Service providers' experiences of using a telehealth network 12 months after digitisation of a large Australian rural mental health service

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ARTICLE INFO

ABSTRACT

Background: Despite evidence of benefits of telehealth networks in increasing access to, or providing, previously unavailable mental health services, care providers still prefer traditional approaches. For psychiatric assessment, digital technology can offer improvements over analog systems for the technical and, subsequently, the social quality of provider-client interaction. This is in turn expected to support greater provider uptake and enhanced patient benefits.

Objective: Within the framework of Innovation Diffusion Theory, to study service providers' experiences of an existing regional telehealth network for mental health care practice twelve months after digitisation in order to identify the benefits of digital telehealth over an analog system for mental health care purposes in rural Australia.

Methods: Qualitative interviews and focus groups were conducted with over 40 service providers from June to September 2013 in South Australia, ranging from the metropolitan central operations to health providers located up to 600 km away in rural and remote areas of the same state. Participants included rural mental health teams, directors of nursing at rural hospitals, metropolitan-based psychiatrists and registrars, the metropolitan-based mental health team dedicated to rural provider support, rural GPs, administrative staff, and the executive group of the state rural health department. Fieldwork was conducted 12 months after the analog system was digitised. The interview and focus group data were analysed using thematic analysis, focusing on three key areas of innovation diffusion theory: relative advantage, technical complexity and technical compatibility.

Results: Five themes with 11 sub-themes were identified: (1) "Existing Uses", with three sub-themes: current mental health use, use by GPs, and use for staff support; (2) "Relative Advantage", with four sub-themes: improved technical quality, improved clinical practice, time and cost benefits for providers, and improved patient care; (3) "Technical Complexity"; (4) "Technical Compatibility" with two sub-themes: technical-clinical and technical-administrative; and (5) "Broader Organisational Culture", with two sub-themes: organizational policy support and 'digital telehealth' culture.

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Conclusions: The digitised telehealth network was generally well received by providers and adopted into clinical practice. Compared with the previous analog system, staff found advantages in better visual and audio quality, more technical stability with less "drop-out", less time delay to conversations and less confusion for clients. Despite these advantages, providers identified a range of challenges to starting or continuing use and they recommended improvements to increase uptake among mental health service providers and other providers (including GPs), and to clinical uses other than mental health. To further increase uptake and impact of telehealth-mediated mental health care in rural and remote areas, even with a high quality digital system, future research must design innovative care models, consider time and cost incentives for providers to use telehealth, and must focus not only on technical training but also how to best integrate technology with clinical practice and must develop an organization-wide digital telehealth culture.

1. Introduction

This paper reports a project which investigated the experiences of health professionals and administrators regarding the introduction of the digital version of a state-wide telehealth network for providing psychiatric assessment and mental health care to rural and remote areas in Australia. Telehealth is well suited to specialties such as psychiatry that do not require a physical examination [1]. Telehealth is a means of providing healthcare that overcomes physical distance barriers to accessing mental health care services for patients in non-metropolitan areas, thereby potentially reducing disparities in service delivery between urban and rural communities [2] and reducing costs to the health system and consumers by avoiding unnecessary hospitalisations and travel [3]. Mental health care via telehealth can cover service gaps (eg lack of psychiatrists in rural areas), provide urgent services (including pre-admission consultations), more timely access in rural emergency departments, mandated services such as healthcare in prisons, and expansion of multisite clinical discussions [3–6]. 'Store and forward' telehealth with language translation services also makes possible improved access to culturally relevant mental health care [7].

Several large scale implementation telehealth projects for mental health care have been reported. One Canadian demonstration project connecting older adults with a university-related psychogeriatric service improved the referring team's knowledge base and subsequent ability to construct better treatment plans for patients [8]. In Australia, one statewide health department has demonstrated that telehealth can successfully provide emergency mental health care for rural communities [9]. There has been significant progress in developing funding models to accommodate changes to clinical practice caused by telehealth by reimbursements for time and subsidies for infrastructure setup for providers [10,11]. In the US there has been a "spike in interest" and use of telehealth following recent changes to legislation which provides guaranteed payment for providing telehealth services and the anticipated implementation of the Affordable Care Act [6].

Despite advances with telehealth policy and funding models, widespread adoption in healthcare is still underdeveloped [12] and uptake for providing mental health care has been slow. In Australia, only 0.06% of the 14 million psychiatric consultations carried out between July 2002 and June 2011 were through telehealth [11]. This increased to only 1.46% between July 2011 and April 2014 [13]. A wide range of barriers to telehealth adoption exist [14], including financial factors (eg costs of telehealth versus face-to-face consultations), technological issues (eg availability of staff training), human resource issues (eg staff skills), legal and ethical factors (eg liability, confidentiality, data protection, and patient privacy), and culture (eg doctors' expectations regarding face-to-face patient interaction), along with organisational business strategy [10,15]. A recent analysis of telehealth use across Australia shows that federally funded incentives introduced in July 2011 for video consultations did increase uptake, particularly among GPs and for psychiatry and geriatrics [13]. However, uptake overall remains low, with most rural GPs conducting less than one video consultation per month [13].

The main focus related to telehealth has been on reducing demand for health care resources and much less attention has been paid to user experiences of telehealth. Brunton et al. have brought together the perspectives of different users (patients, their carers and health professionals) to identify both positive and negative dimensions of telehealth use [16]. They suggest that telehealth technologies have the potential to be beneficial in health management compared to usual care alone. For example, benefits in relation to chronic obstructive pulmonary disease can include enabling self-care and providing feelings of reassurance and empowerment. However, these advantages can each also be viewed as detrimental (increasing patient dependency, risk, and burden). Some authors suggest that telehealth uptake will expand considerably if younger generations of mental health care professionals and their patients live in an increasingly information-driven and networked world [17]. Nevertheless, others find that telehealth users can feel threatened by the introduction of telehealth as it can bring unwelcome change in clinical routines, increased workload, changed interactions with patients, incompatibility with the fundamentals of face-to-face healthcare work, and requirement for new skills which can marginalise clinical expertise [18].

Research is therefore needed to better understand service provider experiences with telehealth projects, how telehealth use affects clinical practice, and what incentives and motivators providers see for change. Such insights can help design solutions to accelerate uptake of mental health telehealth. This is particularly important for providing mental health care and psychiatric assessments to rural and remote areas in countries such as Australia and Canada which have a significant proportion of their population dispersed over large physical distances. Otherwise, such patients have to travel long distances to metropolitan centres and they are not always in a practical position or appropriate state of health to do this.

1.1. The Digital Telehealth Network in rural and remote South Australia

Telepsychiatry services have been in use since the 1990s in South Australia [19]. Country Health SA (South Australia)'s telehealth services for rural and remote mental health have been operating for approximately 15 years in the form of video consultations over the Integrated Services Digital Network (ISDN), but this provided limited image quality. Country Health SA provides acute health services to over 94,000 people, and a further 175,000 people annually at rural emergency departments through 65 com-