Internet Journal of Allied Health Sciences and Practice

Internet Journal of Allied Health Sciences and Practice

Volume 19 | Number 4 Article 14

October 2021

Collegiate Athletic Trainers' Experiences Planning for Return-to-Sports During COVID-19: A Qualitative Research Study

Eric G. Post
Indiana State University, eric.post@indstate.edu

Justin S. DiSanti
A.T. Still University, justindisanti@atsu.edu

Christianne M. Eason
Korey Stringer Institute at the University of Connecticut - Storrs, christianne.eason@uconn.edu

Hayley J. Root
Northern Arizona University, Hayley.Root@nau.edu

Thomas E. Abdenour
Retired, San Diego State University, tom.abdenour54@gmail.com

Recommended Citation

Post EG, DiSanti JS, Eason CM, Root HJ, Abdenour TE. Collegiate Athletic Trainers' Experiences Planning for Return-to-Sports During COVID-19: A Qualitative Research Study. The Internet Journal of Allied Health Sciences and Practice. 2021 Oct 01;19(4), Article 14.

Collegiate Athletic Trainers' Experiences Planning for Return-to-Sports During COVID-19: A Qualitative Research Study

Abstract

Purpose: The purpose of this study was to explore the role of intercollegiate head athletic trainers in the process of planning to resume sport, as well as their experiences across the course of the pandemic to identify key strategies, challenges, and future considerations during the Covid-19 pandemic. Method: This exploratory, descriptive qualitative study was conducted via one-on-one semi structured interviews through the Zoom video conference technology. Twenty-four head athletic trainers across NCAA Division I, II, and III institutions participated in the study. Results: Emerging themes included the development of detailed, institution-specific plans with shared elements such as policies for testing and screening, modifications to facilities and cleaning, and incorporation of coach and athlete education. Athletic trainers discussed the processes they used to create their return-to-sport policies, which included professional development and interprofessional collaborations. While participants were confident in their plans, they acknowledged the need to overcome logistical and psychosocial challenges, such as the recognition that the success of their plans relied on numerous variables that could not be completely controlled. Conclusion: It is clear that NCAA ATs have played – and will continue to play – an integral role in overcoming challenges to promote a safe return-to-sports amidst the COVID-19 pandemic via education, policy making, and delivery of healthcare services. The challenges imposed by the accompanying set of circumstances have strained these ATs' practical tendencies and procedures. ATs have met these challenges through collaboration, information-seeking, and acceptance of the situation. NCAA ATs have embraced the opportunity to lead the way towards safe, successful campus reopening and resumption of competition.

Author Bio(s)

Eric G. Post, PhD, ATC is an Assistant Professor in the Department of Applied Medicine and Rehabilitation the program director for the Professional Master of Science in Athletic Training Program at Indiana State University. His research focuses on improving youth sports safety by examining the causes and consequences of early sport specialization.

Justin S. DiSanti, PhD, is a post-doctoral research fellow at A.T. Still University with a focus on the patient perspective of sport injury. His overarching research lines have examined the psychosocial aspects of sport injury, sport specialization, and patient mental health promotion, aiming to help athletes and practitioners in all contexts to thrive professionally as well as personally.

Christianne M. Eason, PhD, ATC is the Vice President of Sport Safety at the Korey Stringer Institute housed within the Department of Kinesiology at the University of Connecticut. Her research focuses on factors related to athletic training retention and attrition and the implementation of sports safety policies.

Hayley J. Root, PhD, MPH, ATC, is an Assistant Professor in the Department of Physical Therapy & Athletic Training at Northern Arizona University. Her research seeks to optimize dissemination and implementation of injury prevention strategies and physical literacy promotion in youth populations.

Thomas E. Abdenour, DHSc ATC is retired from clinical care after a career of service at the professional team and intercollegiate levels as a head athletic trainer. He is a member of the National Athletic Trainers Association Hall of Fame.

The Internet Journal of Allied Health Sciences and Practice
Dedicated to allied health professional practice and education
Vol. 19 No. 4 ISSN 1540-580X

Collegiate Athletic Trainers' Experiences Planning for Return to Sports During COVID-19: A Qualitative Research Study

Eric G. Post[1]
Justin S. DiSanti[2]
Christianne M. Eason[3]
Hayley J. Root[4]
Thomas E. Abdenour[5]

1. Indiana State University
2. A. T. Still University
3. Korey Stringer Institute at the University of Connecticut
4. Northern Arizona University
5. Retired, San Diego State University

United States

ABSTRACT

Purpose: The purpose of this study was to explore the role of intercollegiate head athletic trainers in the process of planning to resume sport, as well as their experiences across the course of the pandemic to identify key strategies, challenges, and future considerations during the Covid-19 pandemic. **Method:** This exploratory, descriptive qualitative study was conducted via one-on-one semi structured interviews through the Zoom video conference technology. Twenty-four head athletic trainers across NCAA Division I, II, and III institutions participated in the study. **Results:** Emerging themes included the development of detailed, institution-specific plans with shared elements such as policies for testing and screening, modifications to facilities and cleaning, and incorporation of coach and athlete education. Athletic trainers discussed the processes they used to create their return-to-sport policies, which included professional development and interprofessional collaborations. While participants were confident in their plans, they acknowledged the need to overcome logistical and psychosocial challenges, such as the recognition that the success of their plans relied on numerous variables that could not be completely controlled. **Conclusion:** It is clear that NCAA ATs have played – and will continue to play – an integral role in overcoming challenges to promote a safe return-to-sports amidst the COVID-19 pandemic via education, policy making, and delivery of healthcare services. The challenges imposed by the accompanying set of circumstances have strained these ATs' practical tendencies and procedures. ATs have met these challenges through collaboration, information-seeking, and acceptance of the situation. NCAA ATs have embraced the opportunity to lead the way towards safe, successful campus reopening and resumption of competition.

Keywords: athletic training, qualitative, COVID-19, public health

INTRODUCTION

The ongoing COVID-19 pandemic has imposed an enormous, far-reaching strain on the branches of healthcare systems throughout the world.[1,2] This impact is felt among athletes and sport stakeholders, as these groups often shape their identities through being active, working as teams, and adopting shared goals and commitments.[3–5] Thus, the cessation of sport programming and the requirements of social distancing due to the COVID-19 pandemic have posed a unique disruption to the health of athletic populations, justifying the urgency of sport healthcare practitioners' efforts to resume sports safely. Athletic trainers (ATs) exert a far-reaching impact on the health and well-being of athletes and sport stakeholders across college universities and institutions.[6] This impact extends beyond the promotion of physical health and injury management, and also serves as a key cog in the therapeutic alliance to enhance the holistic health of athletes and sport stakeholders.[7]

The National Athletic Trainers Association (NATA) and National Collegiate Athletic Association (NCAA) have been looked to as examples and sources of information for the best policies and recommendations regarding sport programming during the pandemic.[8] As infectious disease experts grasped the scope of the threat posed by COVID-19, the NCAA was required to conduct an unprecedented shutdown of athletic competition and training to help in controlling the spread of the virus.[9] Guiding institutions cancelled sporting events and organized team activities, and the timeline for resumption was largely unclear.[10,11] In order to deliver sport programming at the university level, specific safety policies and protocols were required to provide a degree of assurance for the safety of college sport participants and stakeholders despite the risks associated with the pandemic.[12]

Playing a central role in this process are athletic trainers. In addition to their standard responsibilities of injury prevention and treatment strategies, ATs absorbed broader duties to account for the unprecedented circumstances associated with the pandemic.[13,14] ATs have also become central to disease prevention and control while attempting to maintain a high level of AT facility availability and making necessary facility modifications or referring patients for off-site rehabilitation.[13] Also, during the constantly fluctuating state of events and onslaught of information regarding the COVID-19 pandemic, ATs have become instrumental to the efforts of athletic departments to develop plans for promoting a safe, timely return to sports.[14] The recent months have posed novel challenges related to these objectives, increasing risks to our physical, psychological, and social health.[3,15,16]

The success of athletic programs plays a major role in not just the lives of student-athletes and stakeholders, but has far-reaching effects across the fabric of academic institutions and campus life.[2] Because of traditional timelines of fall collegiate sports, student-athletes are often the first students who return to campus to begin the academic year; in this case, this has placed a particular strain on athletic departments to illustrate that campuses can be safely re-opened on a larger scale. Given the ATs' significant role in their institutions' delivery of healthcare services, the demands of resuming sports during the COVID-19 pandemic placed the individuals in these roles at NCAA institutions in a difficult, yet vital, position.[14]

To this end, the purpose of this study was to explore the role of intercollegiate head athletic trainers in the process of resuming sport, as well as their experiences across the course of the pandemic to identify key strategies, challenges, and future considerations. Our research was guided by the following research questions: 1) How do athletic trainers perceive their readiness for return-to-sport during the COVID-19 pandemic? 2) What perceived challenges/barriers do athletic trainers anticipate during the return-to-sport and ongoing sport programming during the COVID-19 pandemic? And 3) Are there any contextual differences between athletic trainers' perceived readiness or challenges/barriers as sport resumes during the COVID-19 pandemic?

METHODS

A qualitative methodology was intentionally selected to allow participants to articulate their opinions and personal experiences related to the safe return-to-sport during the COVID-19 pandemic. Because this topic is novel, an exploratory descriptive qualitative methodology was most appropriate as it is designed to study areas within healthcare practice that have little or no associated research.[17]

Participants

We utilized a combination of purposeful and snowball sampling procedures to recruit participants. Our goal was to maximize the representativeness of the population and we intentionally recruited participants from NCAA Divisions I, II, and III and included representation from each of the 10 NATA Districts. We used professional networking to identify an initial convenience sample and asked participants to identify additional individuals who would meet our inclusion criteria. Though convenience sampling was used, efforts were made to recruit a sample with diverse demographic and institutional characteristics. The inclusion criteria were current employment as a head athletic trainer in the collegiate or university setting and involvement with their institution's return-to-sport safety plans. General participant demographics can be found in Table 1 and participant specific demographics can be found in Table 2.

Table 1. Participant Demographics

Variable	N (%) or Mean (SD)
Gender	
Male	19 (79.2%)
Female	5 (20.8%)
Age (years)	51.1±10.8
Years of Experience	24.4±10.5
Number of AT Staff Members	11.5±9.2
Number of Student-Athletes at Institution	536.4±217.5
Institution Setting*	
Division I – FBS, Power 5 Conference	7 (29.1%)
Division I – no football	4 (16.7%)
Division I - FCS	2 (8.3%)
Division I – FCS, HBCU	1 (4.2%)
Division II	6 (25.0%)
Division III	4 (16.7%)

*FBS: football bowl subdivision, FCS: football championship subdivision, HBCU: Historically Black College or University

Table 2. Individual Participant Characteristics. (*FBS: football bowl subdivision; FCS: football championship subdivision; Power 5: Power Five Conference)

Participant	Age	Gender	NCAA Division*	Years of Experience	Number of AT Staff	Number of Student-Athletes
1	62	Male	III	30	3	600
2	53	Male	I – No Football	31	7	360
3	62	Male	I – FBS Power 5	35	19	475
4	48	Male	I – No Football	26	7	360
5	41	Male	III	6	3	318
6	49	Male	I – FBS Power 5	28	33	950
7	38	Male	I – FCS	14	6	482
8	32	Female	II	4	8	600
9	61	Male	II	38	5	400
10	62	Male	I – FBS Power 5	41	24	550
11	36	Female	II	15	12	1200
12	54	Male	I – FBS Power 5	30	22	585
13	47	Male	II	19	7	343
14	38	Male	I – No Football	16	6	285
15	53	Male	II	30	9	468
16	55	Female	III	31	4	575
17	62	Male	I – FCS	42	9	560
18	52	Male	I – FBS Power 5	20	15	500
19	62	Male	I – FBS Power 5	37	16	580
20	61	Male	III	24	6	480
21	66	Male	I – No Football	45	10	320
22	60	Male	I – FBS Power 5	25	34	800
23	33	Female	II	11	4	500
24	39	Female	I – FCS	19	3	320

Procedures and Data Collection

This project was approved by the Institutional Review Board of San Diego State University. Participants were contacted via phone or email and asked if they would be interested in participating in this study. Upon agreeing to participate in the study, participants were emailed a form detailing the study's purpose and allowing them to indicate if they wished to opt-out of consenting in the study. Data collection occurred over a four-week period between June/July 2020.

A semi-structured interview guide (Appendix A) was used to facilitate interviews. The interview guide was developed to reflect the research agenda and elicit responses related to our research questions. Using semi-structured interviews allowed researchers to probe participants for more detail and explanation during the interviews.[18,19] All authors provided feedback on the interview guide and a pilot interview was conducted with an athletic trainer employed as the head athletic trainer at a Division I institution. The purpose of the review and pilot interview was to establish content validity of the interview guide as well as identify any necessary changes. The feedback obtained during the pilot interview affirmed the general structure and content of the semi-structured interview guide, while also aiding in minor wording changes to questions for clarity and removal of several prompts that were redundant.

All interviews were conducted via Zoom, video recorded, and transcribed automatically by the Zoom program. Transcriptions were reviewed and cleaned by researchers before data analysis. Interviews were scheduled at the convenience of participants and all five authors were involved with the interviews. All interviews involved one participant and either one or two interviewers. For interviews with two interviewers, we followed a lead-secondary interviewer strategy, where one interviewer was responsible for guiding the participant through the interview script, and the secondary interviewer focused on follow-up questions.

Data Analysis and Credibility Procedures

Researchers used an inductive conventional content analysis to analyze the data.[20] Conventional content analysis is appropriate when existing theory or research on a phenomenon is limited.[20] Members of the research team repeatedly read the transcripts from the interviews they conducted to check for accuracy of the transcript and to get a general impression of commonalities in data. Two members of the research team (HR and TA) repeatedly read all transcripts to achieve immersion and obtain a sense of the whole. Once transcripts were read, these two researchers began coding which involved highlighting key texts that captured thoughts or concepts related to the research questions. Next, the two researchers individually made notes of their initial analysis and began creating labels for codes that emerged before sorting the codes into categories and grouped into meaningful clusters. After individual analysis and creation of clusters, the two researchers met to compare results and discuss any potential relationships between categories. Upon completion of this comparison, the two researchers shared their preliminary results with the additional three authors for peer review before finalizing categories. This utilization of multiple-analyst triangulation was intentionally included to help establish trustworthiness. Additionally, researchers used continuous echoing and comprehension probing to complete within-interview member checking during the interviews to further establish trustworthiness.[21]

RESULTS

Quotes shared in this section were deemed most representative of the theme as we are not able to share every participant's experiences related to each theme. Themes and subthemes are presented below and are organized by the overarching research questions. Research question 1 focused on the perceived readiness of athletic trainers to return-to-sport during the COVID-19 pandemic (FIGURE 1), while research question 2 focused on any perceived barriers or challenges in planning for return-to-sport during the COVID-19 pandemic (FIGURE 2).

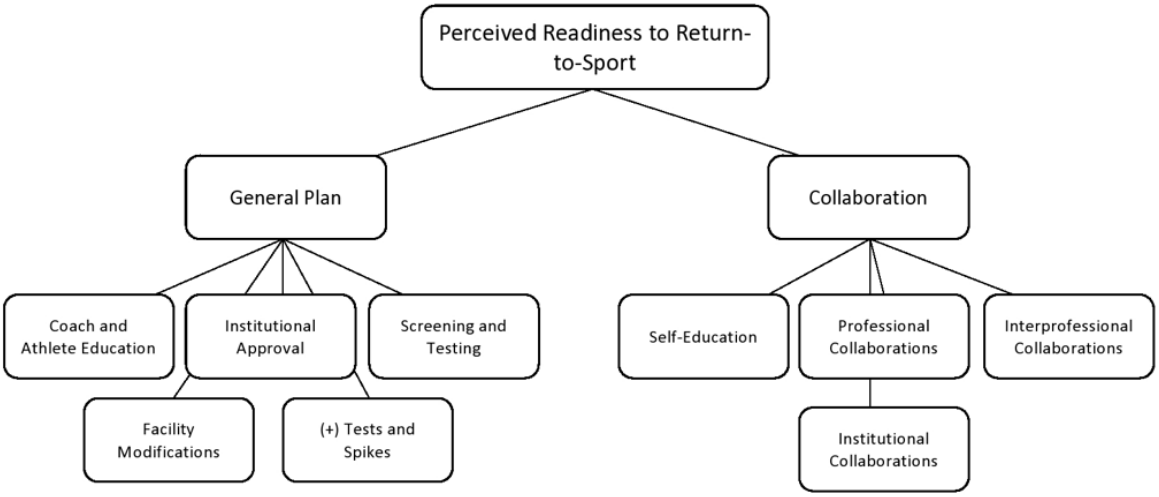

Figure 1. Results Supporting Research Question 1

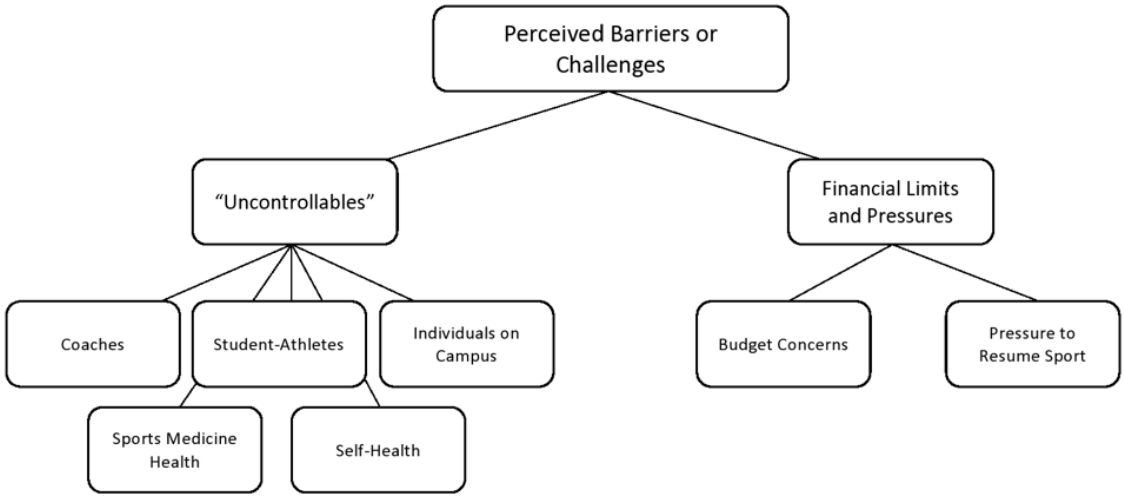

Figure 2. Results Supporting Research Question 2

Participant quotes supporting emergent themes in support of research question 1 can be found in Table 3 and those supporting research question 2 can be found in Table 4 (both tables are at the end of this manuscript after the reference list). During our analysis there were no emerging contextual differences specific to employment settings (NCAA Division, conference, geographical region) regarding athletic trainers' perceived readiness or challenges/barriers identified. Individuals who were employed at institutions with epidemiology specialists or other health care professionals employed on campus (i.e., schools of medicine) spoke of their ability to collaborate with institutional colleagues, whereas participants who did not have those individuals on their campus spoke of their interprofessional collaborations with individuals outside of their institution.

When asked who was involved with the return-to-sport plans on their campus, one athletic trainer involved in the planning stated, "There's a pretty eclectic group of people [in the university working group]. People in epidemiology, people in public health, the Dean of Students… a couple of team physicians, a couple athletic health care administrators and athletic trainers." Another athletic trainer, who described working with colleagues in his conference to develop the return-to-sport plan for his university told us, "One

of our guys on the [conference panel] is the chair of infectious disease at [major university]. And he's got former students who are actually at the CDC and he gives us all the changes."

Perceived Readiness

Development of a General Plan

Every athletic trainer that we interviewed was able to discuss, in detail, the return-to-sport plan that they had created at their institution. Common elements included an approval process (although the specific individuals/governing bodies involved varied between participants), policies for testing and screening, modifications to facilities and cleaning, and incorporation of coach and athlete education. Athletic trainers also talked about their plans, or lack thereof, of addressing potential spikes in cases on campus or in the area. Athletic trainers highlighted the importance of focusing on factors within their control, including flexibility to alter their plans based on new information due to the uncertain nature of the pandemic. As one athletic trainer said,

> "[Return to sport] starts with the health department and stay at home isolation or quarantine. Once the health department [guidelines] releases them from quarantine then they are evaluated by our team physicians and then they begin a progressive acclimatization period with the athletic trainers and strength and conditioning coach… they're constantly evaluated on a daily basis of what their conditioning is and physical and mental readiness to play."

Despite the uncertainty and constantly changing nature of the pandemic, a prevailing sentiment was that the AT had one chance to be successful with a slim margin of error. One AT at a Power Five institution expressed a personal concern of resuming sports with student-athletes from compromised communities of "exploited" populations, particularly without the advantage of an advocacy group comparable to a player's association as seen in professional athletics. Although this specific opinion was expressed by only one AT, others shared an apprehension of a minimal tolerance for error of medical judgement or protocol designed to keep student-athletes safe. "We can plan all we want, but as soon as something goes wrong all the other dominoes are going to change. So we're trying to do the best we can and have a plan and then adjust on the fly." Adding more detail, another athletic trainer described their concern and the situation on their campus,

> "My biggest challenge and concern is [that] we are bringing a group of athletes back on campus who are the probably the third highest risk of exposure to this virus of all sports, first being wrestling, second being basketball, third being football… We're doing it before students are back on campus. We're doing it before the NFL is going, we're doing it before the NBA is going, we're doing it before Major League Baseball's going… We are bringing these kids back…really the reason we're bringing football back is because they pay the bills. Okay, so we're bringing this population back so we can pay the bills. Now, so [the school] can get paid. Okay. That's why we're doing it. No one's… saying we're not doing that because everyone says if we don't have football, we can't have anything else. This population happens to be primarily African American. So we're bringing in an African American population to experiment to see if we can bring people back during the continued upswing of a pandemic, so we can pay our bills."

Professional and Interprofessional Collaborations

Athletic trainers discussed the processes they used to create their return-to-sport policies which included self-education, collaborating with athletic trainers in their conferences and their professional network, interprofessional collaborations with other health care professionals, and working with representatives from their institution. In describing collaborative relationships with other athletic trainers, he heard that, "[There is] a lot of collaboration where we've set up meetings with other athletic trainers from around the country within our football league… and also consultation with professional teams to get a little information." In describing the collaborative relationship within their conference, another participant stated,

> "So for the most part, everybody [in the conference has] got the same concussion policy, but you know where we're going to have to be synchronized a little bit, is with the COVID-19 stuff. Everybody from the conference had to upload their information to the shared drive so everybody can take a look and collaborate."

Perceived Barriers or Challenges in Returning-to-Sport

Variables that Cannot be Controlled.

While our participants were confident in the plans they created, they acknowledged the success of their plans relied on numerous variables that could not be controlled. These "uncontrollable" variables included non-athletes and other individuals on campus, coaches, the time athletes spent away from athletic facilities, and even the health and well-being of their own staff. As one participant clearly articulated, "We can control only so much and then if something were to happen, it, it could easily be something that was out of our control." Another went on to say,

> "You can only control [athletes] so far. They're still going to be socializing. They're still going to be, you know, drinking. And you know once you get outside [the area of athletics and the university], then it opens up a whole other avenue for the virus to be introduced."

Financial Limitations and Pressures

Participants also indicated some challenges of implementing their plans based on financial limitations and the pressure they felt to ensure the safety of their patients due to perceived financial pressures for resuming sport. This included a lack of available finances stemming from the safety demands of the pandemic and campus closures, as well as the dependence on sport programming for generating revenue at their institutions. As one participant said, "You know, from a finance standpoint it's widely distributed in the media today, you know, just in athletics, we're looking at a $56 million deficit for next year [because we can't fill the football stadium.]" Another described their situation and said,

> "…everything comes back to money and football; I feel is what everybody wants to come back… it's all about football. [I read an article] in the paper [that] said if [a large, D1 school] doesn't have a full stadium, they lose $37 million over the course of the season."

DISCUSSION

To our knowledge, our study is the first to investigate collegiate athletic trainers' perceived readiness and anticipated challenges/barriers related to the resumption of sport during the COVID-19 pandemic. Moreover, the in-depth testimony generated by the semi-structured interview process facilitated rich description and understanding of the experiences of individuals who hold this important role. Our results indicate that athletic trainers have been tasked with creating policies and procedures to safely bring student-athletes back to collegiate campuses across the country and have been working with physicians to ensure that best practices are implemented and adhered to during the resumption of college sports. Regardless of institutional setting, athletic trainers in positions of leadership were an integral part of establishing protocols on their campuses.

Perceived Readiness to Resume Sport During COVID-19 Pandemic

A primary theme of our interviews detailed the development of a general plan for return-to-sport amidst COVID-19. Injury and illness prevention is one of the major practice domains of athletic training and consists of risk management strategies such as the development of policies and procedures to reduce patient risk and improve quality of life.[22] Our interviews revealed that athletic trainers across a variety of NCAA institutions have quickly pivoted and leveraged their risk management skill set to develop policies and procedures to bring student-athletes back on campus and resume sport.

Athletic trainers' role in public health highlights their comfort level in developing plans at their institutions to welcome student-athletes back to campus to resume sports.[23] Philosophically, there was a shared sentiment among ATs that student-athletes of fall sports were "guinea pigs" to test the institution's viability to open in general and specifically resume intercollegiate sports during the fall. Others cited a constantly changing landscape of COVID-19 related guidelines and input from various stakeholders which was considered a challenge to their comfort level.

The field of public health focuses on the control of infectious diseases, emphasizes prevention and an interprofessional approach, as well as a focus on a population over individuals. The public health approach is a four-step process used to address health problems and includes: 1) describing the magnitude of the problem, 2) identifying risk factors and mechanisms, 3) developing risk factors for identified risk factors, and 4) assessing efficacy and effectiveness of the intervention.[24] Our participant responses indicate that collegiate athletic trainers are utilizing this public health approach in developing their resumption of sport policies amidst the novel circumstances of COVID-19, emphasizing the importance of this intentional framework in driving effective practice.

In describing their process of creating policies, our participants often discussed educating themselves about the COVID-19 pandemic by referencing local, state, regional, and federal guidelines. Previous research has indicated that state laws and mandates are key determinants in the development of policies and procedures. Our participants took advantage of their professional networks and interprofessional relationships to guide them to the appropriate mandates related to COVID-19. The idea of " knowledge networks," composed of practitioners, policy makers, researchers, and consumers, has been encouraged as an approach to translate evidence into practice.[25] An appreciation of camaraderie and collegiality was conveyed by several participants who felt comfortable being able to call any colleague across the nation to seek information or guidance.

In addition to highlighting their roles as healthcare providers, our results also reinforce the value of collegiate athletic trainers. The NATA College-University Value Model was written to explicitly detail the worth of athletic trainers and highlights their role in providing medical services, minimizing risk, and their administrative and organizational skills.[6] The athletic trainers' roles in

developing policies for their institution not only highlight the roles described, but indicate that the value of athletic trainers is being recognized in the workplace by institutional stakeholders.

Professional and Interprofessional Collaboration

In terms of creating return-to-sport plans for COVID-19, our participants described various collaborations that assisted in interpreting and tailoring the wealth of incoming evidence for optimal implementation at their specific schools. ATs described key partnerships that spanned the university, the conference, the profession, and interprofessional domains.

Some of our participants highlighted their university's affiliation with medical centers, public health professionals, and/or infectious disease epidemiologists as major advantages to ensuring the school was using the latest information that was most applicable for their student-athletes. While not every school has an infectious disease center on standby, participants also reached out to county and state public health departments to coordinate care and ensure continuity of messaging with the university and local constituents. ATs are typically seen as coordinating health care between sports medicine professionals, and the synergy between athletic training and public health highlights the role ATs can and do serve to improve population-level health.[23]

Several ATs also described their network of colleagues as integral and valuable partners that allowed for consistent communication and interpretation of new evidence and policies. This ranged from exchanging ideas with local colleagues, ATs within their conference, or colleagues across the nation willing to share their concepts. As policies are the minimum acceptable standards, conference-specific regulations were helpful to ensure equity among universities that may be in different states and experiencing different COVID-19 reopening phases. Here the ATs served as the liaison between their school and the broader network of schools to interpret regulations. In other areas, such as heat illness, ATs can positively influence policy development by taking the lead on interpreting guidelines and maintaining stakeholder communication.[26] Our participants described similar experiences of planning COVID-19 protocols in respect to the critical role ATs play in policy development and implementation.

Many ATs found the NATA resources valuable during their decision-making processes. For example, content from the Intercollegiate Council for Sports Medicine and NCAA, both of which included webinars and infographics, were considered favorable. Local and state public health departments or information from the Centers for Disease Control and Prevention (CDC) were also considered beneficial.

Perceived Barriers/Challenges to Resume Sport During COVID-19 Pandemic

Though the most immediate emphases of health promotion efforts in collegiate sport programs during the pandemic have involved treatment and minimizing the risk of spreading the COVID-19 virus, the challenges posed by this prolonged pandemic have also raised awareness of student-athletes' psychosocial health.[3–5,12] This mental, social strain has extended to the healthcare system as well and was evident in our themes of the challenges and barriers these ATs faced. Participants described the sense of cognitive dissonance associated with knowing their responsibility to construct evidence-based protocols and policy at their institutions while simultaneously recognizing the lack of existing evidence to directly apply to the constantly changing circumstances of the pandemic. Moreover, many athletic trainers expressed their feelings of frustration in attempting to fulfill their typical and added duties as their departmental and social resources were in a depleted state. Despite any frustration, there was a common thread among our participants of taking pride in their work and a sense of integrity to "do the right thing." Encouragingly, our participants described the positive experience of shared responsibility, intra- and inter-professional collaboration, and self-driven educational efforts in mitigating these concerns to a degree. Previous research has shown the consistently positive impact athletic trainers make in socially supporting their athletes,[27] and our sample suggests that athletic trainers can provide a similar degree of high-quality social support among their own cohorts when the need arises.

Limitations/Future Directions

There are several limitations to note in this study. First, we only interviewed athletic trainers who were employed at NCAA institutions. We chose this setting for two main reasons. First, according to the NATA, the college/university setting is the most common employment setting among athletic trainers. Second, due to the high-profile nature of intercollegiate athletics and the financial stakes of returning to sports during the pandemic, we thought it was valuable to interview the members of the sports medicine teams who were responsible for developing the policies to return to sport.

The resumption of NCAA sports participation in fall 2020 was not without challenges, cancellations, and modifications to existing plans. Future research should follow up with athletic trainers to debrief regarding the implementation of their plans during the 2020-2021 school year and discuss any successes and challenges that occurred. Finally, one of our original research questions was to examine potential contextual differences between athletic trainers' perceived readiness or challenges/barriers. We originally hypothesized that differences based on NCAA Division level (I, II, or III) would be present, but these differences did not emerge as

themes of our interviews. Future research should attempt to further determine whether there were any specific contextual factors that influenced decision-making and differentiated experiences that were not observed in our interviews.

CONCLUSIONS

The results of our interviews indicate that NCAA ATs are an integral part of the safe return-to-sport and will continue to play an active role as campuses attempt to reopen and resume sport activity. Through their multifaceted impact on education, policymaking, and delivery of health care services, it is clear that ATs will play an invaluable role in overcoming challenges to promote a safe return-to-sports during the COVID-19 pandemic.

REFERENCES

1. Salazar de Pablo G, Vaquerizo-Serrano J, Catalan A, et al. Impact of coronavirus syndromes on physical and mental health of health care workers: Systematic review and meta-analysis. *J Affect Disord*. 2020;275:48-57. doi:10.1016/j.jad.2020.06.022
2. Sahu P. Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus*. Published online April 4, 2020. doi:10.7759/cureus.7541
3. Bullard JB. The Impact of COVID-19 on the Well-Being of Division III Student-Athletes. *Sport J*. 2020;21.
4. Streeter C. COVID-19: Social Isolation and Optimism in Sport. *Sport J*. 2020;21.
5. McGuine TA, Biese KM, Petrovska L, et al. Mental Health, Physical Activity, and Quality of Life of US Adolescent Athletes During COVID-19–Related School Closures and Sport Cancellations: A Study of 13 000 Athletes. *J Athl Train*. Published online December 8, 2020. doi:10.4085/1062-6050-0478.20
6. NATA, ICSM. *College/University Value Model*.
7. Winkelmann ZK, Games KE. Athletic Trainers' Job Tasks and Status During the Coronavirus Disease 2019 Pandemic: A Preliminary Analysis. *J Athl Train*. Published online November 10, 2020. doi:10.4085/1062-6050-0275.20
8. Dove J, Gage A, Kriz P, Tabaddor R, Owens B. COVID-19 and Review of Current Recommendations for Return to Athletic Play. *R I Med J (2013)*. 2020;103(7):15-20.
9. Dodd D. College football's uphill battle with standardized, consistent coronavirus testing procedures for 2020 season. CBS Sports. Published 2020. Accessed December 22, 2020. https://www.cbssports.com/college-football/news/college-footballs-uphill-battle-with-standardized-consistent-coronavirus-testing-procedures-for-2020/
10. Ubben D. Play or delay: College football players confidentially discuss their return. The Athletic. Published 2020. Accessed December 22, 2020. https://theathletic.com/1828423/2020/05/22/college-football-players-anonymous-survey-play-delay-season-coronavirus-survey/
11. Lenzi R. "Not a stretch": Reality dictates Covid-19 may hit college football programs. The Buffalo News. Published 2020. Accessed December 22, 2020. https://buffalonews.com/sports/every-college-football-program-could-have-at-least-one-case-of-covid-19/article_28b78512-b640-11ea-8a6c-b3ff4314d546.html
12. 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*. Published online September 23, 2020:bjsports-2020-102884. doi:10.1136/bjsports-2020-102884
13. Breitbach AP, Muchow JA, Gallegos DF. Athletic trainers' unique clinical and teamwork skills contribute on the frontlines during the COVID-19 pandemic: A discussion paper. *J Interprof Care*. 2020;34(5):1-7. doi:10.1080/13561820.2020.1792426
14. Lavigne P. Survey: NCAA coaches' clout concerns athletic trainers. ESPN. Published 2020. Accessed December 22, 2020. https://www.espn.com/espn/otl/story/_/id/27048906/survey-ncaa-coaches-clout-concerns-trainers
15. Khan KS, Mamun MA, Griffiths MD, Ullah I. The Mental Health Impact of the COVID-19 Pandemic Across Different Cohorts. *Int J Ment Health Addict*. Published online July 9, 2020. doi:10.1007/s11469-020-00367-0
16. Timpka T. Sports Health During the SARS-Cov-2 Pandemic. *Sport Med*. 2020;50(8):1413-1416. doi:10.1007/s40279-

020-01288-7

17. Hunter DJ, McCallum J, Howes D. Defining Exploratory-Descriptive Qualitative (EDQ) research and considering its application to healthcare. *Proc Worldw Nurs Conf 2018*. Published online 2018.

18. Baumbusch J. Semi-Structured Interviewing in Practice-Close Research. *J Spec Pediatr Nurs*. 2010;15(3):255-258. doi:10.1111/j.1744-6155.2010.00243.x

19. Jamshed S. Qualitative research method-interviewing and observation. *J Basic Clin Pharm*. 2014;5(4):87. doi:10.4103/0976-0105.141942

20. Hsieh H-F, Shannon SE. Three Approaches to Qualitative Content Analysis. *Qual Health Res*. 2005;15(9):1277-1288. doi:10.1177/1049732305276687

21. Patton M. *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. 4th ed. Sage Publications; 2015.

22. Practice Analysis, 7th edition. Board of Certification, Inc.

23. Hoffman M, Bovbjerg V, Hannigan K, et al. Athletic Training and Public Health Summit. *J Athl Train*. 2016;51(7):576-580. doi:10.4085/1062-6050-51.6.01

24. van Mechelen W, Hlobil H, Kemper HCG. Incidence, Severity, Aetiology and Prevention of Sports Injuries. *Sport Med*. 1992;14(2):82-99. doi:10.2165/00007256-199214020-00002

25. Armstrong K, Kendall E. Translating Knowledge into Practice and Policy: The Role of Knowledge Networks in Primary Health Care. *Heal Inf Manag J*. 2010;39(2):9-17. doi:10.1177/183335831003900203

26. Pagnotta KD, Mazerolle SM, Pitney WA, Burton LJ, Casa DJ. Implementing Health and Safety Policy Changes at the High School Level From a Leadership Perspective. *J Athl Train*. 2016;51(4):291-302. doi:10.4085/1062-6050-51.2.09

27. Yang J, Peek-Asa C, Lowe JB, Heiden E, Foster DT. Social Support Patterns of Collegiate Athletes Before and After Injury. *J Athl Train*. 2010;45(4):372-379. doi:10.4085/1062-6050-45.4.372

Table 3. Perceived Readiness

	Supporting Quote
1. Development of a General Plan	
Coach and Athlete Education	"It's going to be an education deal, I think. And it's going to be building that culture saying, 'this is it. This is how it's got to be otherwise we're not going to be playing any sports at all." (Participant 11) "I am not comfortable whatsoever about what we're doing and I'm doing the most conservative plan." (Participant 18) "Huge part of a successful return is going to be on educating both the coaches and athletes, you know, putting the fear of God… because that's going to make them realize the things we have to do and help them to conform to that." (Participant 5)
Institutional Approval	"We had [the policies] approved by the [state] health department first and then we developed a plan with our [student healthcare center] for our testing for how we're going to monitor the contract tracing and things like that… everything fell within the guidelines of the [state] and then it had to be approved by the board of trustees." (Participant 12) "[The COVID policies] were primarily written by me. They've been approved by… our team physician, the university medical director, the director of student health services, athletic director, and university president… university risk management or legal was involved through the president's office." (Participant 15) "The last thing I want to do is shut your program down" by College or Board of Health. A lot of pressure for feeling fear of failure, whether fair, is missing something, doing something the wrong way, doing something the right way, but not being able to actually implement it in the right way." (Participant 20)
Screening and Testing	"All traffic has to come through [the main entrance] at that screening site. You've got hand sanitizer, it's got masks and face shields with goggles and infrared thermometers being used…. You've got to be on the list of individuals cleared to come in for that day…. We've implemented an initial screening by asking athletes multiple questions and symptoms if they've experienced these, are currently experiencing them, and that screen comes back to that trainer that's in charge of the sport and then if there's any red flags on there, any concerns, then the trainer can bring up with a physician to make a decision on if that athlete is cleared to come to campus." (Participant 4) "[Athletes] will be tested the very first day… they're going to do additional testing twice a week, so there's going to be continuous testing for the entire semester." (Participant 20)
Facility Modifications	"We may have to take out some tables temporarily or at least move them 6 feet apart. There will be one-way of traffic flow so student-athletes will have to enter through one door and exit through another… within our gym facility right next to [the ATR] is an auxiliary gym… there's going to be specific hours that's going to be an athletic training room overflow space." (Participant 8)

	"It's going to be athletic training by appointment only." (Participant 10) "We've thought about just creating a sort of outside the training room preparation sort of a pre- and post-area. Where if all you need is… a band aid, I need to get my ankles taped, I want to foam roll… well all that's done elsewhere, no longer in the training room." (Participant 17) "So we're gonna have to change our athletic training rooms for the first two phases of our planned opening are going to be shut down because they're so small. We're actually trying to get one of the school's auditoriums. It has great airflow and make it a makeshift athletic training facility, but we're going to be battling academics, because they're looking for Open Classroom areas for the teaching. So that's going to be tough." (Participant 5)
Positive Tests and Spikes	"There are no specific numbers in place. Everyone expects that we're going to have positives and we're going to have contacts and I think each sport will probably have its own threshold [for shutdown]. A lot will depend on – are they COVID positive or quarantining for protection and who is sick and what are those symptoms?" (Participant 22)
2. Education and Collaborations	
Self-Education	"I'm doing a lot of reading – a lot of staring at my computer. You know NATA has been a decent resource, the NCAA obviously as a resource…. This Monday I sat in on a [webinar]." (Participant 8) "In a nutshell we took the NCAA resocialization plan, we took the (NATA) Intercollegiate Sports Medicine Council plan and combined that with the NSCA plan". (Participant 2) "[My preferred method for receiving information has been] certainly webinars. We've done an awful lot of those…" (Participant 4)
Professional Collaborations	"Our [conference] athletic trainers meeting has created a giant email thread so basically when anyone sees anything or reads anything they send it…. So that's been really helpful." (Participant 23)
Interprofessional Collaborations	"Two times a week I have a call with the infectious disease folks at the health system so that we can ask questions." (Participant 3) "[I personally stay up to date by] just talking to colleagues, talk to my team doc and try to get the latest and greatest information." (Participant 1)
Institutional Collaborations	"[The group involved in creating policies and procedures was] myself, our athletic director, our compliance director… We have our senior associate athletic director that is in charge of operations and gameday management. We have two students and student-athletes on our committee… our team physician… and two coaches." (Participant 11)

Table 4. Perceived Barriers or Challenges to Returning-to-Sport

	Supporting Quote
1. Variables that Cannot be Controlled	
"Guinea Pigs" of Campus	"We are guinea pigs." (Participant 23) "…we are the first group back on campus. And I'm nervous about that. Everyone's going to be watching to see what goes on badly." (Participant 11) "So we're gonna be flying by the seat of our pants, I think, in, in most of this because we just don't know enough about things right now." (Participant 1)
Coaches	"Coaches are really good at finding loopholes. So they're always asking questions… they continue to find ways around certain things." (Participant 14) "I live it every day, just you know meetings or talking about it or talk with colleagues or taking a webinar on it. I don't think the coaches are in it every single day." (Participant 20)
Student-Athletes	"It's what I call 'the other 20-hours'… what are these kids doing the other 20 hours a [day]? We basically put them in a bubble from the time they walk into our building to the time they walk out… but the minute they walk out of the building it begins the other 20-hour time where we have no control over." (Participant 6)
Individuals on Campus	"We have a big population. We have like 35,000 students… somewhere around 5-7,000 kids on campus from around the country. So it's a big, urban population school setting… I think that's a challenge for once you get on campus in terms of people here." (Participant 13)
Sports Medicine Health	"The head football athletic trainer, we're really keeping him at a distance. He's doing a lot of administrative stuff. I know he wants to do more hands-on stuff but… we're trying to really protect him… so you don't take him out of the equation." (Participant 14)
Self-Health	"There are nights that I don't get great sleep because I am worried… If we succeed. Great. If we fail we will never hear the end of it." (Participant 14)
2. Financial Limitations and Pressures	
Budget Concerns	"We're hoping that it doesn't turn into a situation where we've got to close campus again… I think that would be devastating to any tuition-driven institution" (Participant 1)
Pressure to Resume Sport	"I believe… a lot of the policies coming out have to do with [football]. Because they need [the stadium]. They want revenue from around [the stadium], whether that's the hotels, that's bars, restaurants." (Participant 14)

0

APPENDIX A:
Semi-Structured Interview Guide
COVID-19 Study Script

START RECORDING (ZOOM – SAVE TO CLOUD; BACKUP RECORDING)

We sincerely thank you for participating in our study of how our colleagues at the intercollegiate level perceive their preparation for resuming athletic activity during the COVID-19 pandemic. We hope to interview a mix of athletic trainers at the Division I, II, and III levels in order to identify common threads or unique concerns.

Our conversation with you will center on various thematic questions and it will be recorded. We will have six categories of questions that pertain to: how athletic trainers perceive their readiness to return-to-sport during the COVID-19 pandemic, the challenges and barriers that returning to sport may present, and finally, what differences our colleagues at different levels of play may perceive.

We want you to feel comfortable throughout the process and will gladly answer any question you have throughout the process. Thank you again for participating.

Research Questions (FOR STUDY TEAM, NOT TO BE ASKED):

1. How do athletic trainers perceive their readiness for return-to-sport during the COVID-19 pandemic?
2. What challenges/barriers do athletic trainers perceive they may encounter during the return-to-sport and sport resumption during the COVID-19pandemic?
3. Are there any contextual differences between athletic trainers' perceived readiness or challenges/barriers as sport resumes during the COVID-19 pandemic?

Interview Guide:

1. Demographic questions
    a. What is today's date?
    b. What is your age?
    c. What is your sex?
    d. What is your current employment setting and job title?
        i. Ascertain - NCAA Division and organizational structure (medical model or athletic model), football at their institution?
    e. Which athletic conference do your athletic teams compete for?
    f. How many years of experience do you have overall and at this institution?
        i. Follow-up: How many years in your current position?
    g. Numbers of athletes you are responsible for providing medical care for
    h. How many full time ATs do you have on staff at your institution?
        i. Follow-up: Do you have any GA athletic trainers on your staff?
    i. How many full time AT students do you typically supervise at your institution?
        i. Follow-up: Do you have any work study students that you work with at your institution?
2. Please describe your institution's current plan for resuming sport activities following suspension due to the COVID-19 pandemic.
    a. Do you have specific written policies in place?
    b. Who has approved these plans/policies?

   c. What guidance was used in creating these plans/policies?
   d. Who has been involved in creating these plans/policies?
   e. Do plans include procedures for the health of non-athletes (coaches, equipment staff, administrators, sports medicine, etc.)?
   f. When creating these policies which, if any organizing body recommendations are you following?
      i. i.e. (can provide some examples if participant asks for clarity) ATR, athletic department, university/institutional, conference, NCAA, NATA, CDC
   g. If participant mentions cleaning of facilities: Who is responsible for cleaning and sanitizing facilities (differentiate ATR and athletic facilities)?
   h. If participant discusses screening of athletes: Will you play any role in the screening of student-athletes as they resume sport activities?
   i. If they discuss screening of athletes: How often is screening being done and what are the logistics surrounding these screening procedures?
3. Do you anticipate any challenges in the implementation of these plans/policies?
   a. Are there any specific individuals who may contribute to some of these challenges?
   b. Are there any factors specific to your institution or context that may contribute to some of these challenges?
4. Could you discuss your institution's financial situation and how that could impact the implementation of your plans/policies?
   a. How is this impacting the sports medicine budget?
5. How are you, personally preparing for the return-to-sport in your job setting?
   a. Are you making any changes to the athletic training facility?
   b. How are you staying up to date regarding current recommendations as they relate to return-to-sport for student-athletes? (refer back to 2f)
   c. Who are you going to for advice as you prepare for the return to sport?
   d. What are your preferred methods for receiving information regarding COVID-19?
6. Who will be making decisions regarding student-athletes' readiness to resume sport if they have a history of COVID-19 or they test positive once they return to campus?
   a. Do these same policies hold true for members of the sports medicine or athletic department staff?
7. Do you currently have any policies/plans in place in the event that the number of cases spikes on campus?
   a. Are there any plans to cease athletics if there's an outbreak or an increasing number of cases?
      i. If yes: How are you determining a threshold to end participation?
      ii. If yes: Who is responsible for that decision?
8. Is there any other information that you would like to share with us regarding your preparation for the return-to-sport at your institution or in general?