

## ORIGINAL RESEARCH

### A qualitative exploration of the experiences of Aboriginal and Torres Strait Islander people using a real-time video-based telehealth service for diabetes-related foot disease

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## ABSTRACT:

**Introduction:** Diabetes-related foot disease (DFD) is one of the most prevalent causes of global hospitalisation and morbidity, and it accounts for up to 75% of lower-extremity amputations globally. The 5-year mortality rate following any amputation ranges from 53% to 100%. Early identification of wounds and multidisciplinary management can reduce amputation rates by 39–56%. Rural and remote communities and Indigenous populations are disproportionately affected by DFD. This is reflected in amputation rates, which are much higher for Indigenous than for non-Indigenous Australians and for those in very remote areas than for those in major cities or inner regional areas. The large geographical spread of the population in Australia is a substantial barrier for those providing or accessing health services, particularly multidisciplinary and specialist services, which undoubtedly contributes to poorer DFD outcomes in rural and remote communities.

**Methods:** A real-time, video-based telehealth service for DFD management was established at the Royal Adelaide Hospital Vascular Services clinic to improve access to specialist services for rural and remote Aboriginal and Torres Strait Islander communities. An exploratory qualitative study that utilised one-on-one, semi-

structured interviews was conducted with 11 participants who identified as Aboriginal and who had participated in the telehealth foot service. Interviews were transcribed, de-identified and analysed using thematic analysis, using an inductive approach.

**Results:** Four interrelated themes emerged. 'Practical benefits of staying home' describes the reduced burden of travel and advantages of having local healthcare providers and support people at consultations. 'Access to specialists and facilities' highlights how some participants felt that there was a lack of appropriate facilities in their area and appreciated the improved access telehealth provided. 'Feeling reassured that a specialist has seen their feet' reflects the positive impact on wellbeing that participants experienced when their feet were seen by specialist health staff. 'Facilitates communication' describes how participants felt included in consultations and how seeing a person on screen assisted conversation.

**Conclusion:** The advantages of real-time, video-based telehealth go beyond reduced travel burden and improved access to specialist care. This model of care may facilitate relationship-building, patient wellbeing, and feelings of trust and safety for Aboriginal and Torres Strait Islander DFD patients.

## Keywords:

Aboriginal and Torres Strait Islander Peoples, Australia, diabetes-related foot disease, Indigenous, qualitative, real-time video-based telehealth, remote.

## FULL ARTICLE:

### Introduction

Diabetes-related foot disease (DFD) accounts for up to 75% of lower-extremity amputations globally<sup>1</sup>. The 5-year mortality rates following minor and major amputation are 46% and 57% respectively<sup>2</sup>. Rural and remote communities and Indigenous populations are disproportionately affected by diabetes<sup>3</sup>. This is reflected in amputation rates, which have been reported to be as much as 38 times higher in Indigenous than in non-Indigenous Australians and four times higher in very remote areas than in major cities or inner regional areas<sup>4,5</sup>.

Diabetes-related foot ulcers are the initial event in more than 85% of major amputations<sup>6</sup>. The management of diabetes-related foot ulcers can be time consuming and expensive due to the frequent treatment and monitoring involved<sup>7</sup>. Early identification of wounds and multidisciplinary management can reduce amputation rates by 39–56%<sup>8,9</sup>.

The large geographical spread of the population in Australia is a substantial barrier for those providing or accessing health services, particularly multidisciplinary and specialist services, which undoubtedly contributes to poorer DFD outcomes in rural and remote communities<sup>10</sup>. Limited access to specialist care also curbs the capacity for prehabilitation and home rehabilitation for rural and remote patients who undergo amputation, which may impact the likelihood of successfully using a prosthesis. Coincidentally, Indigenous people are more likely than non-Indigenous people to live remotely<sup>11</sup>. Additional barriers to health care for Indigenous communities include accessing culturally appropriate care, travelling to access care, dislocation from family and cultural support, exposure to racism, and poor communication with healthcare professionals<sup>12</sup>. Telehealth has been identified as a strategy to improve access to health care for rural and remote communities that may address some of these barriers and therefore be more culturally appropriate for Indigenous populations<sup>13</sup>.

Currently most telehealth consultations in Australia are conducted by telephone<sup>14</sup>. A recent systematic review of the clinical outcomes using telehealth for the diabetic foot found that audio/video /online communication approaches show similar healing efficacy for diabetes-related foot ulcers as outpatient treatment<sup>15,16</sup>.

Qualitative assessment included in this review identified continuity of care, adequate training of nurses, and nurses having good skills in wound management, as essential elements in the care of DFD<sup>15</sup>. However, most studies in this review were European; little research has explored the use of telehealth or models involving podiatrists and vascular surgeons in the management of DFD in Indigenous people.

To explore the value of telehealth in the management of DFD in Indigenous Australian communities a multidisciplinary telehealth foot service (TFS) was established by the Central Adelaide Local Health Network (CALHN) at the Royal Adelaide Hospital. The TFS aimed to specifically address delays in preventative foot care, early recognition of active foot disease, prompt admission for best-practice in-hospital care (when required), and seamless ongoing care in the community (often after hospital discharge). A further aim was to optimise social, emotional and functional outcomes in Aboriginal and Torres Strait Islander patients who undergo major amputations. The project focused on ensuring appropriate culturally safe support by respecting Indigenous cultural values, strengths and differences<sup>15</sup>, as well as education for community workforce at Aboriginal Community Controlled Health Organisations (ACCHOs) to ensure the TFS could maximise its impact on improving preventative outcomes of DFD.

Strategies to improve cultural safety included employing staff at the metropolitan-based TFS service to facilitate appointments who had experience in Aboriginal health. An Aboriginal Health Practitioner (AHP) who identified as Aboriginal was employed at 0.4 full-time hours and a podiatrist with 3 years experience working in an Aboriginal Health Service was employed at 0.6 full-time hours. The AHP assisted in providing care that is patient-centred and considered cultural needs as well as providing on-the-job cultural sensitivity learning for non-Aboriginal staff. A dedicated mobile phone for the TFS meant all appointments were made directly with the TFS podiatrist. This allowed patients and health professionals to directly contact the TFS staff. This approach was taken so that a very flexible and accessible service was provided.

The TFS was co-designed through community engagement supported by the TFS AHP. Consultation was undertaken with three key ACCHOs and the Northern Area Local Health Network Aboriginal Consumer Reference Group. In addition, The TFS worked closely with the CALHN Aboriginal Health & Wellbeing Hub throughout the project, including for the creation of culturally appropriate resources.

The TFS was unique in that it utilised real-time video-based telehealth. Any health professional working in a rural or remote South Australia (SA) or the New South Wales (NSW) border area of Broken Hill could refer to the TFS. Referrals were triaged according to International Working Group on the Diabetic Foot guidelines (2019) and national evidence-based guidelines on prevention, identification and management of foot complications in diabetes<sup>17,18</sup>. The metropolitan consultations were conducted in a private consultation room containing telehealth equipment by the TFS podiatrist, and by the AHP when available. Group consultation

as needed was scheduled with a vascular surgeon and other specialists at the RAH, including those in infectious diseases, endocrinology, and orthotics and prosthetics. The location of the point-of-care consultations varied; some were conducted at ACCHOs, some at regional hospitals, some in outpatient departments, and some in a patient's home. Typically those present at the point-of-care site were the referring healthcare professionals (podiatrist, nurse, AHP and/or GP) and often a carer or family member. Some health services and hospitals had specific telehealth equipment while others used laptops or mobile phone as available. No specific telehealth equipment was provided to hospitals, health services or patients. When consults were conducted in a patient's own home, often the mobile phone of the participant or health professional was used for the telehealth appointment.

Self-determination was addressed by directly involving an Aboriginal Health Practitioner in decision-making throughout planning and conducting the project; by including Aboriginal engagement during each stage of the project, including from the SA Aboriginal Chronic Disease Consortium and several consumer advisory groups, and through the telehealth aim of assisting local AHPs to continue seeing their patients as best suits them, while being supported by the multidisciplinary foot service team. The appropriateness of the research method was arbitrated by the South Australian Aboriginal Health Research Ethics Committee. Funding for the telehealth program and this research were subject to approval by the Aboriginal and Torres Strait Islander Diabetes-Related Foot Complications Expert Advisory Committee.

The TFS project was funded through the Indigenous Australians' Health Programme, a Commonwealth initiative that funds Indigenous-led, culturally appropriate initiatives to increase access to health care and improve the health of Aboriginal and Torres Strait Islander people. The project was part of the South Australian Aboriginal and Torres Strait Islander Diabetes Related Foot Complications program, coordinated through the SA Aboriginal Chronic Disease Consortium. The Indigenous-specific TFS service ran for just over 18 months, from 5 November 2020 to 30 June 2022.

To date, the use of real-time, video-based telehealth for delivering DFD management for Indigenous Australians has not been formally examined. This study aimed to gain insights into the experiences of rural and remote Aboriginal and Torres Strait Islander people with DFD utilising a newly established real-time, video-based telehealth service.

## Methods

This was an exploratory qualitative study. One-on-one semi-structured interviews were conducted to elicit rich descriptions of the feelings, opinions and experiences of patients involved in the TFS. Participants were asked demographic questions such as age and when they were diagnosed with diabetes, as well as broad questions relating to their experience with the TFS and more specific questions such as about their experience with the telehealth equipment. Semi-structured interviews allow storytelling from each participant. All questions were co-designed with the TFS AHP to be strengths-based, and discussed with the CALHN Aboriginal Consumer Reference Group. Questions were piloted for readability and face validity with two CALHN podiatrists.

Interviews were conducted from 17 March 2021 to 16 June 2022.

Data were analysed using thematic analysis<sup>19</sup> and data were arranged in a thematic framework using Microsoft Excel<sup>20</sup>. Participants' descriptions of their experiences were assessed as direct insights into these experiences. An essentialist inductive approach was employed, meaning themes were derived from the data rather than predefined theory. Findings were reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ)<sup>21</sup>.

### **Participants**

Non-probability convenience sampling was used where Aboriginal and Torres Strait Islander people were invited to participate in the study when they first enrolled in the TFS. At their initial appointment either the treating podiatrist or the AHP verbally invited the patient to participate. An information sheet was provided at this time and the study outline was verbally explained. If the patient was interested in participating, they were either consented at this time or given additional time to consider their involvement and contacted at a later time. Participation was voluntary, and clients could withdraw from the study at any time without affecting their health management. Participants' written or verbal informed consent was gained before interviews commenced.

### **Data collection**

Interviews were scheduled at a convenient time for the participant either by phone ( $n=9$ ) or in person ( $n=2$ ). One in-person interview was conducted at the Aboriginal Health & Wellbeing Hub when the participant was attending the metropolitan hospital as an outpatient and the other with an inpatient in their hospital room. The interviews were conducted by the lead researcher (KG), a female academic who has tertiary qualifications in podiatry and psychology, a PhD, experience in high-risk foot management and experience and training in qualitative analysis. The AHP attended the first interview, which was conducted face-to-face at the Aboriginal Health & Wellbeing Hub, and offered extensive feedback and mentoring to ensure a culturally sensitive approach was being adopted. An open approach was used, in which participants were asked to describe their experiences with telehealth. Follow-up questions, clarification and probing were used to gain depth of recounted experiences<sup>22</sup>. Interviews lasted between 5 and 22 minutes and were audio-recorded with permission. Interviews were continued until no new information arose, indicating data saturation had been reached<sup>23</sup>. Due to time constraints, participants were not provided with transcripts for comment prior to data analysis.

### **Data analysis**

Interviews were transcribed verbatim using an online transcription service, de-identified and imported into Microsoft Word. Thematic analysis was conducted using a six-phase thematic analysis technique, described by Braun and Clarke (2016)<sup>19</sup>, by the lead researcher (KG), with three interviews independently coded by a research assistant (EO). The research assistant is female, holds a degree in allied health and has experience conducting qualitative research. Throughout the analysis process, coding and emerging themes were discussed and refined with an experienced qualitative researcher (KMG), a clinical psychologist with extensive qualitative research experience, for clarity and rigour.

Initially, two researchers (KG and EO) read three transcripts

separately to familiarise themselves with the data. Codes presenting a unique idea were identified from the transcripts and arranged in a Microsoft Excel spreadsheet. Codes were then grouped into themes and reviewed against the coded transcript to check that they accurately reflected participant experiences. The two researchers (KG and EO) met regularly throughout the analysis to discuss their interpretation of the transcript, and to compare codes and themes to ensure similar ideas were identified. After all transcripts had been coded and themes identified, themes presenting a similar meaning were grouped to create a list of key themes that portrayed the main ideas for all transcripts. The themes were then reviewed, clarified and defined so that each theme had a clear and descriptive name. KG met with the AHP throughout the project to discuss progress as well as the final results.

Inviting participants from a range of health service settings (eg health services, hospitals), referred by a range of health disciplines (eg nursing, doctors, podiatrists) and geographic locations minimised bias and enhanced transferability. Dependability was increased by coding of the same transcript by two authors, and coding was checked and themes amended to ensure consistency. Finally, regular meetings were held with the three authors involved in data analysis (KG, EO and KMG) to review and discuss coding and development of themes, which improved the confirmability of results.

### **Ethics approval**

Ethics approval was obtained from the University of South Australia (approval 203786), Central Adelaide Local Health Network (approval 14286), the University of Adelaide (approval 35336), and SA Aboriginal Health Research Ethics Committee (approval 04-20-915).

### **Results**

Of the 28 Aboriginal and Torres Strait Islander people who accessed the TFS, 24 consented to be contacted by the research team. Of the 24 who consented, 19 were able to be contacted and were invited to participate, with 12 who identified as Aboriginal consenting to an interview. One participant was excluded due to having no memory of the consult, resulting in a total sample of 11 participants who were from rural or remote South Australia or the NSW border area of Broken Hill. The majority were male ( $n=8$ ) with a mean age of 53.8 years (range 44–64 years). Using the Modified Monash Model, sites where participants accessed the TFS were classified by geographical remoteness – as metropolitan, regional, rural or remote areas<sup>24</sup>. Sites ranged from Modified Monash (MM) categories 3 to 6, with MM3 classified as large rural towns and MM6 as remote communities<sup>25</sup>. Four key interrelated themes emerged from the data: 'practical benefits of staying home', 'access to specialists and facilities', 'feeling reassured that a specialist has seen their feet' and 'facilitates communication'.

#### **Practical benefits of staying home**

Participants consistently explained that being able to stay home saved resources. One participant had used extensive health system resources to access treatment:

*I caught the plane three times. I caught the ambulance two, three times up here too. And then a private ambulance bus, and the other day in a private car. (Participant 2)*

Many identified that not having to travel to a major metropolitan centre was easier, as it reduced time in the car and the financial cost of travel. One participant found driving in a major metropolitan centre dangerous:

*It's too dangerous driving to Adelaide, ... it's [the traffic's] bumper to bumper and you've got to be careful. But this [telehealth], it's easier doing it this way. (Participant 6)*

Telehealth can be conducted in a participant's home, the local hospital or ACCHO. This enables participants to access treatment in a familiar environment and to have the presence of a health professional they know. It also allows the rural health team, the participant and the specialist to communicate directly:

*I just found it was a much easier for me in my position to actually do it from home and have my GP, he was there [at my home] anyway. We're all communicating with everybody, with each other. So it wasn't a hindrance to me at all, it was actually a benefit to me that I could actually be in my own home. (Participant 9)*

It appeared that telehealth was particularly beneficial during the COVID-19 pandemic. During pandemic lockdowns, one participant with complex DFD needs found it difficult to access face-to-face treatment:

*But of course, it was very hard at that stage to diagnose it, with COVID. And telehealth was the only thing that we actually had ... For their communication, for them to be able to look at my foot. (Participant 9)*

Similarly, SA Health regulations meant there were restrictions on the number of people who could attend hospital and health services; consequently, support people were not able to attend appointments:

*Yeah, because some of the time I couldn't have anyone with me at all, when I needed people with me. (Participant 1)*

### **Improved access to health professionals and facilities**

Access to health care can be challenging in rural areas. For some participants it was difficult to access doctors:

*... doctors couldn't see [me] up where I was staying. (Participant 11)*

Participants reported access to a larger range of health professionals through telehealth:

*... when we needed anyone else on board, they'd also come in on the conferences and that as well. So it was my GP, myself, [the senior podiatrist] and whoever else needed to be there at the time. (Participant 9)*

DFD can present with some very complex healthcare needs, and participants noted a lack of facilities at rural hospitals to meet their specific needs:

*They don't have the facilities to be able to deal with a foot like this. (Participant 9)*

One participant reported relocating from a remote town to a larger regional centre to access adequate healthcare access and facilities:

*I was still getting sick so I had to move in ... Because [remote*

*town] didn't have the right facilities there too for your foot and all that, you know? So I decided, I said, 'I'm going to just move' ... When I stayed in [rural town] I feel good here now, and now I got my own home and everything. I go to that podiatrist here at the hospital; I go there all the time. They've got the Aboriginal health there, so they check me out and all that. (Participant 7)*

Some patients report being happy to travel to Adelaide to access what they perceived as optimal quality care:

*Because all the facilities, they got everything all there [Adelaide]. I don't have to worry, see? Everything's there for me, you know? So, they got the right stuff, so that's why I do it, to go there. And it's really good. (Participant 7)*

*I reckon it's great, because you're a big hospital [in Adelaide], you know what you are doing. We've got shitty-ass hospitals, mate ... you know you are just a number to them. (Participant 5)*

### **Feeling reassured that a specialist has seen their feet**

Most participants expressed positive feelings about their feet being seen on telehealth (as opposed to being described over the phone, for example). They like that 'they have seen it':

*The best part of it was they could see for themselves my foot, and explain to me as well over the TV ... and I didn't need to go to Adelaide, we can just do it by TV. (Participant 6)*

Many participants thought that the telehealth provided access similar to face-to-face consultation:

*... it's like I'm there in the operating table and they're watching me and they're looking at my foot. (participant 8)*

Participants expressed feeling confident in the specialists' ability to treat them appropriately, as the specialists have seen the participant's foot with their own eyes:

*They seem to know what they're doing. They're having a look. (Participant 5)*

Telehealth also appeared to assist with participants' emotional wellbeing, as indicated by reports of the perception that TFS staff genuinely cared for them:

*And talking to them, they actually was wanting to help me more. (Participant 2)*

There was evidence that the support offered by telehealth staff helped improve participants' outlooks:

*'If you do need help or everything, don't take it alone or go it alone. Just ring us straight away and we'll come and help you.' So that's really good and get me a bit of encouragement more, too. So I'm looking forward now. (Participant 7)*

One participant also felt reassured that the telehealth specialists were overseeing their local healthcare professionals:

*It's really valuable. I really like it and at least they seen it [the foot]. They know what to do, so they give a bit advice to the rest of the other podiatrists. Told them, 'Oh, this is what you got to do here. You got to do this here. Make sure everything go like that,' see? So they gave them bit of encouragement, you*



know. (Participant 7)

Four participants expressed some perceived neglect by local healthcare providers of their DFD:

*He's [the local podiatrist] the reason why I lose my toes.*  
(Participant 5)

### **Facilitates communication**

Participants liked that they could see the telehealth specialists on the screen:

*... it's good because you've got the screen, so you talk to them on that.* (Participant 2)

Participants felt included in the consult and had the advantage of further discussions with the local healthcare workers to clarify information:

*Well, yeah, they did include me when they were talking to each other and that, but when it was all finished, they then explained it to me again, just to make sure I understood everything.* (Participant 1)

One participant suggested that feeling seen and reassured encouraged him to talk to the health professionals:

*They can watch it and they seen it and they say, 'Wow.' You know, they can't get over it. So you know, it maybe starts lead to me talking to them too, and they're talking to me.*  
(Participant 7)

While some participants reported that the health professionals setting up the equipment for the consult had difficulties with equipment, such as only having a laptop screen and problems with hooking up cords, most were not very concerned with technical difficulties and they found telehealth a good modality for communication:

*... good connection, like I'm talking to you now. So you're actually talking, and there was no interference, no stopping, they just talked to you how I'm talking to you and that.*  
(Participant 2)

However, one participant thought the doctors could improve their communication skills:

*... the doctor needs to talk bit clearly. They need to talk more down to Earth, so you can understand them too, instead of using those big doctor words.* (Participant 6)

### **Discussion**

This exploratory qualitative study utilised one-on-one semi-structured interviews to explore the experiences of rural and remote Aboriginal and Torres Strait Islander participants of a newly established telehealth service for DFD management. Our findings suggest that a real-time, video-based telehealth model of care that provides rural and remote health practitioners a direct referral path to a specialised foot service may improve access to these services for rural and remote Indigenous people. Our research concurred with findings that being treated in the local community has many practical benefits, including reduced travel burden and staying connected with community<sup>26</sup>. In addition, we identified that participants appreciated improved access to specialist skills and facilities, felt reassured by being seen, and that communication

was facilitated by this telehealth model.

The multidisciplinary foot clinic is a fast-paced complex environment, where patients interact with many healthcare professionals. An advantage of telehealth is it provides care while in a supportive familiar environment and enables family and community members to attend consults and share in decision-making<sup>27</sup>. Models of care that include elements of the Indigenous holistic views of health, such as the inclusion of family or community members in consults, has been found to improve cultural safety and engagement with health care<sup>28-30</sup>.

Many participants gave very positive reports about the THS podiatry service. The findings from this study should consider not only the positive impact of technology but also the context of this model of care. Continuity of healthcare professionals is known to aid trust and improve compliance with treatment<sup>31,32</sup>. With this telehealth model, continuity of care was provided by not only involving referring health practitioners in the consult, but also by having a dedicated TFS podiatrist, who facilitated all telehealth consults, based at the metropolitan site. In addition, when patients called the TFS it was the TFS podiatrist who answered the calls. The metropolitan-based TFS staff reported that patients utilised this to contact them directly to change appointment times or discuss treatment details, which the staff felt was a factor in improving attendance rates (>90%). An AHP was included in the metropolitan-based TFS team to advocate for patient wellbeing. The aim of including this role was to improve cultural safety for Indigenous patients. We see the combination of continuity of healthcare professionals, easy access to speak to the TFS podiatrist and having a dedicated AHP on staff as important factors in the positive experiences reported by participants.

Most telehealth consults in Australia do not utilise video technology, with poor connectivity in rural areas identified as a barrier<sup>33</sup>. While connectivity was identified by a few participants in this study, interestingly they did not appear very concerned by this. Improved access to specialists and facilities provided by telehealth was far more commonly commented on by participants. Participants identified a lack of facilities in local hospitals as a concern, particularly when complex DFD were involved. One participant went as far as to relocate to a major regional centre to get better access to care. Studies exploring the needs and preferences of rural people affected by cancer and organ transplants have also identified this phenomenon<sup>34,35</sup>. The positive perception of improved access to specialists and facilities suggests telehealth may increase engagement and therefore shows promise for reducing rates of amputations. However, further empirical evidence is needed to qualify if any changes in DFD outcomes have been achieved.

Telehealth can address some barriers of providing health care over the broad geographic area. These barriers include chronic staff shortages in rural areas, particularly specialty and multidisciplinary staff, and the difficulty to achieve economies of scale in rural locations<sup>26,36</sup>. In addition, telehealth may improve the ability for rural and remote patients to have some choice of healthcare professionals without the burden of long-distance travel; this may provide reassurance to participants who expressed dissatisfaction with local providers.

Nearly every participant liked that a specialist had 'seen' their feet, which promoted feelings of participant reassurance and

confidence in the TFS staff, and improved wellbeing. We posit that the positive feelings reported from 'feeling seen' were due to participants feeling their concerns were being listened to and taken seriously. The act of 'feeling seen' has been linked to patient feelings of validation<sup>37</sup>. Validation is the recognition that a person's views are based in truth, which can result in them feeling understood and has been found to be key in empathy and compassion<sup>38</sup>. Furthermore, validation is an important factor in the development of a therapeutic alliance between clinician and patient<sup>38</sup> and associated with improved patient participation in medical treatment<sup>39</sup>. Some of the positive perceptions of participants may have been the result of good validation or collaboration skills of the local or TFS staff involved in the consultations. Validation is not a skill that health providers are routinely trained in. These findings suggest practitioner validation and collaboration skills are worthy of investigation in DFD management.

While there is high satisfaction with telehealth consults by telephone, the literature suggests that the visual cues enabled by videoconferencing improve rapport and patient-practitioner relationships<sup>29,30,33</sup>. An unexpected finding was that this telehealth model did not present a barrier to the difficult and complex conversations required in DFD consultations. In fact, in discussion with the researchers the TFS staff report improved engagement and attendance in the telehealth consultation compared to similar outpatient consultations. This finding suggests real-time video may be valuable in improving Indigenous DFD patients' engagement in treatment.

Although care was taken when asking the interview questions, we cannot exclude the possibility that demand characteristics (responses that conform to researcher expectations when a participant is aware of the true purpose of a study) influenced our results<sup>40</sup>. The length of the interviews was short, which limited the depth of data collected. To recruit a purposive sample, we attempted to contact all the Indigenous people who had accessed the service and consented to be contacted. While our sample size could be considered small, data were collected until no new themes were identified. The health professionals who participated were predominantly female and podiatrists, therefore we may have

missed capturing the unique perspectives of male health professionals. Participants were recruited in SA and the NSW border region of Broken Hill from participants accessing different health service settings (eg ACCHOs, hospitals), to capture a broad range of experiences. However, the results may not be generalisable to other geographic locations or health settings, and because no very remote participants were interviewed our results may not represent the views of all regional, rural, remote and very remote people with DFD.

Our findings suggest that real-time, video-based telehealth services could improve access to multidisciplinary DFD treatment in Aboriginal and Torres Strait Islander people. Being able to attend consults locally, with the involvement of local health professionals and community as well as specialists, appears to have many practical benefits for patients. The improved flexibility of appointments, easy access to the TFS podiatrist, continuity of care provided by the same health professionals throughout the course of the management of the foot complication and embedding an AHP in the TFS appeared to improve communication and build an environment of trust and cultural safety that can facilitate Indigenous participation in DFD management. Most significantly, 'being seen' by the specialist footcare team promoted emotional wellbeing in participants.

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#### Conflicts of interests

The authors declare no conflicts of interest.

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