easily to clinical applications is psychotherapy. Slightly more than half of clinical telehealth sessions conducted in Canada in 2010 were for mental health and addictions reasons.10 In an extensive review of literature on the topic, Gros et al found that telemedicine produced results similar to those of in-person therapy or counseling.11 Experts’ concerns about the difficulty of patient assessment (e.g., observing tics) did not have a detrimental impact on session outcomes. In some areas of psychotherapy, such as dignity psychotherapy, the ability to deliver care to advanced disease patients in their homes is a particularly important attractive feature of telemedicine.11

Telehealth can also play a role in increasing access to medical education for both medical students and practicing rural physicians. Professional isolation is frequently cited as one of the main challenges to recruiting and retaining physicians in rural areas.12,13 Increasing communication between urban centres of care and rural areas through telehealth can potentially address many of the aspects of perceived professional isolation and remove one obstacle to practicing in rural areas.

COSTS

In recent years, most provinces have introduced billing codes to allow physicians to claim telemedicine services provided under certain conditions. For instance, physicians in Ontario offering telehealth services, once registered and approved, can have their billings processed by the Ontario Health Insurance Plan (OHIP) claims processing system. Certain restrictions, such as those on location and type of service, apply to the claims.14 Similar limitations apply in other provinces such as British Columbia and Manitoba.15

SUCCESSES AND CHALLENGES

Although the use of telehealth has the potential to have a more positive impact on rural medicine, the introduction of change creates some resistance in the beginning. This is shown in a survey of employees of rural hospitals that have adopted new technologies: while 66.7% of polled employees were comfortable with the adoption of information and communication technologies, 15% were still uncomfortable.16 Education on the use of technology may help to overcome this initial apprehension. Important factors shown to influence practitioners’ willingness to adopt technology into their practice include economic ramifica-
tions, efficacy, social pressure, and apprehension. Providers who were initially apprehensive found it useful after it was implemented. For instance, it allowed for monitoring of the patients’ status, including blood pressure. They were initially worried about having less contact with patients through telehealth but found it actually provided opportunities for more frequent contact, the ability to interact with the patients in their own homes by transmission of physiological data directly to the physician, increased service to the underserved, and more timely and accurate medical monitoring of physiological and daily symptomatic information.

Similarly, patients had positive experiences with telehealth. They reported it lessened the burden of travel and taking time away from work, and allowed them to have access to supports such as friends and families since they did not have to travel to another location. It also allowed for a more timely access to health care given the ease of consulting specialists. Thus, telehealth is beneficial to both patient and practitioner.

More research is needed to firmly establish telehealth as a safe alternative to in-person consults. In several studies, telemedicine has emerged as a safe modality for several clinical situations, including minor injuries and providing neurology consults. However, these results need to be carefully interpreted in the context of the small samples used, and future research is expected to further elucidate the long-term outcomes of using telehealth.

**FUTURE**

Despite the challenges, uptake of telehealth continues to rise throughout the country. In recent years, telehealth has experienced an average annual growth of 35% in Canada. At this rate, annual consultations can reach more than 1,000,000 in 5 to 10 years. The estimated cost savings at this level to the Canadian health care system would exceed $700 million.

**CONCLUSIONS**

In conclusion, telehealth can help equalize care delivered throughout Canada. Since Canada is a vast country, it is impossible to have equal access to health care resources universally. Telehealth has allowed patients access to specialist physicians without the need to travel far, making it more convenient for both patients and doctors, and more cost-efficient for the Canadian government. Even though there is some initial apprehension to adopting technology into health care practices for some segments of the population, once it is implemented both practitioners and patients find it more convenient and accessible. With uptake on the rise, telehealth’s role within the Canadian health care system is expected to continue to grow well into the future.

**REFERENCES**