COVID-19 AND SPEECH-LANGUAGE PATHOLOGY

Edited by Louise Cummings

10

TELEPRACTICE IN ADULT SPEECH-LANGUAGE PATHOLOGY DURING COVID-19

Elizabeth C. Ward and Ashley E. Cameron

Routledge
Taylor & Francis Group

NEW YORK AND LONDON

10

TELEPRACTICE IN ADULT SPEECH-LANGUAGE PATHOLOGY DURING COVID-19

Elizabeth C. Ward and Ashley E. Cameron

10.1 Introduction

The day of 11 March 2020 saw the world hit by a global pandemic of unimaginable proportions, and humanity was profoundly affected at every level from the individual to the collective. Coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, shook the foundations on which life had been built. In the fight to contain the virus, organisations and individuals were required to rapidly adapt usual processes to maintain safety, meet evolving demands, and manage widespread uncertainty. Almost overnight, speech–language pathology (SLP), alongside many other professions, was forced to re-evaluate how to provide services and maintain continuity of care whilst meeting social distancing and isolation measures. A key part of these service adaptations was the uptake and more widespread use of telepractice within the SLP profession. As a result of these unprecedented times, a new healthcare landscape has emerged, with the use of telepractice becoming a pragmatic option for SLPs to support the delivery of patient care and connect health professionals.

10.2 What is telepractice?

Telepractice is a versatile service delivery model. It facilitates the management of numerous conditions, enables easy access to expert support, and empowers patients to self-manage their health using various telecommunication technologies (e.g., video, telephone, email, messaging, web-based services). The application of telepractice in adult SLP practice is broad. It can be employed across a wide range of settings such as hospitals, outpatient clinics, residential aged care facilities, community settings, private practice, and home environments. It also
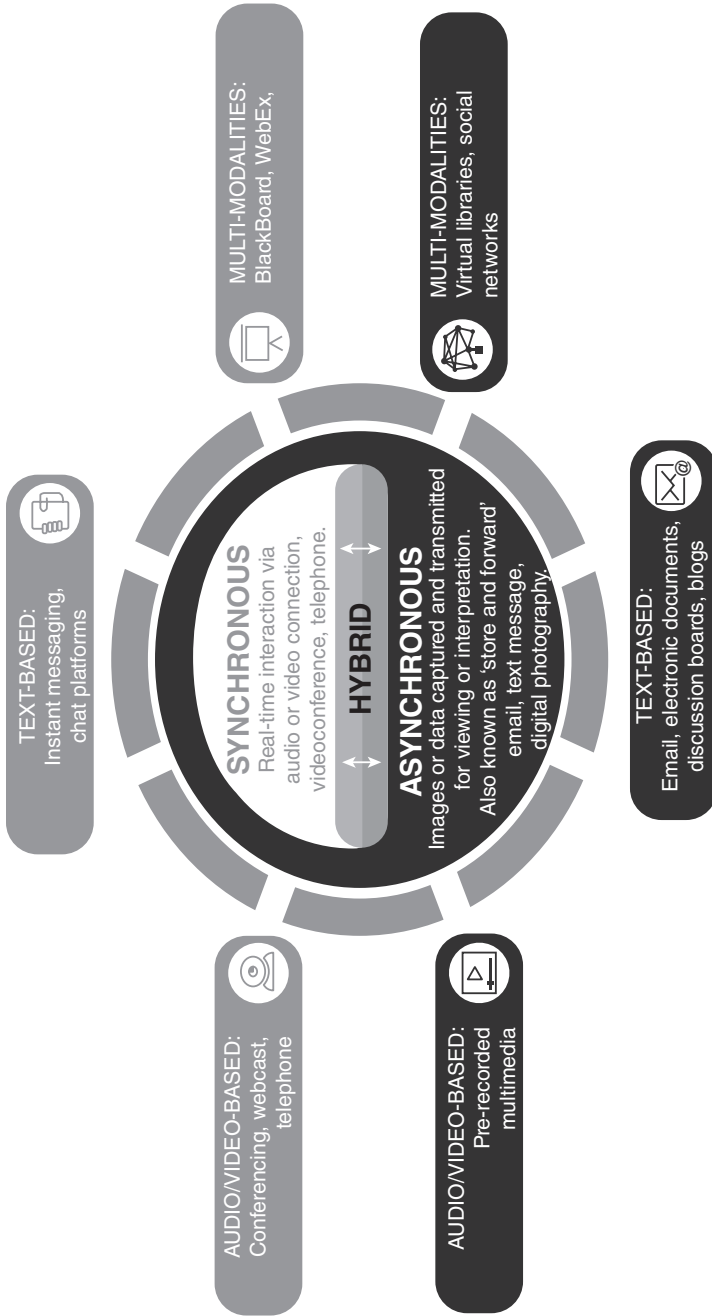
MULTI-MODALITIES: BlackBoard, WebEx,

MULTI-MODALITIES: Virtual libraries, social networks

TEXT-BASED: Instant messaging, chat platforms

SYNCHRONOUS
Real-time interaction via audio or video connection, videoconference, telephone.

HYBRID

ASYNCHRONOUS
Images or data captured and transmitted for viewing or interpretation. Also known as 'store and forward' email, text message, digital photography.

TEXT-BASED: Email, electronic documents, discussion boards, blogs

AUDIO/VIDEO-BASED: Conferencing, webcast, telephone

AUDIO/VIDEO-BASED: Pre-recorded multimedia

FIGURE 10.1   Telepractice modes of delivery

can be used for most clinical and administrative tasks including evaluations, interventions, group sessions, consultations, education, monitoring, supervision, meetings, and multidisciplinary management. Although the term "telepractice" is most commonly associated with videoconferencing, it is critical to acknowledge that there is no single method of delivering telepractice services, with synchronous (live interaction), asynchronous (store and forward), or hybrid methods (including virtual and in-person) providing multiple solutions for service delivery across different clinical contexts (Figure 10.1).

10.3 Telepractice in SLP: considerations prior to and since COVID-19

Like many clinical areas, there was a small but growing body of evidence supporting telepractice within the SLP profession prior to the pandemic. Across that body of work, there is evidence to support telepractice as a feasible, clinically sound, and cost-effective means of delivering personalised care to patients across many different clinical populations and practice settings (e.g., Burns et al. 2019; Fisk et al. 2020; Ward et al. 2021). Yet despite the evidence compiled over the decade prior to the pandemic, the majority of SLP services continued to be delivered in person, with telepractice options reserved mainly for remote and isolated patients, groups, or communities.

Barriers to the uptake of telepractice established prior to the pandemic are well documented in the literature and include negative clinician perceptions and attitudes, operational barriers, and lack of training, along with the perception of a lack of available evidence (Fisk et al. 2020; Miles et al. 2020; Ward et al. 2021). In addition, it is recognised that establishing telepractice services adds a layer of inherent complexity that takes time to master (Ben-Aharon 2019; Malandraki et al. 2021; Weidner and Lowman 2020). Developing tele-based services can also be costly and challenging due to the equipment and infrastructure required, ongoing technical support, licensure, funding, reimbursement, and policies.

Many of these barriers remain. However, during the pandemic, such barriers had to be addressed as services were faced with a limited set of options – from ceasing services altogether, providing only limited services with high levels of personal protective equipment (PPE), or utilising telepractice. The global demand for telepractice as a pandemic care solution forced many practice owners, services, and organisations to finally invest in the infrastructure and equipment needed to support telepractice, providing many clinicians with the capacity to deliver telepractice for the very first time. Equally, governments in many countries reviewed and incentivised funding for telepractice, allowing reimbursements that were not previously available. Then for many clinicians, this period of "forced adoption" also provided them with their first experience of telepractice and an opportunity to see the potential of this service model. Organisations and professional associations also actively developed, curated, and distributed practice

guidelines and key resources and delivered webinars to support clinicians in oper-
ationalising telepractice and complying with mandated regulations (e.g., Royal
College of Speech and Language Therapists 2021; Speech Pathology Australia
2021). As such, key barriers were lifted for the first time for many clinicians, and
the opportunities to develop telepractice services became an actual reality.

However, it is acknowledged that with a lack of time to prepare for service
redesign, there were many instances where the adoption of telepractice was made
reactively, without the benefit of training, prior experience, awareness of best-care
delivery standards, or adequate time to prepare a detailed approach for implementa-
tion. Whilst this is not ideal and is recognised as contributing to some negative/less
than ideal experiences, there have also been positive outcomes. Many services are now
offering a range of telepractice services, and more opportunities are now available for
clinicians to develop sustainable telepractice models that meet the ongoing needs of
their caseload, not only supporting the care needs of patients during the pandemic.

It must be recognised, though, that the use of telepractice as the "only" care
solution offered to many patients during the pandemic is not an ideal situation.
Telepractice should never be offered as the "only" option. Rather, it should be
offered as part of an integrated care model where both in-person and telepractice
options are available for the patient depending on their preference and the nature
of the services they need to receive. It is also important that we acknowledge the
many benefits of telepractice for patients and services and not view telepractice
purely as a pandemic management solution. Telepractice is more than a model
of care for infection control. Although it has served this purpose well, it has
always been a model used to overcome many other important challenges – such
as distance, provider shortages, government mandates, mobility constraints, and
practical barriers (e.g., travel, time away from work, childcare, appointments,
social distancing, isolation measures). It also enables access to expertise, coordi-
nated scheduling, the opportunity to "check in" with patients, and the capability
to engage patients within familiar environments. As such, it needs to be viewed
as an integral part of ongoing SLP service delivery.

It is also critical to ensure that any telepractice services established meet key
professional standards. A number of SLP organisations worldwide stipulate that
the quality of service delivered via telepractice must be equivalent to in-person
services with no discernible distinction between the two modalities (e.g., Ameri-
can Speech-Language-Hearing Association 2021; Royal College of Speech and
Language Therapists 2021). For example, Speech Pathology Australia's teleprac-
tice position statement concludes, "It is critical that the outcomes from speech
pathology services using telepractice are at least comparable to current clinical
care" (Speech Pathology Australia 2014, p. 7). To achieve this, it is important to
recognise that telepractice involves more than simply delivering services as you
would in person. It is also much more than just learning to use technology. It is
a service model that requires careful planning across multiple domains and clarity
regarding *how best* to use technology to support the task at hand.

Key principles of developing effective telepractice services have been discussed in detail within the literature. These should be adhered to when developing any new telepractice service. These include consideration of (1) patient suitability and eligibility; (2) the development of a detailed service plan; (3) preparation and training of both staff and patients; (4) consideration of appropriate technology, equipment, and infrastructure; (5) clear identification of roles and responsibilities; (6) appropriate documentation; (7) adherence to ethical legal and local policy; and (8) ongoing service monitoring (Galpin et al. 2021; Riegler 2021). In a recently published study, the experiences of 16 allied health departments (including four SLP departments) from a hospital network in Australia were examined and used to create a framework to guide telehealth service implementation and sustainability (Thomas et al. 2022). Developed by exploring the experiences of 80 allied health clinicians, managers and administration staff involved in telepractice services during the first wave of the pandemic, the framework provides valuable insights into the factors that must be considered when establishing and sustaining quality telepractice services.

10.4 Changing drivers for telepractice within SLP

Pre-pandemic the primary driver for the use of telepractice was to help overcome the challenges of distance and improve service access. However, it is noteworthy that in the COVID-19 context, telepractice was used to *create distance* rather than overcome it. Creating a safe distance between the clinician and patient became a key aspect of service redesign, as services became more aware of the risks of aerosol generating procedures (AGPs), the need to protect vulnerable populations, and significant patient and clinician concerns regarding exposure/infection risk. As such, telepractice suddenly became a service delivery model needed by most SLP services, not only those serving rural and remote populations.

It rapidly became evident that COVID-19 was a highly communicable virus spread through airborne transmission and as a result, minimising the risks associated with AGPs became a key driver for telepractice. AGPs are usually medical or dental procedures that produce a large aerosolisation volume, contributing to viral transmission (Chacon et al. 2021). According to preliminary research, there is a high viral load of SARS-CoV-2 in the oropharynx and nasopharynx (Chacon et al. 2021). Consequently, there was much discussion regarding the classification of SLP tasks and aerosolisation-causing behaviours. In the intervening months following March 2020, AGP recommendations had a significant impact on SLP services (e.g., Bolton et al. 2020; Freeman-Sanderson et al. 2020). AGP concerns led to considerable disruptions to the in-person care for patients with a tracheostomy or a laryngectomy and the assessment and management of patients for voice, swallowing, and communication. This included disruptions to assessment processes (e.g., videofluoroscopy and endoscopic evaluations) and key aspects of SLP management such as oral cares, triggering vegetative reflexes (e.g., reflexive

or voluntary cough), and conducting performance tasks (Araújo et al. 2020; McGrath et al. 2020; Miles et al. 2020). A lack of consensus and limited research explicitly investigating the aerosolisation of procedures and activities performed by SLPs caused widespread hesitation in the profession. Immediate concerns for clinician and patient safety led to many services being cancelled or, in urgent cases, being conducted under rigorous infection prevention and control measures (Chacon et al. 2021; Fritz et al. 2020). However, stopping services or limiting services to the prioritised few was not a sustainable solution. Encouragingly, telepractice provided an opportunity for many of these AGP tasks to be performed virtually, enabling the continuation of care.

It also became recognised that medically vulnerable groups were at the greatest risk of serious consequences from the virus. As such, another key driver for telepractice adoption during the pandemic became the need to support safe, ongoing care for vulnerable/at risk populations. The widespread closure of services within the residential aged care sector was a key example, with many settings limiting access to medical professionals only. Some disability services introduced similar restrictions, ceasing in-person SLP services due to infection risk fears. In order to sustain necessary SLP services, telepractice became the only way that management could be continued.

The desire to reduce the risk of viral contact also became a key driver for patients, with many seeking telepractice services rather than attending in-person care. Even when there were no longer specific lockdown requirements, many individuals preferred to limit their exposure risks by staying away from hospitals and health services unless it was absolutely necessary. This subgroup of patients specifically sought out telepractice services, creating patient demand for more services and opportunities to be provided via telepractice.

10.5 Growth of telepractice during COVID-19

With the onset of COVID-19 and multiple new drivers for telepractice, the challenge faced by SLPs globally was to rapidly grasp telepractice evidence and acquire the necessary skills and knowledge to deliver virtual interventions during a dynamic, stressful, and high-pressured situation. Since 2020, a number of papers have emerged from SLP groups across the world, outlining the early experiences and engagement with telehealth during those first months of the pandemic. For example, Chadd et al. (2021) surveyed clinicians in the United Kingdom 6 weeks and 22 weeks after the pandemic onset. Rapid uptake in telepractice was evident from the first survey, and by the second survey, clinicians estimated that on average 46.2% of individuals on their caseloads were receiving some services via telepractice. Survey data of SLPs in Hong Kong showed similar uptake patterns, with 34.8% of clinicians reporting providing services via telepractice, the majority of which was conducted via videoconferencing (Fong et al. 2021). Within Quebec, Canada, the uptake rates were even higher, with 84% of respondents

reporting they began using telepractice during the pandemic (Macoir et al. 2021). As expected, this rapid uptake did not come without its challenges. As Fong et al. (2021) noted from their data, 60% of clinicians stated they had had no prior training in how to deliver services via telepractice, and over a quarter still felt there was insufficient evidence to support telepractice delivery of SLP services. This highlighted the challenges of preparing the workforce for such a massive shift in service delivery in a short period.

Although these early experiences highlighted a period of enormous change and challenge, new data emerging in the literature suggests that healthcare providers, patients, and caregivers are becoming more comfortable and confident in using telepractice. In one metropolitan quaternary hospital in Australia, the perceptions of stakeholders involved in tele-based services during COVID-19 and the factors that influenced uptake were explored (Cottrell et al. 2021). A survey completed by 109 patients and 66 allied health professionals from six disciplines (including seven SLPs) found that telepractice was viewed positively, despite best-practice processes for implementation not being consistently followed due to the critical nature of COVID-19. Notably, 80% of patients reported that a hybrid model for accessing services was preferred, with the option for tele-based appointments seen as highly desirable. Similarly, 89% of allied health professionals identified that telepractice was an important component of their role. Twenty-four allied health professionals and 13 administration officers also participated in interviews/focus groups. Overall, their responses echoed that of the survey, with 92% of allied health professionals stating they would provide virtual services post-pandemic. Further, dedicated administrative staff were deemed critical to navigate non-clinical tasks and manage logistical considerations. The work also highlighted that maintaining telepractice requires an ongoing commitment to support this service delivery model, with areas of ongoing concern including infrastructure and technical support, training and adaptations, adequate staffing, environmental and patient factors, confidence, and general preparedness (Cottrell et al. 2021).

10.6 Delivery of SLP services via telepractice

Across adult health services, telepractice was introduced as a means to triage potential patients with COVID-19 to appropriate services, enhance and support ongoing care, monitor patients in quarantine, and facilitate improved patient experience through increased service options whilst maintaining safety (Fisk et al. 2020; Galpin et al. 2021). Within SLP services, widespread adoption of telepractice has seen changes to models of care across many areas. The following sections will present telepractice service adaptations across three clinical service areas (critical care, dysphagia management, head and neck cancer) to highlight different ways in which telepractice has been integrated into care since COVID-19.

10.6.1 Critical care

On 28 April 2020, the World Health Organisation (WHO) recognised the need for SLP services for COVID-19 patients (World Health Organisation/Europe 2020). Patients with the virus were more likely to require a tracheostomy during their intensive care unit (ICU) admission and experience ICU-acquired weakness due to mechanical ventilation, prolonged weaning, failed extubation, or laryngeal complications (Freeman-Sanderson et al. 2020; McGrath et al. 2020; Miles et al. 2020). COVID-19 was also found to dramatically increase the number of patients in ICU who presented with communication barriers such as cognitive-linguistic changes related to the virus. However, although the service need was recognised, providing SLP care for this population posed several challenges. The need to minimise the viral exposure risk of staff and concerns over tracheostomy management and dysphagia assessments and their potential as AGPs, alongside shortages of PPE supplies, created multiple barriers to in-person models and required SLPs to rapidly adopt remote models of care to continue providing services within the ICU.

Telepractice is not a new phenomenon in critical care. For well over a decade, medical and nursing professionals have used telepractice to provide remote consultations, seek expert consultations with other experts, and monitor patient care. However, prior to the pandemic, SLP services within critical care have traditionally been delivered purely via in-person care models. As such, for many SLPs working in critical care environments, the need to adopt telepractice with COVID-19 patients within the ICU was a completely new method of care delivery and one which initially many were poorly prepared to deliver. This was recognised in work conducted early in the pandemic, which developed core recommendations for preparing the SLP workforce to manage COVID-19 in the ICU setting. Involving 35 SLPs from 12 countries across six continents, core strategies to support workforce preparation for managing COVID patients in critical care, as well as supporting communication and swallowing practices with this caseload were formed. The resulting document, "A Consensus Statement for the Management and Rehabilitation of Communication and Swallowing Function in the ICU: A Global Response to COVID-19," provided much-needed structure in an ambiguous and volatile landscape (Freeman-Sanderson et al. 2020). Within that document, assisting staff in the acquisition of telehealth capabilities and the use of telehealth to support swallowing and communication management were part of the core set of consensus statements.

During the pandemic, virtual assessment and management by SLPs ensured timely and appropriate swallowing and communication evaluation of patients in critical care and facilitated communication between patients, health professionals, interpreters, and family/significant others (Freeman-Sanderson et al. 2020; Vergara et al. 2020). Moreover, it has enabled SLPs and patients to communicate without wearing PPE, ensuring that facial expressions and oral musculature

movement were visible and protective face coverings did not affect the ability to view facial expressions or limit additional information from lip-reading in the loud and busy ICU environment. However, although it is recognised clinically that telepractice has become a key element in supporting patients within the critical care environment, at present there is a dearth of published information explicitly documenting the practice changes and adaptations undertaken by SLPs during the pandemic.

One example from the United States highlights the successful integration of existing ICU technology to provide SLP services to confirmed COVID-19 patients. To provide clinical swallow evaluations to patients in isolation, a group of critical care SLPs modified a high-definition camera system called *Tele-ICU* (Khurrum et al. 2020), typically used for tele-based medical consultation and monitoring vital signs (Kurtz 2020). Following a checklist to determine patient suitability to participate in a virtual assessment, a nurse assumed the role of facilitator, and sessions were scheduled to correspond with existing nursing care to limit exposure risks and minimise the use of PPE. The modifications allowed SLPs to operate the system's camera from a separate control room and obtain a clear view of the patient to support remote oromotor examinations and swallowing evaluations. The system also enabled caregivers to attend sessions via a remote link. The main barriers reported for using *Tele-ICU* included background noise from the negative pressure rooms and the presence of dysphonia (attributable to prolonged intubation) (Kurtz 2020).

SLPs have identified several challenges when preparing for telepractice sessions in the ICU. These include identifying clinicians with critical care-specific skills, issues accessing resources and equipment, timely referrals and consultation with care teams; staff availability to provide in-room facilitation or troubleshooting (i.e., nurse or allied health assistant); environmental factors (e.g., acoustics); and patient variables (e.g., level of alertness, access to glasses, hearing aids, call bells, assistive devices) (Riegler 2021; Weidner and Lowman 2020).

However, telepractice has enabled SLP services to adapt and continue to provide necessary support in the critical care environment. In turn, this has allowed other professionals to progress their own management. For example, the use of telepractice allowed the oral prescription of medication as SLPs were able to complete swallow evaluations and clear patients for oral intake. Telepractice also assisted families in navigating visitor restrictions to communicate with loved ones in ICU and with members of the care team. These opportunities to connect virtually underscored the value of tele-based services introduced during this rapid state of change. In particular, connecting patients with their significant others was a unique outcome of the use of telepractice in the ICU setting during COVID-19. Further examples of ways that introducing technology into management created tangible "value adds" for patient care included patients having easy access to alternative communication devices (e.g., text-to-speech application, digital whiteboard) when they could not progress cuff deflation trials or having

carers/significant others record messages to re-play for their loved ones in ICU when they were more alert.

10.6.2 Dysphagia management

COVID-19 presented an array of unique challenges for SLPs working in the area of dysphagia management. There were multiple AGP concerns related to triggering coughing during food/fluid trials, the inability to maintain physical distancing when conducting the assessment, and in many settings, both videofluoroscopy (VFSS) and fiberoptic endoscopic assessments (FEES) were also ceased due to AGP concerns. One positive factor was that there was existing evidence to support the use of telepractice to conduct clinical swallow examinations (CSEs) available prior to the pandemic (Borders et al. 2021; Burns et al. 2019; Morrell et al. 2017; Ward et al. 2012, 2014). Although the diagnostic limitations of a CSE (conducted either in-person or via telepractice) are fully acknowledged, within the context of COVID restrictions and limited access to instrumental swallowing assessments, the telepractice CSE model at least provided a means for making some clinical decisions regarding dysphagia risk. It also helped clinicians form interim management plans until an instrumental assessment was able to be conducted.

The implementation of telepractice to manage dysphagia requires a systematic approach, ongoing training, upskilling, awareness of available technology, and the use of an evidence-based model of care that includes appropriate safety measures and appropriate patient support. Depending on the service need, existing models were able to be adapted during the pandemic to provide CSEs via telepractice to inpatients within a healthcare service, other healthcare facilities, or patients' homes, as discussed further here.

The inpatient model was used when swallowing assessments were required for COVID-19 patients within the critical care environment or with any "suspected" COVID-19 (awaiting confirmation from testing) patients (e.g., in the emergency department setting). In this model, the speech–language pathologist conducted the assessment from either their office/another room or outside the patient's room, connecting with the patient using videoconferencing via a tablet or phone as per published studies (Morrell et al. 2017; Ward et al. 2012, 2014) or other ICU camera systems (Khurrum et al. 2020). If the patient was located within a room with an observation window, then having the SLP located on the other side of the observation window enabled further visual connection and interaction between those involved in the assessment. Located with the patient is their nurse, who was on hand to facilitate the session, monitor patient safety, and provide in-room assistance when necessary. Engaging the assistance of a nurse facilitator who was already in PPE and who was scheduled to be in the room with the patient to complete the assessment as well as other routine care tasks meant reduced PPE use and limited exposure risks for staff (Kurtz 2020). Patients were

also encouraged to self-feed whenever possible to maintain an appropriate level of social distance between themselves and the facilitator.

The CSE via telepractice model was also adapted to administer assessments to non–COVID patients located within other facilities, similar to the service model described by Burns et al. (2019). In that context, social distancing requirements (e.g., during lockdown restrictions) or the vulnerable health state of the patient meant that the speech-language pathologist was unable to see the patient in person and instead had to provide a remote CSE via telehealth from a distant location. During the pandemic this model was often used within the aged care sector when facilities limited (or prevented) health professionals from attending on-site to reduce the exposure risk for residents. In that model, local nursing and care staff from within the facility assisted at the patient end during the trials, enabling the online clinician to conduct the assessment without any contact with the patient.

For dysphagic patients accessing community and outpatient services, many actively sought the use of telepractice to receive services in their own homes during the pandemic. For many this helped manage concerns about travelling to a health service and the potential risk of viral exposure from community transfer during these visits. For these individuals, completing a CSE via telepractice from their own home became a useful model to ensure they remained in regular contact with their speech-language pathologist and their dysphagia progress was able to be monitored from the safety of their own homes. In this context, a carer or family member was present in the home to assist the patient and provide support if a medical emergency arose. As the connection was being made into the home, videoconferencing was conducted using the patient's home device (e.g., phone, tablet, laptop). Studies have shown that various device types can be successfully used for home assessments (Morrell et al. 2017). In some circumstances additional preparation prior to the session was organised to ensure patients had appropriate foods/fluids available for the assessment. Equally, having the opportunity to observe how patients prepared and managed food and fluid items at home provided valuable insights into their daily management.

Telepractice offers flexible service delivery options for direct patient management of dysphagia. It can also facilitate virtual mentoring opportunities, provide clinicians with access to experts to support complex dysphagia management, and enable sessions to be recorded and used for ongoing education and training. It can also help expedite access to SLP services (e.g., in a residential aged care setting). This has an immediate impact on resident safety and potentially avoids additional travel, call-out expenses, or delays due to lockdowns. Telepractice can also ensure patients receive consistent and responsive dysphagia management, which in turn can facilitate oral intake and therapeutic input and support the overall maintenance of swallow function. As multiple aspects of dysphagia care can be provided safely and effectively via telepractice, it can feasibly become part of the ongoing management options for all patients with swallowing difficulties, not only those impacted by COVID.

10.6.3 Head and neck cancer

Establishing new and practical workflow solutions for managing patients with head and neck cancer (HNC) was crucial during the pandemic to ensure the efficient and safe provision of services (Ku et al. 2020; Spelten et al. 2021). Due to the diverse negative impacts of HNC and its management, practice guidelines for this population advocate for regular supportive care by SLP and the wider multidisciplinary team during active treatment, as well as during the post-acute and long-term recovery stages. However, with the onset of the pandemic, providing this level of support and monitoring required extensive service reimagining. It was recognised early on that limiting the risk of exposure to infection for this group was crucial, as their immunocompromised health state made them more susceptible to the virus and more likely to have higher morbidity and mortality rates (Paleri et al. 2020). Hence, rapid transition to virtual solutions to deliver care became critical to ensure patients within the hospital setting and those living in the community could continue receiving necessary individual and group support (Nilsen et al. 2020; Spelten et al. 2021).

Effective use of telepractice to support patient care following HNC management had been established in the pre-pandemic literature, and various models were available for implementation. Models with demonstrated efficacy for providing SLP and multidisciplinary support to patients within their homes post-treatment via telepractice (Collins et al. 2017) were implemented to support ongoing care. A study published post-pandemic demonstrated how this type of home-based model enabled patients to remain supported by weekly videoconferencing sessions with a speech-language pathologist whilst receiving treatment (Nilsen et al. 2020). There is also evidence for models which use videoconferencing to link in with other expert clinicians from another facility to help troubleshoot and guide local care (Burns et al. 2017; Burns and Wall 2017), which was used for clinical support. Positive outcomes have also been achieved through asynchronous digital solutions for supporting therapy (Wall et al. 2020), which provided effective ways to support therapy remotely.

In addition to these approaches, electronic monitoring via email or other systems to collect online surveys, self-evaluation tools, and checklists to stay updated on how patients are progressing has also been supported by published evidence (e.g., Wall et al. 2016). This sort of monitoring enabled teams to identify when patients needed care and escalate issues of greater urgency. Multidisciplinary videoconferencing models such as the one reported by Collins et al. (2017) were also used to conduct meetings between patients and multiple health professionals involved in their care (e.g., speech-language pathologist, dietitian, radiation oncologist), allowing multidisciplinary consultation and opportunities to discuss concerns and manage/mitigate the impacts of cancer treatment. The opportunity to use group videoconferencing to provide education sessions to groups of patients simultaneously (e.g., for delivery of education sessions prior to

commencing radiotherapy) or to provide support groups for survivors of HNC was also a key part of this reimagined model of care. These multiple different telepractice solutions all provided new opportunities to ensure patients received their required regular monitoring and opportunities for engagement with support groups without the need to travel to the cancer service.

For some services that required more time to get their digital solutions ready to use with their patients, there were anecdotal reports of early issues and some negative consequences associated with missed care and loss of regular follow-up monitoring. There were also early concerns that there would be poor acceptance of telepractice by this clinical population. Fortunately, for the majority of patients, this was not the case. Once services had telepractice solutions ready for patient use and patients were supported to engage with these telepractice solutions, it was found that flexibly connecting with patients via telepractice helped identify issues as they arose (Paleri et al. 2020). Some SLPs also found that telepractice enabled more responsive and time-sensitive care, particularly relating to patient triaging and waitlists.

Although the vulnerable health state of patients with HNC was a key driver for service redesign for this population, finding ways to ensure the safe and responsible management of the AGPs associated specifically with laryngectomy care (e.g., prosthesis changes, stoma care) was also a significant discussion area. It was recommended that individuals already caring for patients should be delegated these tasks to minimise the risk of exposure and contain the virus (Miles et al. 2020). Patients were also encouraged to self-manage their voice prosthesis where possible (e.g., within their home environment) and troubleshoot with a speech-language pathologist via a virtual consultation on the phone or via video (Bolton et al. 2020). Again, support models via telepractice were able to be established based on existing evidence for supporting laryngectomy care (Burns et al. 2017; Ward et al. 2009).

Overall, it has been reassuring to observe the willingness and capacity of health services and providers to adapt to telepractice-based solutions necessitated by COVID-19 (Spelten et al. 2021). Unsurprisingly, it has also highlighted the notable influence providers and patient groups have on the utility and acceptability of a service. It is imperative that quality assurances are reviewed and processes are implemented to safeguard the acceptability, adaptability, and sustainability of telepractice (including hybrid offerings) in the HNC population post-pandemic (Spelten et al. 2021).

10.7 Summary

As stated by Roy (2020), "Historically pandemics have forced humans to break with the past and imagine their world anew. [COVID-19] is a portal, a gateway between one world and the next" (p. 239). Indeed, this pandemic has intensified the need for healthcare providers to push boundaries, manage change, adapt,

and reimagine how services can be accessed and delivered. The growth of telepractice in SLP services is a key example of this. Across services globally, the sudden disruption to routine practice forced health services to shift their perceptions and implement telepractice to sustain care, and the scope of telepractice has grown exponentially as a direct result. Importantly, this shift provided individuals with first-hand experience of tele-based delivery and management, which in turn provided them with greater clarity regarding (1) *how* telepractice could be used; (2) *what* training, upskilling, resources, and supports were required; (3) *who* was able to administer and engage in telepractice; and (4) *what* workflow practices were needed. As providers have become more aware of and comfortable with operating in the virtual space, a greater understanding of the capabilities, situations, and opportunities to employ telepractice has become evident. Through shared experience, a culture of learning and adaptation has been fostered.

Telepractice is a high-value model of care that continues to develop, evolve, and change. During this global emergency, there have been valuable lessons learnt and recognition that telepractice models can enhance the holistic management of patients. As momentum builds within the health service system, ongoing barriers to implementation including infrastructure, training, technology, eligibility, and financial considerations will need to be continually reviewed and addressed. This will ensure meaningful and targeted telepractice models can be established and supported. As we move towards a "new world," future studies are needed to investigate the real-world challenges SLPs faced during COVID-19 and unpack what was done to provide services via telepractice during the pandemic. Understanding the *what* and *how* will help inform future telehealth service delivery models, enhance patient-centred care, and improve practice efficiency. Critical to the success of telepractice services is training and education. SLPs must continue to develop, consolidate, and maintain their currency of telepractice knowledge to facilitate the integration and expansion of tele-based services. Ultimately, it is not just about understanding how telepractice has been used to respond to the pandemic but rather how the profession will distil what it has learnt from this period and embed this into the telepractice services that evolve into future *business as usual* care.

References

American Speech-Language-Hearing Association (2021). Telepractice. Resource document. American Speech-Language-Hearing Association. www.asha.org/practice-portal/professional-issues/telepractice/. Accessed 20 August 2021.

Araújo, B. C. L., Lima, T. R. C. D. M., Gois-Santos, V. T. D., Santos, V. S., Simões, S. D. M., & Martins-Filho, P. R. (2020). Speech therapy practice in hospital settings and COVID-19 pandemic. *Revista Da Associação Médica Brasileira*, 66(Suppl 2), 10–12.

Ben-Aharon, A. (2019). A practical guide to establishing an online speech therapy private practice. *Perspectives of the ASHA Special Interest Groups*, 4(4), 712–718.

Bolton, L., Mills, C., Wallace, S., & Brady, M. C. (2020). Aerosol generating procedures, dysphagia assessment and COVID-19: A rapid review. *International Journal of Language and Communication Disorders*, 55(4), 629–636.

Borders, J. C., Sevitz, J. S., Malandraki, J. B., Malandraki, G. A., & Troche, M. S. (2021). Objective and subjective clinical swallowing outcomes via telehealth: Reliability in outpatient clinical practice. *American Journal of Speech-Language Pathology*, 30(2), 598–608.

Burns, C. L., & Wall, L. R. (2017). Using telepractice to support the management of head and neck cancer: Key considerations for speech-language pathology service planning, establishment and evaluation. *Perspectives of the ASHA Special Interest Groups*, 2(SIG13), 139–146.

Burns, C. L., Ward, E. C., Gray, A., Baker, L., Cowie, B., Winter, N., et al. (2019). Implementation of speech pathology telepractice services for clinical swallowing assessment: An evaluation of service outcomes, costs and consumer satisfaction. *Journal of Telemedicine and Telecare*, 25(9), 545–551.

Burns, C. L., Ward, E. C., Hill, A. J., Kularatna, S., Byrnes, J., & Kenny, L. M. (2017). Randomised controlled trial of a multisite speech pathology telepractice service providing swallowing and communication intervention to patients with head and neck cancer: An evaluation of service outcomes. *Head and Neck*, 39(5), 932–939.

Chacon, A. M., Nguyen, D. D., McCabe, P., & Madill, C. (2021). Aerosol generating behaviours in speech pathology clinical practice: A systematic literature review. *PLoS One*, 16(4), e0250308. doi:10.1371/journal.pone.0250308.

Chadd, K., Moyse, K., & Enderby, P. (2021). Impact of COVID-19 on the speech and language therapy profession and their patients. *Frontiers in Neurology*, 12. doi:10.3389/fneur.2021.629190.

Collins, A., Burns, C. L., Ward, E. C., Comans, T., Blake, C., Kenny, L., et al. (2017). Home-based telehealth service for swallowing and nutrition management following head and neck cancer treatment. *Journal of Telemedicine and Telecare*, 23(10), 866–872.

Cottrell, M., Burns, C. L., Jones, A., Rahmann, A., Young, A., Sam, S., et al. (2021). Sustaining allied health telehealth services beyond the rapid response to COVID-19: Learning from patient and staff experiences at a large quaternary hospital. *Journal of Telemedicine and Telecare*, 27(10), 615–624.

Fisk, M., Livingstone, A., & Pit, S. W. (2020). Telehealth in the context of COVID-19: Changing perspectives in Australia, the United Kingdom, and the United States. *Journal of Medical Internet Research*, 22(6), e19264. doi:10.2196/19264.

Fong, R., Tsai, C. F., & Yiu, O. Y. (2021). The implementation of telepractice in speech language pathology in Hong Kong during the COVID-19 pandemic. *Telemedicine and E-Health*, 27(1), 30–38.

Freeman-Sanderson, A., Ward, E. C., Miles, A., de Pedro Netto, I., Duncan, S., Inamoto, Y., et al. (2020). A consensus statement for the management and rehabilitation of communication and swallowing function in the ICU: A global response to COVID-19. *Archives of Physical Medicine and Rehabilitation*, 102(5), 835–842.

Fritz, M. A., Howell, R. J., Brodsky, M. B., Suiter, D. M., Dhar, S. I., Rameau, A., et al. (2020). Moving forward with dysphagia care: Implementing strategies during the COVID-19 pandemic and beyond. *Dysphagia*, 36(2), 161–169.

Galpin, K., Sikka, N., King, S. L., Horvath, K. A., Shipman, S. A., Evans, N., et al. (2021). Expert consensus: Telehealth skills for health care professionals. *Telemedicine and E-Health*, 27(7), 820–824.

Khurrum, M., Asmar, S., & Jospeh, B. (2020). Telemedicine in the ICU: Innovation in the critical care process. *Journal of Intensive Care Medicine,* 36(12), 1377–1384.

Ku, P. K. M., Holsinger, F. C., Chan, J. Y. K., Yeung, Z. W. C., Chan, B. Y. T., Tong, M. C. F., et al. (2020). Management of dysphagia in the patient with head and neck cancer during COVID-19 pandemic: Practical strategy. *Head and Neck*, 42(7), 1491–1496.

Kurtz, M. (2020). Making instrumental assessments work in a COVID-19 world. *The ASHA Leader.* https://leader.pubs.asha.org/do/10.1044/leader.OTP.25082020.40/full/. Accessed 5 August 2021.

Macoir, J., Desmarais, C., Martel-Sauvageau, V., & Monetta, L. (2021). Proactive changes in clinical practice as a result of the COVID-19 pandemic: Survey on the use of telepractice by Quebec speech-language pathologists. *International Journal of Language and Communication Disorders*, 56(5), 1086–1096.

Malandraki, G. A., Arkenberg, R. H., Mitchell, S. S., & Malandraki, J. B. (2021). Telehealth for dysphagia across the life span: Using contemporary evidence and expertise to guide clinical practice during and after COVID-19. *American Journal of Speech-Language Pathology*, 30(2), 532–550.

McGrath, B. A., Ashby, N., Birchall, M., Dean, P., Doherty, C., Ferguson, K., et al. (2020). Multidisciplinary guidance for safe tracheostomy care during the COVID-19 pandemic: The NHS National Patient Safety Improvement Programme (NatPatSIP). *Anaesthesia*, 75(12), 1659–1670.

Miles, A., Connor, N. P., Desai, R. V., Jadcherla, S., Allen, J., Brodsky, M., et al. (2020). Dysphagia care across the continuum: A multidisciplinary dysphagia research society taskforce report of service-delivery during the COVID-19 global pandemic. *Dysphagia*, 36(2), 170–182.

Morrell, K., Hyers, M., Stuchiner, T., Lucas, L., Schwartz, K., Mako, J., et al. (2017). Telehealth stroke dysphagia evaluation is safe and effective. *Cerebrovascular Diseases*, 44(3–4), 225–231.

Nilsen, M. L., Clump II, D. A., Kubik, M., Losego, K., Mrozek, A., Pawlowicz, E., et al. (2020). Prevision of multidisciplinary head and neck cancer survivorship care during the 2019 novel coronavirus pandemic. *Journal of the Sciences and Specialties of the Head and Neck*, 42(7). doi:10.1002/hed.26256.

Paleri, V., Hardman, J., Tikka, T., Bradley, P., Pracy, P., & Kerawala, C. (2020). Rapid implementation of an evidence-based remote triaging system for assessment of suspected referrals and patients with head and neck cancer on follow-up after treatment during the COVID-19 pandemic: Model for international collaboration. *Head and Neck*, 42(7), 1674–1680.

Riegler, L. (2021). Health care telepractice success is all about the prep. *The ASHA Leader*. https://leader.pubs.asha.org/do/10.1044/2021-0621-va-telehealth-facilitators/full/. Accessed 5 August 2021.

Roy, A. (2020). *Azadi: Freedom. Fascism. Fiction. (Penguin specials).* London, UK: Penguin.

Royal College of Speech and Language Therapists (2021). Telehealth guidance. Resource document. Royal College of Speech and Language Therapists. www.rcslt.org/members/delivering-quality-services/telehealth/telehealth-guidance/. Accessed 25 September 2021.

Speech Pathology Australia (2014). Telepractice in speech pathology. Resource document. Speech Pathology Australia. www.telemedecine-360.com/wp-content/uploads/2019/02/2015-SPA-0113_Position_Statement_Telepractice_in_Speech.pdf. Accessed 25 September 2021.

Speech Pathology Australia (2021). Telepractice. Resource document. Speech Pathology Australia. www.speechpathologyaustralia.org.au/SPAweb/Resources_for_Speech_Pathologists/Professional_Resources/HTML/Telepractice.aspx. Accessed 25 September 2021.

Spelten, E. R., Hardman, R. N., Pike, K. E., Yuen, E., & Wilson, C. (2021). Best practice in the implementation of telehealth-based supportive cancer care: Using research evidence and discipline-based guidance. *Patient Education and Counseling*, 104(11), 2682–2699.

Thomas, E. E., Taylor, M. L., Ward, E. C., Hwang, R., Cook, R., Ross, J.-A., Webb, C., Harris, M., Hartley, C., Carswell, P., Burns, C., & Caffery, L. J. (2022). Beyond forced telehealth adoption: A framework to sustain telehealth among allied health services. *Journal of Telemedicine and Telecare.* doi:10.1177/1357633X221074499.

Vergara, J., Skoretz, S. A., Brodsky, M. B., Miles, A., Langmore, S. E., Wallace, S., et al. (2020). Assessment, diagnosis, and treatment of dysphagia in patients infected with SARS-CoV-2: A review of the literature and international guidelines. *American Journal of Speech-Language Pathology*, 29(4), 2242–2253.

Wall, L. R., Cartmill, B., Ward, E. C., Hill, A. J., Isenring, E., Byrnes, J., et al. (2016). "ScreenIT": Computerised screening of swallowing, nutrition and distress in head and neck cancer patients during (chemo)radiotherapy. *Oral Oncology*, 54, 47–53.

Wall, L. R., Ward, E. C., Cartmill, B., Hill, A. J., Isenring, E., Byrnes, J., et al. (2020). Prophylactic swallowing therapy for patients with head and neck cancer: A three arm randomised parallel group trial investigating the impact of service delivery model. *Head and Neck*, 42(5), 873–885.

Ward, E. C., Burns, C. L., Gray, A., Baker, L., Cowie, B., Winter, N., et al. (2021). Establishing clinical swallowing assessment services via telepractice: A multisite implementation evaluation. *American Journal of Speech-Language Pathology*, 30(6), 2456–2464.

Ward, E. C., Burns, C. L., Theodoros, D. G., & Russell, T. G. (2014). Impact of dysphagia severity on clinical decision making via telerehabilitation. *Telemedicine and E-Health*, 20(4), 296–303.

Ward, E. C., Crombie, J., Trickey, M., Hill, A., Theodoros, D., & Russell, T. (2009). Assessment of communication and swallowing post-laryngectomy: A telerehabilitation trial. *Journal of Telemedicine and Telecare*, 15(5), 232–237.

Ward, E. C., Sharma, S., Burns, C., Theodoros, D., & Russell, T. (2012). Managing patient factors in the assessment of swallowing via telerehabilitation. *International Journal of Telemedicine and Applications*, 2012, 132719. doi:10.1155/2012/132719.

Weidner, K., & Lowman, J. (2020). Telepractice for adult speech-language pathology services: A systematic review. *Perspectives of the ASHA Special Interest Groups*, 5(1), 326–338.

World Health Organisation/Europe (2020). COVID-19 exposes the critical importance of patient rehabilitation. Resource document. World Health Organisation/Europe. www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/4/covid-19-exposes-the-critical-importance-of-patient-rehabilitation. Accessed 5 August 2021.