Profile of Sport and Exercise Physician trainee's clinical practice within Australasia in 2019: A cross-sectional study

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ABSTRACT

Objective To identify the patient population profile and the spectrum of training activities and influencing factors of Australasian College of Sport and Exercise Physician (ACSEP) trainees.

Design Retrospective cross-sectional design.

Setting Training settings for ACSEP trainees.

Participants Twenty ACSEP trainees undertaking full-time training in training period 2 of the 2019 training year (1 August 2019–31 January 2020). Exclusion criteria were trainees undertaking part time study and new fellows who completed their fellowship exams in 2019.

Independent variables Patient and practitioner demographics

Method Retrospective cross-sectional design.

Main outcome measurements Patient data recorded in ACSEP trainees' logbook. Short questionnaire capturing pertinent trainee demographics.

Results Most ACSEP trainee patients are adults aged 18–65 years of age (78.2%), presenting with knee (18.7%), ankle (17%) and spinal complaints (13.1%) in clinical practice or sporting team environments. Youths 10–17 make up 13.1% of presentations and older adults 66 years and older make up 8%. Only Australian trainees are engaging in additional training activities, such as surgical assisting outside of the clinic or sporting team environment.

Conclusion Australasian Sport and Exercise Physician trainees appear to consult primarily musculoskeletal complaints, including providing broader care to paediatric and older populations, and work with sporting teams. There are differences between Australia and New Zealand trainee employment conditions, which appear to be affecting training experiences. These differences warrant consideration to ensure equitable training experiences and financial stability for trainees.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ There are no previous studies exploring the training of Sport and Exercise Physicians. Sport and Exercise Physician training is the newest specialist training programme in Australasia, and there is no data available on how trainees spend their training time or the types of patients they consult in clinic.

WHAT THIS STUDY ADDS

⇒ This is the first study to explore the training of Sport and Exercise Physicians in Australasia. This includes an analysis on how they function within the medical system and the factors influencing their exposure to patients, the types of conditions they manage and the demographics of the patients they see. This provides a snapshot of training experience in 2019 to allow prospective trainees to further understand the training programme. It provides the Australasian College of Sport and Exercise Physician (ACSEP) an opportunity to assess both how the current curriculum is applied in clinical practice and the patients and their conditions within Sport and Exercise Medicine practice. Crucially, the data can be used to lobby for government funding for the training programme.

HOW MIGHT THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ This study may provide further information into some of the challenges and barriers to Sport and Exercise Physician training, highlighting the impact of government funding in Australia versus New Zealand on trainee patient exposure and conditions they manage. It may help provide a platform for further research to be conducted into how the ACSEP curriculum is being reflected in trainees' clinical practice. It also provides further research opportunities to assess how trainee patient caseloads matches that of Sport and Exercise Physicians.

INTRODUCTION

Sporting injuries are common causes of morbidity in Australia and New Zealand and are reportedly managed across a variety of practice contexts including accident and emergency (A&E), allied health and general medical practice.[1 2–6] Patients with a range of sporting injuries present to A&E and much of what is known about their care is drawn from this literature. Musculoskeletal complaints appear to dominate sporting injuries as opposed to other issues such as concussion and heat-related injury.[2 7 8] How these musculoskeletal sporting injuries are managed

outside the hospital environment in Australasia is less clear. One medical group providing a leading role in musculoskeletal care outside of the hospital environment in Australasia are Sport and Exercise Physicians.

In the Australasian context, Sport and Exercise Physicians are government-registered specialist medical practitioners who treat a range of sporting and non-sporting-related musculoskeletal conditions as well as working with elite sporting teams, exercise and musculoskeletal research and management of sports performance. While it may be assumed from their title that Sport and Exercise Physicians treat only sporting injuries, their scope of practice encompasses musculoskeletal and exercise medicine across the population lifespan.[9] A recent publication by Gamage *et al* highlights the complexity of conditions, which Sport and Exercise Physicians treat in Australasia.[6]

In Australasia, Sport and Exercise Physician training is a minimum 4-year standalone specialist medical training programme.[10] Sport and Exercise Medicine is also a recognised standalone medial specialty in the United Kingdom and other European countries; however, it exists as a subspeciality of primary care physicians, paediatrics, rehabilitation or orthopaedic surgery in the USA.[11]

In Australasia, Sport and Exercise Physician training is primarily undertaken in the private practice setting with only a few training positions in government-funded elite sporting institutes. Like other training programmes held primarily in private practice settings such as general practice, the demographics of patients and the patient load can vary significantly between clinics.[12]

However, in contrast to general practice training Australasian Sport and Exercise Physician trainees can also spend time in a range of other clinical and non-clinical roles. All trainees must complete a minimum of 12 months with a state or national level contact sport team. Other roles trainees may include in their training are medical review panels, surgical assisting and emergency medicine. These roles have a maximum limit on the number of hours per week counted as training time and must be approved by the college, with the latter two requiring an approved supervisor (Clinical training instructor)

There is currently no published data on the patient demographics or the type of injuries and conditions presenting to Sport and Exercise Physician trainees in Australasia. There is no current published data that identifies the spectrum of training activities and any factors that may influence the choices of training activities.

The aim of this study is to profile Australasian Sport and Exercise trainees. First, to identify the demographics of the patients and the conditions they present with, and second; the training environments where the trainees spend their time, and what factors may be influencing this.

METHODS

The study used a retrospective cross-sectional design.

Participants and program

All Australasian College of Sport and Exercise Physician (ACSEP) trainees undertaking full-time training in training period 2 of the 2019 training year (1 August 2019–31 January 2020) were invited to participate in this study. Full-time training was classified using ACSEP's definition of a minimum of 36 hours per week in approved clinical training environments, for 48 weeks per year. Participation required trainees to provide the researchers access to their deidentified logbook from training period 2, 2019 (n=71). Exclusion criteria were trainees undertaking part-time study, and new fellows who completed their fellowship exams in 2019.

During the ACSEP training programme, Sport and Exercise Physician trainees are required to submit a patient logbook every 6 months as a record of daily clinical encounters. The logbooks provide the raw data of Sport and Exercise Physician trainee patients. Data collected in the logbook include patient age, gender, age bracket (child 0–9, youth 10–17, adults 18–65 and older adult 65+), musculoskeletal injury zone or medical category treated and new or follow-up consultations. The logbooks do not record any data on athletes seen as part of sporting team coverage.

Data collection

Phase 1: trainee demographics

Following submission of written consent to participate, participants received a link to an online demographic questionnaire. The questionnaire collected data on the trainees' gender (male, female, other, prefer not to say), location of training (Australia or New Zealand), year level of training (four options from year 1 to year 4 and above), days per week spent in private practice clinic (1–5) and days spent in other clinical and non-clinical roles (1–4 days, including surgical assisting, emergency medicine, general practice, medical review panel (Transport Accident Commission, Worker compensation, Department of Veterans Affairs and other) and 'other' activities in term 2 (August–January 2019–2020). The information did not contain any personal identifiable information. Trainee demographic questionnaires were coded to differentiate between Australian and New Zealand trainees.

Phase 2: patient demographics

Consenting trainees were allocated a randomly generated code to their deidentified logbooks by one of the researchers (KF). Data collected from the trainee logbooks included patient demographics; gender, age (0–9, 10–17, 18–65, 65+), anatomical location of injury (eg, shoulder, foot) or medical issue treated (eg, respiratory, cardiovascular), new patient or review consultation as well as the number of patient's seen per training period. Data from ACSEP accredited training practices and clinics was collected. Data from patient consultations at sporting clubs, surgical assisting, general practice and emergency medicine were excluded from the data.

Table 1 Patient demographics from Australian and New Zealand Sport & Exercise Medicine Practices (1 August 2019–31 January 2020)

	Australia	New Zealand	Total
Total patients	5959	2750	8709
Gender			
Female	2553 (42.8%)	1321 (48.0%)	3874 (44.5%)
Male	2951 (49.5%)	1429 (52.0%)	4380 (50.3%)
Missing	455 (7.6%)	0 (0%)	455 (5.2%)
Age (years)			
Child (0–9)	19 (0.3%)	14 (0.5%)	33 (0.4%)
Youth (10–17)	887 (14.9%)	250 (9.1%)	1137 (13.1%)
Adult (18–65)	4502 75.5%	2306 (83.9%)	6808 (78.2%)
Senior (>66)	519 (8.7%)	250 (9.1%)	693 (8.0%)
Missing	32 (0.5%)	6 (0.2%)	38 (0.4%)

Gender and age groups of Australian and New Zealand Trainees. n=8709, 50.3% men, 44.5% women, 5.2% missing data. 78.2% adults, 13.1% youth, 8% senior, 0.4% child and missing data.

Patient and public involvement

Patients and the public were not directly involved in this research. This research was solely conducted on consenting ACSEP trainees, with permission to use their patient demographic logbook, which did not contain any identifying information.

Data analysis

Data were inputted into Microsoft Excel (Microsoft Office 365 V.2020), then exported to SPSS V.28. Descriptive statistics were generated for each of the demographic and logbook items. Inferential statistics were used to explore differences and associations between demographic and clinical variables.

RESULTS

We received responses from 20 Sport and Exercise Physician trainees (response rate 28.1%): 16 Australian (AU) (n=16, 29.6% of AU cohort) and 4 from Aotearoa New Zealand (NZ) (n=4, 23.5% of NZ cohort).

The patients

Data were collected for 8709 patients in the 6-month data period. Adult-aged patients were the largest patient group (78.2%, n=6808) with New Zealand trainees seeing a slightly higher percentage (75.5%, AU; 83.9%, NZ) (table 1). Patient gender breakdown showed 50.3% of patients identifying as men, 44.5% as women and 5.2% identified as neither or was not available from the logbook. There were similar numbers of new consultations (47.5%) compared with review consultations (52.1%) (figure 1).

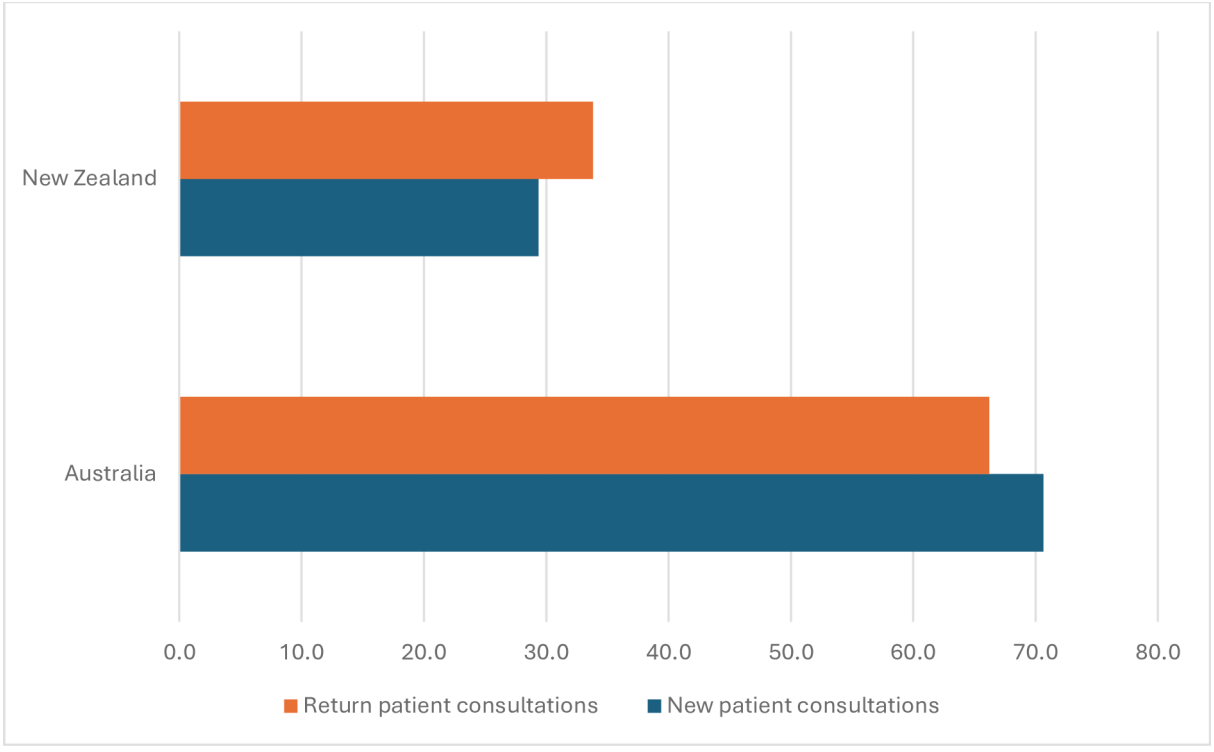

Figure 1 New and return patient consultations for trainee Australasian Sport and Exercise Physicians. Australian Trainee consultations n=5959. 2924 (49.1%) new consultations, 3006 (50.4%) review consultations. New Zealand Trainee consultations n=2750. 1215 (44.2%) new consultations, 1535 (55.8%) review consultations.

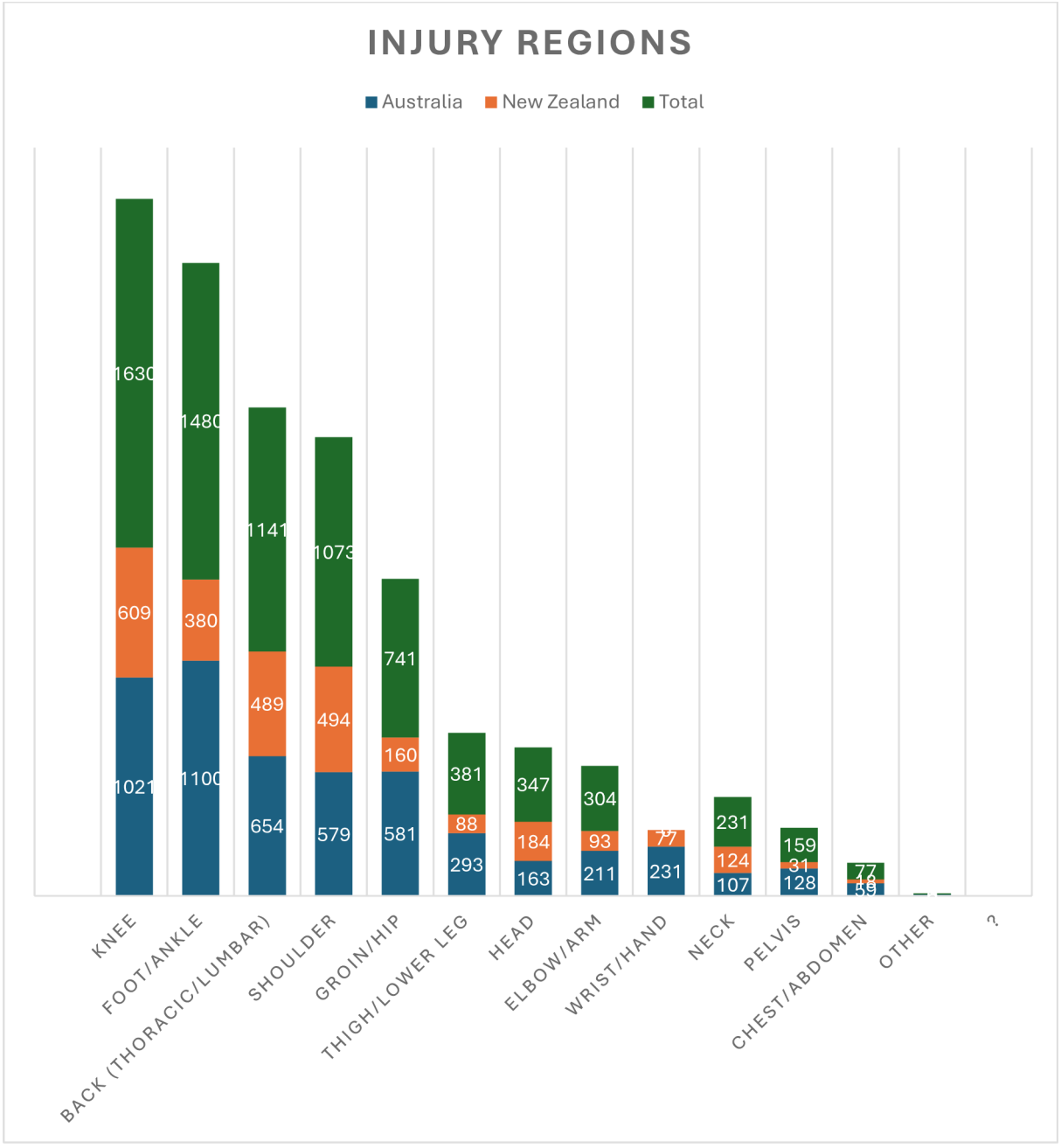

Figure 2 Injury zone/body region breakdown from consultation from Australian and New Zealand Sport & Exercise Medicine Practices (1 August 2019–31 January 2020). Most common injuries treated by trainees; knees (18.7%), foot/ankle (17%), back (13.1%), shoulder (12.3%) and hip (8.5%).

The most common presenting anatomical regions were knees (18.7%), ankles (17%) and the thoracic and lumbar spine (13.1%) (supplemental digital content figure 2). The percentage of knee and ankle presentations was similar between Australian and New Zealand participants (knee—17.1% and 22.1%; ankle—18.5% and 13.8%). However, there appeared to be a significantly higher percentage of thoracic and lumbar spine consultations by New Zealand participants (17.8%) compared with Australian participants (10.9%). Shoulder complaints made up 9.7% of Australian participants' presentations but 18% of New Zealand participants' presentation. The remaining 51% of presentations were broad and included a wide range of body regions, including hip (8.5%), thigh (4.4%), head (4%) and both wrist and elbow (3.5%).

Of the 0–9-year age group, the most common anatomical region of complaint was the foot/ankle (13, 39.4%). For the 10–17-year age group, back (thoracic/lumbar spine) complaints (201, 17.7%) and foot/ankle complaints (195, 17.1%) were the most common, whereas for the senior age group (66 years and above) hip/groin (146, 21.0%) and knee (141, 20.34%) were the most common.

Table 2 Australasian Sport Exercise Medicine trainee numbers and demographics term 2, 2019 (1 August 2019–31 January 2020)

	Australian trainees	New Zealand trainees	Total trainees
Total trainees in term 2, 2019	54 (76%)	17 (24%)	71 (100%)
Trainees participating in study per country	16 (80%)	4 (20%)	20 (28.1%)
Gender			
Female	2 (12.50%)	1 (25%)	3 (15%)
Male	14 (87.50%)	3 (75%)	17 (85%)
Training year			
Year 1	5 (31.2%)	1 (25%)	6 (30%)
Year 2	7 (43.75%)	2 (50%)	9 (45%)
Year 3	3 (18.75%)	0	3 (15%)
Year 4	0	1 (25%)	1 (5%)
Year 5+	1 (6.25%)	0	1 (5%)
Response rate to study per country	16 (29.6%)	4 (23.5%)	20 (28.2%)

Trainee numbers n=71, (54 Australia, 17 New Zealand), gender, training year, percentage response to study from 71 trainees.

There were few medical reports reported as primary presentations to Sport and Exercise Physician trainee participants (online supplemental appendix 1).

The trainees

The ACSEP had 71 trainees in Australia and New Zealand in term 2, 2019, Fifty-four (76%) were located in Australia and 17 (24%) were located in New Zealand. Twenty trainees from years 1–5+ participated in this study with 16 training in Australia (80%) and 4 in New Zealand (20%). This represented a total of 28.2% of all the 71 trainees in Australia and New Zealand in training period 2, 2019. Most participants in this study were male trainees (14, 87%) in Australia, including a higher number of participants in years 1 and 2 of training (75%) compared with years 3 and above (see table 2).

Almost half the participants (42.1%) reported spending 4 days a week in private practice clinics; 31.6% reported working 5 days in private practice clinics and the remaining 26.3% spending only 3 days a week in private clinics. This variance was largely due to the training activities reported by Australian participants. Only Australian participants spent training time in activities other than private practice clinics or sporting team coverage. Ten Australian participants (67%) spent at least 1 day per week undertaking surgical assisting, two (13.3%) spent at least 1 day in an emergency department and one (6.7%) spent a day in general practice. Most participants in both countries spent 1 day per week with a sporting team (73.7%) with one trainee (5.3%) spending 2 days a week with a sporting team (online supplemental appendix 2).

The average number of patients seen in clinic per week by participants was 20, with some variation across year levels (this was calculated on the 26-week training period, whereby 2 weeks annual leave within the 26-week term was assumed) (table 3). New Zealand trainees[3] accumulated 2750 patient consults (31.5%), whereas Australian trainees[13] had 5959 patient consults (68.5%) (table 4).

DISCUSSION

This study is the first to describe the patient and training profile of Sport and Exercise Physician trainees. The data from the trainee logbooks suggest that the dominant caseload is adults with musculoskeletal conditions affecting the hip, knee, shoulder and low back. These results can be used to inform discussions not only about how best to train future Sport and Exercise Physician trainees but also improved rebates for patient care that reflect the *actual* practice of Sport and Exercise trainees. The study also highlights the broad clinical activities that trainees are engaged in.

The trainees

The overall response rate for this study was 28.1%, close to reported rates of 35% for medical specialty surveys,[14] and similar across both countries. The sample size did not allow for subanalysis.

There appeared to be jurisdictional differences in the data—New Zealand trainees spent their training time exclusively in primary-care clinics or with sporting teams. This is reflected in the total number of patient consults per country, where Australian trainees made up 80% of respondents to the study, they only consisted of 68.5% of total patient consults (5959). This is compared with New Zealand trainees who comprised only 20% of respondents, however consisted of 31.5% of total patient consults (2750) (table 4). One-third of Australian trainees reported spending at least 1 day in a week in other clinical activities including surgical assisting, general practice and emergency medicine. This difference is likely related to the funding models of the training programmes in the respective countries. New Zealand trainees are paid a contract salary via the Accident Compensation Commission or via their clinic. They receive a yearly salary and are not reimbursed for specific patient encounters, while the majority of Australian colleagues work as subcontractors within their clinic and were paid on a fee-for-service basis with their income dependent on the number of patients consulted (the exception to this being a limited number of regional funded positions and sporting institute placements). (The only exception is Australian trainees on rural health workforce grants who were paid a salary by the government (the logbook data did not capture whether trainees were part of this scheme).) In addition, the limited government rebates for consultations with Australian Sport and Exercise Physicians trainees (typically $38AUD for initial consults and $21AUD for review

Table 3 Number of patients seen in clinic by Australian and New Zealand Sport & Exercise Medicine Practices (1 August 2019–31 January 2020)

	Year 1 (n=6)	Year 2 (n=9)	Year 3 (n=3)	Year 4 (n=1)	Year 5 and over (n=1)	Total
Total patient consultations per 6-month training term	2305	3840	1488	650	426	8709
Average patient consultants per trainee	384	426	496	650	426	435
Average weekly consultants per trainee (24 weeks)	16	18	20	27	18	5.2/day or 18/week

Consult numbers by trainees based on year level of training. Average total consultant in 6 months and weekly by year level of training. Average number of patients consulted per week was 16, 18, 20, 27 and 18 patients, for year of training 1,2,3,4,5+ respectively.

consults) lead to high out-of-pocket costs for patients. This has two potential ramifications for Australian trainees. First, it may limit patient ability to have repeat consultations, which as a result may affect the trainee's patient load and exposure. This may account for trainees work in non-sport and exercise medicine areas such as surgical assisting to sustain their income. This could potentially explain the higher percentage of patient consults (31%) by New Zealand trainees as a proportion of total New Zealand participants (20%). The reasons for participating in other clinical activities as part of training require additional research. Whether these additional activites places Australian or New Zealand trainees at an advantage/disadvantage requires further investigation. Potentially, having continued experience in orthopaedic assisting may be useful for a Sport and Exercise Physician. It is unclear, however, whether this is outweighed by the increased face to face patient exposure in clinics, and financial stability that New Zealand trainees may receive.

The reported number of patients seen may also have an impact on training experience. Data from the logbooks suggest Australasian Sport and Exercise Physician trainees only consulted with 16–20 patients per week in their in-clinic caseload. Hours supervised by an ACSEP supervisor is the main training requirement set out by the college, not patient numbers. (First year trainees are required to work in a Sport and Exercise Medicine (SEM) clinic supervised by a specialist SEP for 20 hours a week, which averages out to only 0.8 SEM patients per hour. In second year, the SEP trainee must spend 14 hours in SEM clinic, and in 3+ they must spend at least 8 hours in SEM clinic.) However, the fee-for-service nature of Australian trainees may pose an issue. A trainee can meet the mandated supervised training hours and consult with few patients leading them to seek clinical opportunities to supplement their income. The fee issue highlighted above raises significant questions about the viability of the current funding model in Australia and whether this impacts the quality of training remains an open question.

Table 4 Total and percentage of patient consults by country

Patient consultation	Australia	New Zealand	Total
New: total	2924	1215	4139
New: % per country	49.1%	44.2%	47.5%
Review: total	3006	1535	4541
Review % per country	50.4%	55.8%	52.1%
Total	5959	2750	8709

Number of patient consultations per country from total of 8709: Australian trainees 5959 (68.5%), New Zealand trainees 2750 (31.5%).

As stated by Gamage *et al*, Sport and Exercise Physician consultations are long, with the average initial consult being 40 min duration. While this study did not record consultation length, it can be surmised that trainees like SEP Physicians are also conducting long consults. In Australia, the government rebates patients receive for such consult is only $38AUD. This is significantly less than the equivalent GP Registrar rebates for the same-length consult of $117.40AUD. Similarly, a review consult of between 20 and 30 min is rebated only $21, whereas the equivalent length GP registrar consult constitutes a $79.70AUD rebate. While this study did not examine consultation fees for trainees, fees for service are considerably higher than the government rebates, with a considerable difference between Sport and Exercise trainees and GP trainee rebates, leading to high out of pocket fees for patients.

The patients

Logbook data revealed most Sport & Exercise Medicine patients treated in the timeframe were adults from 18 to 65 years. This is a broad age category collected through the logbook options for selecting patient age and unfortunately does not allow for further breakdown into subgroups or discussion. (This finding has led to a recommendation to ACSEP to refine the age categories in the logbook to better capture this data in the future.) More granular data were available for the child, adolescent and older adult populations. Foot and ankle injuries were the most common injuries seen in children and adolescents. This is consistent with what has been observed in Australasia, with patient's younger than 18-year old's being the most likely age group to injure their ankles.[13] Older adults presented most with hip and knee complaints. Hips and knees are two of the joints most commonly impacted by osteoarthritis, so this is a likely explanation

for this finding.[15] Over 20% of the patients seen by participants were under the age of 18 years (13.5%) or in the older age-group (8%). Both age groups have unique age-specific pathology ranging from developmental in the paediatric population to systemic, lifestyle-related and degenerative in the older population. What is not clear from the current data is the diagnosis of the complaints affecting these body regions. This data would be helpful for future work to understand why these populations are seeking care from a Sport and Exercise Physician trainee.

The proportion of younger age group patients seen by trainees is relatively proportionate with the Australian population.[16] As highlighted by Freed, Spike,[17] training programmes need to include specific content related to paediatric care to ensure future specialists are equipped to manage this population. The proportion of older adults seen by trainees was less than what is seen in general practice,[17] however higher than may have been assumed with nearly 1 in 10 patients seen by Sport and Exercise Physician trainees being 65 or older. It may be helpful to assess whether this is proportionately reflected in the curriculum, including things such as mandatory coverage of masters sporting events. The skills Sport and Exercise Physicians have developed in athlete management is largely an integrative wellness model as opposed to a reductive 'disease' model, and, therefore, Sport and Exercise Physicians can play an important role in the broader healthcare setting in chronic disease prevention.[18 19] This may influence current referral habits from both GPs, other specialists and allied health practitioners. Broader distribution of these figures may lead to a larger number of referrals to Sport and Exercise Physicians not only for paediatric or older adults but also for non-sporting-related musculoskeletal conditions. The range of age-groups represented challenges potential perceptions in the community that Sport and Exercise Physicians treat young elite athletes and suggests that the specialty is providing a broad role in the general community with conditions not isolated to sport.[18]

There were slight regional differences observed in conditions treated. New Zealand trainees also saw almost double the number of shoulder injuries than Australian trainees. While this may be due to the small sample size, another explanation may be the different sports played in each country. Lower limb injuries including hamstring strain and ACL injuries are the most common injuries in professional Australian Football (a sport not played in New Zealand), with shoulder injuries being the third most common injury.[20] There is conflicting data on shoulder injury prevalence in professional rugby league and rugby union, with shoulder injuries being reported as the most common injury zone representing 28% of all injuries[21] with other studies showing their prevalence at 9.3% behind lower limb injuries at 57.1% in Australian professional Super rugby players.[22] This observed difference may be partly due to different playing surfaces with a hotter and drier climate in Australia, which has been associated with higher rates of ACL injuries.[23]

Consultations by participants with patients were approximately a 1.1:1 return/new patient consultation ratio and this ratio increased for New Zealand trainees to 1.3:1. This observation suggests that trainees are likely following up patients for a single subsequent consultation only. Whether this reflects the low complexity or more acute presentations require additional investigation.

Limitations

The primary limitation of the current study is the data available for extraction from trainee logbooks. Australasian Sport and Exercise Physician trainee logbooks were designed for an educational purpose rather than an evaluative one. Subsequently, there are gaps in the data, which could provide greater clarity around patient presentations. The retrospective nature of the current work means that only data included in the logbooks could be drawn on. The small sample size, notably from New Zealand trainees and the spread of trainees, involved was another limitation and may lead to only limited conclusions to be drawn from the data. Reasons for non-participation in this study are likely to include logistical issues with signing, printing and returning consent forms. Unfortunately, participants were required to manually fill out consent forms, and return them to the researchers, which is likely to have led to many trainees not prioritising the study. However, the demographics of the group suggest that this is a representative sample of both the Australian and New Zealand trainees. The strengths of this study are that it is the first comprehensive review of the work patterns of Sport and Exercise Physician trainees in Australasia.

CONCLUSION

Australasian Sport and Exercise Physician trainees appear to consult primarily musculoskeletal complaints. Our data suggest they are also including providing broader care to paediatric and older populations as well as working with sporting teams. There are differences between Australia and New Zealand trainee employment conditions, with the majority of Australian trainees working as subcontractors versus all New Zealand trainees working as salaried employees. The employment status may be affecting the financial security of Australian trainees, leading them to seek work outside of sports clinics and as a result are being exposed to lower patient loads and potentially undertaking less sport medicine-specific training. Conversely, New Zealand trainees appear not to be gaining orthopaedic surgical exposure. These differences warrant consideration to ensure equitable training experiences and financial stability for trainees.

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Contributors CL, BV, KF and JF led the study design. KF led data collection and management. BV led the data analysis and interpretation. The manuscript was reviewed and edited by BV, KF and JF. All Authors approved the final version for submission. CL is the guarantor.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved by University of Melbourne Medical Education Human Ethics Advisory Group approval number 2057753.1. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer-reviewed.

Data availability statement Data may be obtained from a third party and are not publicly available. Our data set comprises deidentified participant data from the Australasian College of Sport & Exercise Physicians. ACSEP may be contacted to request access to the de-identified data (nationaloffice@acsep.org.au) . Reuse of data may only be approved by the ACSEP Training and Research Committees.

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