Management of chronic pain in a rural Australian setting: Findings from the Crossroads-II mixed-methods study

Kristen Glenister, Sarah Gray, Lisa Bourke, David Simmons

Background and objective
Rural patients with chronic pain likely experience barriers to optimal management and access to care. The objectives of this study were to estimate the prevalence of chronic pain in a rural setting and the utilisation of specialist pain clinics and to investigate factors associated with well-managed pain.

Methods
A cross-sectional survey (2016–18) involving quantitative and text-based data was completed by adults from randomly selected households in the Goulburn Valley, Victoria.

Results
Among the 2680 respondents, 594 (22%) reported chronic pain. Few (6%) respondents with chronic pain were accessing specialist pain clinics. Logistic regression analysis suggested that the strongest predictors of well-managed chronic pain were older age, the absence of depression or disability and a longer duration of chronic pain.

Discussion
This study found a similar prevalence of chronic pain to other, predominantly metropolitan Australian studies, with low participation in specialist pain clinics. The results suggest that improved access to multidisciplinary pain management approaches in rural areas is warranted.

PAIN IS A STRONG PREDICTOR of poor quality of life and increased societal economic cost due to absenteeism, healthcare costs, sickness or disability benefits.[1] Effectively treating chronic pain, ideally via a multidisciplinary approach,[2] has been found to improve both physical and psychological symptoms, quality of life and patient functioning.[3] However, access to specialist, multidisciplinary pain services might be limited due to extended distance, prohibitive cost and long waiting lists.

It has been estimated that approximately 20% of the adult Australian population lives with chronic pain.[4] General practitioners (GPs) provide first-line care for patients with chronic pain and continuity of care and can provide care coordination in multidisciplinary teams. In addition, even for patients requiring more specialist care at persistent pain clinics, the strongest predictor of a positive sense of wellbeing was sympathetic treatment by GPs.[5] Australian studies of chronic pain prevalence have been conducted in general practice[6] or via national population surveys.[4] It has been estimated that up to 80% of those living with chronic pain in Australia are not receiving optimal care.[7] It has been further estimated that 5% of the Australian population aged 15 years or older would benefit from adult persistent pain services; however, only a small proportion of the national population (0.18%), and even less of the non-urban population (0.045%), had accessed these services.[8]

The prevalence of chronic pain and barriers to optimal management in rural Australia are not well understood and have been identified as issues needing attention for health service planning.[9] Very few pain specialists or specialised chronic pain clinics are located in rural Australia.[10] Rural socioeconomic disadvantage, necessity to travel and pay for specialised care and potential loss of income due to pain and/or disability further compound access to specialised chronic pain care issues in rural areas. The aims of this study were to estimate the prevalence of chronic pain; assess the utilisation of health services, including specialist pain clinics; identify factors associated with self-assessed, well-managed chronic pain; and identify participant-reported solutions for improved chronic pain care in a rural area in Australia.

Methods

The Crossroads-II study[11] was conducted in the Goulburn Valley, Victoria, situated approximately 200 km north of the state capital city of Melbourne. The study included the regional centre of Shepparton/Mooroopna (Modified Monash Model [MMM][12] designation of 3 [large rural town]) and the surrounding smaller towns of Benalla, Seymour and Cobram (each designated MMM4 [medium rural towns]). The Crossroads-II study assessed health, disease and access to care, and results pertaining to diabetes,[13] atrial fibrillation,[14] dental health[15] and other issues have been published previously. Crossroads-II used similar methodology to the original Crossroads-I study conducted in 2001–03.[16] The results presented here represent a substudy of chronic pain prevalence and access to care within Crossroads-II. There is an outpatient pain clinic available through the public hospital service in Shepparton that uses physiotherapy, psychology and occupational therapy to assist patients to achieve functional goals[17] and has a waitlist of up to four months for the group program, and longer for individualised programs. This clinic opened in 2013 but does not host a specialist pain physician.[17] There is a specialist pain program available through Albury Wodonga Health (situated 175 km from Shepparton) involving a multidisciplinary team and pain specialist.[18] The Albury–Wodonga pain clinic team provides a three-week residential program at no cost to public patients but currently has an extended waitlist (up to six months to commence the program). Similarly, private pain specialists across the state are experiencing high demand, affecting their capacity to see patients, particularly public patients, within short time frames. Due to demand, some private pain specialists have had to close their books to public patients entirely. Additional pain specialist services are available in Melbourne; some are publicly available but often have significant waiting lists and strict referral criteria.[19]

Respondents

Households (n=3657) were randomly selected from local government residential rate payer lists. After exclusion of vacant or non-residential addresses, a total of 3112 households were eligible for the survey.[11] All residents of these households aged 16 years or over who had lived in the Goulburn Valley for at least six months were invited to participate and provided written informed consent (as required by the ethics committee) on a separate piece of paper to ensure names were not linked to household survey responses. Of the eligible households approached, 2680 individuals from 1895 households consented to participate (61% household response rate). Respondents were asked a series of questions about their health and use of healthcare, in addition to demographic details (see Appendix 1 for sample chronic pain questions [available online only]) by trained research assistants face to face using tablet technology (iPad; Apple, Cupertino, CA, USA) with REDCap electronic data capture tools (Vanderbilt University, Nashville, TN, USA). Households were repeatedly visited until each adult had indicated their intent to participate or had refused. Many survey questions were validated questions that had been previously used in the Crossroads-I[16] and AusDiab[20] studies.

Questionnaire

Chronic pain questions were developed in consultation with a local community healthcare organisation. Participants were asked, 'Have you ever suffered from, or are currently being treated for any of the following conditions?: Chronic pain' (yes/no). No specific definition of chronic pain was provided to respondents regarding duration or severity of pain. Participants were asked, 'Do you feel your pain is well managed?' (yes/no). Participants were asked the following free-text questions: 'How would you improve the care of chronic pain in this region?' and 'Is there anything that you feel prevents you from managing your pain as well as you would like?'. The percentage of missing data varied slightly for each questionnaire section.

Statistical analysis

Statistical analysis was conducted using IBM SPSS Statistics 27 (IBM Corp., Armonk, NY, USA). Normally distributed data are presented as the mean±standard deviation. Chi-squared tests for independence were undertaken to assess relationships between categorical variables, whereas t-tests were used to compare means between independent groups for continuous variables. For non-normally distributed data (duration of pain and number of comorbidities), the median and interquartile range (IQR) are reported, and between-group analysis used the non-parametric Mann–Whitney U test. Logistic regression assessed factors associated with the perception of well-managed chronic pain. Potential variables were selected because they had been reported to be associated with chronic pain in the literature (age, sex, mental health and employment).[21] In addition, other variables were included because the authors were interested in their potential involvement in the perception of well-managed pain, namely disability, private health insurance, attendance at a pain clinic, educational attainment, duration of chronic pain and marital status. Participant responses to the free-text questions were analysed by inductive content analysis to identify the frequency of key codes and responses. Briefly, two authors (KG [female scientist and rural health researcher residing in a rural area who had formerly accessed a metropolitan, private pain clinic] and SG [female, rural medical student at the time of analysis, now a GP residing in a rural area]), neither with prior relationships with participants, first became familiar with the data by reading all free-text responses and then developing a list of initial codes. Second, codes were assigned to groups of responses reporting similar issues or solutions and, finally, codes were refined and checked by both authors and matched with the frequency of responses.[22]

Ethics approval

This study was approved by the Goulburn Valley Health Human Research Ethics Committee in May 2016 (GVH20/16).

Results

Of the 2680 respondents, 42% were male and the mean age was 54±19 years (range 16–97 years). Table 1 compares demographic details of participants with or without chronic pain. Twenty-two per cent of respondents reported having chronic pain. Of those with chronic pain, 60% were female and aged 60±16 years (range 16–94 years). Respondents had experienced their pain for 1–828 months (or 0–69 years), with a median pain duration

of 25 months. Those with chronic pain were significantly older (60±16 vs 52±20; *P*<0.001), had a higher body mass index (30±7 vs 27±6 kg/m^2; *P*<0.001) and had a higher number of comorbid health conditions (median 4.00 [IQR 3.00] vs 2.00 [IQR 2.00]; Mann–Whitney U=927659, *P*<0.001) than those without chronic pain. Respondents reporting chronic pain were significantly more likely to report depression than respondents who did not report chronic pain (43% vs 20%; *P* < 0.001). Similarly, those with chronic pain were also significantly more likely to report disability than respondents who did not report chronic pain (51% vs 10%; *P*<0.001; Table 1). Among people with chronic pain, female respondents had more comorbidities than male respondents (4.1±2.0 vs 3.6±1.9; *P*=0.001), and those aged ≥65 years had more comorbidities than those aged <65 years (4.3±1.9 vs 3.6±2.0; *P*<0.001). The percentages of female and male respondents with chronic pain and comorbid heart conditions, diabetes or respiratory conditions were not significantly different, but people aged ≥65 years were more likely to have heart conditions, diabetes or respiratory conditions than those aged <65 years (data not shown).

Treatments

As indicated in Table 2, most respondents (57%) reported using a prescribed medication for their pain management and most (67%) were using at least one non-pharmacological intervention, including allied health (eg physiotherapy and psychology) and complementary and alternative medicine therapies (eg acupuncture and chiropractic therapy). Respondents typically used multiple therapies, with few respondents reporting no therapies (n=13; 2%) or one therapy (n=162; 27%). Over-the-counter pain medications were also commonly used (56%).

Use of health services

Respondents with chronic pain had used a variety of health services in the previous 12 months (Table 3). General practice was used by almost all respondents with chronic pain (98%). Respondents with chronic pain were significantly more likely to visit GPs, psychiatrists, physiotherapists, psychologists, exercise physiologists or acupuncturists and ask pharmacists for advice than respondents

Table 1. Study sample demographics

	Total sample (n=2680)	No chronic pain (n=2186)	Chronic pain (n=594)	*P*-value
Gender				
Male	1,128 (42.3)	893 (43.1)	234 (39.4)	0.181
Female	1,538 (57.6)	1,178 (56.9)	359 (60.4)	
Other	2 (0.1)	1 (0.0)	1 (0.2)	
Location				
Regional centre	1,344 (50.2)	1,048 (50.4)	296 (49.7)	0.702
Smaller town	1,322 (49.8)	1,033 (49.6)	299 (50.3)	
Age (years)	53.7±19.2	52.0±19.7	59.7±16.3	<0.001
Married or de facto				
Yes	1,556 (58.1)	1,237 (59.4)	319 (53.6)	0.011
No	1,120 (41.9)	844 (40.6)	276 (46.4)	
BMI (kg/m^2)[A]	27.9±6.0	27.4±5.6	29.6±7.1	<0.001
Obesity (BMI ≥30 kg/m^2)	621 (29.8)	441 (27.2)	180 (38.7)	<0.001
Comorbidities[B]				
None	322 (12.1)	314 (15.2)	8 (1.4)	<0.001
One to three	1,655 (62.3)	1,386 (67.1)	269 (45.5)	
Four to six	593 (22.4)	335 (16.2)	258 (43.6)	
Seven or more	86 (3.2)	30 (1.4)	56 (9.5)	
Education				
<Year 12	1,029 (41.9)	741 (38.6)	288 (53.6)	<0.001
≥Year 12	1,429 (58.1)	1,180 (61.4)	249 (46.4)	
Comorbidities[C]	2.0 [3.0]	2.0 [2.0]	4.0 [3.0]	<0.001[D]
Employed full time or part time				
Yes	1,152 (43.0)	984 (47.3)	168 (28.2)	<0.001
No	1,524 (57.0)	1,097 (52.7)	427 (71.8)	
Health insurance				
Yes	1,087 (40.6)	878 (42.2)	209 (35.1)	0.002
No	1,589 (59.4)	1,203 (57.8)	386 (64.9)	
Disability				
Yes	515 (19.3)	209 (10.0)	306 (51.4)	<0.001
No	2,161 (80.7)	1,872 (90.0)	289 (48.6)	
Depression				
Yes	672 (25.1)	417 (20.0)	255 (42.9)	<0.001
No	2,004 (74.9)	1,664 (80.0)	340 (57.1)	
Well-managed pain				
Yes	NA	NA	404 (68.1)	NA
No			189 (31.9)	

Table continued on the next page

Table 1. Study sample demographics (cont'd)

	Total sample (n=2680)	No chronic pain (n=2186)	Chronic pain (n=594)	*P*-value
Satisfaction with chronic pain care				
Very satisfied	NA	NA	184 (31.0)	NA
Satisfied			239 (40.3)	
Neither satisfied nor dissatisfied			99 (16.7)	
Dissatisfied			42 (7.1)	
Very dissatisfied			17 (2.9)	
Satisfaction with GP (primary care physician)				
Very satisfied	1,522 (61.2)	1,161 (60.9)	361 (62.1)	0.320
Satisfied	783 (31.5)	614 (32.2)	169 (29.1)	
Neither satisfied nor dissatisfied	121 (4.9)	90 (4.7)	31 (5.3)	
Dissatisfied	48 (1.9)	33 (1.7)	15 (2.6)	
Very dissatisfied	14 (0.6)	9 (0.5)	5 (0.9)	
Use of multiple GP clinics				
Yes	383 (14.3)	282 (13.6)	101 (17.0)	0.035
No	2,293 (85.7)	1,799 (86.4)	494 (83.0)	
Location of pain				
Head or neck	NA		20 (3.7)	NA
Abdominal or pelvic			26 (4.8)	
Upper limb			31 (5.7)	
Lower limb			86 (15.9)	
Back			187 (34.6)	
Multiple locations			190 (35.2)	
Cause of pain				
Cancer	NA		9 (1.8)	NA
Surgical/postsurgical			17 (3.4)	
Undiagnosed			18 (3.6)	
Abdominal/pelvic			19 (3.8)	
Rheumatological/inflammatory			31 (6.2)	
Neurological/nerve			32 (6.4)	
Other[B]			53 (10.7)	
Accident/injury			68 (13.7)	
Other musculoskeletal			89 (17.9)	
'Arthritis'			161 (32.4)	

Unless indicated otherwise, data are given as the mean±standard deviation, n (%) or median [interquartile range]. *P*-values are for chronic pain versus no chronic pain.

[A]Body mass index (BMI) calculated using self-reported height and weight.

[B]Diabetes, cardiovascular disease, renal disease, liver disease, disability, respiratory conditions, eye conditions, depression, cancer, skin conditions, thyroid disease, allergy, stroke and epilepsy.

[C]Diabetes, oedema, epilepsy, psychiatric conditions, osteoporosis, haemorrhoids, dental pain, chronic fatigue syndrome and complex regional pain syndrome.

[D]Mann–Whitney U test: median 2.0 U=927,659.

GP, general practitioner; NA, not applicable.

without chronic pain (Table 3). Specialist pain healthcare was found to be used by a small proportion of those with chronic pain. Only 6% of respondents with chronic pain reported having used a specialised pain clinic (Table 3).

Well-managed pain

Almost one-third of respondents (32%) stated that their pain was not well managed, despite reporting satisfaction with their care (71% reported being satisfied or very satisfied with their pain care; Table 4). Binary logistic regression analysis was conducted to assess factors associated with well-managed pain using the response (yes/no) to the question 'Do you feel your pain is well managed?'. The model contained 10 independent variables (age, sex, private health insurance, educational attainment, employment status, marital status, depression, disability, attendance at a pain clinic and duration of chronic pain). The strongest predictors of a patient reporting well-managed chronic pain were older age (odds ratio [OR] 1.023; 95% confidence interval [CI]: 1.009, 1.037), the absence of depression (OR 0.603; 95% CI: 0.397, 0.915), the absence of disability (OR 0.551; 95% CI: 0.363, 0.836) and a longer duration of chronic pain (OR 1.027; 95% CI: 1.005, 1.049).

Improvements to chronic pain management

Respondents were asked to report any improvements that could be made to chronic pain care in the Goulburn Valley region. The most common responses were improved access to specialist pain clinics or specialists (110 responses), education regarding treatment options (100 responses), enhanced knowledge of chronic pain among GPs (46 responses) and improved access to allied health and complementary and alternative medicine services (24 responses). Similarly, respondents were asked, 'Is there anything that you feel prevents you from managing your pain as well as you would like?' The most common responses were cost (99 responses), poor access to GPs (43 responses) and a lack of knowledge about treatment options (33 responses).

Discussion

The prevalence of chronic pain in this rural-Australian-based study (22%) was similar to the 18–19% reported in similar

Table 2. Use of pain treatments by participants with chronic pain (n=594)

	n (%)
No. different treatments	
0	13 (2.2)
1	162 (27.2)
2	160 (26.9)
3	92 (15.5)
4	69 (11.6)
>4	99 (16.6)
Medications, supplements, herbs	
Prescribed medications	340 (57.1)
Over-the-counter medications	330 (55.5)
Supplements	99 (16.6)
Herbal	46 (7.7)
Pain pump	1 (0.2)
Therapies	
Physiotherapy	173 (29.1)
Massage	140 (23.5)
Chiropractic therapy	106 (17.8)
Acupuncture	83 (13.9)
Relaxation	51 (8.6)
Aromatherapy	26 (4.4)
Mind–body therapy	23 (3.9)
Osteopathy	16 (2.7)
Hypnotherapy	12 (2.0)
Reiki	12 (2.0)
Therapeutic touch	8 (1.3)
Biofeedback	1 (0.2)
Exercise-based treatment	
Other exercise	128 (21.5)
Yoga	25 (4.2)
Tai chi	13 (2.2)
Nerve-based treatment	
TENS	37 (6.2)
Nerve block	28 (4.7)
Other	
Other[A]	135 (22.7)
Diet	49 (8.2)

[A]Including circulation/vibration machines, cortisone injections, heat/cold (baths, ice, heat packs), marijuana, podiatry, epidural, sleep management, weight loss, myotherapy, psychic energy healer (each fewer than 15 responses).

TENS, transcutaneous electrical nerve stimulation.

Table 3. Use of healthcare services among those with and without chronic pain

Healthcare service	Respondents without chronic pain (n, %)	Respondents with chronic pain (n, %)	*P*-value
General practitioner[A]	1,907 (91.7)	581 (97.8)	<0.001
Specialist physician			
Pain clinic	NA	36 (6.1)	NA
Psychiatrist[A]	47 (2.3)	35 (5.9)	<0.001
Allied health			
Physiotherapist[A]	295 (14.2)	181 (30.5)	<0.001
Psychologist[A]	117 (5.6)	64 (10.8)	<0.001
Exercise physiologists[A]	46 (2.2)	30 (5.1)	<0.001
Pharmacists (for advice only)[A]	614 (29.6)	260 (43.8)	<0.001
Complementary and alternative medicine			
Acupuncturist[A]	84 (4.0)	51 (8.6)	<0.001
Chiropractor[A]	282 (13.6)	94 (15.8)	0.162
Naturopath[A]	66 (3.2)	24 (4.0)	0.300
Osteopath[A]	114 (5.5)	40 (6.7)	0.252

[A]These services might be accessed for a multitude of reasons, not limited to chronic pain.

NA, not applicable.

Australian studies.[6] The results suggest that chronic pain in this region was associated with comorbid depression, disability and high levels of the use of prescribed and over-the-counter medications.

In our study, well-managed chronic pain was associated with an absence of depression or disability. In previous studies, depression and chronic pain have been reported to have a bidirectional relationship, complicating management approaches.[23] Comorbid depression and chronic pain are also associated with higher health service utilisation and cost.[24] A comprehensive, adaptable, whole-of-person, lifestyle approach to chronic pain in general practice might have benefits for comorbid health conditions, including mental ill health, for a majority of patients.[25]

Well-managed pain was found to be associated with a longer duration of pain. This suggests that well-managed chronic pain can take a substantial amount of time to achieve. Indeed, a systematic review reported that enablers of chronic pain self-management included acceptance, self-efficacy, goal setting and problem-solving.[26] In a grounded theory study of people who self-identified as 'living well despite chronic pain', researchers described a process that people underwent over time involving 'making sense of pain', 'deciding to transition from a patient to a person' and 'persisting, reoccupying and developing lifelong, flexible coping strategies'.[27] Better insight into this process might assist others to transition more quickly.

Most respondents in this study were found to be using pharmacological intervention for their pain management. 'Passive strategies', such as taking medication or resting, have been reported to be associated with higher healthcare utilisation and higher levels of disability than 'active' strategies such as exercise, stretching or meditation.[28] Tailored patient education that emphasises the importance of exercise and continuing activities that are important to the individual, which might seem counterintuitive for people who traditionally consider pain as a warning sign to stop and rest, could also be useful.

Table 4. Logistic regression of factors associated with well-managed chronic pain[A]

Factor	OR	95% CI	*P*-value
Age	1.023	1.009, 1.037	0.001
Sex			
Male (1)	Reference		
Female	0.949	0.639, 1.410	0.796
Depression			
No depression (1)	Reference		
Depression	0.603	0.397, 0.915	0.018
Disability			
No disability (1)	Reference		
Disability	0.551	0.363, 0.836	0.005
Private health insurance			
No health insurance (1)	Reference		
Health insurance	0.794	0.513, 1.228	0.300
Pain clinic			
Did not attended pain clinic (1)	Reference		
Attended pain clinic	1.019	0.468, 2.219	0.963
Education			
<Year 12 (1)	Reference		
Education Year 12+	1.058	0.705, 1.589	0.784
Duration of chronic pain (years)	1.027	1.005, 1.049	0.015
Employment			
Not employed FT or PT (1)	Reference		
Employed FT or PT	1.445	0.890, 2.348	0.136
Marital status			
Not married or de facto (1)	Reference		
Married/de facto	0.858	0.575, 1.282	0.455

[A]Dependent variable: 'Do you feel your pain is well managed?'; yes=1, no=0. Sex limited to male, female.

CI, confidence interval; FT, full time; OR, odds ratio; PT, part time.

An over-reliance on medication might reflect a lack of access to other therapies.

The most common suggestion for improved care for chronic pain in the region was to improve access to pain clinics and pain specialists. Because many respondents with chronic pain noted that their pain was due to arthritis or joint pain (40%), it would be valuable to also investigate access to rheumatology or orthopaedic care in future studies. Access barriers including cost, extended waiting times, prohibitive travel distances, a lack of awareness of therapies and time away from usual activities were specifically mentioned by respondents. Specialist pain clinics have strict eligibility requirements and, even though the number of clinics has increased in the past few decades, long waiting lists (up to or exceeding three years) persist,[29] although it is important to note that patients are triaged according to pain severity, pain type and distress. A recent update of the Waiting in Pain study reported that wait times were not significantly different between persistent pain clinics located in capital cities and areas outside capital cities in Australia but that wait times were significantly longer for public than private facilities and for multidisciplinary pain management clinics than non-multidisciplinary clinics.[29] The Waiting in Pain study also reported that there were fewer persistent pain clinics located away from capital cities and that non-metropolitan clinics were less likely to be multidisciplinary.[29] These issues might contribute to inequitable access for rural patients,[29] particularly those in more isolated areas. Models such as the Local Pain Educator (LPE) program can enhance capacity to deliver best-practice pain management in rural areas by providing training and mentoring to local health professionals from a range of disciplines including GPs.[30] Another model delivered group persistent pain therapy sessions via telehealth, which enabled participants to access pain specialist services while avoiding extensive travel distances and showed improvement in pain acceptance and engagement with activities of importance to the individual.[31] That intervention involved a hub (metropolitan interdisciplinary persistent pain centre with pain specialists)-and-spoke (rural or remote health service with the necessary telehealth equipment led by nursing or allied health professionals) model.[6] Real-time interaction between participants at the spoke sites likely contributed to feeling connected and having shared experiences.[6] Almost all participants were positive about using telehealth (95%) and two-thirds preferred the service over travelling for face-to-face pain services.[6] Additional research is required to understand whether access disparities for rural patients with chronic pain are further exacerbated by gender, health literacy, cultural and linguistic diversity or socioeconomic disadvantage. In addition, it is important to investigate whether optimising access to multidisciplinary biopsychosocial models of care can optimise

health outcomes, improving mental health for rural people living with chronic pain and therefore reducing comorbid depression and disability. The 2021 Australian *National strategic action plan for pain management* suggests that multidisciplinary pain services could be offered in primary care to alleviate many access barriers,[7] but adequate funding and policy would be essential in these time- and resource-stretched settings.[32]

Limitations

Despite the random selection of households and a high response rate to increase the robustness of these data, study limitations remain. No specific definition of chronic pain was provided to respondents regarding duration or severity. These findings are cross-sectional; therefore, causal relationships cannot be established. This study used self-reported data, including chronic pain, from respondents with unknown, and likely varying, levels of health literacy. The sample was over-represented by older people, women and girls, and non-Indigenous people.

Conclusion

This study addresses an important knowledge gap regarding chronic pain prevalence and access to care in rural Australia. Chronic pain was associated with high levels of depression and disability, making self-management more challenging. Low levels of participation in specialist pain clinics were found, and participants identified a number of access barriers to pain services. The study identifies the need for further support to rural residents living with chronic pain and the GPs and other health professionals who care for them. Health workforce shortages in rural areas might mean that group chronic pain therapy sessions and/or programs delivered via telehealth are likely to be beneficial to optimise both access to specialist services and care delivered close to home. Updated education for health professionals emphasising interprofessional, holistic and patient-centred care might be warranted. Together, these results suggest that the management of pain in this rural region requires further understanding from practitioners around connections between chronic pain, ageing, disability and depression, and the transformative process required to achieve better management.

Authors

Kristen Glenister BSc (Hons), PhD, Senior Research Fellow, Department of Rural Health, The University of Melbourne, Wangaratta, Vic

Sarah Gray BBMed, MD, FRACGP, General Practitioner, Department of Rural Health, The University of Melbourne, Shepparton, Vic

Lisa Bourke BSc, BSW, MSc, PhD, Director, Department of Rural Health, The University of Melbourne, Shepparton, Vic

David Simmons FRACP, FRCP, MD (Cantab), Distinguished Professor of Medicine, Macarthur Clinical School, Western Sydney University, Campbelltown, NSW

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Correspondence to:
Kristen.glenister@unimelb.edu.au

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correspondence **ajgp@racgp.org.au**