BMJ Open Sport & Exercise Medicine

What did we learn about elite student-athlete mental health systems from the COVID-19 pandemic?

Kaitlin Simpson ,[1,2,3] Graham Baker,[2] Emily Cameron-Blake,[4] Debbie Palmer ,[1] Grant Jarvie,[3] Paul Kelly [2]

To cite: Simpson K, Baker G, Cameron-Blake E, *et al*. What did we learn about elite student-athlete mental health systems from the COVID-19 pandemic? *BMJ Open Sport & Exercise Medicine* 2024;**10**:e001733. doi:10.1136/bmjsem-2023-001733

Accepted 14 February 2024

[1]UK Collaborating Centre on Injury and Illness Prevention in Sport, Edinburgh Sports Medicine Research Network, University of Edinburgh Institute for Sport Physical Education and Health Sciences, Edinburgh, UK
[2]Physical Activity for Health Research Centre, University of Edinburgh Institute for Sport, Physical Education and Health Sciences, Edinburgh, UK
[3]Academy of Sport, University of Edinburgh Institute for Sport, Physical Education and Health Sciences, Edinburgh, UK
[4]The University of Edinburgh School of Social and Political Science, Edinburgh, UK

Correspondence to
Dr Kaitlin Simpson;
kaitlin.simpson@ed.ac.uk

ABSTRACT

Elite student-athletes (SAs) in higher education (HE) have distinct mental health (MH) risks. The COVID-19 pandemic put pressure on systems and increased elite SA vulnerability to adverse MH outcomes.

The aim of this study was to explore the provision and management of MH in elite HE sports settings during the time of COVID-19 pandemic stress. The secondary aim was to identify lessons and opportunities to enhance future mental healthcare systems and services for elite SAs.

A qualitative study design was used to investigate the views of three groups (athletic directors, coaches and sport healthcare providers). Ten key leaders were purposively recruited from HE institutions in Canada, the USA and the United Kingdom. They represented various universities from the National College Athletic Association, U SPORTS Canada and British Universities and Colleges Sport. Semistructured interviews were conducted, recorded, transcribed and thematically analysed.

Five key themes were identified: (1) The pandemic disruption had salient impacts on motivation and how elite SAs engaged with sport (2) when student sport systems are under pressure, support staff perceive a change in duties and experience their own MH challenges, (3) the pandemic increased awareness about MH care provision and exposed systemic challenges, (4) digital transformation in MH is complex and has additional challenges for SAs and (5) there were some positive outcomes of the pandemic, lessons learnt and a resulting motivation for systems change. Participants highlighted future opportunities for MH provision in elite university sport settings. Four recommendations were generated from the results.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Athletes in elite university sport settings face barriers accessing mental healthcare and require specific care.

WHAT THIS STUDY ADDS

⇒ This is the first international study investigating mental health provision and management for elite university athletes. Shared challenges were identified cross-nationally.

⇒ The COVID-19 pandemic offered numerous important lessons and created an appetite from key university stakeholders for better student-athlete mental health systems.

⇒ There is a need for sport coaches, athletic directors and healthcare providers to be jointly involved and consulted in the development of mental health and well-being strategies.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The results and recommendations generated from the current study could be used by governing bodies and universities to improve student-athlete mental healthcare systems and standards of care cross-nationally.

INTRODUCTION

Mental health (MH) services are an essential part of healthcare system governance duties.[1] Higher education (HE) MH health systems that cater to university students are important subsets of global and national health systems,[2] but delivery challenges can make MH care inefficient and hard to access.[3] HE can be a risk for poor MH due to factors such as academic demands, living away from home, financial stress and the developmental stage of university-aged young adult.[4]

Elite student-athletes (SAs) in HE have distinct MH risk factors derived from the combined academic, athletic and social pressures they may face[5 6] and have been found to face help-seeking, service availability and treatment barriers for general campus MH services.[7] Some experts consider elite HE SAs to be an at-risk vulnerable group that requires unique MH provision attention.[8] Mawdsley's 2021 sports law review identified that HE institutions may have a duty of care to provide their SAs with specialised or heightened MH services.[9]

MH in the broad population of elite athletes has received increased awareness and interest in recent years.[10 11] While there is an ongoing debate about how to classify athletes,

National, International and Olympic level athletes are generally accepted to be elite level. Prevalence rates of MH concerns for elite athletes are thought to be comparable or higher than the general population.[12] However, there is comparatively narrow epidemiological understanding of MH outcomes for the subpopulation of elite HE SAs, with existing studies significantly limited by variability in HE research and measurement practices.[13] There are calls for SA research that includes diverse samples and perspectives (eg, vulnerable groups, LGBTQ+, parasport SAs) to enable comprehensive understanding of how to support and manage SA MH; a need to diversify comparison groups beyond age-matched student samples has also been identified.[6]

The COVID-19 pandemic brought on new MH stressors globally. Experts quickly identified that elite athletes were potentially at increased vulnerability to adverse MH symptoms and that their MH should be considered proactively.[14] Given their distinct MH risk factors and the compounding pressures of HE and elite sport,[6] elite SAs were also likely at elevated risk and in need of early interventions. However, during the pandemic, it was evidenced that a lack of attention was being given to elite SA MH and how their MH was being managed.[15] A review of literature on the MH of HE SAs since the beginning of the COVID-19 pandemic demonstrates a dominance of cross-sectional survey-based research on MH symptom prevalence within the NCAA (USA),[16–18] and a paucity of research investigating MH outcomes in other countries. No primary research has evaluated the impact of the pandemic on SA MH provision from a management perspective, although some academic voices critiqued NCAA MH practices during the pandemic.[19]

This study sought to address these important gaps, recognising that the pandemic stress was testing systems and creating conditions where we could learn how to improve and enhance HE SA MH provision moving forward.

AIM

This study aimed to explore the provision and management of MH in elite HE sports settings during the time of COVID-19 pandemic stress. From this, the study sought to identify lessons and opportunities to enhance SA MH care provision in general and in unprecedented or emergency settings.

METHODS

Design

This study was a qualitative inquiry embedded in an interpretivist paradigm[20] and informed by a public health approach. Semistructured interviews were conducted across three countries and analysed using reflexive thematic analysis (RTA).[21]

This design was optimal to address the research aims of exploring themes and ideas in sport[22] and system-level opportunities for SA MH management in HE environments.[20] Semistructured interviews enabled research questions to be pursued through further scoping.[23] Considerations were made to the lead researcher's (KS) active role as someone who may bring subjectivity as well as certain expertise and knowledge to the interviews and analysis.[24] It was recognised that the lead researcher's own lived experiences, assumptions and perceptions as a former elite SA would inevitably influence aspects of the research.[25] RTA recognises this type of inevitable subjectivity and allows it to be a tool and resource[26] and has been identified as useful in sport research.[27]

Cross-national approach

The target participants were leading HE sport medicine and MH practitioners, athletic directors (ADs) and coaches of some of the world's top HE sports programmes. These individuals would be able to offer diverse, high-level insight from various contexts; context is important when deriving lessons of a crisis to build future resilience in healthcare systems.[28] Three well-established nations offering elite competition to HE SAs are Canada, the USA and the United Kingdom (UK) (figure 1).

Recruitment

Participants were recruited by email through purposive[29] and snowball sampling by introduction.[30] Representation from NCAA, USPORTS and BUCS member universities was sought; leaders in their disciplinary field were identified through online searching and analysis of existing networks. The reasoning was that these individuals were more likely to be veterans in the industry, would be able to offer a systems-level perspective and may offer rich insight into recommendations around future opportunities for improving SA MH and would likely be gatekeepers who could promote snowball sampling. Efforts were made within purposive sampling to include the voices of people of colour (n=2) and female stakeholders (n=4), despite there being fewer women and fewer people of colour within these leading roles.[31 32]

Semistructured interviews

Pilot interviews (n=4) were conducted with a variety of individuals with multilateral perspectives,[33] and questions were finalised (table 1). Interviews took place between May and July 2021, which was HE summertime break and a period for review, planning and reflection.

Participants emailed their signed consent to the research team prior to their online video interview. All interviews were recorded, and audio files were transcribed by Microsoft software and by hand.

Data analysis

Analysis followed a six recursive-phase RTA approach: familiarisation, coding, generating initial themes, reviewing and developing themes, defining and naming themes, and writing up.[21] The data had layers and nuances, with numerous passages generating multiple codes. Using NVivo and Microsoft Excel, a total of 486 sections within the transcripts were identified in the open-coding process; these sections generated 673

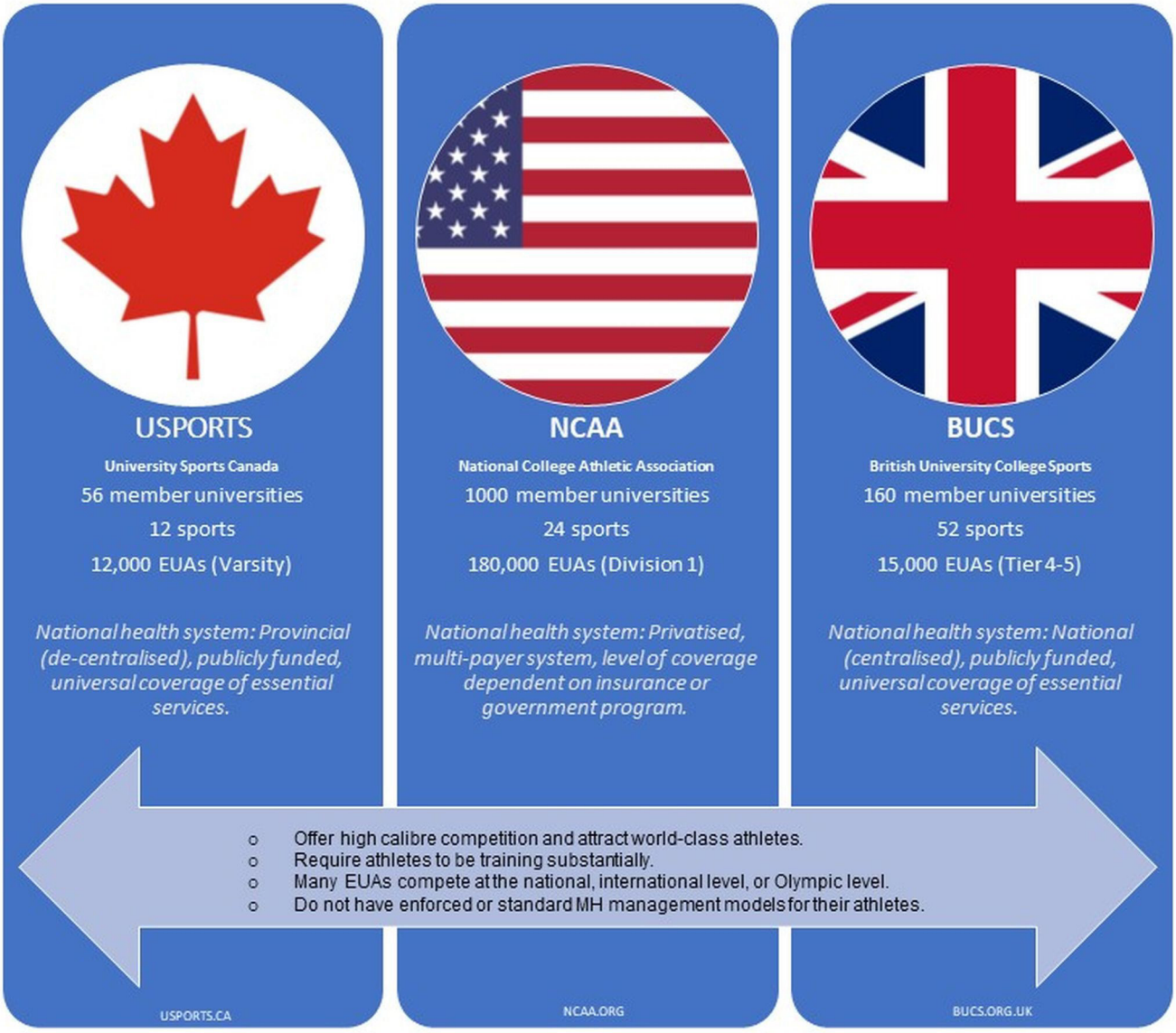

Figure 1 Higher education elite university athlete (EUA) sport systems represented in the study.

coded data points (n=144 passages with double codes, n=43 triple codes). The lead researcher coded and developed themes independently according to RTA; other members of the research team helped to organise and agree on theme names to enhance interpretive depth.[27] Lessons and opportunities in the results were interpreted generate recommendations to inform future SA MH management and provision practices.

RESULTS

Participant characteristics

Ten participants were recruited and interviewed (table 2). Participants were categorised as either an AD (n=3), coach (n=3), or a sport healthcare professional (HCP) (n=4). HCPs were university sport medicine directors and mental healthcare professionals. The participants represented 10 different institutions.

Qualitative findings

Five key themes were generated from the RTA (table 3). Each theme is described below, with illustrative participant quotes.

Theme 1: the pandemic disruption had salient impacts on motivation and how elite SAs engaged with sport

Participants expressed perceiving that the alterations to training and competition during the pandemic were particularly tumultuous for elite SAs. In Canada, HE competition was cancelled entirely from 2020 to 2021. In the UK, only some sports were cancelled and rules differed between athletes depending on the elite status that the government deemed them to be. Training and competition interruptions varied by region and sport in the USA. Each HE institution had its own internal responses and protocols during the pandemic, highlighting their independent governance and autonomy.

Table 1 Semistructured interview questions.

Question 1	Please provide a brief overview of your current role
Question 2	How has your role changed during the COVID-19 pandemic?
Question 3	Please describe the impact of COVID-19 on your institution's sports delivery and operations.
Question 4	MH has been a challenge for everybody during the pandemic in different ways. ► What specific MH challenges have you observed for the SAs? ► What new types of MH challenges has the pandemic posed for SAs that did not exist prior to the pandemic? ► Do you know if there were any differences in how the pandemic affected SAs and their MH as compared with the general student body?
Question 5	How has your institution addressed the MH needs of students and SAs during the pandemic? ► What changes and adjustments have been made to address mental health? ► How is health and mental healthcare integrated or separated from national/community healthcare provision?
Question 6	What are your observations of how COVID-19 has affected perceptions around MH on campus? In the sport department?
Question 7	What types of programmes or systems do you think should be implemented to build SA MH resilience moving forward?

Question content was informed by conversations with HE sports stakeholders and other researchers and the realities of the ongoing pandemic at the time of study design.
HE, higher education; MH, mental health; SA, student-athlete.

SA feelings of disruption and uncertainty were dictated by a combination of government, local and HE rules.

Results suggest that SA training and competition became burdensome during the pandemic. One AD reported athletes not wanting to show up due to the stress of keeping up with and continuously adapting to unpredictable protocol changes. Likewise, participants reported that the restrictions and associated challenges, fear of the virus and being in social bubbles took a toll on the SA excitement to compete.

> That competition factor saw a real shift…players were opting out of the season and choosing not to participate for their own safety or comfort or personal reasons…When we did qualify for a bowl game (championship game), we put it to a vote for our football team to decide whether they wanted to play it or not and they decided not to. (P4)

Other situations reported that caused considerable disruption included having to prioritise certain SAs (eg, Olympic hopefuls), enforcing protocols, furloughing staff and instituting severe rules and consequences to protect SAs.

Theme 2: when student sport systems are under pressure, support staff perceive a change in duties and experience their own MH challenges

SA support staff mentioned by participants included coaches, the athlete entourage (eg, athletic trainers, team managers), athletic department administrators, sport medicine staff and athletic department MH professionals. Each participant discussed stresses associated with having to take on extra roles beyond their capacity or capabilities, work extra hours, adjust to working online and shifting priorities during the pandemic.

Athletic trainers and HCPs had to take on the additional role of conducting COVID-19 testing and implementing protocols. MH providers within athletic departments experienced increased demand for their services. Support staff tasked with team operations worried about how to find safe flights, safe hotels and food that was safe to bring into their team when travelling to compete during the pandemic. It was interpreted from the data that participants cared fiercely about their SAs, given the sacrifices they were willing to make to keep them safe. One participant was separated from their family for over a year due to isolating in the team social bubbles.

Checking-in on SAs became a critical priority at all participant institutions. One administrator became responsible for calling SAs. One institution organised peer support groups. Some others did not have capacity to directly check-in, but compiled and shared resources for SAs to seek support if needed. Results suggest that prepandemic coaches' understanding of their athletes was limited. Coaches expressed having to learn about their SAs during the pandemic and had varying observations of how SA MH was affected during the pandemic. Some adjusted their coaching style to account for MH.

> By the end of the season, it was like you were 90% therapist, 10% basketball coach…we weren't trained for this, didn't know what we were doing. But we were someone who could be there because we were in the bubble with them…capable this year was such a skewed term. Capable meant "are you mentally prepared to do so?" (P2)

During the pandemic, ADs had to make difficult and stressful decisions about where to focus their attention

Table 2 Participant characteristics and interview details

Participant number	Audio length	Date recorded	Gender	Race	Country	HE sport setting	Role (number) **1—athletic director, 2—coach, 3—SA healthcare provider**	Training or qualification
1	00:48:02	13 May 2021	M	White	UK	BUCS Performance Sport	Director of Sport (1)	Master of Management
2	00:45:07	14 May 2021	M	White	USA	NCAA Division 1	Men's Basketball Coach (2)	MBA, Sports Administration
3	00:35:31	14 April 2021	F	African American	USA	NCAA D1, D2, D3 (external provider—private practice)	MH Practitioner (3)	APA Counselling Psychologist
4	00:43:17	26 May 2021	M	African American	USA	NCAA Division 1	Athletic Director, Student Athlete Support Services (1)	Master of Social Work
5	00:29:23	27 May 2021	M	White	UK	BUCS Performance Sport (internal campus—wide provider)	MH Director (3)	Mental Health Officer (Registered social worker)
6	00:25:58	10 June 2021	M	White	USA	NCAA Division 1	Men's and Women's Swimming Coach (2)	Master of Exercise Psychology
7	00:36:09	14 June 2021	F	White	CAN	U Sport Varsity (internal athletic department provider)	Sport Medicine Practitioner and Director (3)	Doctor of Medicine (MD), PhD Sport Health
8	00:48:24	12 July 2021	F	White	UK	BUCS Performance Sport (internal athletic department provider)	Performance Sport Officer and Athlete Lifestyle Practitioner (1)	PhD, Sport Psychology
9	00:35:26	15 July 2021	F	White	CAN	U Sport Varsity (internal athletic department provider and external private practice)	Sport Psychiatrist (3)	Psychiatrist (MD)
10	00:51:16	22 July 2021	M	White	CAN	U Sport Varsity	Varsity Coach (2)	PhD, Sport Psychology

Table 3 Key themes and descriptions

Theme 1: The pandemic disruption had salient impacts on motivation and how elite student-athletes engaged with sport	This theme was generated from interpretation of the participants' discussion of how their sport settings were changed by pandemic policies, competition cancellations and fear.
Theme 2: When student sport systems are under pressure, support staff perceive a change in duties and experience their own mental health challenges.	This theme recognises the significance of how the participants themselves experienced and expressed the pandemic crisis impact personally and professionally.
Theme 3: The pandemic increased awareness about MH care provision and exposed systemic challenges.	This theme resulted from a pattern of discussions around the convoluted delivery of MH in HE sports settings and the vulnerabilities of their MH systems during the pandemic. This theme recognises the different engagement and meaning that stakeholders attributed to the topic from their individual positionings.
Theme 4: Digital transformation in MH is complex and has additional challenges for SAs.	This theme conceptualised of a variety of participants' thoughts and observations around the role and limitations of technology in SA MH provision.
Theme 5: There were some positive outcomes of the pandemic, lessons learnt and a resulting motivation for systems change.	This theme attributed meaning to the pattern of how participants described "impact" and how they chose to express it constructively in their dialogue. This theme captures the participants' expertise and the various future possibilities for SA MH that each shared.

HE, higher education; MH, mental health; SAs, student-athletes.

and resources and what they had the organisational capacity to provide.

> There are so many other competing priorities that looking after MH doesn't really get the attention it deserves. For example, from an institutional standpoint, our main goal is reporting on Covid numbers for the campus. (P4)

Although the study aims focused on understanding SA MH impacts, the data evidenced how the pandemic took a toll on staff, with most participants reporting negative MH impacts, exhaustion and feeling overwhelmed by their additional duties. Results demonstrate that staff lacked support. It was noted that none of the participants mentioned any MH or well-being resources available to them, suggesting a gap in HE well-being services.

Theme 3: the pandemic increased awareness about mental healthcare provision and exposed systemic challenges

The MH resources available and provision of MH services to SAs varied in each participant's context. Participants reported services provided by an athletic-department-specific HCP, services provided centrally via university student services, services provided externally by private and specialist HCPs and services provided by a mixture of internal and external providers.

The HCPs noted that the common issues for SAs (anxiety, depression, relationships) did not change but increased and became more prevalent under pandemic pressure. Standardised processes and effective HE SA MH care structures were scarce in all contexts. HCPs reported that access to multiple layers of care is a key indicator for good SA MH management and indicated that SAs should have an array of specific HE MH provision options such as a peer mentor, counsellor, psychologist and a psychiatrist.

The HCPs' expertise and understanding of specific care systems required for SAs were clear. They vocalised risks associated with SAs utilising centralised HE services.

> There is the common misconception that athletes are more well than everybody else because they're able to play a sport, because they're able to balance everything…for those of us who treat athletes, we recognize that if you put an athlete in a referral to a general MH clinic in a triage system, they're going to be viewed as more well than everybody else. They're not going to be a priority. They're really an under serviced population. (P9)

It was consistently acknowledged that ensuring all SAs knew where to seek help was crucial during the pandemic. All participants heightened promotion of their MH resources available to SAs and many increased coach and staff education on signs and symptoms of poor or deteriorating MH, offered MH first aid training and integrated MH conversations into their athletic departments. However, several participants noted that despite increased MH awareness, they were not convinced SA help-seeking behaviour was instigated.

> At the moment, it's a case of telling SAs, "go speak to so-and-so"…That's not always entirely effective when you've got an individual who then goes, "I don't want to or I don't know who that person is or I'm too scared." We need to make a better way of accessing it (P8)

Participants were asked to describe how their university well-being support was situated within the wider national healthcare systems. Although a few respondents mentioned external referrals, responses generated from

this question were limited by participants not seeing any clear interaction or relationship between the systems of care. This finding suggests that national health systems and HE health systems may not be closely connected in terms of SA MH delivery, and/or knowledge of the avenues for linking the two systems is not common.

Collectively, participants agreed that the pandemic led to increased SA demand for MH support. Views on whether resources were stretched or adequate and opinions on appropriate wait times for SAs to see an MH professional varied. For example, one HCP felt that their 2-week wait list was not long, while a coach felt 2 weeks was unjust.

> For us, 2.5 weeks [wait] is three more games. He might hang in there and be fine, but he might also go through three more losses and go off the rails and be a lost cause by that point. That's not fair to the athlete. (P2)

The results suggest that there is opportunity for more HE institutions to integrate numerous types of SA MH care into well-being practices and demonstrate that dialogue about systemic MH provision challenges is similar cross-nationally. There is a need for clarity on standards of SA MH care, including appropriate wait time, the type of HE practitioners SAs require, and best practice for ensuring SAs is connected to care.

Theme 4: digital transformation in MH is complex and has additional challenges for SAs

The pandemic accelerated the adoption of digital technologies, and in HE sports settings, SAs shifted to an online lifestyle. Participants consistently felt that SAs struggled with online learning more than the general student, noting that their in-person communication skills are key strengths developed through sport. Contrastingly, digital transformation of healthcare was viewed by all participants as a key facilitator of well-being and MH for SAs. Participants felt that SAs valued the convenience and flexibility of online MH appointments (such as during the evenings and weekends) suitable to their busy schedules.

Overall, there was a sentiment that digital transformation had a positive effect. One participant reported that their missed appointment rate dropped significantly with online care. Other benefits of digital transformation included continuity of care and access to services over holidays, breaks and times when SAs are not on campus.

Participants explained how HE institutions still had a duty to provide care and resources to support their students as they learnt and lived online. When the pandemic began and campuses closed, SAs flew home to all corners of the world and ADs had to consider their needs.

> International students couldn't come back or had to go home…It's a very diverse population…when making a policy or procedural decision, you really had to have a good knowledge and understanding of how diverse everyone's personal situations were. (P1)

Over half the participants identified the barrier of HCP geographic licensure restrictions—the legal rules that govern where HCPs can practice and provide care geographically. Participants from all countries discussed how their ability to care for SAs was limited. Because HCP licensure restrictions only permitted HCPs to deliver telehealth to patients in their local licensed region, many SAs abroad could not receive necessary care from their HE HCPs. Reciprocity licensure agreements could remove geographical restrictions to care for the benefit of both patients and providers.

> Reciprocity is something I know that counsellors are fighting very hard for because it is difficult…to get licenced all over again…it's truly a hardship for everyone. It minimises the people you can care for (P3)

Theme 5: there were some positive outcomes of the pandemic, lessons learned and a resulting motivation for systems change

Overall, it was recognised that the pandemic was a learning curve in terms of developing and building better structures for MH and associated care. One HCP summarised these challenges around levels of care.

> We need multiple layers of support for athletes… we have a lot of athletes who just need help with general stress management, sleep management, life skills, mindfulness stuff…then there's sort of an intermediate level of support…a person who has a skillset in specific types of psychotherapy that could work on trauma, more significant anxiety disorders, mood disorders…a psychologist or somebody like that. Then the third level of a psychiatrist to be able to explore, diagnose, treat with medications if necessary (P7)

Coaches, ADs and HCPs alike noted that the pandemic exposed their reactive systems. One HCP suggested that the reactive system was due to a lack of value placed on investing in prevention, explaining how HCPs are typically not remunerated for prevention work. Participants emphasised the need for proactive MH approaches to protect their athletes from what they experienced during the pandemic and maintain well-being.

> We mustn't medicalize everyone. We don't want everyone declaring they've got depression. We must make sure we're doing as much as we can to promote positive MH and wellbeing. (P5)

Participants suggested numerous opportunities for change including preseason MH screenings and at times of high stress, responding to problems immediately, finding creative ways to work with set resources and ensuring HE HCPs represent their SA demographics.

> One thing I think needs to be implemented moving forward, especially at the Division One level, is there needs to be a clinician of colour…because of the number of black SAs that are in these Division One athletic departments. (P4)

During the pandemic, participants considered how SA well-being information is collected, stored and used. They discussed confidentiality and the appropriateness of whether coaches should have access to their athletes' health information.

> One of the questions is where does that [MH information] go? Should the coach have that? The athletic therapist? Should it go to the MH nurse? It's a great thing but then how does it get used? Because there are these tremendous confidentiality issues running (P10)

Participants in Canada and the USA said the pandemic highlighted opportunities to improve MH provision and policies and that their university sport governing bodies (ie, NCAA, BUCS, USPORTS) needed to play a larger role. In the UK, governing bodies were not mentioned, but the idea of collaborating and establishing clear expectations was similarly echoed.

> The NCAA MH list of best practises…they don't need to be just best practises and recommendations… there should be a licensed individual included. They legislate everything around the recruiting process. I think they can legislate (requiring a licensed practitioner) as well. (P4)
>
> USPORTS has a big role to play in encouraging the leadership of the varsity programs for various universities to take [SA MH] seriously and put their money where their mouth is and actually program for it. (P9)

Participants shared positive examples of new MH practices implemented during the pandemic such as peer mentoring, using the SMHAT-1 (International Olympic Committee MH assessment),[34] monitoring athlete MH for the first time, learning how to be accurate in describing MH and creating efficient pathways to the appropriate support. Several participants spoke about collaborating with the university to review protocols and have MH discussions that had never occurred. These findings suggest there is appetite for better HE SA MH systems.

DISCUSSION

The results indicate that HE SA MH systems require increased attention in ordinary times and times where systems are put under pressure such as the COVID-19 pandemic. Some insights align with those that have been previously reported by studies on elite athlete MH, including the need for improved MH literacy, promotion and prevention.[6 7 9] The participants highlighted several new useful insights including the need for licensure systems that allow practitioners to deliver MH care online to their SAs across state lines and abroad, the cross-national similarities in systemic stress and the lack of agreement and awareness from leading stakeholders on what the standard of MH care should be in HE sports environments. The themes and common issues voiced by the study participants were interpreted to develop practical recommendations for HE SA MH (see box 1 for details of recommendations).

Box 1 Recommendations for student-athlete mental health management and provision.

Recommendation 1: cross-national collaboration between countries is needed to develop standards for student-athlete mental health provision and improved systemic preparedness.

International and cross-national collaboration may offer opportunities to develop standards, strategy and efficient investments that help ensure the sustainability of HE sport and SA well-being. There are numerous shared barriers to mental healthcare and unique characteristics of SAs which have been identified cross-nationally that warrant attention and solutions.

Recommendation 2: international licensure for healthcare providers to provide online mental health services is recommended.

Eliminating online/telehealth licensure barriers for HCPs must be made a priority, so that SAs may have equitable access to online MH resources and care regardless of their geographic location. An international regulatory board that licences sport practitioners to serve athletes across any locale may offer an alternative solution rather than requiring national, state and provincial systems to change their policies.

Recommendation 3: improvements in mental health support for higher education sport managers, practitioners and staff are needed.

All those who manage and support athletes also require support—especially in situations like a pandemic where they are put under extreme pressure, with additional work burdens. Resources and monitoring of well-being for coaches, athletic trainers, medical staff and athletic directors should equally be integrated into university sport and health systems.

Recommendation 4: mental health systems should engage and include all sport management stakeholders in SA well-being strategy and delivery.

Sport healthcare providers, coaches and athletic directors must be included in HE sports well-being conversations, capturing their unique insights into the health and mental health of student-athletes. The perspectives of these three stakeholders increase the strength and understanding of well-being in the HE sports environment. Contributions to decisions and strategy regarding the provision of care and protection of SA well-being must include the voice of these stakeholders.

Recommendation 1: cross-national collaboration between countries is needed to develop standards for student-athlete MH provision and improved systemic preparedness

The lack of preparedness and uncertainty about how to respond to the pandemic and its SA MH implications in all contexts was clear. The participant data suggest there are similar and shared perceived experiences and challenges for SAs in different countries, and as such, there is room for improvement of the provision, management and standardisation of MH services for SAs whether in

a crisis/pandemic, or in normal times. Collectively, national university sport governing bodies and institutions should conduct research and evaluation to better understand SA MH risk factors, draw consensus on SA MH best practices and develop strategies for enforcing health and safety standards to protect MH in HE sports settings internationally.

Recommendation 2: international licensure for healthcare providers to provide online MH services is recommended

Delivery of online MH services was viewed as one of the most valuable tools developed and used during the pandemic. However, restrictions and limitations of geographic practitioner licensing systems have been identified across all three countries as a significant barrier in the ability to deliver quality mental healthcare to SAs while they are off campus and across borders. This issue has also been raised with respect to providing telemedicine within and beyond the USA for the general population.[35] Reciprocity agreements between countries and states and an international system of licensing online sport MH practitioners (through the IOC, for example) could provide increased stability and delivery of mental healthcare and well-being for SAs worldwide, not just in Canada, UK or USA.

Recommendation 3: improvements in MH support for HE sport managers, practitioners and staff are needed

Despite the evident care that the participants showed their athletes, it was apparent that a lack of MH and well-being support resources were available to they, themselves. Some participants mentioned the additional roles and pressures they faced when systems were tested that ranged from acting as counsellors for athletes (in the absence of alternatives) to COVID-19 test technicians. These results indicate a blurring of the lines between work and non-work life. A study of elite UK sport practitioners found that formal and informal support networks offer some protection from the demands of high-pressure environments,[36] while a study of 'flourishing' Canadian university coaches reported that finding balance between sport requirements and non-sport commitments was a key component of protecting MH.[37] Processes and resources for monitoring the well-being of sport staff should be integrated into university sport and health systems.

Recommendation 4: mental health systems should engage and include all sport management stakeholders in SA well-being strategy and delivery

Participants collectively identified the need for sport coaches, ADs and HCPs to be jointly involved and consulted in the development of MH and well-being resources and programmes for SAs. The pandemic highlighted the fluidity of staff roles and that MH provision needed to be integrated at all levels of the SA care system. Protecting well-being by moving from reactive to preventative MH delivery was deemed important. Diverse voices led to richness in the findings of this study, demonstrating how each stakeholder brings an important and different perspective to understanding SA well-being needs and care. Support staff are also well situated within HE institutions to identify early symptoms of poor MH in SAs, and to promote professional help-seeking. In a new 'elite athlete MH and well-being framework', Purcell *et al*[38] indicate that key staff within a sports system can be 'navigators' within the framework—ideally placed individuals that can be trained to identify when an athlete may require early intervention.

IMPLICATIONS

Outcomes of this investigation may offer practical implications for governing bodies to understand shared challenges and opportunities across borders and systems. Findings offer HE institutions insights about required standards and areas for improvement. The recommendations generated from this study are generally systemic and related to policy and higher level strategy; therefore, it may be pertinent for future research in this area to use ecological systems theory to further understand the interactions between different levels of the HE SA system.

Future research is needed to understand whether MH effects, and persistence of symptoms of the pandemic, are ongoing in HE sports systems. International research that includes the perspectives of SAs on the provision and management of MH care during times of systemic stress such as the COVID-19 pandemic (beyond the NCAA dominant literature) would also be useful to complement the findings of this study. More international comparative research on SAs is needed to understand the epidemiology of MH in HE SAs cross-nationally.

STRENGTHS AND LIMITATIONS OF STUDY

As far as we are aware, this is the only study investigating SA MH during COVID-19 from the perspective of key stakeholders and managers of SAs (coaches, ADs, HCPs for SAs, etc) and the only study investigating these perspectives and drawing evidence and examples from a range of countries.

This study is a part of a larger research project underpinned by public health ontology; a specific theoretical basis for this study may have provided more rigour and context for interpreting findings. A key limitation is that this study was conducted at a specific timepoint, and participants do not capture the totality of the pandemic, as it was still ongoing at the time of the study. This study only represents the voices and experiences of 10 key stakeholders. This study also did not address the MH challenges faced specifically by vulnerable SA demographic groups, although one AD of an NCAA programme indicated that more HCPs of colour need to be employed to better represent the SAs within the NCAA. This is an area of research that would benefit from increased enquiry within and outside the USA.

CONCLUSION

This study has confirmed that the COVID-19 pandemic posed a variety of challenges to the provision and management of SA mental healthcare and well-being for key stakeholders in HE institutions. Improved cross-national and cross-sector collaboration and further understanding of the unique risk factors of poor MH in SAs are required to move from reactionary to preventative systems. Four key recommendations for the improvement of provision and management of SA MH and well-being have been developed from this study, and a need for future research from the perspective of SAs on MH management has been identified.

X Kaitlin Simpson @kait_simps, Debbie Palmer @DebbiePalmerOLY and Grant Jarvie @GrantJarvie1

Acknowledgements We would like to thank the participants interviewed for their time and valuable insights.

Contributors KS and PK conceptualised the project. KS collected the data. KS analysed the data and grouped it into initial themes, GB, PK and EC-B reviewed and provided feedback on further theme refinement. KS, GB and PK developed the methodology and GB provided qualitative methods expertise. KS, GB, PK and EC-B drafted and edited the manuscript. EC-B provided policy implication advice. GJ, PK and DP provided supervision. KS is responsible for the overall content as guarantor.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval This study involved human participants and was approved by Moray House School of Education and Sport Ethics (reference number: KS16042021) and Sponsorship (reference number: CAHSS2103/02) Committees. Participants gave informed consent to participate in the study before taking part. 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 are available upon reasonable request. Data, including interview transcripts, are available upon reasonable request.

ORCID iDs
Kaitlin Simpson http://orcid.org/0000-0002-7378-1966
Debbie Palmer http://orcid.org/0000-0002-4676-217X
Paul Kelly http://orcid.org/0000-0003-1946-9848

REFERENCES

1 World Health Organization. Mental health action plan 2013-2020. Plan d'action global pour la santé mentale 2013-2020 [45]. World Health Organization: Geneva; 2013. Available: https://apps.who.int/iris/handle/10665/89966
2 Eisenberg D, Golberstein E, Gollust SE. Help-seeking and access to mental health care in a university student population. *Med Care* 2007;45:594–601.
3 Auerbach RP, Mortier P, Bruffaerts R, *et al*. WHO world mental health surveys International college student project: prevalence and distribution of mental disorders. *J Abnorm Psychol* 2018;127:623–38.
4 Hunt J, Eisenberg D. Mental health problems and help-seeking behavior among college students. *J Adolesc Health* 2010;46:3–10.
5 Kroshus E, Wagner J, Wyrick D, *et al*. Wake up call for collegiate athlete sleep: narrative review and consensus recommendations from the NCAA Interassociation task force on sleep and wellness. *Br J Sports Med* 2019;53:731–6.
6 Kegelaers J, Wylleman P, Defruyt S, *et al*. The mental health of student-athletes: a systematic scoping review. Int Rev Sport Exerc Psychol 2022;1–34.
7 Moreland JJ, Coxe KA, Yang J. Collegiate athletes' mental health services utilization: a systematic review of conceptualizations, operationalizations, facilitators, and barriers. *J Sport Health Sci* 2018;7:58–69.
8 Watson JC, Kissinger DB. Athletic participation and wellness: implications for counseling college student-athletes. *J Coll Couns* 2007;10:153–62.
9 Mawdsely M. A losing mentality: an analysis of the duty owed by universities to provide their student-athletes with mental health services. *Marquette Sports Law Rev* 2021;31. Available: https://scholarship.law.marquette.edu/cgi/viewcontent.cgi?article=1796&context=sportslaw
10 Reardon CL, Hainline B, Aron CM, *et al*. Mental health in elite athletes: International Olympic committee consensus statement (2019). *Br J Sports Med* 2019;53:667–99.
11 Vella SA, Schweickle MJ, Sutcliffe JT, *et al*. A systematic review and meta-synthesis of mental health position statements in sport: scope, quality and future directions. *Psychol Sport Exerc* 2021;55:101946.
12 Gouttebarge V, Castaldelli-Maia JM, Gorczynski P, *et al*. Occurrence of mental health symptoms and disorders in current and former elite athletes: a systematic review and meta-analysis. *Br J Sports Med* 2019;53:700–6.
13 Kroshus E. Variability in institutional screening practices related to collegiate student-athlete mental health. *J Athl Train* 2016;51:389–97.
14 Reardon CL, Bindra A, Blauwet C, *et al*. Mental health management of elite athletes during COVID-19: a narrative review and recommendations. *Br J Sports Med* 2021;55:608–15.
15 Grubic N, Jain S, Mihajlovic V, *et al*. Competing against COVID-19: have we forgotten about student-athletes' mental health *Br J Sports Med* 2021;55:950–1.
16 Graupensperger S, Benson AJ, Kilmer JR, *et al*. Social (Un) distancing: teammate interactions, athletic identity, and mental health of student-athletes during the COVID-19 pandemic. *J Adolesc Health* 2020;67:662–70.
17 Chandler AJ, Arent MA, Cintineo HP, *et al*. The impacts of COVID-19 on collegiate student-athlete training, health, and well-being. *Transl J ACSM* 2021;6.
18 Schary DP, Lundqvist C. Mental health in times of the COVID-19 pandemic: exploring the impact on well-being across the athlete-collegiate career. *J Clin Sport Psychol* 2021;15:249–67.
19 Romano RJ, Devarakonda L. Pandemic-related mental health crises should serve as wake-up call for NCAA. *Coll Athl Law* 2023;19:8.
20 Skinner J, Edwards A, Smith ACT. *Qualitative Research in Sport Management*. 2nd edn. Abingdon, Oxon: Routledge, 2021. Available: https://www.taylorfrancis.com/books/9781000318968
21 Braun V, ClarkeV. Thematic analysis. In: Cooper H, Camic PM, Long DL, *et al*., eds. *APA handbook of research methods in psychology, Vol 2: Research designs: quantitative, qualitative, neuropsychological, and biological*. Washington: American Psychological Association, 2012: 57–71. Available: http://content.apa.org/books/13620-004
22 Young K, Atkinson M, eds. *Qualitative Research on sport and physical culture*. 1st edn. Bingley: Emerald, 2012:252.
23 Jones I. *Research Methods for Sports Studies*. 3rd edn. Routledge, 2014.
24 Flick U. *The SAGE handbook of qualitative data analysis*. Los Angeles: SAGE, 2017.
25 Whitaker EM, Atkinson PA. Reflexivity. In: *SAGE Research Methods Foundations*. SAGE Publishing, 2019.
26 Trainor LR, Bundon A. Developing the craft: reflexive accounts of doing reflexive thematic analysis. Qual Res Sport Exerc Health 2021;13:705–26.
27 Braun V, Clarke V. Conceptual and design thinking for thematic analysis. *Qual Psychol* 2022;9:3–26.
28 Hanefeld J, Mayhew S, Legido-Quigley H, *et al*. Towards an understanding of resilience: responding to health systems shocks. *Health Policy Plan* 2018;33:355–67.
29 Campbell S, Greenwood M, Prior S, *et al*. Purposive sampling: complex or simple? Research case examples. *J Res Nurs* 2020;25:652–61.
30 Parker C, Scott S, Geddes A. Snowball sampling. In: Atkinson P, Delamont S, Cernat A, et al, eds. *SAGE Research Methods Foundations*. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, Available: https://methods.sagepub.com/foundations/snowball-sampling

31 Cunningham G. The under-representation of racial minorities in coaching and leadership positions in the United States. In: *'Race', Ethnicity and Racism in Sports Coaching*. Routledge, 2020.
32 Welch NM, Siegele JL, Hardin R. Double punch to the glass ceiling: career experiences and challenges of ethnic minority female athletic directors. Women Sport Phys Act. J 2021;29:20–8.
33 Kallio H, Pietilä A-M, Johnson M, *et al*. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *J Adv Nurs* 2016;72:2954–65.
34 Gouttebarge V, Bindra A, Blauwet C, *et al*. International Olympic Committee (IOC) sport mental health assessment tool 1 (SMHAT-1) and sport mental health recognition tool 1 (SMHRT-1): towards better support of athletes' mental health. *Br J Sports Med* 2021;55:30–7.
35 Zhai Y. A call for addressing barriers to telemedicine: health disparities during the COVID-19 pandemic. *Psychother Psychosom* 2021;90:64–6.
36 Hill DM, Brown G, Lambert T-L, *et al*. Factors perceived to affect the wellbeing and mental health of coaches and practitioners working within elite sport. Sport Exerc Perform Psychol 2021;10:504–18.
37 Pankow K, Mosewich AD, McHugh T-LF, *et al*. The role of mental health protection and promotion among flourishing Canadian University sport coaches. Sport Exerc Perform Psychol 2022;11:28–43.
38 Purcell R, Gwyther K, Rice SM. Mental health in elite athletes: increased awareness requires an early intervention framework to respond to athlete needs. *Sports Med Open* 2019;5:46.