

# Literature Review

## Telehealth & Telepractice

The Centre for Excellence in Child and Family Welfare (the Centre) has undertaken this review of the literature to examine existing research on telehealth and telepractice. Telehealth and telepractice have been used in the health and community service sectors for many years, and research from these fields is likely to contain lessons that could aid child and family services seeking to expand the remote delivery of services.

### Purpose

The primary purpose of the review is to provide a foundation for the work of the National Telepractice Alliance which aims to support the child and family services sector to expand remote service delivery while continuing to achieve strong outcomes for children and families. The review will also be useful for a broader audience seeking to understand what effective telepractice looks like. The review will cover the definition of telehealth/telepractice, its prevalence and models, research findings on its impact and effectiveness, and its applicability to working with children.

### Method

This limited literature review was conducted in May 2020 over a period of three weeks. The search was limited to literature published from 2010 to the present in the English language. Search terms used were 'telehealth' and 'telepractice'. Due to the large number of results generated by this search, titles and abstracts were scanned and articles selected based on relevance. Systematic searching was not possible within the timeframe. The results are presented as a narrative summary.

### Definition

Telehealth is defined as 'the use of telecommunications technologies such as telephone, videoconferencing, Internet and mobile applications to enhance health care, public health and health education delivery and support'.<sup>1</sup> Standing et al. also include radio and television as conduits for the delivery of telehealth, as the term encompasses the use of any technology that enables the delivery of health services over a distance.<sup>2</sup> Telehealth can therefore be understood as the use of technologies to facilitate the exchange of data over distance for the purpose of health care.<sup>3</sup> Most commonly, telehealth is employed using video conferencing technology to enable professionals to engage in real-time with patients who are in a different location.

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<sup>1</sup> Campbell, J, Theodoros, D, Russell, T, Gillespie, N & Hartley, N 2019, 'Client, provider and community referrer perceptions of telehealth for the delivery of rural paediatric allied health services', *The Australian Journal of Rural Health*, vol. 27, no. 5, pp. 419-426, p. 420.

<sup>2</sup> Standing, C, Standing, S, McDermott, M-L, Gururajan, R & Mavi, RK 2018, 'The paradoxes of telehealth: a review of the literature 2000-2015', *Systems Research and Behavioral Science*, vol. 35, no. 1, pp. 90-101.

<sup>3</sup> Kayyali, R, Hesso, I, Mahdi, A, Hamzat, O, Adu, A & Gebara, SN 2017, 'Telehealth: misconceptions and experiences of healthcare professionals in England', *International Journal of Pharmacy Practice*, vol. 25, no. 3, pp. 203-209.

Telehealth is used in a wide array of clinical contexts and may be practised by general practitioners (GPs), specialists and allied health workers working in hospitals, community health services or Aboriginal Community Controlled Health Services (ACCHS).<sup>4</sup>

'Telehealth' is the most common term used to describe this practice in the health discipline, however alternative terms used in the literature include 'e-health', 'telemedicine', 'video consultation' and specialty specific terms such as 'teleoncology'. In other disciplines, terms such as 'telepractice' are commonly used.

Telepractice is a broader term than telehealth, encompassing the use of technology to deliver services across a variety of fields and disciplines such as early intervention, education and therapeutic support.<sup>5</sup> This mode of service delivery is often framed as an opportunity for more equitable distribution of health care and social interventions, capable of reaching groups experiencing disadvantage and overcoming logistical obstacles such as distance.<sup>6</sup>

## Prevalence

While the term 'telehealth' emerged over 30 years ago, the practice has arguably been in use since the invention of the telephone in 1875.<sup>7</sup> As technology has developed and more people have gained access to this technology the scope for telehealth has grown, however it still does not constitute 'business as usual' or mainstream practice and continues to be far less prevalent than face-to-face services.<sup>8</sup> Standing et al. argue that the health sector in general is known to be slow to adopt new information technologies, describing telehealth as 'an awkward innovation still struggling to find a sustainable niche in the health ecosystem, despite exerting a powerful influence on visions of the delivery and promotion of health'.<sup>9</sup> This gap between expectation and execution has been noted in the United Kingdom, where the uptake of telehealth has been much lower than was anticipated by policy makers.<sup>10</sup>

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<sup>4</sup> Caffery, LJ, Bradford, NK, Wickramasinghe, SI, Hayman, N & Smith, AC 2017, 'Outcomes of using telehealth for the provision of healthcare to Aboriginal and Torres Strait Islander people: a systematic review', *Australian and New Zealand Journal of Public Health*, vol. 41, no. 1, pp. 48-53; Loh, PK, Sabesan, S, Allen, D, Caldwell, P, Mozer, R, Komesaroff, PA, Talman, P, Williams, M, Shaheen, N, Grabinski, O & Withnall, D 2013, 'Practical aspects of telehealth: financial considerations', *Internal Medicine Journal*, vol. 43, no. 7, pp. 829-834, p. 829.

<sup>5</sup> Akemoglu, Y, Muharib, R & Meadan, H 2020, 'A systematic and quality review of parent-implemented language and communication interventions conducted via telepractice', *Journal of Behavioral Education*, vol. 29, pp. 282-316.

<sup>6</sup> Arefadib, N & Moore, T 2017, *Reporting the health and development of children in rural and remote Australia*, The Centre for Community Child Health at the Royal Children's Hospital and the Murdoch Children's Research Institute, Melbourne; Campbell et al. 2019; Sabesan, S, Allen, D, Loh, PK, Caldwell, P, Mozer, R, Komesaroff, PA, Talman, P, Williams, M & Shaheen, N 2013, 'Practical aspects of telehealth: are my patients suited to telehealth?', *Internal Medicine Journal*, vol. 43, no. 5, pp. 581-584.

<sup>7</sup> Standing et al. 2018.

<sup>8</sup> Standing et al. 2018.

<sup>9</sup> Standing et al. 2018, p. 91.

<sup>10</sup> Taylor, J, Coates, E, Brewster, L, Mountain, G, Wessels, B & Hawley, MS 2014, 'Examining the use of telehealth in community nursing: identifying the factors affecting frontline staff acceptance and telehealth adoption', *Journal of Advanced Nursing*, vol. 71, no. 2, pp. 326-337.

Prevalence is also influenced to some degree by the restrictions imposed by telehealth, the most significant of which is the inability to conduct a full physical examination.<sup>11</sup> Kayyali et al. state that 'Telehealth should not be perceived as a total replacement of face-to-face consultations but a substitute to such consultations when clinically appropriate'.<sup>12</sup>

In Australia, the number of claims made for telehealth items on the Medicare Benefits Schedule (MBS) provide some indication of the prevalence of telehealth services. Data shows that over five years, the number of telehealth services increased each year, from 26,049 in 2011-12 to 150,634 in 2016-16.<sup>13</sup> The existing datasets do not contain information about the provision of telehealth to different groups within the population, such as Aboriginal people, limiting our understanding of who telehealth works for and how often it is utilised.<sup>14</sup>

The prevalence of telepractices outside of the health sector are unknown.

## Telehealth/telepractice models

Telehealth and telepractice can be delivered in a range of different ways to provide health care and social services.

Models identified by Martin et al. include:

- One-to-one delivery in real-time, using audio, video, or chat
- Group-based and peer-interaction programs
- Guided self-help content, including some contact with practitioners
- Unguided self-help content
- Interactive or gamified content
- Asynchronous brief text-based messaging.<sup>15</sup>

These can be classified into three categories of service delivery:

- Synchronous support – intervention delivered directly to clients via teleconference
- Asynchronous support – intervention using or incorporating online tools and apps
- Consultative support – provision of training, consultation, and support to another party (such as a caregiver or local professional) who then works directly with the client.<sup>16</sup>

In addition to being used on its own, telehealth/telepractice can be combined with face-to-face services in a manner that is complementary and that enhances care. One such way is through a 'supported consultation' in which a patient is accompanied by another health professional, such as

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<sup>11</sup> Allen, DT, Caldwell, P, Komesaroff, PA, Loh, PK, Mozer, R, Sabesan, S, Shaheen, N, Talman, P, Williams, M & Grabinski, O 2013, 'Practical aspects of telehealth: set-up and preparation for video consultations', *Internal Medicine Journal*, vol. 43, no. 10, pp. 1133-1136; Campbell et al. 2019.

<sup>12</sup> Kayyali et al. 2017, p. 207.

<sup>13</sup> Department of Health 2016, Telehealth quarterly statistics update, viewed 29 June 2020, <<http://www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-factsheet-stats>>.

<sup>14</sup> Caffery et al. 2017.

<sup>15</sup> Martin, J, McBride, T, Masterman, T, Pote, I, Mokhtar, N, Oprea, E & Sorgenfrei, M 2020, *Covid-19 and early intervention: evidence, challenges and risks relating to virtual and digital delivery*, Early Intervention Foundation, London.

<sup>16</sup> Arefadib & Moore 2017.

a GP, while a telehealth consultation with a specialist takes place.<sup>17</sup> Telehealth/telepractice could also be used for pre-care, as a form of triage to assess the urgency of a situation or for an initial information gathering or assessment consultation that can save time and unnecessary travel, assisted by 'store-and-forward technologies' to send relevant information for assessment.<sup>18</sup> These models can also complement face-to-face services in the form of follow-up or ongoing care. For example, a patient might see a specialist for a diagnosis and then use remote in-home or in-hub monitoring, recording biometric information for transmission to a clinician who can provide ongoing remote monitoring of their condition.<sup>19</sup>

## Impact and effectiveness of telehealth/telepractice

Telehealth is used in a wide array of clinical contexts, resulting in a vast number of studies examining the effectiveness of telehealth within discrete health specialties, for specific health-related purposes and within distinct geographic locations. Despite this abundance of studies, telehealth does not have a strong evidence base as these studies rarely offer generalised lessons for the broader application of telehealth.<sup>20</sup>

In their review of the literature on telehealth between 2000 and 2015, Standing et al. found that there was extensive discussion about the insufficiency of the evidence base for telehealth.<sup>21</sup> The literature called for more rigorous research and evaluation in response to studies of small-scale and pilot projects that were isolated, time-limited or not integrated into longer-term practice, and therefore did not contribute to a broader understanding of the efficacy of certain aspects or approaches to telehealth.<sup>22</sup> The literature also highlighted the difficulty of standardising methods across different types of telehealth programs to make meaningful comparisons and the authors note that the lack of an operating model for telehealth limits its usefulness and effectiveness.<sup>23</sup>

Within the Australian context, Caffery et al. found 'a lack of formal, scientific evaluation on telehealth for the provision of healthcare services to Indigenous Australians'.<sup>24</sup>

Some studies have found that outcomes between telehealth/telepractice and face-to-face consultations are at least equal if not more effective, including services provided to children and families, however the strength of this evidence is unclear.<sup>25</sup>

The doctor-patient relationship and the development of rapport is an important consideration.<sup>26</sup> Although screens can be a barrier, Sabesan et al. argue that it is possible to establish strong rapport

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<sup>17</sup> Loh et al. 2013.

<sup>18</sup> Allen et al. 2013; Caffery et al. 2017; Sabesan et al. 2013.

<sup>19</sup> Caffery et al. 2017.

<sup>20</sup> Kayyali et al. 2017.

<sup>21</sup> Standing et al. 2018.

<sup>22</sup> Standing et al. 2018.

<sup>23</sup> Standing et al. 2018.

<sup>24</sup> Caffery et al. 2017, p. 52.

<sup>25</sup> Allen et al. 2013; Arefadib & Moore 2017; Martin et al. 2020.

<sup>26</sup> Sabesan, S, Allen, D, Caldwell, P, Loh, PK, Mozer, R, Komesaroff, PA, Talman, P, Williams, M, Shaheen, N & Grabinski, O 2014a, 'Practical aspects of telehealth: doctor-patient relationship and communication', *Internal Medicine Journal*, vol. 44, no. 1, pp. 101-103.

through telehealth by using the same techniques for effective communication and connection as in face-to-face consultations.<sup>27</sup>

Among the models for telehealth, follow-up care and remote monitoring of long-term or chronic conditions appear to have the strongest evidence for effectiveness, although this is still contested. In the United Kingdom, a randomised controlled trial (RCT) involving 3000 patients found telehealth to be beneficial in supporting patients to manage long-term conditions compared with standard care by reducing mortality rates, hospital admission and length of hospital stays.<sup>28</sup> Caffery et al. state that 'a large evidence base supports the use of telehealth for the management of chronic diseases',<sup>29</sup> however a meta-review found that many studies were small-scale and poor quality, again calling the evidence base into question.<sup>30</sup>

An RCT conducted by Salisbury et al. demonstrates how telehealth can be complementary when combined with usual face-to-face care.<sup>31</sup> The study, conducted in England, explored the effectiveness of the provision of telehealth support by non-clinically trained health advisors whose role was integrated with usual face-to-face care for patients with depression. Advisors called patients to assist with goal setting, provided ongoing telephone support to discuss progress, treatment adherence and to identify relapse, and supported them with the use of online resources. The study found that telehealth support combined with usual care was more effective than usual care alone and was acceptable to clients, who reported improvements in anxiety, self-management and health literacy, greater access to support and advice and higher levels of satisfaction with the support received.<sup>32</sup>

It is also relevant to consider whether telehealth offers more benefit than no service at all. A review by Martin et al. found that remote delivery is often found to be more effective than no intervention.<sup>33</sup>

In the absence of reliable evaluation and research evidence, the efficacy of telehealth/telepractice as a model of service delivery is largely measured by examining the acceptability of the model for stakeholders and their willingness to engage in it, the benefits, facilitators and barriers of the model for service users and professionals, and the costs of implementation and service delivery.

### **Stakeholder acceptability and willingness to engage**

An Australian study by Campbell et al. explored perceptions of telehealth by clients, providers, and community referrers in the field of rural paediatric allied health.<sup>34</sup> The researchers conducted semi-structured interviews with 39 stakeholders, of whom 12 were clients. The study found that 76 per cent of participants were willing to use telehealth, and among clients, eight of the 12 were willing

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<sup>27</sup> Sabesan et al. 2014a.

<sup>28</sup> Kayyali et al. 2017.

<sup>29</sup> Caffery et al. 2017, p. 49.

<sup>30</sup> Salisbury, C, O'Cathain, A, Edwards, L, Thomas, C, Gaunt, D, Hollinghurst, S, Nicholl, J, Large, S, Yardley, L, Lewis, G, Foster, A, Garner, K, Horspool, K, Man, M-S, Rogers, A, Pope, C, Dixon, P & Montgomery, AA 2016, 'Effectiveness of an integrated telehealth service for patients with depression: a pragmatic randomised controlled trial of a complex intervention', *Lancet Psychiatry*, vol. 3, pp. 515-525.

<sup>31</sup> Salisbury et al. 2016.

<sup>32</sup> Salisbury et al. 2016.

<sup>33</sup> Martin et al. 2020.

<sup>34</sup> Campbell et al. 2019.

while four were unwilling or unsure. Participants who were familiar with telehealth and had previous experience with it were more willing to use it again.<sup>35</sup> The majority of stakeholders believed that children would not be able to participate in telehealth sessions due to concerns that they would be unable to sit in front of a computer and pay attention. The authors suggest that research be undertaken to compare child participation in therapeutic activities conducted in person and via telehealth sessions to determine whether this is the case.<sup>36</sup>

An English study by Taylor et al. explored acceptance and usage of telehealth among community nurses using in-depth interviews with 105 staff.<sup>37</sup> Thematic analysis found several factors that influence acceptance of telehealth:

- Working in a changing environment – telehealth was being introduced in the context of extensive systemic reform that was imposing many changes at once
- The introduction of telehealth to frontline staff – initial impressions are important
- Experiencing and understanding telehealth – quality training is crucial, not just about the technology, but about the *practice* of telehealth
- Working out the technology and service design – aspects like interoperability between patient records and telehealth software are important
- Integrating telehealth into routine care – shifting telehealth from an add-on to routine care is a significant challenge; shared goals and rationale for telehealth are needed to progress.<sup>38</sup>

### **Benefits of telehealth/telepractice**

It is widely agreed that telehealth/telepractice has particular benefits and potential for people living in rural and remote areas including Aboriginal communities, and for people with physical disability for whom travel is difficult.<sup>39</sup> This is particularly so in Australia due to its vast geographic scale and the number of under-serviced rural and remote communities.<sup>40</sup>

A key advantage of telehealth is the increased capacity for multiple health professionals to be present at the one time and for better communication between health providers, improving continuity of care and prospects for integrated care.<sup>41</sup> For a patient, having another health professional present can assist with communication between themselves and the specialist, filling any gaps in their understanding or clearing up any confusion.<sup>42</sup> An added advantage is the ability for family members, who may or may not be in the same location as the patient, to join the consultation and offer

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<sup>35</sup> Campbell et al. 2019.

<sup>36</sup> Campbell et al. 2019.

<sup>37</sup> Taylor et al. 2014.

<sup>38</sup> Taylor et al. 2014.

<sup>39</sup> Adams, JL, Myers, TL, Waddell, EM, Spear, KL & Schneider, RB 2020, 'Telemedicine: a valuable tool in neurodegenerative diseases', *Current Geriatrics Reports*, vol. 9, pp. 72-81; Arefadib & Moore 2017; Loh et al. 2013; Singh, R, Mathiassen, L, Stachura, ME & Astapova, EV 2010, 'Sustainable rural telehealth innovation: a public health case study', *Health Services Research*, vol. 45, no. 4, pp. 985-1004.

<sup>40</sup> Bryant, L, Garnham, B, Tedmanson, D & Diamandi, S 2018, 'Tele-social work and mental health in rural and remote communities in Australia' *International Social Work*, vol. 61, no. 1, pp. 143-155.

<sup>41</sup> Kayyali et al. 2017; Sabesan et al. 2014a.

<sup>42</sup> Sabesan et al. 2014a.

valuable support or information.<sup>43</sup> Providing care in a family's own home and context can also provide insights that would not be available in a clinical setting.<sup>44</sup>

Further benefits of telehealth/telepractice have been identified in the literature, including:

- Reduction in travel time, reducing the opportunity costs for clients such as time away from school or work
- Improved access for those who live a long way from health services or for people with physical disability, particularly to specialist care
- Increased convenience and privacy when accessing support from home, which could result in clients being more relaxed
- Decreased stress arising from having to locate or navigate the service environment
- Increased capacity for additional supporters to attend to coordinate care
- Potential reduction in stigma when accessing mental health support
- Service delivery that is more frequent or timely.<sup>45</sup>

It has also been noted that some participants may experience telehealth/telepractice as less intimidating, providing an increased sense of control in the interaction.<sup>46</sup>

Caffery et al. conducted a systematic review of the literature relating to outcomes of telehealth services for Aboriginal and Torres Strait Islander people, identifying 14 articles.<sup>47</sup> The review found the following social emotional wellbeing benefits of telehealth for Aboriginal people:

- Family members were able to be present
- Health literacy improved, leading to empowerment
- Travel time reduced and access to specialist care improved
- Patients were able to stay on country while receiving health or palliative care
- Attendance and screening rates improved.<sup>48</sup>

Aboriginal patients also reported the ability to develop rapport and maintain positive interactions with health practitioners via telehealth and a key facilitator of good outcomes was the presence of a local Aboriginal Health Practitioner who could assist with communication and enhance cultural safety during a specialist telehealth consultation.<sup>49</sup>

### **Facilitators of telehealth/telepractice**

A 2010 study conducted in the United States used qualitative, longitudinal case study methodology to examine the factors leading to a successful and sustainable rural telehealth innovation. The study explored the development and subsequent phases that the South East Health District in the state of

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<sup>43</sup> Sabesan et al. 2014a.

<sup>44</sup> Arefadib & Moore 2017.

<sup>45</sup> Allen et al. 2013; Arefadib & Moore 2017; Caffery et al. 2017; Campbell et al. 2019; Kayyali et al. 2017; Loh et al. 2013; Martin et al. 2020.

<sup>46</sup> Martin et al. 2020.

<sup>47</sup> Caffery et al. 2017.

<sup>48</sup> Caffery et al. 2017.

<sup>49</sup> Caffery et al. 2017.

Georgia underwent on their telehealth journey between 1988 and 2008. The following were found to be success factors, offering lessons for the adoption and sustainability of telehealth:

- Strong collaboration within the rural health institution, with the local community, and with external partners to initiate the process and energise it as it evolved
- Establishment of well-functioning, in-person outreach clinics within pediatric specialties that made an early move toward adoption of telehealth desirable
- Visionary leadership and facilitating tactics adopted by champions and managers to cultivate participation and generative capability
- Opportunistic exploitation of emerging technological options and available funding to overcome barriers
- Timely responses to internal needs and contextual dynamics
- Securing the support of funding agencies to provide seed capital for this rural telehealth initiative.<sup>50</sup>

General facilitators of telehealth/telepractice identified in the literature include:

- Local community hubs set up with the right technology for patients to access telehealth
- The renting or loaning of equipment to patients for home use
- Ease of use and minimisation of barriers for patients and providers
- Assistance from a trained facilitator to assist the patient during the session
- Initial and ongoing staff training and support
- Strong leadership and organisational support
- Local champions and awareness raising among staff
- Sharing of success
- Identification of patients who would benefit most
- Functional technology
- Committed funding
- Governance for strategic planning, direction, and guidance.<sup>51</sup>

### **Barriers to telehealth/telepractice**

The literature highlights a range of barriers to effective telehealth/telepractice delivery. Barriers for patients and providers include:

- Technological barriers, such as the need for access to a computer and an internet connection with consistent high quality
- Mixed evidence about the effectiveness of telehealth, influencing uptake
- Organisational barriers such as a lack of leadership, resources, or readiness for change
- Perceptions that children will not engage
- Perceptions that the quality of interpersonal communication and relationship building will be lacking or impersonal (in the study by Campbell et al. this was a concern for participants with no experience of telehealth)

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<sup>50</sup> Singh et al. 2010, pp. 996-999.

<sup>51</sup> Arefadib & Moore 2017; Campbell et al. 2019; Standing et al. 2018; Taylor et al. 2014.

- Fear of losing direct contact with patients accompanied by concerns that important care information may be missed
- Lack of physical touch and ability to perform physical examinations or perceived limited capacity for hands-on activities, leading to concerns about misdiagnosis or lack of effectiveness
- Costs of implementing telehealth technology and a lack of funding to do so
- Insufficient infrastructure and investment
- Self-efficacy, such as concerns about ability to use the technology
- Privacy, data security and confidentiality concerns
- Challenges relating to reimbursements for telehealth providers, with governments and insurers declining to pay for all forms of telehealth (in Australia, there are financial disincentives created by the Medicare Benefits Schedule)
- Traditional mindset and reluctance to adopt new technology by health practitioners.<sup>52</sup>

In their review of the literature from 2000 to 2015, Standing et al. found that there was no progress in addressing barriers to telehealth during that period.<sup>53</sup> They note the unrealised potential of telehealth, in part due to the model being considered an 'add-on' rather than being incorporated into business models and integrated with face-to-face practice. Additional challenges identified related to interdisciplinary collaboration such as trust and information sharing between professionals and organisations, and in some cases, providers were more reluctant to engage in telehealth than patients.<sup>54</sup>

### **The cost of telehealth/telepractice**

There is extensive debate regarding the cost-effectiveness of telehealth and research has found mixed results.<sup>55</sup> Cost can vary considerably depending on the model of telehealth/telepractice used.<sup>56</sup> Some studies report the cost of telehealth to be less than equivalent to face-to-face services,<sup>57</sup> however a systematic review published in 2011 of literature published over 20 years found 'there is no further conclusive evidence that telemedicine and telecare interventions are cost-effective compared to conventional health care'.<sup>58</sup> Whether the benefits outweigh the potential costs must be considered on a case-by-case basis.<sup>59</sup> Cost can also influence the sustainability of telehealth and may contribute to the proliferation of pilots that do not progress once start-up grants have lapsed.<sup>60</sup>

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<sup>52</sup> Arefadib & Moore 2017; Campbell et al. 2019; Sabesan, S, Allen, DT, Caldwell, P, Loh, PK, Mozer, R, Komesaroff, PA, Talman, P, Williams, M, Shaheen, N & Grabinski, O 2014b, 'Practical aspects of telehealth: establishing telehealth in an institution', *Internal Medicine Journal*, vol. 44, no. 2, pp. 202-205; Kayyali et al. 2017; Martin et al. 2020; Standing et al. 2018; Taylor et al. 2014.

<sup>53</sup> Standing et al. 2018.

<sup>54</sup> Standing et al. 2018.

<sup>55</sup> Arefadib & Moore 2017; Loh et al. 2013.

<sup>56</sup> Arefadib & Moore 2017.

<sup>57</sup> Caffery et al. 2017.

<sup>58</sup> Mistry, H 2011, 'Systematic review of studies of the cost-effectiveness of telemedicine and telecare: changes in the economic evidence over twenty years', *Journal of Telemedicine and Telecare*, vol. 18, no. 1, pp. 1-6.

<sup>59</sup> Arefadib & Moore 2017; Loh et al. 2013.

<sup>60</sup> Singh et al. 2010.

## Telehealth/telepractice with children

Telehealth/telepractice has been used to provide a wide range of services and supports to children to meet their health and developmental needs. Challenges that have been identified when working with children include:

- Ability to direct attention to the screen
- Ability to maintain attention on the screen
- Difficulty prompting the child without access to their physical environment
- The need for a skilled adult to be present to support the child and attend to technological issues
- Aversion to some aspects of the technology, for example, wearing headphones.<sup>61</sup>

Parent training and coaching is considered best practice in supporting parent-child interactions in the home and offers one way to overcome the challenges relating to telepractice with children.<sup>62</sup> Arefadib and Moore argue that parent training and coaching via telepractice can be even more effective in achieving positive outcomes for children and families than in-home support because it removes the likelihood that the practitioner will prioritise demonstration over parent-child interaction.<sup>63</sup>

It is important to be aware that even though telehealth/telepractice may be more convenient for some families, practical considerations such as the need for sibling childcare could still apply.<sup>64</sup>

In 2020, the Early Intervention Foundation in the United Kingdom conducted a rapid review of the literature relating to virtual and digital delivery of interventions to children and young people.<sup>65</sup> Some of the aggregated findings were that these interventions can be effective in improving a range of outcomes for children and young people and are more likely to do so when there is direct contact with a practitioner. However, the outcomes measured were usually short-term and there is little evidence available of long-term outcomes. The review also found that completion rates were often low, highlighting the need to focus on maintaining ongoing engagement with children and young people.<sup>66</sup> It should be noted however that one-to-one models made up only a small portion of the program sample, with the sample weighted in favour of interactive content and unguided self-help content, and programs focused on education or health and obesity outcomes.<sup>67</sup>

Among interventions targeting children's behavioural outcomes, four programs were identified and found to have preliminary evidence, and one intervention, *Triple P Online*, was found to have a robust evidence base.<sup>68</sup> *Triple P Online* offers a series of personalised online modules for parents, and two RCTs found that children had improved behaviour upon completion.<sup>69</sup>

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<sup>61</sup> Arefadib & Moore 2017.

<sup>62</sup> Arefadib & Moore 2017.

<sup>63</sup> Arefadib & Moore 2017.

<sup>64</sup> Arefadib & Moore 2017.

<sup>65</sup> Martin et al. 2020.

<sup>66</sup> Martin et al. 2020.

<sup>67</sup> Martin et al. 2020.

<sup>68</sup> Martin et al. 2020.

<sup>69</sup> Martin et al. 2020.

In addition to direct practitioner contact, the review found that personalised content, provision of feedback and interactive content were more likely to facilitate positive outcomes for children and families.<sup>70</sup>

## Conclusion

Although existing evidence regarding the effectiveness of telehealth/telepractice is mixed, limited and in many cases problematic, this mode of service delivery is a highly promising area of practice for children and families. To overcome known barriers and to demonstrate consistent positive outcomes, implementation science and the capacity for rigorous evaluation will be critical in continuing to build a robust evidence base. Organisations must be careful to consider when telehealth/telepractice is appropriate, in what circumstances and for whom.

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<sup>70</sup> Martin et al. 2020.

## Appendix – Practical tips

Allen et al. and Loh et al. outline some key considerations when deciding if an appointment is suitable for telehealth:

- The presenting problem and whether it can be adequately addressed via telehealth
- The urgency of the presenting problem
- The need for a physical examination, and whether there is a local health professional who can undertake this
- Distance and travel time that would be required of the patient, including impacts such as financial cost, opportunity costs and risks
- Patient preference
- Advice from the patient's local health care provider, for example, a GPs recommendation
- Availability of a suitable space for the patient to engage in the consultation.<sup>71</sup>

Allen et al. offer the following practical tips for telehealth video conferencing consultations:

- Ensure the location has the right technological equipment, preferably a desktop computer with a webcam and a wired internet connection for the most reliable connectivity
- Place a light source close to the monitor so that your face can be clearly seen. If there is a light behind you, it will be hard to see your face and this may impact engagement
- Keep the background plain and distraction free
- Ensure you are seated in the middle of the screen
- The webcam should be as close to the top of the monitor as possible to facilitate the appearance of eye contact
- Use a second monitor to display case notes and other records and materials
- Place a sign on the door to minimise interruptions
- Minimise background noise as much as possible, for example, by closing windows
- During introductions, let the person know who is in the room with you, if anyone, and ask them to clarify who is in the room with them that you may not be able to see
- If the audio quality of the teleconferencing software is poor, a hands-free telephone call can be used instead
- Allow additional time for the consultation in case of technical difficulties
- Test your equipment prior to consultations
- Commence the call five to 10 minutes early to ensure everything is running smoothly and the person is ready.<sup>72</sup>

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<sup>71</sup> Allen et al. 2013; Loh et al. 2013.

<sup>72</sup> Allen et al. 2013.