

SHORT COMMUNICATION

Osteopathy in rural and remote Australia: analysis of demographic, practice and clinical management characteristics from a nationally representative sample of 992 osteopaths

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PUBLISHED

21 March 2023 Volume 23 Issue 1

HISTORY

RECEIVED: 10 August 2021

REVISED: 14 September 2022

ACCEPTED: 15 November 2022

CITATION

Vaughan B, Steel A, Fleischmann M, Grace S, Fitzgerald K, Engel R, Adams J. Osteopathy in rural and remote Australia: analysis of demographic, practice and clinical management characteristics from a nationally representative sample of 992 osteopaths. *Rural and Remote Health* 2023; 23: 7085. <https://doi.org/10.22605/RRH7085>

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ABSTRACT:

Introduction: There is significant interest in allied health and the role it plays in health care for rural and remote populations. In Australia, osteopaths are allied health professionals who manage predominantly musculoskeletal complaints using manual therapy, exercise and patient education. Workforce distribution is a significant issue for osteopathy in Australia with most practitioners centred in the metropolitan regions of Victoria and New South Wales. There is limited evidence about the role osteopathy plays in the musculoskeletal health of Australian rural and remote populations. This research sought to profile the characteristics of Australian osteopaths who practise in rural and remote settings.

Methods: A secondary analysis of the Osteopathy Research and Innovation Network (ORION) data was undertaken to identify the demographic, practice and clinical management characteristics of Australian osteopaths in rural and remote settings. ORION is a practice-based research network for the Australian osteopathy profession. The ORION questionnaire comprised 27 items regarding osteopaths' characteristics. Inferential statistics were used to identify characteristics that were significantly different between Australian osteopaths practising in rural and remote settings compared to those practising in urban settings. Logistic regression was used to

Keywords:

Australia, allied health occupations, manipulative therapy, musculoskeletal manipulations, osteopathic medicine, public health, public health systems research, regression analysis, rural health services.

calculate adjusted odds ratios (AOR) relating to characteristics significantly associated with practising in a rural and remote setting.

Results: Of 992 osteopaths who responded to the ORION questionnaire, 18.3% ($n=172$) indicated practising in a rural and remote setting. Australian osteopaths in rural and remote settings were more likely to report receiving referrals from massage therapists (AOR 2.17), send referrals to other osteopaths (AOR 1.64), and often treat patients over the age of 65 years (AOR 2.25) compared to their urban counterparts. Osteopaths in rural and remote setting were less likely to report using private health insurance claim systems (AOR 0.36) and to treat non-English-speaking patients (AOR 0.09).

Conclusion: This secondary analysis identified several practitioner and practice characteristics that differ between osteopaths practising in rural and remote settings and those practising in urban settings. These findings contribute to the emerging picture of the practice of rural and remote Australian osteopaths. Further research is required to understand the role osteopaths play in rural and remote health care, and how the current data can inform workforce and health policy development.

FULL ARTICLE:

Introduction

The configuration of the Australian rural health workforce continues to receive attention with regard to availability, recruitment, retention and scope of practice as strategies to improve care¹. Significant policy initiatives have been implemented to ensure people in rural and remote areas have appropriate access to health services, with increasing interest in the role allied health professionals can play in the wider rural health workforce^{2,3}. Previously the focus has centred on pharmacy and physiotherapy, with limited data on osteopathy.

Australian osteopaths are university-trained, primary contact, government registered health professionals – their registration is consistent with that of other Australian health professionals such as physiotherapists and chiropractors. The scope of practice of Australian osteopaths, although not defined in law, focuses on addressing disorders of the musculoskeletal system through manual therapy and other interventions (including exercise and ergonomic advice)⁴. Australian osteopaths are trained to undertake primary medical (eg cranial nerve examination) and musculoskeletal

assessments, and liaise with other health professionals when needed⁴. The vast majority of Australian osteopaths practise in the private setting, managing private-paying, worker's compensation and traffic accident patients⁴.

In the rural context, over 64.1% of rural New South Wales general practitioners (GPs) referred patients to osteopaths or chiropractors, with over 23% referring to these professionals at least once a month⁵. A current challenge facing the Australian osteopathic profession is the unequal distribution of practitioners⁶, with most osteopaths (58.2%, $n=1485$) practising in Victoria⁷. Notwithstanding, there is little research exploring how Australian osteopaths practise in rural or regional settings. In response to this gap, the aim of the current work was to profile the demographic, practice and clinical management characteristics of Australian osteopaths who identified their primary practice location as rural or remote.

Methods

This study is a secondary analysis of data derived from the Australian osteopathy practice-based research network

(PBRN) – the Osteopathy Research and Innovation Network (ORION) Project (<http://www.orion-arccim.com>)^{4,8}.

Sample

A total of 992 osteopaths provided a response to the 27-item ORION practice survey between July and December 2016. At the time of data collection, this represented 49.1% of the profession in Australia⁴. Details about the research design, sample and baseline characteristics are described elsewhere⁴.

Questionnaire

Demographic characteristics included practitioner age, gender, highest osteopathy qualification and duration of working in osteopathy practice. Practice characteristic items related to average patient care hours and average patient visits per week, health professionals co-located in the same practice, receiving/sending referrals, and use of diagnostic imaging. Clinical management items included frequency of treating specific body regions, patient populations and use of osteopathy techniques. Participants also nominated whether their practice location was in an urban, rural or remote setting.

Statistical analyses

'Rural' and 'remote' responses were combined into a single response (rural) and analysed as a dichotomised variable with 'urban' the alternative response. Inferential statistics (independent *t*-test and χ^2 test) were used to identify significant demographic, clinical and practice characteristics. Unadjusted odds ratios (ORs) (and confidence intervals) were calculated for χ^2 statistics and effect sizes for independent *t*-tests where appropriate. Significant exposure variables ($p < 0.20$) were then entered into a multiple logistic regression model. Using backward stepwise elimination, variables significantly associated with practising in an urban or rural location were identified. Adjusted ORs (AORs) and their 95% confidence intervals were calculated with α set at $p < 0.05$. Descriptive and inferential statistics were generated using JASP v0.9.2 (JASP-Stats; <https://jasp-stats.org>) while the regression model was generated using SPSS v25 (QSR International; <http://www.spss.com>).

Ethics approval

Ethics approval was provided by the University of Technology Sydney (# 2014000759). All participating osteopaths provided informed consent.

Results

Of the 992 responses to the ORION practice questionnaire, 18.3% ($n=172$) identified as practising in a 'rural' or 'remote' location, with 46 ($n=4.6\%$) participants indicating they practised in both urban/rural and rural/remote locations. Osteopaths practising in a rural location were mostly male (58.7%) with a Master's degree (63.4%) (Table 1). Osteopaths practising in rural locations were more likely to report volunteering as an osteopath (OR=1.59) compared to osteopaths from non-rural locations (Table 1).

Practice characteristics of the participating osteopaths are described in Table 2. Australian osteopaths in rural locations were less likely to be co-located with another osteopath (OR=0.64), but more likely to report being co-located with an occupational therapist (OR=6.76), compared to osteopaths in non-rural locations. Compared to osteopaths practising in urban locations, osteopaths in rural areas were more likely to refer patients to other osteopaths (OR=1.44) and receive referrals from GPs (OR=2.00). Osteopaths in rural areas were more likely to process government rebates (Medicare EasyClaim) for their patients (OR=1.50), but less likely to process private health insurance rebates (OR=0.35) at the time of consultation (HICAPS) compared to osteopaths in urban areas.

Australian osteopaths in rural locations were more likely to treat patients aged 65 years or older (OR=2.13) and treat Aboriginal and Torres Strait Islander peoples (OR=18.35) compared to urban-based osteopaths (Table 3). Osteopaths in rural locations were less likely to treat non-English-speaking patients compared to osteopaths in urban areas (OR=0.14).

The backwards stepwise logistic regression analysis (Table 4) indicates that osteopaths practising in rural locations were less likely to be co-located with an acupuncturist (AOR=0.47) or massage therapist (AOR=0.56), compared to urban-based osteopaths. Osteopaths in rural areas were more likely to send referrals to other osteopaths (AOR=1.64) and receive referrals from massage therapists (AOR=2.17) compared to urban-based osteopaths. HICAPS was less likely to be used by rural osteopaths compared to urban osteopaths (AOR=0.36). Compared to their urban counterparts, rural osteopaths were more likely to treat patients aged 65 years or older (AOR=2.25) and use lymphatic pump techniques (AOR=2.48), but less likely to discuss stress management (AOR=0.64), sports injuries (AOR=0.59) or treat non-English speaking patients (AOR=0.09).

Table 1: Practitioner characteristics of Australian osteopaths who reported practising in a rural or remote location

Practitioner characteristic	Rural (n=172)	Non-rural (n=774)	p-value	OR (95%CI)
Gender (n, (%))				
Male	101 (58.7)	448 (57.9)	0.84	–
Female	71 (41.3)	326 (42.1)		
Age (years) (mean±SD)	39.6±11.8	37.8±10.6	0.06	
Years in clinical practice (mean±SD)	12.1±9.9	11.3±8.9	0.35	
Patient care hours per week (mean±SD)	27.0 ±11.1	27.9±12.3	0.41	
Patient visits per week (mean±SD)	35.3±17.3	36.6±19.1	0.43	
Qualification (n, (%))				
Diploma	14 (8.1)	47 (6.1)	0.62	
Advanced Diploma	1 (0.6)	8 (1.0)		
Bachelor's degree	43 (25.0)	164 (21.2)		
Master's degree	109 (63.4)	539 (69.6)		
PhD	1 (0.6)	4 (0.5)		
Other	4 (2.3)	12 (1.6)		
Involved in as an osteopath (n, (%))				
University teaching	26 (15.1)	88 (11.4)	0.17	–
Clinical supervision	23 (13.4)	124 (16.0)	0.38	–
Professional organisations	17 (9.9)	86 (11.1)	0.64	–
Research	11 (6.4)	40 (5.2)	0.52	–
Volunteer	37 (21.5)	114 (14.7)	0.03	1.59 (1.0–2.40)

CI, confidence interval. OR, odds ratio. SD, standard deviation.

Table 2: Practice characteristics of Australian osteopaths who reported practising in a rural or remote location

Practice characteristic	Rural (n=172) n (%)	Non-rural (n=774) n (%)	p-value	OR (95%CI)
More than one practice location	47 (27.3)	266 (34.4)	0.07	–
Co-located with other health professionals ('yes')				
Osteopath	96 (55.8)	512 (66.1)	0.01	0.64 (0.46–0.90)
General practitioner	13 (7.6)	53 (6.8)	0.74	–
Specialist medical practitioner	5 (2.9)	22 (2.8)	0.96	–
Podiatrist	22 (12.8)	114 (14.7)	0.51	–
Physiotherapist	26 (15.1)	110 (14.2)	0.76	–
Exercise physiologist	18 (10.5)	101 (13.0)	0.35	–
Occupational therapist	10 (5.8)	7 (0.9)	<0.01	6.76 (2.53–18.03)
Psychologist	36 (20.9)	140 (18.1)	0.38	–
Massage therapist	63 (36.6)	418 (54.0)	<0.01	0.49 (0.35–0.69)
Acupuncturist	15 (8.7)	168 (21.7)	<0.01	0.35 (0.20–0.60)
Naturopath	29 (16.9)	157 (20.3)	0.30	–
Dietician	12 (7.0)	54 (7.0)	1.00	–
Nutritionist	6 (3.5)	63 (8.1)	0.03	0.41 (0.17–0.96)
Send referrals to other health professionals ('yes')				
Osteopath	100 (58.1)	380 (49.1)	0.03	1.44 (1.03–2.01)
General practitioner	150 (87.2)	685 (88.5)	0.63	–
Specialist medical practitioner	70 (40.7)	352 (45.5)	0.25	–
Podiatrist	114 (66.3)	508 (65.6)	0.87	–
Physiotherapist	63 (36.6)	252 (32.6)	0.30	–
Exercise physiologist	68 (39.5)	307 (39.7)	0.97	–
Occupational therapist	21 (12.2)	79 (10.2)	0.44	–
Psychologist	65 (37.8)	265 (34.2)	0.37	–
Massage therapist	114 (66.3)	528 (68.2)	0.62	–
Acupuncturist	70 (40.7)	362 (46.8)	0.15	–
Naturopath	78 (45.3)	380 (49.1)	0.37	–
Dietician	32 (18.6)	126 (16.3)	0.46	–
Nutritionist	15 (8.7)	104 (13.4)	0.09	–
Receive referrals from other health professionals ('yes')				
Osteopath	119 (69.2)	464 (59.9)	0.02	1.50 (1.05–2.14)
General practitioner	161 (93.6)	681 (88.0)	0.03	2.00 (1.04–3.82)
Specialist medical practitioner	44 (25.6)	176 (22.7)	0.42	–
Podiatrist	85 (49.4)	360 (46.5)	0.49	–
Physiotherapist	53 (30.8)	199 (25.7)	0.17	–
Exercise physiologist	48 (27.9)	197 (25.5)	0.51	–
Occupational therapist	19 (11.0)	40 (5.2)	<0.01	2.28 (1.29–4.04)
Psychologist	25 (14.5)	119 (15.4)	0.78	–
Massage therapist	138 (80.2)	580 (74.9)	0.14	–
Acupuncturist	65 (37.8)	293 (37.9)	0.99	–
Naturopath	75 (43.6)	309 (39.9)	0.37	–
Dietician	4 (2.3)	30 (3.9)	0.32	–
Nutritionist	2 (1.2)	47 (6.1)	<0.01	0.18 (0.04–0.76)
Diagnostic imaging ('yes')				
Referral for imaging ('often')	8 (4.7)	61 (7.9)	0.14	–
Investigation of unknown pathologies	129 (75.0)	576 (74.4)	0.87	–
Investigation of suspected diagnosis	141 (82.0)	651 (84.1)	0.49	–
Investigation of potential fractures	132 (76.7)	583 (75.3)	0.69	–
Rule out risk factors prior to treatment	51 (29.7)	212 (27.4)	0.54	–
General screening of the spine	3 (1.7)	29 (3.7)	0.19	–
Patient assessment ('yes')				
Orthopaedic testing	168 (97.7)	754 (97.4)	0.84	–
Clinical assessment algorithm	78 (45.3)	367 (47.4)	0.62	–
Neurological testing	161 (93.6)	714 (92.2)	0.54	–
Screening questionnaire	107 (62.2)	496 (64.1)	0.64	–
Cranial nerve testing	120 (69.8)	518 (66.9)	0.47	–
Practice payments ('yes')				
HICAPS [†]	143 (83.1)	720 (93.4)	<0.01	0.35 (0.21–0.57)
Medicare Easyclaim	89 (51.7)	322 (41.6)	0.01	1.50 (1.08–2.01)

[†] HICAPS allows patients to claim private health insurance rebates for treatment at the time of the consultation. CI, confidence interval. OR, odds ratio.

Table 3: Clinical management characteristics of Australian osteopaths who reported practising in a rural or remote location

Clinical management characteristic	Rural (n=172) n (%)	Non-rural (n=774) n (%)	p-value	OR (95%CI)
Discuss with patients ('often')				
Diet	62 (36.0)	292 (37.8)	0.66	–
Smoking and drug use	30 (17.4)	141 (18.3)	0.80	–
Physical activity	146 (84.9)	697 (90.2)	0.04	0.61 (0.38–0.99)
Occupation health and safety	80 (46.5)	401 (52.0)	0.19	–
Pain counselling	39 (22.7)	213 (27.6)	0.19	–
Stress	75 (43.9)	395 (51.2)	0.08	–
Nutrition	38 (22.1)	201 (26.0)	0.28	–
Medication	59 (34.3)	308 (39.9)	0.17	–
Patient presentation ('often')				
Neck pain	170 (98.8)	755 (97.7)	0.34	–
Thoracic pain	158 (91.9)	710 (91.8)	0.99	–
Low back pain	171 (100)	760 (98.3)	0.09	–
Hip musculoskeletal pain	135 (78.5)	573 (74.2)	0.24	–
Knee musculoskeletal pain	82 (47.7)	384 (49.9)	0.60	–
Ankle musculoskeletal pain	53 (30.8)	266 (34.5)	0.36	–
Foot musculoskeletal pain	49 (28.5)	232 (30.1)	0.69	–
Shoulder musculoskeletal pain	136 (79.1)	626 (81.1)	0.54	–
Elbow musculoskeletal pain	42 (24.4)	198 (25.8)	0.71	–
Wrist musculoskeletal pain	30 (17.4)	148 (19.2)	0.59	–
Hand musculoskeletal pain	20 (11.6)	96 (12.5)	0.75	–
Postural disorders	114 (66.3)	533 (69.1)	0.46	–
Degenerative spine conditions	111 (64.5)	462 (77.6)	0.50	–
Headache disorders	150 (87.2)	701 (90.8)	0.15	–
Migraine disorders	70 (40.9)	318 (41.2)	0.94	–
Spine health maintenance	71 (41.5)	370 (48.0)	0.12	–
Chronic or persistent pain	119 (69.6)	486 (63.0)	0.10	–
Tendinopathies	74 (43.3)	321 (41.6)	0.69	–
Temporomandibular joint disorders	22 (12.9)	157 (20.4)	0.02	0.57 (0.35–0.83)
Non-musculoskeletal disorders	21 (12.4)	102 (13.3)	0.73	–
Patient subgroup (treat 'often')				
Age ≤3 years	22 (12.8)	127 (16.5)	0.23	–
Age 4–18 years	48 (27.9)	211 (27.3)	0.87	–
>65 years	124 (72.1)	423 (74.5)	<0.01	2.13 (1.49–3.07)
Aboriginal and Torres Strait Islander peoples	4 (2.3)	1 (0.1)	<0.01	18.35 (2.04–165.29)
Pregnancy	46 (26.7)	285 (36.9)	0.01	0.62 (0.43–0.90)
Non-English speaking	1 (0.6)	31 (4.0)	0.03	0.14 (0.02–1.03)
Sport injuries	72 (41.9)	405 (52.5)	0.01	0.65 (0.46–0.91)
Worker injury (compensable)	18 (10.5)	80 (10.4)	0.95	–
Work injury (non-compensable)	54 (31.4)	274 (35.4)	0.67	–
Traffic injury (compensable)	17 (9.9)	92 (11.9)	0.44	–
Traffic injury (non-compensable)	21 (18.6)	92 (81.4)	0.41	–
Post-surgery	17 (9.9)	56 (7.3)	0.24	–
Manual therapy (use 'often')				
Counterstrain	78 (45.6)	317 (41.0)	0.27	–
Muscle energy technique	143 (83.6)	605 (78.2)	0.11	–
High-velocity, low-amplitude manipulation	108 (63.2)	490 (63.3)	0.97	–
Joint manipulation	70 (40.9)	304 (39.4)	0.71	–
Soft tissue technique	147 (86.0)	659 (85.3)	0.81	–
Myofascial release	101 (59.1)	479 (62.0)	0.48	–
Visceral techniques	21 (12.3)	74 (9.6)	0.28	–
Lymphatic pump	19 (11.1)	61 (7.9)	0.17	–
Autonomic balancing	28 (16.5)	122 (15.8)	0.82	–
Biodynamics	26 (15.2)	123 (15.9)	0.82	–
Functional technique	46 (29.6)	206 (26.6)	0.93	–
Balanced ligamentous tension	64 (37.4)	265 (34.2)	0.43	–
Chapman's reflexes	5 (2.9)	18 (2.3)	0.65	–
Trigger point therapy	34 (19.9)	211 (27.3)	0.04	0.66 (0.44–0.99)
Osteopathy in the Cranial Field	47 (27.5)	175 (22.6)	0.18	–
Facilitated positional release	23 (13.5)	130 (16.8)	0.30	–
Dry needling	43 (25.1)	180 (23.3)	0.59	–
Exercise prescription	123 (71.9)	575 (74.4)	0.51	–
Shockwave therapy	4 (2.3)	12 (1.6)	0.47	–
Ultrasound	1 (0.6)	24 (3.1)	0.06	–
TENS	2 (1.2)	15 (1.9)	0.49	–
Instrument manipulation	0 (0)	2 (0.3)	0.50	–
Instrument soft tissue	2 (1.2)	10 (1.3)	0.89	–
Sport taping	22 (12.9)	94 (12.1)	0.79	–
Expanded practice scope ('definitely')				
Prescribing rights	35 (20.5)	211 (27.3)	0.07	–
Referral rights to orthopaedic surgeon	109 (63.7)	563 (72.7)	0.02	0.66 (0.46–0.93)
Referral rights to paediatrician	85 (49.7)	429 (55.4)	0.17	–
Referral rights to sports medicine specialist	130 (76.5)	623 (80.5)	0.24	–
Referral rights to rheumatologist	94 (55.0)	510 (65.9)	<0.01	0.63 (0.45–0.88)
Referral rights to other medical specialist	1 (0.6)	0 (0)	0.03	–

Referral rights to other medical specialist	n (n%)	N (N%)	OR	CI
Expanded diagnostic imaging rights	136 (79.5)	647 (83.6)	0.19	–
Research ('strongly agree')				
Help patients understand osteopathy	75 (43.6)	346 (44.7)	0.79	–
Help general practitioners and other health professionals understand osteopathy	107 (65.2)	529 (71.0)	0.14	–
Provide scientific evidence	78 (48.4)	409 (55.5)	0.10	–
Irrelevant to the development of osteopathy ('strongly disagree')	84 (52.5)	452 (61.4)	0.04	0.69 (0.49–0.98)
What impact does evidence from research have on your current practice?	44 (25.6)	185 (23.9)	0.64	–

CI, confidence interval. OR, odds ratio.

Table 4: Adjusted odds ratios for significant practice and clinical management characteristics of Australian osteopaths who reported practising in a rural or remote location

Practice/clinical management characteristic	OR	95%CI	p-value
Practice characteristic ('yes')			
Co-located with an acupuncturist	0.47	0.23–0.98	0.043
Co-located with an occupational therapist	16.51	4.60–59.19	<0.01
Co-located with a massage therapist	0.56	0.36–0.86	0.009
Send referrals to other osteopaths	1.64	1.08–2.48	0.019
Send referrals to an acupuncturist	0.63	0.41–0.98	0.041
Receive referrals from nutritionists	0.13	1.29–3.66	0.047
Receive referrals from massage therapists	2.17	1.29–3.66	0.004
Use of HICAPS ('often')	0.36	0.19–0.65	0.001
Clinical management characteristic ('often')			
Discuss stress management	0.64	0.42–0.97	0.033
Treat temporomandibular joint disorders	0.50	0.27–0.92	0.026
Treat sports injuries	0.59	0.39–0.89	0.012
Treat patients 65 years or older	2.25	1.50–3.38	<0.01
Treat non-English speaking patients	0.09	0.01–0.88	<0.01
Use lymphatic pump techniques	2.48	1.26–4.89	0.008
Expanded referral rights to a rheumatologist	0.64	0.42–0.96	0.032

CI, confidence interval. OR, odds ratio.

Discussion

Our secondary analysis of data from the Australian osteopathy PBRN identified that 18.3% ($n=172$) of our sample who practised in rural or remote settings, osteopaths were more likely to be male and hold a Master's degree. They were more likely to often treat patients over the age of 65 years and Aboriginal and Torres Strait Islander peoples, and less likely to use HICAPS and treat non-English-speaking patients.

Australian osteopaths who practised in rural locations were more likely to report treating older patients (age >65 years) than colleagues in urban locations. This association may be a reflection of the demographics of rural populations: over one-third of older Australians live in rural areas compared to just under a quarter of Australians aged less than 65 years in urban areas⁹. Further, musculoskeletal complaints are more likely to be prevalent in older Australians compared to younger people¹⁰ and this may result in more older patients seeking osteopathy care. Older patients are more likely to be referred to an osteopath by their GP compared to other age groups¹¹, with a similar finding observed in rural New South Wales GP referrals to osteopaths and chiropractors⁵. Osteopaths therefore play a significant role in managing the musculoskeletal health of older patients in rural communities.

Patients were more likely to be referred from massage therapists to osteopaths who practise in rural locations, compared to osteopaths in urban locations. This association may be the result of three factors: established referral relationships between osteopaths and massage therapists in rural communities¹², proximity of practice locations close to or

within the same community^{12,13} and/or rural populations being more likely to seek complementary and allied health services for musculoskeletal complaints, compared to urban populations^{14,15}. Compared to their urban counterparts, osteopaths in rural areas were also more likely to refer to other osteopaths, even though rural-based Australian osteopaths are 40% less likely to work in a practice with other osteopaths. It may be that the practices of these osteopaths are geographically located within close proximity¹³, and have similar practice interests (eg paediatric practice), where referral to another osteopath may be beneficial to the patient. How and why patients are referred to other osteopaths in this context presents an interesting avenue for future research.

Australian osteopaths in rural locations were less likely to use HICAPS for processing private health insurance claims, compared to urban-based osteopaths. Lower utilisation of HICAPS may be related to the lower uptake of private health insurance in Australian rural and remote populations^{16,17}, and it highlights the possibility of out-of-pocket costs for osteopathy care in these settings. Given this potential, exploring why patients in rural settings choose osteopathy care over other available health services warrants additional investigation¹⁸. Further research investigating the role of osteopathy in reducing the burden of disease associated with musculoskeletal conditions in rural populations is also warranted.

Limitations

There are several limitations associated with this study including the self-reported nature of data collection, recall

bias and social desirability bias. Dichotomisation of several variables in this analysis, particularly related to manual therapy interventions and patient presentations, may have resulted in a loss of nuance in the frequency of use of interventions or presentations. Given dichotomisation was used to highlight interventions and presentations that were commonly used or encountered in practice, we do not believe this affected the analyses performed.

Conclusion

Australian osteopaths practising in rural locations were more likely to engage in referrals with a range of other health professionals and report treating older patients, compared to urban-based colleagues. The current data are valuable in highlighting the role that osteopathy currently plays in the rural health workforce. The findings could inform continuing professional development for osteopaths working or planning to work in rural settings. Rural osteopaths may be able to advocate for increased representation within professional

associations, and in developing health policies that are able to cater for rural Australia. Further research exploring the level of awareness about osteopathy, the range of care osteopaths can provide and the accessibility of osteopathy care among rural populations is warranted for a better understanding of ways in which the osteopathy profession can contribute to improving the health of rural Australians.

Funding statement

The ORION project is funded by Osteopathy Australia. The funding source had no influence upon the design of the study, in data collection, analysis and interpretation or in writing the manuscript. The research reported in this article is the sole responsibility of the authors and reflects the independent ideas and scholarship of the authors alone.

Competing interests

The authors report no competing interests in relation to this article.

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