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# Factors critical for the successful delivery of telehealth to rural populations: a descriptive qualitative study

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## Abstract

**Background** The use of telehealth has proliferated to the point of being a common and accepted method of healthcare service delivery. Due to the rapidity of telehealth implementation, the evidence underpinning this approach to healthcare delivery is lagging, particularly when considering the uniqueness of some service users, such as those in rural areas. This research aimed to address the current gap in knowledge related to the factors critical for the successful delivery of telehealth to rural populations.

**Methods** This research used a qualitative descriptive design to explore telehealth service provision in rural areas from the perspective of clinicians and describe factors critical to the effective delivery of telehealth in rural contexts. Semi-structured interviews were conducted with clinicians from allied health and nursing backgrounds working in child and family nursing, allied health services, and mental health services. A manifest content analysis was undertaken using the Framework approach.

**Results** Sixteen health professionals from nursing, clinical psychology, and social work were interviewed. Participants mostly identified as female (88%) and ranged in age from 26 to 65 years with a mean age of 47 years. Three overarching themes were identified: (1) Navigating the role of telehealth to support rural healthcare; (2) Preparing clinicians to engage in telehealth service delivery; and (3) Appreciating the complexities of telehealth implementation across services and environments.

**Conclusions** This research suggests that successful delivery of telehealth to rural populations requires consideration of the context in which telehealth services are being delivered, particularly in rural and remote communities where there are challenges with resourcing and training to support health professionals. Rural populations, like all communities, need choice in healthcare service delivery and models to increase accessibility. Preparation and specific, intentional training for health professionals on how to transition to and maintain telehealth services is a critical factor for delivery of telehealth to rural populations. Future research should further investigate the training and supports required for telehealth service provision, including who, when and what training will equip health professionals with the appropriate skill set to deliver rural telehealth services.

**Keywords** Telehealth, Service provision, Rural health, Nursing, Allied health, Rural workforce

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## Introduction

Telehealth is a commonly utilised application in rural health settings due to its ability to augment service delivery across wide geographical areas. During the COVID-19 pandemic, the use of telehealth became prolific as it was rapidly adopted across many new fields of practice to allow for healthcare to continue despite requirements for physical distancing. In Australia, the Medicare Benefits Scheme (MBS) lists health services that are subsidised by the federal government. Telehealth items were extensively added to these services as part of the response to COVID-19 [1]. Although there are no longer requirements for physical distancing in Australia, many health providers have continued to offer services via telehealth, particularly in rural areas [2, 3]. For the purpose of this research, telehealth was defined as a consultation with a healthcare provider by phone or video call [4]. Telehealth service provision in rural areas requires consideration of contextual factors such as access to reliable internet, community members' means to finance this access [5], and the requirement for health professionals to function across a broad range of specialty skills. These factors present a case for considering the delivery of telehealth in rural areas as a unique approach, rather than one portion of the broader use of telehealth.

Research focused on rural telehealth has proliferated alongside the rapid implementation of this service mode. To date, there has been a focus on the impact of telehealth on areas such as client access and outcomes [2], client and health professional satisfaction with services and technology [6], direct and indirect costs to the patient (travel cost and time), healthcare service provider staffing, lower onsite healthcare resource utilisation, improved physician recruitment and retention, and improved client access to care and education [7, 8]. In terms of service implementation, these elements are important but do not outline the broader implementation factors critical to the success of telehealth delivery in rural areas. One study by Sutarsa et al. explored the implications of telehealth as a replacement for face-to-face services from the perspectives of general practitioners and clients [9] and articulated that telehealth services are not a like-for-like service compared to face-to-face modes. Research has also highlighted the importance of understanding the experience of telehealth in rural Australia across different population groups, including Aboriginal and Torres Strait Islander peoples, and the need to consider culturally appropriate services [10–13].

Research is now required to determine what the critical implementation factors are for telehealth delivery in rural areas. This type of research would move towards answering calls for interdisciplinary, qualitative, place-based research [12] that explores factors required for the sustainability and usability of telehealth in rural

areas. It would also contribute to the currently limited understanding of implementation factors required for telehealth delivery to rural populations [14]. There is a reasonable expectation that there is consistency in the way health services are delivered, particularly across geographical locations. Due to the rapid implementation of telehealth services, there was limited opportunity to proactively identify factors critical for successful telehealth delivery in rural areas and this has created a lag in policy, process, and training. This research aimed to address this gap in the literature by exploring and describing rural health professionals' experiences providing telehealth services. For the purpose of this research, rural is inclusive of locations classified as rural or remote (MM3-6) using the Modified Monash Model which considers remoteness and population size in its categorisation [15].

## Methods

This research study adopted a qualitative descriptive design as described by Sandelowski [16]. The purpose of a descriptive study is to document and describe a phenomenon of interest [17] and this method is useful when researchers seek to understand who was involved, what occurred, and the location of the phenomena of interest [18]. The phenomenon of interest for this research was the provision of telehealth services to rural communities by health professionals. In line with this, a purposive sampling technique was used to identify participants who have experience of this phenomenon [19]. This research is reported in line with the consolidated criteria for reporting qualitative research [20] to enhance transparency and trustworthiness of the research process and results [21].

## Research aims

This research aimed to:

- 1) Explore telehealth service provision in rural areas from the perspective of clinicians.
- 2) Describe factors critical to the successful delivery of telehealth in rural contexts.

## Participant recruitment and data collection

People eligible to participate in the research were allied health (using the definition provided by Allied Health Professions Australia [22]) or nursing staff who delivered telehealth services to people living in the geographical area covered by two rural local health districts in New South Wales, Australia (encompassing rural areas MM3-6). Health organisations providing telehealth service delivery in the southwestern and central western regions of New South Wales were identified through the research teams' networks and invited to be part of the research.

Telehealth adoption in these organisations was intentionally variable to capture different experiences and ranged from newly established (prompted by COVID-19) to well established (>10 years of telehealth use). Organisations included government, non-government, and not-for-profit health service providers offering child and family nursing, allied health services, and mental health services. Child and family nursing services were delivered by a government health service and a not-for-profit specialist service, providing health professional advice, education, and guidance to families with a baby or toddler. Child and family nurses were in the same geographical region as the families receiving telehealth. Transition to telehealth services was prompted by the COVID-19 pandemic. The participating allied health service was a large, non-government provider of allied health services to regional New South Wales. Allied health professionals were in the same region as the client receiving telehealth services. Use of telehealth in this organisation had commenced prior to the COVID-19 pandemic. Telehealth mental health services were delivered by an emergency mental health team, located at a large regional hospital to clients in another healthcare facility or location to which the health professional could not be physically present (typically a lower acuity health service in a rural location).

Once organisations agreed to disseminate the research invitation, a key contact person employed at each health organisation invited staff to participate via email. Staff were provided with contact details of the research team in the email invitation. All recruitment and consent processes were managed by the research team to minimise risk of real or perceived coercion between staff and the key contact person, who was often in a supervisory or managerial position within the organisation. Data were collected using semi-structured interviews using an online platform with only the interviewer and participant present. Interviews were conducted by a research team member with training in qualitative data collection during November and December 2021 and were transcribed verbatim by a professional transcribing service. All participants were offered the opportunity to review their transcript and provide feedback, however none opted to do so. Data saturation was not used as guidance for participant numbers, taking the view of Braun and Clarke [23] that meaning is generated through the analysis rather than reaching a point of saturation.

#### Data analysis

Researchers undertook a manifest content analysis of the data using the Framework approach developed by Ritchie and Spencer [24]. All four co-authors were involved in the data analysis process. Framework uses five stages for analysis including (1) familiarisation (2) identifying a thematic framework based on emergent overarching themes,

(3) application of the coding framework to the interview transcripts [indexing], (4) reviewing and charting of themes and subthemes, and (5) mapping and interpretation [24, p. 178]. The research team analysed a common interview initially, identified codes and themes, then independently applied these to the remaining interviews. Themes were centrally recorded, reviewed, and discussed by the research team prior to inclusion into the thematic framework. Final themes were confirmed via collaborative discussion and consensus. The iterative process used to review and code data was recorded into an Excel spreadsheet to ensure auditability and credibility, and to enhance the trustworthiness of the analysis process.

#### Ethics

This study was approved by the Greater Western NSW Human Research Ethics Committee and Charles Sturt University Human Research Ethics Committee (approval numbers: 2021/ETH00088 and H21215). All participants provided written consent.

#### Results

Eighteen health professionals consented to be interviewed. Two were lost to follow-up, therefore semi-structured interviews were conducted with 16 of these health professionals, the majority of which were from the discipline of nursing ( $n=13$ , 81.3%). Participant demographics and their pseudonyms are shown in Table 1.

Participants mostly identified as female ( $n=14$ , 88%) and ranged in age from 26 to 65 years with a mean age of 47 years. Participants all delivered services to rural communities in the identified local health districts and resided within the geographical area they serviced. The participants resided in areas classified as MM3-6 but were most likely to reside in an area classified MM3 (81%). Average interview time was 38 min, and all interviews were conducted online via Zoom.

Three overarching themes were identified through the analysis of interview transcripts with health professionals. These themes were: (1) Navigating the role of telehealth to support rural healthcare; (2) Preparing clinicians to engage in telehealth service delivery; and (3) Appreciating the complexities of telehealth implementation across services and environments.

#### Theme 1: navigating the role of telehealth to support rural healthcare

The first theme described clinicians' experiences of using telehealth to deliver healthcare to rural communities, including perceived benefits and challenges to acceptance, choice, and access. Interview participants identified several factors that impacted on or influenced the way they could deliver telehealth, and these were common across the different organisational structures.

**Table 1** Participant demographics

Pseudonym	Health Profession	Age bracket	Organisation	Service Type	MMM of place of work and residential location
Robyn	Allied Health	Not provided	Allied Health Services		MM4
Eleanor	Nurse	30–39	Emergency Department	Nurse	MM3
Tracey	Nurse	20–29	Mental Health Services		MM3
Adam	Nurse	40–49	Mental Health Services		MM3
Amber	Allied Health	20–29	Mental Health Services		MM3
Lucy	Nurse	40–49	Mental Health Services		MM3
Patrick	Nurse	50–59	Mental Health Services		MM3
Evelyn	Allied Health	30–39	Mental Health Services		MM3
Rose	Nurse	Not provided	Mental Health Services		MM3
Mia	Nurse	40–49	Child and family health services		MM3
Kylie	Nurse	50–59	Child and family health services		MM3
Jade	Nurse	50–59	Child and family health services		MM4
Kelsey	Nurse	50–59	Child and family health services		MM3
Camila	Nurse	50–59	Child and family health services		MM3
Chloe	Nurse	50–59	Child and family health services		MM3
Sophia	Nurse	60–69	Child and family health services		MM6

Note 'not provided' signifies that this information was not provided by the participant during the interview

MMM=Modified Monash model category

Clinicians highlighted the need to consider how to effectively navigate the role of telehealth in supporting their practice, including when it would enhance their practice, and when it might create barriers. The ability to improve rural service provision through greater access was commonly discussed by participants. In terms of factors important for telehealth delivery in rural contexts, the participants demonstrated that knowledge of why and how telehealth was used were important, including the broadened opportunity for healthcare access and an understanding of the benefits and challenges of providing these services.

#### Access to timely and specialist healthcare for rural communities

Participants described a range of benefits using telehealth to contact small, rural locations and facilitate greater access to services closer to home. This was particularly evident when there was lack of specialist support in these areas. These opportunities meant that rural people could receive timely care that they required, without the burden of travelling significant distances to access health services.

*The obvious thing in an area like this, is that years ago, people were being transported three hours just to see us face to face. It's obviously giving better, more timely access to services. (Patrick)*

Staff access to specialist support was seen as an important aspect for rural healthcare by participants, because of the challenges associated with lack of staffing and resources within these areas which potentially increased

the risks for staff in these locations, particularly when managing clients with acute mental illnesses.

*Within the metro areas they've got so many staff and so many hospitals and they can manage mental health patients quite well within those facilities, but with us some of these hospitals will have one RN on overnight and it's just crappy for them, and so having us able to do video link, it kind of takes the pressure off and we're happy to make the decisions and the risky decisions for what that person needs. (Tracey)*

Participants described how the option to use telehealth to provide specialised knowledge and expertise to support local health staff in rural hospitals likely led to more appropriate outcomes for clients wanting to be able to remain in their community. Conversely, Amber described the implications if telehealth was not available.

*If there was some reason why the telehealth wasn't available... quite often, I suppose the general process be down to putting the pressure on the nursing and the medical staff there to make a decision around that person, which is not a fair or appropriate thing for them to do. (Amber)*

#### Benefits and challenges to providing telehealth in rural communities

Complementing the advantage of reduced travel time to access services, was the ability for clients to access additional support via telehealth, which was perceived as a benefit. For example, one participant described

how telehealth was useful for troubleshooting client's problems rather than waiting for their next scheduled appointment.

*If a mum rings you with an issue, you can always say to them "are you happy to jump onto My Virtual Care with me now?" We can do that, do a consult over My Virtual Care. Then I can actually gauge how mum is. (Jade)*

While accessibility was a benefit, participants highlighted that rural communities need to be provided with choice, rather than the assumption that telehealth be the preferred option for everyone, as many rural clients want face-to-face services.

*They'd all prefer, I think, to be able to see someone in person. I think that's generally what NSW rural [want] —'cause I'm from country towns as well—there's no substitute, like I said, for face-to-face assessment. (Adam)*

Other, more practical limitations of broad adoption of telehealth raised by the participants included issues with managing technology and variability in internet connectivity.

*For many people in the rural areas, it's still an issue having that regular [internet] connection that works all the time. I think it's a great option but I still think it's something that some rural people will always have some challenges with because it's not—there's so many black spots and so many issues still with the internet connection in rural areas. Even in town, there's certain areas that are still having lots of problems. (Chloe)*

Participants also identified barriers related to assumptions that all clients will have access to technology and have the necessary data to undertake a telehealth consultation, which wasn't always the case, particularly with individuals experiencing socioeconomic disadvantage.

*A lot of [Aboriginal] families don't actually have access to telehealth services. Unless they use their phone. If they have the technology on their phones. I found that was a little bit of an issue to try and help those particular clients to get access to the internet, to have enough data on their phone to make that call. There was a lot of issues and a lot of things that we were putting in complaints about as they were going "we're using up a lot of these peoples' data and they don't have internet in their home." (Evelyn)*

Other challenges identified by the participants were related to use of telehealth for clients that required additional support. Many participants talked about the complexities of using an interpreter during a telehealth consultation for culturally and linguistically diverse clients.

*Having interpreters, that's another element that's really, really difficult because you're doing video link, but then you've also got the phone on speaker and you're having this three-way conversation. Even that, in itself, that added element on video link is really, really tough. It's a really long process. (Tracey)*

In summary, this theme described some of the benefits and constraints when using telehealth for the delivery of rural health services. The participants demonstrated the importance of understanding the needs and contexts of individual clients, and accounting for this when making decisions to incorporate telehealth into their service provision. Understanding how and why telehealth can be implemented in rural contexts was an important foundation for the delivery of these services.

## **Theme 2: preparing clinicians to engage in telehealth service delivery**

The preparation required for clinicians to engage with telehealth service delivery was highlighted and the participants described the unique set of skills required to effectively build rapport, engage, and carry out assessments with clients. For many participants who had not routinely used telehealth prior to the COVID-19 pandemic, the transition to using telehealth had been rapid. The participants reflected on the implications of rapidly adopting these new practices and the skills they required to effectively deliver care using telehealth. These skills were critical for effective delivery of telehealth to rural communities.

### **Rapid adoption of new skills and ways of working**

The rapid and often unsupported implementation of telehealth in response to the COVID-19 pandemic resulted in clinicians needing to learn and adapt to telehealth, often without being taught or with minimal instruction.

*We had to do virtual, virtually overnight we were changed to, "Here you go. Do it this way," without any real education. It was learned as we went because everybody was in the same boat. Everyone was scrabbling to try and work out how to do it. (Chloe)*

In addition to telehealth services starting quickly, telehealth provision requires clinicians to use a unique set

of skills. Therapeutic interventions and approaches were identified as being more challenging when seeing a client through a screen, compared to being physically present together in a room.

*The body language is hidden a little bit when you're on teleconference, whereas when you're standing up face to face with someone, or standing side by side, the person can see the whole picture. When you're on the video link, the patient actually can't—you both can't see each other wholly. That's one big barrier. (Adam)*

There was an emphasis on communication skills such as active listening and body language that were required when engaging with telehealth. These skills were seen as integral to building rapport and connection. The importance of language in an environment with limited visualisation of body language, is further demonstrated by one participant describing how they tuned into the timing and flow of the conversation to avoid interrupting and how these skills were pertinent for using telehealth.

*In the beginning especially, we might do this thing where I think they've finished or there's a bit of silence, so I go to speak and then they go to speak at the same time, and that's different because normally in person you can really gauge that quite well if they've got more to say. I think those little things mean that you've got to work a bit harder and you've got to bring those things to the attention of the client often. (Robyn)*

Preparing clinicians to engage in telehealth also required skills in sharing clear and consistent information with clients about the process of interacting via telehealth. This included information to reassure the client that the telehealth appointment was private as well as prepare them for potential interruptions due to connection issues.

*I think being really explicitly clear about the fact that with our setups we have here, no one can dial in, no one else is in my room even watching you. We're not recording, and there's a lot of extra information, I think around that we could be doing better in terms of delivering to the person. (Amber)*

#### **Becoming accustomed to working through the 'window'**

Telehealth was often described as a window and not a view of the whole person which presented limitations for clinicians, such as seeing nuance of expression. Participants described the difficulties of assessing a client using telehealth when you cannot see the whole picture such

as facial expressions, movement, behaviour, interactions with others, dress, and hygiene.

*I found it was quite difficult because you couldn't always see the actual child or the baby, especially if they just had their phone. You couldn't pick up the body language. You couldn't always see the facial expressions. You couldn't see the child and how the child was responding. It did inhibit a lot of that side of our assessing. Quite often you'd have to just write, "Unable to view child." You might be able to hear them but you couldn't see them. (Chloe)*

Due to the window view, the participants described how they needed to pay even greater attention to eye contact and tone of voice when engaging with clients via telehealth.

*I think the eye contact is still a really important thing. Getting the flow of what they're comfortable with a little bit too. It's being really careful around the tone of voice as well too, because—again, that's the same for face-to-face, but be particularly careful of it over telehealth. (Amber)*

This theme demonstrates that there are unique and nuanced skills required by clinicians to effectively engage in provision of rural healthcare services via telehealth. Many clinicians described how the rapid uptake of telehealth required them to quickly adapt to providing telehealth services, and they had to modify their approach rather than replicate what they would do in face-to-face contexts. Appreciating the different skills sets required for telehealth practice was perceived as an important element in supporting clinicians to deliver quality healthcare.

#### **Theme 3: appreciating the complexities of telehealth implementation across services and environments**

It was commonly acknowledged that there needed to be an appreciation by clinicians of the multiple different environments that telehealth was being delivered in, as well as the types of consultations being undertaken. This was particularly important when well-resourced large regional settings were engaging with small rural services or when clinicians were undertaking consultations within a client's home.

#### **Working from a different location and context**

One of the factors identified as important for the successful delivery of services via telehealth was an understanding of the location and context that was being linked into. Participants regularly talked about the challenges when undertaking a telehealth consultation with clients at



home, which impacted the quality of the consultation as it was easy to “lose focus” (Kelsey) and become distracted.

*Instead of just coming in with one child, they had all the kids, all wanting their attention. I also found that babies and kids kept pressing the screen and would actually disconnect us regularly. (Chloe)*

For participants located in larger regional locations delivering telehealth services to smaller rural hospitals, it was acknowledged that not all services had equivalent resources, skills, and experience with this type of health-care approach.

*They shouldn't have to do—they've gotta double-click here, login there. They're relying on speakers that don't work. Sometimes they can't get the cameras working. I think telehealth works as long as it's really user friendly. I think nurses—as a nurse, we're not supposed to be—I know IT's in our job criteria, but not to the level where you've got to have a degree in technology to use it. (Adam)*

Participants also recognised that supporting a client through a telehealth consultation adds workload stress as rural clinicians are often having pressures with caseloads and are juggling multiple other tasks while trying to trouble shoot technology issues associated with a telehealth consultation.

*Most people are like me, not great with computers. Sometimes the nurse has got other things in the Emergency Department she's trying to juggle. (Eleanor)*

### Considerations for safety, privacy, and confidentiality

Participants talked about the challenges that arose due to inconsistencies in where and how the telehealth consultation would be conducted. Concerns about online safety and information privacy were identified by participants.

*There's the privacy issue, particularly when we might see someone and they might be in a bed and they've got a laptop there, and they're not given headphones, and we're blaring through the speaker at them, and someone's three meters away in another bed. That's not good. That's a bit of a problem. (Patrick)*

When telehealth was offered as an option to clients at a remote healthcare site, clinicians noted that some clients were not provided with adequate support and were left to undertake the consultation by themselves which could

cause safety risks for the client and an inability for the telehealth clinician to control the situation.

*There were some issues with patients' safety though. Where the telehealth was located was just in a standard consult room and there was actually a situation where somebody self-harmed with a needle that was in a used syringe box in that room. Then it was like, you just can't see high risk—environment. (Eleanor)*

Additionally, participants noted that they were often using their own office space to conduct telehealth consultations rather than a clinical room which meant there were other considerations to think about.

*Now I always lock my room so nobody can enter. That's a nice little lesson learnt. I had a consult with a mum and some other clinicians came into my room and I thought “oh my goodness. I forgot to lock.” I'm very mindful now that I lock. (Jade)*

This theme highlights the complexities that exist when implementing telehealth across a range of rural health-care settings and environments. It was noted by participants that there were variable skills and experience in using telehealth across staff located in smaller rural areas, which could impact on how effective the consultation was. Participants identified the importance of purposely considering the environment in which the telehealth consultation was being held, ensuring that privacy, safety, and distractibility concerns have been adequately addressed before the consultation begins. These factors were considered important for the successful implementation of telehealth in rural areas.

### Discussion

This study explored telehealth service delivery in various rural health contexts, with 16 allied health and nursing clinicians who had provided telehealth services to people living in rural communities prior to, and during the COVID-19 pandemic. Reflections gained from clinicians were analysed and reported thematically. Major themes identified were clinicians navigating the role of telehealth to support rural healthcare, the need to prepare clinicians to engage in telehealth service delivery and appreciating the complexities of telehealth implementation across services and environments.

The utilisation of telehealth for health service delivery has been promoted as a solution to resolve access and equity issues, particularly for rural communities who are often impacted by limited health services due to distance and isolation [6]. This study identified a range of perceived benefits for both clients and clinicians, such

as improved access to services across large geographic distances, including specialist care, and reduced travel time to engage with a range of health services. These findings are largely supported by the broader literature, such as the systematic review undertaken by Tsou et al. [25] which found that telehealth can improve clinical outcomes and increase the timeliness to access services, including specialist knowledge. Clinicians in our study also noted the benefits of using telehealth for ad hoc clinical support outside of regular appointment times, which to date has not been commonly reported in the literature as a benefit. Further investigation into this aspect may be warranted.

The findings from this study identify a range of challenges that exist when delivering health services within a virtual context. It was common for participants to highlight that personal preference for face-to-face sessions could not always be accommodated when implementing telehealth services in rural areas. The perceived technological possibilities to improve access can have unintended consequences for community members which may contribute to lack of responsiveness to community needs [12]. It is therefore important to understand the client and their preferences for using telehealth rather than making assumptions on the appropriateness of this type of health service delivery [26]. As such, telehealth is likely to function best when there is a pre-established relationship between the client and clinician, with clients who have a good knowledge of their personal health and have access to and familiarity with digital technology [13]. Alternatively, it is appropriate to consider how telehealth can be a supplementary tool rather than a stand-alone service model replacing face-to-face interactions [13].

As identified in this study, managing technology and internet connectivity are commonly reported issues for rural communities engaging in telehealth services [27, 28]. Additionally, it was highlighted that within some rural communities with higher socioeconomic disadvantage, limited access to an appropriate level of technology and the required data to undertake a telehealth consult was a deterrent to engage in these types of services. Mathew et al. [13] found in their study that bandwidth impacted video consultations, which was further compromised by weather conditions, and clients without smartphones had difficulty accessing relevant virtual consultation software.

The findings presented here indicate that while telehealth can be a useful model, it may not be suitable for all clients or client groups. For example, the use of interpreters in telehealth to support clients was a key challenge identified in this study. This is supported by Mathew et al. [13] who identified that language barriers affected the quality of telehealth consultations and accessing

appropriate interpreters was often difficult. Consideration of health and digital literacy, access and availability of technology and internet, appropriate client selection, and facilitating client choice are all important drivers to enhance telehealth experiences [29]. Nelson et al. [6] acknowledged the barriers that exist with telehealth, suggesting that 'it is not the groups that have difficulty engaging, it is that telehealth and digital services are hard to engage with' (p. 8). There is a need for telehealth services to be delivered in a way that is inclusive of different groups, and this becomes more pertinent in rural areas where resources are not the same as metropolitan areas.

The findings of this research highlight the unique set of skills required for health professionals to translate their practice across a virtual medium. The participants described these modifications in relation to communication skills, the ability to build rapport, conduct healthcare assessments, and provide treatment while looking at a 'window view' of a person. Several other studies have reported similar skillsets that are required to effectively use telehealth. Uscher-Pines et al. [30] conducted research on the experiences of psychiatrists moving to telemedicine during the COVID-19 pandemic and noted challenges affecting the quality of provider-patient interactions and difficulty conducting assessment through the window of a screen. Henry et al. [31] documented a list of interpersonal skills considered essential for the use of telehealth encompassing attributes related to set-up, verbal and non-verbal communication, relationship building, and environmental considerations.

Despite the literature uniformly agreeing that telehealth requires a unique skill set there is no agreement on how, when and for whom education related to these skills should be provided. The skills required for health professionals to use telehealth have been treated as an add-on to health practice rather than as a specialty skill set requiring learning and assessment. This is reflected in research such as that by Nelson et al. [6] who found that 58% of mental health professionals using telehealth in rural areas were not trained to use it. This gap between training and practice is likely to have arisen from the rapid and widespread implementation of telehealth during the COVID-19 pandemic (i.e. the change in MBS item numbers [1]) but has not been addressed in subsequent years. For practice to remain in step with policy and funding changes, the factors required for successful implementation of telehealth in rural practice must be addressed.

The lack of clarity around who must undertake training in telehealth and how regularly, presents a challenge for rural health professionals whose skill set has been described as a specialist-generalist that covers a significant breadth of knowledge [32]. Maintaining knowledge currency across this breadth is integral and requires



significant resources (time, travel, money) in an environment where access to education can be limited [33]. There is risk associated with continually adding skills on to the workload of rural health professionals without adequate guidance and provision for time to develop and maintain these skills.

While the education required to equip rural health professionals with the skills needed to effectively use telehealth in their practice is developing, until education requirements are uniformly understood and made accessible this is likely to continue to pose risk for rural health professionals and the community members accessing their services. Major investment in the education of all health professionals in telehealth service delivery, no matter the context, has been identified as critical [6].

This research highlights that the experience of using telehealth in rural communities is unique and thus a 'one size fits all' approach is not helpful and can overlook the individual needs of a community. Participants described experiences of using telehealth that were different between rural communities, particularly for smaller, more remote rural locations where resources and staff support and experience using telehealth were not always equivalent to larger rural locations. Research has indicated the need to invest in resourcing and education to support expansion of telehealth, noting this is particularly important in rural, regional, and remote areas [34]. Our study recognises that this is an ongoing need as rural communities continue to have diverse experiences of using telehealth services. Careful consideration of the context of individual rural health services, including the community needs, location, and resource availability on both ends of the consultation is required. Use of telehealth cannot have the same outcomes in every area. It is imperative that service providers and clinicians delivering telehealth from metropolitan areas to rural communities appreciate and understand the uniqueness of every community, so their approach is tailored and is helpful rather than hindering the experience for people in rural communities.

### Limitations

There are a number of limitations inherent to the design of this study. Participants were recruited via their workplace and thus although steps were taken to ensure they understood the research would not affect their employment, it is possible some employees perceived an association between the research and their employment. Health professionals who had either very positive or very negative experiences with telehealth may have been more likely to participate, as they may be more likely to want to discuss their experiences. In addition to this, only health services that were already connected with the researchers' networks were invited to participate. Other

limitations include purposive sampling, noting that the opinions of the participants are not generalisable. The participant group also represented mostly nursing professionals whose experiences with telehealth may differ from other health disciplines. Finally, it is important to acknowledge that the opinions of the health professionals who participated in the study, may not represent, or align with the experience and opinions of service users.

### Conclusion

This study illustrates that while telehealth has provided increased access to services for many rural communities, others have experienced barriers related to variability in connectivity and managing technology. The results demonstrated that telehealth may not be the preferred or appropriate option for some individuals in rural communities and it is important to provide choice. Consideration of the context in which telehealth services are being delivered, particularly in rural and remote communities where there are challenges with resourcing and training to support health professionals, is critical to the success of telehealth service provision. Another critical factor is preparation and specific, intentional training for health professionals on how to transition to manage and maintain telehealth services effectively. Telehealth interventions require a unique skill set and guidance pertaining to who, when and what training will equip health professionals with the appropriate skill set to deliver telehealth services is still to be determined.

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### Author contributions

RB & EG contributed to the conceptualisation of the study and methodological design. RB & MN collected the research data. RB, EG, MN, KR contributed to analysis and interpretation of the research data. RB, EG, MN, KR drafted the manuscript. All authors provided feedback on the manuscript and approved the final submitted manuscript.

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### Data availability

The qualitative data collected for this study was de-identified before analysis. Consent was not obtained to use or publish individual level identified data from the participants and hence cannot be shared publicly. The de-identified data can be obtained from the corresponding author on reasonable request.

### Declarations

#### Ethics approval and consent to participate

Ethics approvals were obtained from the Greater Western NSW Human Research Ethics Committee and Charles Sturt University Human Research Ethics Committee (approval numbers: 2021/ETH00088 and H21215). Informed

written consent was obtained from all participants. All methods were carried out in accordance with the relevant guidelines and regulations.

#### Consent for publication

Not applicable.

#### Competing interests

The authors declare no competing interests.

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