

# “I think you need to feel you matter” The experiences of people in regional, rural, and remote Australia seeking care for chronic musculoskeletal pain

Alison Sim

[Alison.sim@sydney.edu.au](mailto:Alison.sim@sydney.edu.au)

The University of Sydney

Trudy Rebbeck

The University of Sydney

Kerrie Evans

The University of Sydney

Jemma Mulligan

The University of Sydney

Alla Melman

The University of Sydney

Adnan Asger Ali

The University of Sydney

Hayley Thomson

The University of Sydney

Darren Beales

Curtin University

Katie De Luca

Central Queensland Hospital and Health Service

Joanne Kemp

La Trobe University

Andrea Mosler

La Trobe University

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## Research Article

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# Abstract

## Background and aims

People who live in regional, rural and remote Australia experience poorer health outcomes, including higher rates of chronic pain than people living in metropolitan areas. People in these regions face unique barriers to accessing care including the need for travel, and lack of local clinician availability. We aimed to explore the experiences of people living in regional, rural and remote Australia in accessing healthcare for their chronic musculoskeletal pain as part of the development phase of the PACE-RURAL programme.

## Methods

One-on-one semi-structured qualitative interviews were conducted online with people who had sought care for chronic musculoskeletal pain and lived in regional, rural, or remote areas of Australia. Interviews were transcribed verbatim and inductively analysed using reflexive thematic analysis. Results were then mapped to the Socioecological Model.

## Results

24 participants from four Australian states completed interviews. Four themes were constructed during the analytic process: 1. Being rural, regional or remote creates additional barriers to care for chronic pain. 2. Having expert input makes us feel like we matter. 3. Cultural differences exist for people in the country which affects how healthcare is accessed. 4. Telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist.

## Conclusion

Participants described their lived experiences accessing clinical care for chronic musculoskeletal pain in regional, rural and remote Australia including limited local services, travel burden and the viability of using telehealth. Our findings highlight the multi-level influences likely to shape implementation of new pathways of care in these settings.

# Introduction

Approximately 30% of Australia's population (~ 7 million people) reside in regional, rural and remote areas. People living in these areas often face distinct challenges accessing healthcare due to geography, infrastructure, and lack of service availability. This challenge is not unique to Australia: comparable high-income countries such as Canada (18.0%), the United States (16.5%) and the United Kingdom (15.1%) also report substantial rural populations facing distance-related barriers to service access.(1) On average, people living in regional, rural and remote Australia experience poorer health than those in urban centres. (2, 3) For example, coronary heart disease mortality is 1.9 times higher in very remote areas than major cities. Osteoarthritis prevalence is higher in regional areas compared to major cities (4) and type 2 diabetes prevalence rises from 5.8% in major cities to 7.3% in outer regional areas.(5)

Furthermore, suicide rates are more than double in very remote areas compared to major cities.(6) Contributing factors to these poorer outcomes include reduced access to primary healthcare services, greater travel distances to care, and a higher proportion of older residents compared to metropolitan areas.(2, 7, 8)

People who live in regional, rural and remote areas also report higher prevalence of chronic musculoskeletal (MSK) pain compared to those who live in metropolitan regions.(9–13) This reflects international data reported in a recent meta-analysis which found significantly greater odds of hip (OR 1.62), shoulder (OR 1.42) and overall MSK pain (OR 1.26) in rural populations globally.(14) Therefore, greater effort to reduce the burden of chronic MSK pain in regional, rural and remote areas in Australia is essential to improve health outcomes for people living in these areas.

Previous research in Australian regional, rural and remote settings has identified multiple barriers to access to healthcare that may contribute to the reduced opportunities for prevention and treatment of chronic pain. These barriers include longer wait times for care, workforce shortages, limited specialist services, high costs and difficulties navigating healthcare systems.(7, 15, 16) Qualitative studies exploring perspectives of patients and clinicians (12, 15–18) have further highlighted concerns regarding limited access to appropriately trained clinicians, travel burden, financial cost and lack of availability of specialist practitioners.(15, 16, 18, 19) In regional, rural and remote areas, patients describe receiving non-guideline-based care for chronic pain,(12) delivery of low value care is more common when compared to urban areas,(20) and that implementing new healthcare programs and pathways is complex.(21) These difficulties highlight the importance of co-design when developing and implementing new rural healthcare innovations.

Musculoskeletal conditions affect almost 7 million Australians and are the second leading cause of non-fatal disability burden in Australia (22.9% of years lived with disability), and account for 12.7% of total disease burden.(22) Recognising this high burden of MSK conditions, our team conceived the Pathway of care (PACE-RURAL programme) which is a large, multicentre study aimed to implement a novel pathway of care for people in regional, rural and remote areas (Trial registration: Australian New Zealand Clinical Trials Registry. Registration number: ACTRN126250002624040. Date registered: 9/4/2025). The PACE-RURAL programme enables timely access to specialist allied health clinicians for treatment of MSK pain while also supporting and building the capacity of local clinicians and their patients. It delivers a new model of care that facilitates telehealth access to specialist MSK expertise for individuals identified as being at high risk of poor clinical outcomes for neck, back, knee or hip pain.(23) An urban-based version of this pathway of care (PACE-MSK) has been conducted previously, with promising results in terms of feasibility and acceptance. (24, 25) Whilst this previous research provides contextual information about the implementation of a similar pathway of care, a detailed exploration of the needs of the rural, regional and remote population, with reference to the content and aims of the PACE-RURAL programme, will facilitate implementation. The results of the current study will inform the development of the PACE-RURAL programme and assist with effective implementation.

Designing healthcare interventions that meet the needs of specific populations requires an understanding of the contextual factors influencing healthcare-seeking behaviour and care delivery.(26, 27) Telehealth has emerged as a promising strategy to increase access to high quality and specialist MSK healthcare in regional, rural and remote areas. A recent randomised controlled trial of a physiotherapist-delivered eHealth physical activity program for chronic low back pain and knee osteoarthritis in rural Australia demonstrated clinically meaningful improvements in function compared with usual care.(28) Telehealth offers the potential to overcome geographic barriers and improve continuity of care. However, its uptake can be limited by infrastructure constraints, including unreliable internet connectivity, particularly in areas reliant on satellite rather than broadband connections.(30) To harness the full potential of telehealth, implementation efforts must address these challenges while tailoring solutions to the needs and preferences of rural populations. An important step in this process is to understand the experiences and opinions of regional, rural and remote patients regarding the use of telehealth.

The primary aim of this study was to explore the experiences of people receiving care for MSK pain in regional, rural and remote Australia. The secondary aim was to map these experiences to the Socioecological Model to identify how influences at multiple levels shape care and may impact implementation. These insights are intended to inform the implementation of the PACE-RURAL programme for chronic MSK pain in regional, rural and remote settings in Australia.

## **Materials and Methods**

### **Study design, setting, and participants**

Our qualitative study design used a phenomenological approach aiming to explore, describe and understand the meaning and significance of the experience of our participants.(28) We followed the Consolidated Criteria for Reporting Qualitative Research (COREQ),(31) to ensure rigorous and transparent reporting standards, and were guided by social constructionist epistemology.

Participants were recruited using convenience sampling through waiting room advertisement fliers located in primary care facilities and via social media. Once potential participants contacted the research team via the QR code, email or link contained in the advertising material, they were contacted by author AS to check for eligibility. Purposive sampling was used to enable recruitment from four Australian states (New South Wales, Queensland, Victoria and Western Australia).

### **Ethical considerations**

This study was approved by Northern Sydney Local Health District Human Research Ethics Committee (2025/ETH00036) and La Trobe University Human Research Ethics Committee (2025/ETH00036). Participants were provided with study information before participating in interviews. Informed consent was provided verbally at the beginning of each interview. Participants were compensated for their time

with gift cards to a value in line with the suggested fee schedule for Consumer Advocates in the role of Advisor via Health Consumers NSW guidelines.(32) Once eligibility was confirmed, detailed study information was emailed, and prospective participants then provided informed consent and completed a demographic questionnaire on Research Electronic Data Capture (REDCap®).(33, 34)

## Eligibility criteria

To be eligible for the study, participants needed to be over 18 years and have chronic MSK pain with symptoms lasting more than three months, have either received care or be receiving care for this condition, and reside in a regional, rural or remote area of one of the four participating states. The Modified Monash Model (MMM), is an Australian Government classification that assigns locations a remoteness score from MM 1 (major cities) to MM 7 (very remote communities) based on geographical remoteness and town population size, and was used to classify participants' place of residence. (35) Areas classified MM 2 to MM 7 are considered regional, rural or remote and only participants from MMM 2–7 were eligible for the study.

Diversity of interviewed participants with regards to age, gender and geographic location was considered during recruitment.

## Interview Process and Data Analysis

Semi-structured interviews were conducted by a single author (AS) online using the Zoom platform, or by telephone if Zoom was not available. The interview questions were guided by a pre-prepared interview guide (Appendix A) designed to allow participants to provide information about their experiences. Piloting of the questions was undertaken with a person living rurally with chronic MSK pain. Review of their responses by the broader research team then occurred to ensure that the interview questions were prompting responses that answer the research questions. No changes were made to the interview guide after this review period as the research team were satisfied that the appropriate information was being elicited during the interviews. All interviews were recorded and transcribed verbatim. Data collection occurred between June and September, 2025.

Transcriptions were then de-identified using a pseudonym. Transcripts were returned to participants prior to data analysis to allow participants to provide feedback as to whether the transcriptions were accurate of any changes that needed to be made. NVivo Software (36) was used to manage the data and codes during the analytic process. A reflective research journal documented the research teams' initial thoughts and responses to the interviews as they were conducted, helping to enhance reflexivity.

Thematic analysis was undertaken following Braun and Clarke's six-phase framework, (37, 38) which was selected for its appropriateness in exploring the experiences of rural participants seeking healthcare for chronic MSK pain. This framework assumes that knowledge is constructed through individuals' interactions with their environment and is shaped by their social relationships and contextual influences.

Author AS led the analysis by reviewing transcripts multiple times to develop familiarity with the data and note initial observations. An inductive approach was used, with AS and ABM collaboratively coding three transcripts to generate preliminary codes capturing key features of the dataset. Codes were then organised into broader patterns to identify potential themes. AS subsequently coded the remaining transcripts, applying and refining the coding framework, with new codes developed as represented by the data. Themes were iteratively reviewed and refined for clarity and coherence, and finalised through team discussion (AS, AAA, ABM, JM, and TR), with names chosen to reflect their central meaning. The final analysis integrated data extracts with interpretation to produce a coherent account of the findings. To support interpretation and application, themes were mapped to the Socioecological Model. This model is a conceptual framework used to understand the many layers of personal and environmental influences that can impact behaviour, health and wellbeing.(41, 42) The Socioecological Model was developed in the 1970s and refined in the 1980s and has been used to conceptualise the design and implementation of healthcare interventions.(41) To enhance interpretation of our results, the different levels of the Socioecological Model were labelled the Individual, Interpersonal, Community, Organisational, and Policy levels.

## Researcher reflexivity

We acknowledge that the interpretation of qualitative data is shaped by perspectives and experiences of the research team. This study was led by AS, an experienced osteopath and researcher who works clinically in a specialist chronic pain service that receives referrals from rural and regional areas. This exposure through her clinical work may have heightened her sensitivity to systemic challenges. Her commitment to patient-centred care and early intervention may have influenced how she interpreted participants' experiences and priorities in the data analysis.

JM is a physiotherapist with 16 years of clinical experience in musculoskeletal care who has worked exclusively in rural settings throughout her career. JM currently practices in rural New South Wales, and has extensive experience navigating the challenges of rural healthcare delivery, including resource limitations, workforce shortages, and limited access to specialist services. These experiences may shape and influenced the interpretation and analysis of the data.

TR is professor of clinical translation in allied health and a specialist musculoskeletal physiotherapist. She runs a programme of research in implementation of models of care for MSK injuries, educates clinicians globally in this area and manages patients with complex MSK conditions. She lives in regional NSW.

ABM is a cis-gender woman and specialist sports physiotherapist who has worked clinically for > 30years with a special interest in MSK conditions. ABM has been conducting research on the prevention, assessment and management of MSK conditions for 13 years. These experiences, knowledge, and beliefs shape how she sees the world and influenced her analysis of the data.

AAA is a cis-gender man and MSK physiotherapist who has worked clinically for > 10 years in metropolitan and regional settings. AAA is a business owner and holds leadership roles in professional health organisations. AAA's research explores organisational perspectives on implementing MSK care pathways which informed his data interpretation and analysis.

Researchers not listed in this section were not involved in the data analysis process.

To mitigate potential bias, regular reflexive discussions were held within the research team, and multiple researchers contributed to the interpretation of data. As described above, these included individuals with diverse disciplinary backgrounds and varying degrees of clinical and geographic familiarity with rural healthcare. By maintaining reflexivity and collaborative analysis practices, we aimed to enhance the credibility, transparency, and trustworthiness of our findings.

## **Results**

### **Participants**

Twenty-four participants were included in our study (Table 1). Participant ages ranged from 26–81 years. Participants most commonly experienced low back pain, followed by neck, knee, and hip pain. Participant sample included more female than male participants, was mostly Caucasian with one participant identifying as Aboriginal during the interview process.

Table 1  
Participant characteristics (n = 24)

| <b>Participant characteristics</b>                             | <b>n (%)</b> |
|----------------------------------------------------------------|--------------|
| <b>Sex</b>                                                     |              |
| Female                                                         | 16 (67)      |
| Male                                                           | 8 (33)       |
| <b>Geographic location (Australian state or territory)</b>     |              |
| Victoria                                                       | 8 (33)       |
| New South Wales                                                | 8 (33)       |
| Western Australia                                              | 5 (20)       |
| Queensland                                                     | 3 (12)       |
| <b>Modified Monash Model (MMM) geographical classification</b> |              |
| MM2- Regional centres                                          | 2 (8)        |
| MM3- Large rural towns                                         | 7 (29)       |
| MM4- Medium rural towns                                        | 5 (20)       |
| MM5- Small rural towns                                         | 7 (29)       |
| MM6- Remote communities                                        | 2 (8)        |
| MM7- Very remote communities                                   | 1 (4)        |
| <b>Age</b>                                                     |              |
| 20–39                                                          | 4 (16)       |
| 40–59                                                          | 12 (49)      |
| 60–79                                                          | 7 (28)       |
| 80+                                                            | 1 (4)        |
| <b>Occupation</b>                                              |              |
| Retired                                                        | 7 (29)       |
| Professional                                                   | 6 (25)       |
| Manager                                                        | 3 (12)       |
| Unemployed                                                     | 2 (8)        |
| Clerical or administrative worker                              | 2 (8)        |

| <b>Participant characteristics</b>                           | <b>n (%)</b> |
|--------------------------------------------------------------|--------------|
| <b>Sex</b>                                                   |              |
| Labourer                                                     | 1 (4)        |
| Technician or trade worker                                   | 1 (4)        |
| Community or personal service worker                         | 1 (4)        |
| Home Duties                                                  | 1 (4)        |
| <b>Education</b>                                             |              |
| Lower secondary (Year 9/10 certificate)                      | 4 (16)       |
| Upper secondary (Year 12 certificate)                        | 0            |
| Non-tertiary qualifications (e.g., TAFE)                     | 9 (37)       |
| Tertiary qualifications                                      | 11 (46)      |
| <b>Conditions presented with (multiple options possible)</b> |              |
| Low back pain                                                | 17 (71)      |
| Knee joint pain                                              | 14 (58)      |
| Neck pain                                                    | 10 (42)      |
| Hip joint pain                                               | 8 (33)       |
| Other                                                        | 3 (12)       |

Participant interviews were conducted over Zoom (n = 21) with three conducted via telephone and recorded through Zoom. Interviews lasted between 12 and 45 minutes. Codes generated during the data analysis process are detailed in Supplementary document 1.

To contextualise our findings within the broader healthcare system, themes were mapped to the Socioecological Model after data analysis. (39–41) The Socioecological Model was selected as an analytic framework because it facilitates examination of how health experiences are shaped by interacting influences across multiple levels, rather than by individual factors alone. Mapping themes to this model enabled systematic consideration of how participants' experiences reflected influences operating at personal (e.g., beliefs, capabilities), interpersonal (e.g., relationships with clinicians), organisational (e.g., service availability), community (e.g., social norms and culture), and policy levels (e.g., funding and workforce structures). This approach supported interpretation of the findings in relation to the broader system context in which healthcare for chronic musculoskeletal pain is delivered in regional, rural, and remote Australia.

The following sections describe each theme and its alignment with each level of the Socioecological Model (Fig. 1).

## Thematic analysis

During the analytic process, four themes were constructed to reflect overarching meanings present across the data: 1. Being rural, regional or remote creates additional barriers to care for chronic MSK pain. 2. Having expert input makes us feel like we matter. 3. Cultural differences exist for people in the country which affects how healthcare is accessed. 4. Telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist (Table 2).

Table 2  
List of major themes

| Themes                                                                                                    | Content                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Being rural, regional or remote creates additional barriers to care for chronic MSK pain                  | <ul style="list-style-type: none"><li>• Travel, limited clinician availability and costs</li><li>• Additional psychosocial challenges created by distance add to chronic pain presentation</li></ul>                                                 |
| Having expert input makes us feel like we matter                                                          | <ul style="list-style-type: none"><li>• Expert input is difficult to access in the country</li><li>• Expert input is highly valued</li><li>• If expert input was to be provided, it would make people in the country feel like they matter</li></ul> |
| Cultural differences exist for people in the country which affects how healthcare is accessed             | <ul style="list-style-type: none"><li>• Cultural differences alter how people access healthcare</li><li>• Scepticism about new initiatives</li></ul>                                                                                                 |
| Telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist. | <ul style="list-style-type: none"><li>• Telehealth is seen as a good addition to face-to-face care</li><li>• Some potential barriers with infrastructure and usability for some in the community</li></ul>                                           |

### Theme 1: Being rural, regional or remote creates additional barriers to care for chronic MSK pain

Participants described that having chronic MSK pain is a difficult burden to bear. Suffering from pain caused interference with activities of daily living and quality of life. The presence of pain and disability dictated a need to seek care for diagnosis and treatment. Residing rurally adds an additional layer of complexity, with the need for long distance travel to seek specialist or expert care, and in some cases, even basic primary care. Participants described the burden that came with this travel including financial cost, the need for carer support, and navigating accommodation and transport associated with these

trips. Finally, participants reported facilities and services that would be helpful to support the management and treatment of chronic pain often do not exist in their rural location.

Being so far away from metropolitan centres creates many unique challenges to accessing healthcare. For example, this participant described the issues faced after having surgery for her chronic pain and being subsequently discharged back to her remote community:

*"I think the isolation the injury put on me, I found that mentally very challenging... You know, it's not that the neighbour can just swing by and check in... There were a lot of very challenging things." F, P13, MM5*

Similarly, the complexity of navigating an unfamiliar city with limited finances to seek regular specialist appointments was also voiced:

*"Usually, it's a (five hour) trip to (capital city), which you have to then apply for fuel vouchers if you're not well off. I don't know anyone in (capital city)... so I sleep in my car." M, P17, MM3*

The distance required to travel to seek healthcare not only added to the physical pain of some participants, e.g., *"I cried all the way to (regional town) in pain"* (F, P15, MM6), but also contributed to considerable emotional distress:

*"Other than financial, it's very wearing. It's emotionally straining... You're leaving the rest of the family behind and you're wondering ...if (my husband) can't get in from the paddock (to pick up a child off the bus from school)... it's 40 Ks to the bus stop." F, P8, MMM5*

These quotes demonstrate that additional burdens placed on rural people to access healthcare can become a considerable stressor, adding to an already distressing and intrusive situation. These barriers reflect influences across multiple levels of the Socioecological Model: *individual* (financial strain, physical burden, childcare), *organisational* (limited local services), and *policy* (resource allocation and workforce distribution).

## Theme 2: Having expert input makes us feel like we matter

Many participants described feeling like they are constantly missing out on access to expert level care compared to people living in metropolitan areas. Some described observing new initiatives being rolled out in metropolitan areas, whilst facilities and programs that were once delivered rurally being removed. For example: *"There was a hydro pool...in (town). The government didn't put the funding in and it closed."* (M, P1, MMM3) There were frequent reports of scarcity of access to all healthcare practitioners, with particular focus on specialist care. This participant describes:

*"So if you're waiting for a specialist in the public system...people are waiting... up to two years, even for a consult.... Sometimes the specialists that are coming are servicing... very big rural areas." F, P2, MMM3*

Participants clearly felt that these inequities would need to be addressed for their healthcare needs to be considered as important as those of people in metropolitan areas. For example, when responding to a question regarding the acceptability of delivering allied-health specialist care to rural people via telehealth we heard:

*"(If there was)...an opportunity to speak to someone about your issues, and the feeling of not being isolated, of not being neglected, of not feeling marginalised because you don't live in a city. I think you need to feel that sense of inclusiveness. I think you need to feel that you matter." M, P1, MMM3*

and:

*"(If we were to create initiatives for allied-health specialist care via telehealth) At the end of the day, I think one of the major things is that the country people actually would then realise that people give a crap about them...(it would) make a world of difference." M, P12, MMM5*

Having access to allied health specialist input was viewed as being particularly valuable, giving participants greater confidence and reassurance than they typically felt they could get from local providers (e.g., *"I need to trust that the person actually knows what they're doing.... I want someone that can look at me and go, we know what you can do, let's just do that". F, P5,MMM5*). In many cases, the perceived value of the allied-health specialist made the effort required to access this care worthwhile (e.g., *"If there's anything specialist wise, I don't even bother looking around home. I just go straight to Melbourne...We're willing to travel to get the best care." F, P7,MMM5*

This theme maps to multiple levels of the Socioecological Model. The factors described with regards to clinician trust and therapeutic alliance could be seen to align with the *Interpersonal level* of the model. Additionally, the lack of expert or specialist availability described by participants fits with the *Organisational level* of the model, suggesting that organisations such as public and private healthcare services do not have the capacity to deliver such specialist allied healthcare, primarily due to lack of clinician availability. *Policy level* determinants within the model are also represented in the data. For example, when participants refer to long public system wait times and a lack of funding for the care that they feel they need.

### **Theme 3: Cultural difference exists for people in the country accessing healthcare**

Participants described cultural differences in people from the country compared to the city with regards to how they access healthcare. Some of the opinions expressed were around the idea that some country people place their health and/or accessing healthcare as a low priority in their lives. This may at times be due to the difficulty involved in accessing care or a reflection of attitudes in country areas. For example:

*"Probably culturally, some stuff that you'll often see – she'll be right, mate. That still happens so much." F, P8, MMM5.*

*“Definitely less willing to see a doctor or make an appointment, a bit more stubborn... But I think that would probably worse the further out you get”. F, P11, MMM4.*

Similarly, a reluctance to seek healthcare, including for mental health issues was observed by some participants: *“It’s definitely a cultural thing. Blokes have always been taught to suck it up, don’t whinge and carry on, he’ll be right...Unfortunately we see the tragic end of that...a lot of suicides.” M, P12, MMM5.*

Participants spoke about a cultural tendency among country people to be cautious about new things. This wariness was seen as a way of looking out for one another, ensuring that new opportunities did not cause harm or disappear after raising false hope.

*“New concepts, quite often in a country town, are given a very strong look at to see if it will suit what we collectively think. Well, you try and bring in something new and it’s (tested) a bit before it’s absolutely accepted... because country communities, their survival is tested with lots of different things, financials, weather, catastrophes, stuff like that.” F, P6, MMM5*

Access to healthcare is also shaped and informed by additional barriers related to cultural differences when working in regional, rural and remote areas. For many farmers and rural workers, whose work often depends on unpredictable factors like weather, taking time off for appointments can feel impractical and unnecessary, making healthcare an even lower priority:

*“I know for farmers and blokes have grown up in the land and all that, they’re busy people. To take half a day out or a whole day to go and see a specialist, that can be something that can prevent them from actually accessing health care. If you had something that was localised and accessible, I would say that that would give you the best chance in getting men to better access health care”. M P12, MMM5*

Similarly, for some, the burdensome nature of accessing care for multiple family members meant that their own healthcare tended to take a back seat. For example: *“We’re always too busy...where your priority is getting those kids right, and if I can’t get an appointment for me on the same day, I’ll forego me.” F, P8 MMM5*

This theme describes a variety of cultural factors that influence why people in rural areas may or may not access healthcare and suggests that it is important to consider these factors when designing healthcare offerings for rural communities. The cultural attitudes described regarding “looking after the tribe” and collective views on accessing healthcare map to the Socioecological Model at the *Community level*. These factors further intersect with *Organisational levels* of the model, for example when considering the impact that this community level healthcare seeking behaviour has on appointment scheduling and service models.

**Theme 4: Telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist.**

Participants describe telehealth as being a viable adjunct to face-to-face care that can help improve access without the need for travel. Participants described using telehealth effectively in the past and felt positive about using it in the future. Several participants expressed concerns that some community members may face barriers to access telehealth. This included older adults, individuals from lower socioeconomic backgrounds without access to technology, and those living in remote areas with limited or no internet connectivity.

*I'm guessing the older generation probably wouldn't because (they are not all) computer-wise... that's the downside to it" F,P19, MMM4*

Continuity of care was described to be a good reason to engage in telehealth:

*"The good thing that came out of COVID ... My GP...moved...and I wanted to stay with her because she knows my body well. The telehealth is a regular thing I do with her. That's definitely an enormous benefit. I also think telehealth, you're in the comfort of your home." M, P1, MMM3*

A benefit of the use of telehealth was the convenience of not having to travel:

*"You don't have to move...that would be absolutely the very best because it's more comfortable ...you don't have to...drive. You get tired, older people or people with an injury, they get tired." F, P6, MMM5*

Participants who had experience with telehealth explained that although they were initially hesitant, they found it to be easier and more convenient than expected, particularly when used to complement face-to-face care.

*"I was hesitant to start off with....it was much better than what I expected." F, P7, MMM5.*

Several participants described that a blended model of care offered the best of both worlds. It allowed for in-person consultations to build rapport and provide physical examination when needed, while using telehealth for follow-up appointments, test reviews, and other administrative discussions. This approach was viewed as a practical and sustainable solution that reduced unnecessary travel without compromising the quality of care.

*"In terms of convenience, nothing beats... telehealth. So, a hybrid model is quite good for me." F, P4, MMM3*

The telehealth acceptability and barriers described by participants map to the Socioecological Model at several levels. First, factors like digital literacy and access to smart phones or laptops would be considered to align with the *Individual, Interpersonal and Community levels* of the model. Secondly, the reports from participants regarding infrastructure, such as mobile phone reception and internet coverage relate to the *Organisational level* of the model. Finally, factors such as reimbursement for telehealth models and the financial sustainability of healthcare endeavours that utilise telehealth would be associated with the *Policy level* of the model.

Figure 1 presents visually the multiple levels of the Socioecological Model that were represented by the themes heard in this study.

## Discussion

This study explored barriers to accessing healthcare for people living with chronic MSK pain in regional, rural, and remote areas of Australia. Findings are discussed in relation to four key themes that align with participants' experiences and highlight implications for the implementation of the PACE-RURAL programme: (1) Being rural, regional or remote creates additional barriers to care for chronic MSK pain (2) Having expert input makes us feel like we matter, (3) Cultural differences exist for people in the country which affects how healthcare is accessed, and (4) Telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist.

Participants described multiple barriers to accessing healthcare that were specific to rural, regional, and remote contexts. These included limited availability of local healthcare practitioners, long wait times, and the need to travel substantial distances to access specialist care. Travel was associated with additional financial costs, physical burden, and disruption to daily responsibilities, compounding the challenges of managing chronic pain. These findings are consistent with previous research highlighting inequities in access to pain services for rural Australians and the cumulative burden associated with distance and service scarcity. (8, 11, 15, 16, 18, 43) For people living with chronic MSK pain, these access barriers influenced when and how care was sought, often contributing to delays in treatment or reliance on less specialised services. From an implementation perspective, these findings reinforce the need for models of care that reduce the requirement for travel and better utilise local resources. For the PACE-RURAL programme, this underscores the importance of bringing specialist input earlier in the care pathway and embedding services within existing rural healthcare structures to minimise additional burden on patients.

Across interviews, participants consistently emphasised the value of access to specialist expertise. This expert input was perceived as both difficult to obtain and highly meaningful. The absence of such care was perceived by some participants as an implicit message that their healthcare needs were less important than those of people living in metropolitan areas. Conversely, the possibility of expert care being delivered locally conveyed a sense that their pain was recognised and taken seriously. This finding extends beyond access alone to highlight the symbolic and relational importance of expert care. Feeling "heard" and validated by expert clinicians appears to be a valued factor in engagement with chronic pain management. Of particular relevance for the PACE-RURAL programme, this finding reinforces the intervention's focus on integrating specialist MSK expertise into rural care through supported consultation models, with potential benefits not only for clinical decision-making but also for patient trust and perceived legitimacy of care.

Participants highlighted that the cultural characteristics of rural communities influenced healthcare decision-making and engagement. These included a tendency to delay help-seeking, competing work

and family priorities, and caution toward unfamiliar services or providers. Such cultural norms interacted with structural access barriers to shape how and when care was accessed. Recognising these cultural influences is critical for designing services that are acceptable and relevant to rural populations. (21, 44–46) Interventions that do not align with local values or practical realities may struggle to achieve uptake, regardless of their clinical merit. For the PACE-RURAL programme, these findings will help direct implementation, ensuring that the pathway components are responsive to local contexts, address community concerns, and are delivered in ways that feel appropriate and trustworthy to rural consumers.

Overall, participants viewed telehealth positively as a way to improve access to specialist care and reduce the need for travel. Telehealth was largely seen as acceptable and convenient, particularly when used as an adjunct to face-to-face care rather than a complete replacement. These findings align with existing literature describing increased exposure to and acceptance of telehealth, particularly following the COVID-19 pandemic.(12, 47–51) While participants identified potential barriers such as limited internet access, digital literacy, or discomfort with technology, they also suggested practical solutions. These included using local clinicians or community facilities to support telehealth consultations, indicating that barriers were not viewed as insurmountable. Importantly, the high value placed on specialist input appeared to outweigh concerns about delivery mode. For the PACE-RURAL programme, this highlights telehealth as a feasible mechanism for facilitating specialist involvement, particularly when supported by local providers who can assist with access and engagement.

Applying the Socioecological Model to these findings highlights the multi-level influences affecting access to chronic pain care in rural settings. Rather than operating in isolation, barriers and enablers were evident across individual (e.g., beliefs about care), interpersonal (e.g., relationships with local clinicians), organisational (e.g., service availability), community (e.g., cultural norms), and system-level (e.g., specialist workforce distribution) domains.(40, 41) Viewing the findings through this lens underscores that effective implementation of rural healthcare interventions requires coordination across multiple levels of influence. For example, telehealth acceptability at the individual level must be supported by organisational infrastructure, community trust, and policy settings that enable expert involvement. Mapping the PACE-RURAL programme to this framework demonstrates how its design, particularly its emphasis on co-design, local clinician involvement, and expert support, addresses interacting barriers across levels rather than targeting a single point of change.

## Strengths and limitations

Recruitment through both clinicians and social media enabled representation from a wide range of geographical locations, including those from very remote communities. This allowed for a richer understanding of the experiences of those with lower access to health services, potentially due to barriers that were important to identify and explore.

While online videoconferencing offers a convenient means of conducting qualitative research, participation requires a level of confidence and proficiency with digital technology. As such, the positive

views expressed about telehealth may reflect a selection bias, as participants were sufficiently comfortable with technology to take part in this study. The recruitment and interview processes may therefore have excluded individuals who experience greater difficulty with digital tools. Consequently, the favourable experiences reported may not fully represent the perspectives of the broader rural community.

A further limitation of the study was the lack of cultural diversity in the recruited participants and research team. Nearly all participants were Caucasian, with one participant identifying as Aboriginal. The proportion of Aboriginal and Torres Strait Islander people residing in rural areas in Australia increases with remoteness, reaching as high as 32% of the population in areas classified as remote or very remote. (2) Research suggests that Aboriginal and Torres Strait Islander people experience MSK pain at similar rates to non-Aboriginal Australians. However, Aboriginal and Torres Strait Islander people access care less often, are less likely to receive joint replacement surgery,(52) and experience additional and different barriers to accessing healthcare (17, 43) Therefore, the inclusion of their voices in the development of healthcare interventions in rural settings is critical. Finally, other populations such as culturally and linguistically diverse populations were not well represented in our study, meaning that the capacity to interpret barriers to healthcare experienced by these communities is limited.

## Implications

The findings of this study will directly inform the development and implementation of the PACE-RURAL programme, a national initiative being delivered across rural Australia. A previous iteration of this project, run in metropolitan areas, known as PACE-MSK (24, 25) also provides context and experience for the rural iteration of this intervention. The nuanced and targeted feedback provided by participants of this study are of particular value to the research team. Important feedback regarding the acceptability of telehealth, combined with the anticipated barriers that might be present with the delivery of the intervention can be workshopped by the research team to troubleshoot anticipated issues. Additionally, valuable information about where and how rural consumers would like to be informed about such initiatives will direct recruitment strategies for the PACE-RURAL programme evaluation study. This study also contributes further weight to previous research investigating the experiences of seeking healthcare in the country.(7, 12, 13, 15, 18, 19) The results of the current study, in combination with this previous research, shines a light on the vast differences in the provision of high quality, co-ordinated healthcare being delivered in rural, regional and remote areas versus metropolitan areas. It also provides detailed information on the practical barriers to accessing care in rural regional and remote areas. It highlights the need for the implementation of healthcare initiatives to address the lower availability of care in rural communities, including the provision of specialist services.

## Conclusion

People from rural, regional and remote areas of Australia described their experiences of accessing healthcare for treatment of chronic MSK pain. Four themes were constructed from the data: Being rural, regional or remote creates additional barriers to care for chronic pain, having expert input makes us feel

like we matter, cultural differences exist for people in the country accessing healthcare and telehealth offers a viable way to seek care and reduce travel but barriers to accessing telehealth exist. The nature of the barriers to care faced by people in rural areas are frequently different to those faced by people living in metropolitan areas, including the need for extensive travel and a lack of availability of local clinicians. As such, when designing healthcare interventions for people in rural, regional and remote communities, careful consideration needs to be paid to the nature of the barriers to care so that interventions may have the best chance of being adopted.

## Declarations

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Funding

### Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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## Figures



Figure 1

Socioecological Model with elements from themes from the study mapped to the model. Adapted from Brofenbrenner, 1989. (42)

## Supplementary Files

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- [AppendixA.docx](#)