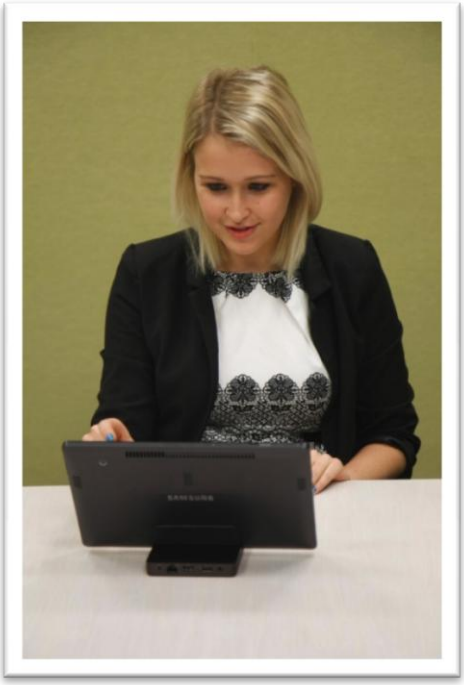

Improving Access to Speech Pathology Services via Telehealth

Submission to the 2014 National Inquiry into the prevalence of different types of speech, language, and communication disorders and speech pathology services in Australia

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Introduction

Telehealth is defined as "the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration" (http://www.hrsa.gov/ruralhealth/about/telehealth/). The term, Telehealth is often used interchangeably with other terms such as telemedicine and telerehabilitation which refer more specifically to the delivery of medical and rehabilitation services, respectively.

The term Telepractice has been adopted by the American Speech-Language-Hearing Association (ASHA) and refers to "the application of telecommunications technology to deliver professional services at a distance by linking clinician to client, or clinician to clinician for assessment, intervention, and/or consultation" (ASHA, 2005. p.1). For the purposes of this submission, however, the term t*elehealth* will be used generically to denote the use of technology to deliver speech pathology services to clients in health and education domains.

Speech pathology services for people with communication and swallowing disorders primarily involve audio-visual interactions. As such, these services can be readily hosted in an online or technology-based environment provided auditory and visual signals can be adequately replicated and transmitted at a distance. The scope for the delivery of speech pathology services via telehealth is broad with the potential to provide valid and cost-effective services to individuals with most types of communication and swallowing disorders.

Why Telehealth?

The need for telehealth delivered services in speech pathology is driven by the ever-increasing cost and demand for health care services and changing social and demographic factors (Theodoros, 2012). Population ageing will have a significant impact on the demand for speech pathology services. By 2030, persons over 80 years of age in Australia will increase by 140% (ABS, 2006). With increasing age, people will live longer with chronic diseases and conditions that may be associated with

communication and swallowing disorders e.g., Parkinson's disease and stroke (Morris et al., 2010). It is likely that older people will remain living in their own homes and communities, even though transport issues will arise as their capacity to drive decreases (Morris et al., 2010). Speech pathology services will need to evolve in order to accommodate these societal changes.

Alternative means of service delivery are also needed to meet the demand for equitable access to speech pathology services. In Australia, 68.7% of the population lives in major cities with the remainder (30%) living in regional and rural/remote areas (ABS, 2011). Previous studies have identified disparities in speech pathology services in rural and regional areas with residents in these areas having access to significantly fewer speech pathologists per head of population than counterparts in urban areas (Lambier & Atherton, 2003; Wilson et al., 2002). A recent review of Regional Development Australia Committee 2010-2011 Regional Plans by the Australian Bureau of Statistics indicated that shortages of health professionals, including speech pathologists continues to be an issue, with difficulties attracting and retaining health professionals in rural and remote areas a key barrier to providing quality health care in these areas (Faulkner et al., 2013).

Equitable access to services is also an issue for those individuals with significant physical and/or communication disability. For these people, the degree of physical, cognitive and emotional effort necessary to attend a face-to-face clinical session may negatively impact on their capacity to benefit from the intervention (Theodoros, 2012). The need for carer assistance and specialized transport to attend a clinic-based treatment session may further hinder access to services. Similarly, for parents of children with communication and swallowing disorders, difficulties accessing speech pathology services are exacerbated by the demands of other siblings and family members, and inflexible work schedules.

What are the Benefits of Telehealth?

Although equitable access to healthcare services has been the primary driver of telehealth, evidence suggests that technology enabled services may actually enhance the quality of care provided (McCue, Fairman, & Pramuka, 2010; Winters & Winters, 2004). Through this method of service delivery, it is possible to optimize the timing, intensity, and sequencing of intervention leading to a greater

functional outcome for the client (Winters & Winters, 2004). Technology-based intervention has greater capacity to support evidence-based practice, such as intensive neurorehabilitation protocols required by people following traumatic brain injury, stroke, and Parkinson's Disease, due to the ability to interact with a client more readily and frequently (Bach-y-Rita, 2000). Examples of this can be seen in the use of computer-based language therapy for aphasia (Cherney, Holland, & Cole, 2008), and the treatment of dysarthria in Parkinson, disease via the internet (Constantinescu et al., 2011). Telehealth also enables speech pathologists to monitor communication and swallowing function in adults and children at a distance, so that intervention may occur at an appropriate time, thus reducing morbidity and limitation to everyday life (Theodoros, 2012).

Equally important is the fact that telehealth enables speech pathology services to be delivered to the child or adult in their own environment e.g. home, local community, school, or workplace. Strong evidence exists to support the fact that interventions delivered in the person's natural environment or specific context (e.g. workplace, school) are more effective than clinic-based interventions (McCue, Fairman. & Pramuka, 2010). Studies have reported positive effects in the generalization of behavior, functional outcomes, and patient satisfaction and self-management in various conditions including stroke (Legg & Langhorne, 2004; Von Koch, Wottrich, & Holmqvist, 1998), and severe brain injury (Ylvisaker, 2003). This approach to community-based intervention is endorsed by the World Health Organization framework which promotes a person's functioning within the context of their environment (WHO, 2001).

With 80.5% of Australia'a population now using the Internet (www.internetworldstats.com) and the rapid growth in various forms of technology, the ability to deliver speech pathology services via telehealth directly into the everyday lives of people with communication and swallowing disorders is a reality.

Evidence for the Use of Telehealth

There is a growing body of evidence documenting the feasibility, validity, and reliability of delivering speech pathology services via telehealth. This research has spanned the major communication disorders in adults and children, including neurogenic communication disorders (aphasia, dysarthria,

apraxia), voice disorders, stuttering, articulation, language, and literacy disorders in children, and communicative function following laryngectomy. Several studies have demonstrated the feasibility and validity of using telehealth in the management of people with swallowing disorders. See Table 1.

Table 1. Research studies in telehealth and speech pathology

Communication Disorders	Research studies
Adult neurogenic communication disorders	
• Aphasia	Brennan et al., 2004; Georgeadis et al., 2004; Hill et al., 2009c; Palsbo, 2007; Theodoros et al., 2008
• Dysarthria	Constantinescu et al., 2011, 2010; Hill et al., 2009a, 2009b, 2006; Howell et al., 2009; Tindall et al., 2008, 2009
• Apraxia of speech	Hill et al., 2009c
Voice disorders	Mashima et al., 2003
Stuttering	Carey et al., 2010; O'Brien et al., 2008; Lewis et al., 2008
Paediatric speech, language, and literacy disorders	Waite et al., 2012, 2010a, 2010b
Laryngectomy	Myers et al., 2005; Ward et al., 2009
Swallowing disorders	Perlman & Witthawaskul, 2003; Sharma et al., 2012, 2011; Ward et al., 2014, 2103, 2012a, 2012b.

Overall, these studies have provided strong evidence to demonstrate comparability between telehealth delivered assessment and intervention and face-to-face interaction, indicating that these services can be validly provided across the Internet. Furthermore, clients who have received services via telehealth have reported high levels of satisfaction (>80%) with this mode of service delivery (Theodoros, 2012). Specific quotes from people receiving speech pathology services via telehealth are reported below:

"the treatment all took place in the comfort of my own home"

"Its accessibility- I could not have participated at all if I couldn't do it over the Internet"

"(Treatment in a) relaxed familiar environment"

An example of positive cost-benefits of speech pathology services delivered via telehealth have been demonstrated in a study by Tindall et al (2008) who found that patients with Parkinson's Disease receiving an intensive speech treatment face-to-face incurred just over three times the amount of time taken to receive the treatment, and almost $1000 in travel and associated costs compared to only 16 hours of time and no costs for those who received the treatment via telehealth. In addition, carers of people who received treatment via telehealth were found to have saved 48 hours of time, more than 92 hours of work time, and approximately $1000 per caregiver as a result of telehealth treatment (Tindall & Huebner, 2009).

These findings have been supported by comments from participants in a recent study who received speech treatment in the home:

"It meant that an hour session took an hour rather than most of the day taken up in travelling"

"I could continue with whatever I was doing up to 10 minutes before treatment commenced"

"I was able to fit it in with a busy lifestyle"

"...saved me travelling time and cost involved!"

"No loss of personal time due to travel etc".

"It didn't impact too heavily on my job- I only had to leave the office half an hour before normal finishing time"

Telehealth Services

Despite high client satisfaction and an evidence base to support the feasibility and validity of delivering speech pathology services via telehealth, the use of this mode of service delivery remains limited, disjointed, and *ad hoc* across the health and education domains in Australia. Currently, there is no systematic approach to the implementation of speech pathology services via telehealth across Australia, nor appropriate workforce training and technical support to enable this to occur.

What is clear is that the need for speech pathology services for children with communication and swallowing disorders is high, particularly in rural and remote areas. Verdon et al (2011), from a survey of 74 speech pathologists working in rural New South Wales and Victoria found that 98.6% of localities were underserved with respect to speech pathology services for paediatric clients with communication disorders. The major barrier to service access was distance, with 50km identified as the critical maximum distance beyond which client families were unwilling, or unable, to travel to receive weekly speech pathology services.

In another study investigating the access and attitudes of 43 parents in rural New South Wales towards speech pathology services delivered via telehealth, it was found that parents expressed a strong desire and willingness to receive speech pathology services via telehealth, and that the majority of those surveyed had access to the Internet (Dunkley et al, 2010). Interestingly, however, this finding was in contrast to responses received from rural speech pathologists who demonstrated a predominantly negative attitude towards providing services using technology. Dunkley et al (2010) suggested that these responses from speech pathologists may have been due to concern about significant changes to workplace practice, and /or perceived difficulty in using technology to deliver services.

These findings support the need for telehealth delivered speech pathology services to children and their families in rural areas of Australia. In addition, there is a strong imperative for professional workplace training, change management, and technical support to underpin the delivery of speech pathology services via telehealth.

The need for greater access to speech pathology services for the aged will increase substantially with the ageing population as previously mentioned. Many elderly people will be affected by neurological disorders such as stroke, Parkinson's Disease, and dementia resulting in communication and swallowing difficulties. Aphasia occurs in 33% of people following a stroke (Brady et al., 2012) while speech and voice disorders are prevalent in up to 89% of people with Parkinson's Disease (Hartelius & Svensson, 1994). 50%-78% of people who have had a stroke, 84% of people with Parkinson's Disease

(Kalf et al., 2012), and ultimately 100% of older persons with dementia will present with swallowing disorders at some stage.

Speech pathology intervention has the potential to reduce the negative impacts of communication and swallowing disorders through direct therapy services to older people in their own homes or residential aged care facilities. By delivering services via telehealth, speech pathologists have a greater capacity to improve the quality of care for older people, educate and support families and facility staff in relation to communication and swallowing disorders, and reduce healthcare costs. The risk of chest infections and subsequent hospital admissions for the older population with swallowing impairment is high. In a study of just over 1400 persons (70 years and older) admitted to 11 acute care hospitals in two Australian states, 14.7% were identified as having a degree of swallowing difficulty requiring at least some diet modification (Gray et al., 2008). Greater access to speech pathology services for the elderly in their own homes or residential aged care facilities via telehealth will mitigate this risk by ensuring that assessment and intervention is implemented in a timely manner to ensure safe swallowing.

In residential aged care facilities, a coordinated interdisciplinary approach to the management of communication and swallowing disorders is frequently absent, partly due to lack of participation of speech pathologists in the admission assessment process. As a result, people with communication and swallowing disorders may not be adequately assessed and their needs unmet. Telehealth has the potential to increase access to speech pathology services for residents in a timely manner on admission, and as required thereafter, thus facilitating best-practice management of communication and swallowing disorders for residents in these facilities.

Summary

The rights of all people to have equitable access to healthcare, the rising costs of health and education, and the approaching demographic changes will demand a transformation in speech pathology services.

Telehealth has the potential to support this transformation through improved access to services, and by optimizing the timing, intensity, sequencing and type of intervention in line with evidence-based

practice. As a result, the standard of care and overall quality of life for children and adults with communication and swallowing disorders across Australia will be maximized. In order for this to be achieved, policy development and changes are required at national and state levels of government.

The following recommendations are submitted to the National Inquiry for consideration:

Recommendations

Recommendation 1: Australian Government Departments of Health and Education enact policy changes to mandate the use of telehealth as an alternate or supplemental mode of service delivery for speech pathology services to children and adults who have restricted access to services due to distance, physical incapacity, or lack of availability of speech pathology services.

Recommendation 2: Policy changes pertaining to teleheath are underpinned by the need to provide speech pathology interventions that reflect best practice i.e. telehealth delivered services support the implementation of best practice

Recommendation 3: The Departments of Health and Education provide resources to support the infrastructure (technology, workforce training, change management) to deliver speech pathology services via technology to children and adults in the education and health sectors

Recommendation 4: The Australian Government Department of Health provides access to specialist speech pathology support via telehealth through the Medicare Benefits Schedule, across the lifespan, for individuals with communication and swallowing disorders, allowing that:

- the number of sessions provided be based on evidence with respect to intervention effectiveness
- the range of conditions not be limited to only specific disability groups (eg Autism or conditions under the Better Start for Children with Disability), but include recognised specific communication impairments, such as, but not limited to, severe language disorder, childhood apraxia of speech, cleft palate, stuttering, voice disorder, and aphasia.
- medical specialists (ie paediatricians, ENT) be accorded referral rights for direct referral to speech pathology for all Medicare items relevant to speech pathology

- general practitioners be accorded referral rights to speech pathology, as a single discipline, under the Chronic Disease Management items, without the person requiring the services of another health professional, as currently is required.

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