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Collegiate Athletic Trainers' Experiences Implementing Return-to-Sport Policies and Procedures During COVID-19: A Qualitative Research Study

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Context: Athletic trainers (ATs) were critical personnel in the development of policies and procedures for the safe return to campus and resumption of sport during the 2020–2021 academic year. Policies focused on preventing the potential spread of COVID-19, as well as screening, testing, and management of cases; however, which aspects of implementation were successful or more challenging was unknown.

Objective: To identify successes and challenges in the implementation of return-to-sport policies and procedures during the 2020–2021 academic year amid the COVID-19 pandemic.

Design: Qualitative study.

Setting: National Collegiate Athletic Association Divisions I, II, and III.

Patients or Other Participants: A total of 27 ATs (9 women [33.3%], mean age = 48.5 ± 9.8 years, years of experience = 25.0 ± 10.5) who were in positions of leadership or who were actively involved in developing and then implementing COVID-19 return-to-sport policies and procedures completed Zoom interviews.

Data Collection and Analysis: Semistructured Zoom interviews were audio and video recorded and later transcribed. The data were analyzed by a team of 4 experienced researchers using the consensual qualitative research approach. Field notes, intercoder reliability, and multiple-analyst triangulation were used to establish data credibility.

Results: Emerging themes were implementation of public health interventions, interprofessional collaboration, and advancing the profession of athletic training. Participants described establishing and strengthening collaborations with other health care professionals as well as key stakeholders on campus as a positive outcome of the pandemic, but variations in policies among institutions and states made policy communication and enforcement more challenging.

Conclusions: The ATs played a pivotal role in policy development, communication, and enforcement. Overall, participants took pride in serving as health care leaders for their universities and opening the eyes of colleagues to the breadth of their athletic training skill sets.

Key Words: coronavirus, public health, consensual qualitative approach

Key Points

- Athletic trainers (ATs) developed, communicated, and delivered public health interventions by collaborating with a variety of public health and clinical health care professionals.
- Because strong administrative support was critical for successful policy implementation, ATs established and strengthened relationships with athletics and university-specific stakeholders.
- Given that student-athletes were often the first students back on campus for the 2020–2021 school year, ATs were campus leaders for policy development implementation. This was seen as an opportunity to spread awareness on ATs' scope of practice and broad skill set.

One of the many consequences of the COVID-19 pandemic in the United States was the nearly complete shutdown of organized sports at the professional and collegiate levels during the spring of 2020. The overarching philosophy driving these suspensions was to protect athletes and other personnel involved in organized sport from contracting COVID-19 and to mitigate the spread of the disease in the United States.

As the pandemic continued into the summer of 2020, National Collegiate Athletic Association (NCAA) member institutions were faced with challenging decisions regarding whether to resume intercollegiate participation and competition during the 2020–2021 academic year. As the primary health care professionals responsible for the health and safety of intercollegiate athletes, athletic trainers (ATs) played a pivotal role in developing policies and procedures intended to establish the safe return of their student-athletes to campus before the presumed start of fall sports.[1] However, which aspects of these policies and procedures were successfully implemented during the 2020–2021

Table 1. Participant Demographics

Variable	No. (%) or Mean ± SD
Sex	
Male	18 (66.7)
Female	9 (33.3)
Age, y	48.5 ± 9.8
Years of experience	25.0 ± 10.5
AT staff members	9.3 ± 7.5
Student-athletes at institution	492.5 ± 197.2
National Collegiate Athletic Association Division	
I–Football Bowl Subdivision	7 (25.9)
I–Football Championship Subdivision	5 (18.5)
I–No football	4 (14.8)
II	6 (22.2)
III	5 (18.5)

Abbreviation: AT, athletic trainer.

academic year and which proved challenging to implement was unknown.

Therefore, the purpose of our study was to interview intercollegiate ATs at the NCAA Division I, II, and III levels to identify successes and challenges in the implementation of their return-to-sport policies and procedures during the 2020–2021 academic year amid the COVID-19 pandemic. Our research was guided by the following questions: (1) Which aspects of the plans developed by the ATs for return to sport during COVID-19 were successful or unsuccessful during the 2020–2021 academic year? (2) Which challenges or barriers did ATs encounter as they implemented these return-to-sport plans? and (3) Were there any perceived contextual differences among institutions' ability to safely resume sport during the COVID-19 pandemic?

METHODS

Research Design

Given the novelty of the COVID-19 pandemic and limited knowledge regarding implementation of return-to-sport policies and procedures, we selected a qualitative method to better understand this phenomenon.[2] We chose a consensual qualitative research (CQR) approach to analyze the data due to the rigorous nature of this procedure.[3,4] The CQR tradition was developed from principles of grounded theory and phenomenology to help explain participant experiences and associated phenomena through the building of consensus among a team of analysts to develop emergent themes.[3,4]

Participants

Purposeful and snowball sampling procedures were used to recruit participants, with the aim of maximizing representativeness of the sample population. We intentionally recruited ATs from NCAA Divisions I, II, and III clinical settings who were in leadership positions or were actively involved in developing and implementing COVID-19 return-to-sport policies and procedures. Of the 27 individuals who agreed to participate, 21 held a head AT, athletic director, or supervisory role, whereas the remaining 6 were in associate or assistant AT roles but self-identified as having administrative duties or working closely with policy development. Professional networking was initially used to identify a convenience sample, and participants were subsequently asked to suggest any colleagues who met the inclusion criteria. Despite the convenience sample, we tried to recruit a sample that represented diverse institutional and demographic characteristics. Inclusion criteria for this study were current employment in the collegiate or university setting, involvement with the creation of institutional return-to-sport policies and procedures, and subsequent involvement in the implementation of those policies. A preliminary sample-size estimate ($n = 25$) was based on a previous study[1] with a similar topic and scope, and the research team met regularly to evaluate the data in an iterative process and reach a consensus on the point at which general conceptual saturation was established (ie, $n = 27$ participants). Demographic information for the 27 participants constituting our final sample is found in Table 1, and individual participant characteristics are found in Table 2.

Data-Collection Procedures

This project was approved by the institutional review board of Indiana State University before participant recruitment and data collection. Individuals were contacted via phone or email to determine whether they were interested in participating in the study. If they agreed to participate and met the inclusion criteria, we emailed a form detailing the study's purpose, and they provided their consent to proceed. Data collection occurred over a 6-week period between May 11, 2021, and June 25, 2021.

The research team created a semistructured interview guide (Appendix) to facilitate interviews. The guide was designed to reflect the research purpose and elicit responses to answer our 3 guiding research questions (ie, successful or unsuccessful outcomes, process challenges or barriers, and contextual differences). A semistructured interview allows researchers to probe participants for more detailed responses and explanations during the interview and creates a more conversational data-collection process.[5,6] The use of open-ended questions to facilitate data collection is characteristic of the CQR approach.[3] All members of the research team supplied feedback on the interview guide, and an AT employed at a Division I institution who fit the study's inclusion criteria participated in a pilot interview to establish content validity and identify any necessary changes. After the pilot interview, we made minor wording changes to the interview guide to improve clarity and removed several prompts to avoid redundancy.

All interviews with participants were conducted via Zoom, video and audio recorded, and transcribed automatically by the Zoom program. Before data analysis, all transcriptions were reviewed and cleaned by the researcher who conducted the interview. Each interview involved 1 participant and either 1 or 2 members of the research team. In 1-on-1 interviews, the researcher led the interview, guided the participant through the interview, prompted the participant when necessary to elicit response expansion, and took notes. When 2 individuals were present, 1 researcher took the lead and guided the participant through the interview, whereas the second researcher was responsible for taking field notes and prompting the participant when necessary.

Table 2. Individual Participant Characteristics

Participant	Age, y	Sex	National Collegiate Athletic Association Division	Years of Experience	No. of AT Staff	No. of Student-Athletes
1	63	Male	I–FBS	43	24	600
2	50	Male	II–HBCU	26	3	250
3	62	Male	I–FCS	41	7	600
4	39	Female	I–No football	18	7	250
5	62	Male	I–FBS	39	18	550
6	39	Male	I–No football	18	5	285
7	49	Male	I–No football	27	14	450
8	49	Male	I–FBS	26	13	400
9	38	Male	I–FCS	17	6	420
10	56	Female	III	32	4	575
11	48	Male	II	25	8	400
12	62	Male	III	31	4	600
13	62	Male	I–FBS	36	19	500
14	34	Male	I–FBS	11	8	500
15	54	Male	II	31	11	550
16	53	Male	I–FBS	30	17	500
17	43	Female	I–FCS, HBCU	21	3	340
18	42	Female	I–FBS	14	12	500
19	34	Female	I–FCS	8	11	550
20	29	Male	I–FCS, HBCU	2	6	475
21	37	Female	II	7	5	325
22	54	Male	I–No football	32	7	500
23	52	Female	II	32	4	328
24	37	Female	II	16	13	1300
25	53	Female	III	28	5	500
26	53	Male	III	31	4	325
27	55	Male	III	32	7	725

Abbreviations: AT, athletic trainer; FBS, Football Bowl Subdivision; FCS, Football Championship Subdivision; HBCU, historically Black college or university (n = 3).

Data Analysis

Consistent with the CQR approach, 4 experienced researchers performed the data analysis.[3,4] The 4-member consensus team consisted of 3 core researchers and 1 external auditor. The core research team began by simultaneously and independently coding 3 randomly selected transcripts and creating independent codebooks by identifying key words and then grouping the key words into subcategories by similarities. Once independent data analysis was complete, the 3 researchers met to discuss their subcategories until a consensus was reached, and subcategories were grouped into themes to create a consensus codebook. After the codebook was established, the core researchers went back and reviewed the same 3 transcripts to ensure that the codes were representative of the data and reconvened to finalize their codebook. One member of the core research team then coded all remaining transcripts, and 2 core researchers served as internal auditors to code 2 additional transcripts using the codebook. During this phase of data analysis, data saturation was confirmed, indicating no additional data collection was required. The external auditor was sent 1 randomly selected transcript to review to ensure the reliability of the results through independent analysis of the transcript and codebook.

Several strategies were used to help ensure data credibility. First, field notes were taken during each interview by a member of the research team to capture the key points of the interview, and the notes aided in the analysis process of identifying emergent themes. Second, intercoder reliability and multiple-analyst triangulation were inherent to the rigorous consensus process of the CQR approach and helped to minimize bias.[3,4]

RESULTS

Our analysis yielded 3 overarching emerging themes: (1) implementation of public health interventions (Table 3), (2) interprofessional collaboration (Table 4), and (3) advancing the profession of athletic training (Table 5). These themes and their related subthemes are presented in the following paragraphs and organized by the study's guiding research questions (ie, successful or unsuccessful outcomes, process challenges and barriers, contextual differences). The quotations in each section have been selected as illustrative examples because we are not able to share every participant's experience related to each theme.

Implementation of Public Health Interventions

Successful or Unsuccessful. The AT's role in the implementation of public health interventions was a primary theme. Participants described creating new policies and systems to screen for existing cases and reduce potential spread. The ATs mobilized partnerships with on-campus laboratories, student health services, or their local public health departments to coordinate COVID-19 screening and testing. For example, 1 participant described the contact tracing chain as follows:

> My whole staff got trained as contact tracers . . . because we assisted our student health center . . . we acted as the initial contacts for all the athletes. We would do the

Table 3. Supporting Quotes for Implementation of Public Health Interventions Theme

Implementation of Public Health Interventions	Supporting Quote
Successes	I sat on a campus-wide committee that developed all of the college's COVID-19 policies, and one of the reasons I was placed on that committee was to make sure that athletics fell within the college guidelines, so we were consistent with what the college is doing and what our health center was doing and other various departments on campus. (Participant 27)
	We ended up getting free COVID testing for all of our students on campus . . . this was a partnership between campus and the medical center and the college of public health . . . huge, huge help, huge partnership amongst campus [and] the medical center. (Participant 6)
	We checked our local, regional, and campus [policies], but really the driving force [for policy development] was our regional health department. . . . We had a walk-through [and] when we got our policies shaped up in writing, we had them reviewed, edited, and updated, and then we brought them to epidemiologists and physicians. (Participant 22)
	We had to explain to the health center or the university that, sure, you've got some athletes involved but [the spikes in cases are not happening] because of athletics. . . . [There were] some spikes here and there, like in the dorms . . . again, had nothing to do with athletics. (Participant 7)
Unsuccessful moments	Wearing a mask on a bus for 6, 7 hours, as much as it sounds great and, you know, that's what you're supposed to do, it doesn't happen. And you know the other thing is it's tough . . . they finished a game . . . and you're going to get on the bus, you're going to eat, which means your mask is off. So we learned there's no way. (Participant 6)
	We got to a point where we realized we couldn't control outside of our walls. We could control inside our walls. . . . As time went on, our kids and coaches got smart and realized that if, you know, if they said someone was a close contact, they were going to be quarantined, etc, and I think we got to the point where people weren't honest, but all you could do is get what you could out of them. (Participant 13)
	It was much easier putting things down on paper, you know, and then once we disseminated our plan to our coaching staff and student-athletes, I think that was more challenging in terms of getting everyone kind of on the same page. I think there were, you know, thinking back on it, there's numerous reasons why, and I think it's that everyone had a different mindset of what COVID was at that time . . . whether or not it was a person, political, or religious belief. (Participant 11)
Challenges and barriers	[The student-athletes] did not want to pay attention to any of the rules. They think they were. . . "beyond this," and "that's not going to happen to them," and since they're "young, who cares if they get it?" kind of thing. It was just their mentality. (Participant 21)
	[Our teams displayed] really good buy-in when competition was on the line, and I think when competition was not around, not that anyone was blatantly disregarding the rules or anything like that, I just think that they weren't as serious and as on top of some of the restrictions. Not necessarily when they were on campus and the practices and the guidelines here, but more what they were doing in their free time and when they were in their houses and apartments and things of that nature. (Participant 19)
	I think it came down to finances—how much would it cost if we had to travel? . . . Is it financially feasible to be able to break even without having fans in the stands? (Participant 2)
Contextual differences	We were waiting for our conference to make a decision [about travel and play]. It's a regional conference and we have [many different states] in our conference. There were a lot of different factors, but then states started announcing they weren't going to play outside of their state but people could come to them. And then all of a sudden, you know, the conference announced there would be no competition. (Participant 25)
	One member of our staff on campus was able to convert a [research lab] into a COVID testing lab. So we actually had free COVID testing this entire year. So that saved us tremendous amounts of money. I heard from other schools, you know, they were spending millions of dollars trying to get tested. (Participant 4)
	[The university] was able to have a saliva testing program through our school of pharmacy, which was a PCR test . . . that didn't cost us anything. So I felt like we were able to do a better job than some institutions in our surveillance testing—where the thought process was to test 25% of your team that's not in-season once a week, in fact, we were testing 100% of our athletes at least once a week that weren't in season. . . . In my opinion, it really helped us get some people that were asymptomatic that could have been catastrophic for a team and then also saved us a lot of money in the testing of our student-athletes. I really don't know how some other institutions did it. (Participant 1)

Abbreviation: PCR, polymerase chain reaction.

initial investigation to determine their close contacts or activity and then we report that over to the student health center, and they do the full investigation and then they also communicate to the county in regards to positive cases (Participant 9).

In addition to facilitating these collaborations, ATs found various pathways to pay for testing, such as Coronavirus Aid, Relief, and Economic Security Act funding, NCAA conference support, or nonprofit organization mechanisms.

Participants also noted the limited spread of COVID-19 within individual teams. "We ran 15 000 [COVID-19] tests this entire academic year, and our numbers of positives I think was under 30" (Participant 18). Spikes that did occur happened in conjunction with spikes on campus or in the community, indicating that ATs were able to mitigate spread within the microenvironments of specific sports.

Table 4. Supporting Quotes for Interprofessional Practice Theme

Interprofessional Practice	Supporting Quote
Successes	I think the staff did a great job in terms of relaying the messages to our student-athletes, and I think the bottom line is that our staff really care about the student-athletes and their welfare. (Participant 11)
	I straight up begged, borrowed, stole, plagiarized from multiple other people in the profession and came up with a policy that fit my university. (Participant 8)
	But you know it was tremendously challenging, but at the same time, when you rise to a challenge and get, you feel, great rewards from that and I do feel [that]. (Participant 15)
	Because they didn't know what to do, they didn't know which way to go with it, so they let us take the lead and they follow our lead and I think we showed our value, more than ever. (Participant 14)
	So, I think once everybody kind of buys in and then like you see like the coaches are setting the example, then the players are usually to follow the suit what they see what the coaches [are] doing. (Participant 20)
	I think the key for us was probably our working relationship with our on-campus health services. (Participant 26)
Unsuccessful moments	And then as a preceptor in the fall, I don't feel like I taught them anything. Because I just didn't have the extra time, so they got to see all of the paperwork and they got to see all of that part, but I didn't get to spend [time with them]. (Participant 4)
	There wasn't a great system in place, so we learned kind of on the fly and that didn't work out so well, initially, but we got a system together finally with that just to get kids meals. (Participant 24)
	I am the medical professional. And when you need me and I'm not there it's a problem, but what I'm giving you [is] sage like sound advice that is being nationally shared. You don't think it's really that serious. (Participant 17)
	And then we eventually phased out the temperature checks, just because it we didn't feel like it was beneficial and some of the recommendations that changed but, but we did stay consistent with our policy throughout. (Participant 10)
Challenges and barriers	We had some athletes that were out for months because they didn't follow the directives that we gave them. (Participant 25)
	Two extremist groups, you know your complete right-wing group that didn't think this thing really existed at all, and then your left-wing group that thought everyone is going to die, and everyone needed to be locked down and not doing anything. Those 2, those 2 are probably the 2 biggest challenges. (Participant 16)
	This is one of the issues we found was if you had another team not following guidelines—again it comes down to jurisdiction. . . or is it up to the coach or is it up to the venue? It was that type of thing. Am I [as the athletic trainer] allowed to say something or do anything about it? So, for example, if another team wasn't wearing their mask during the game and they're supposed to. . . well, they had a mask but they're wearing it down [below their nose and/or mouth] the whole time—all the players wearing it down. Who was going to do something about it? (Participant 7)
	We it seemed like we're being a whole lot more conservative at the beginning than maybe we needed to be, but you know with the unknown, that's understandable. (Participant 13)
Contextual differences	Our department was allowed to do our job, our athletic director took the brunt of it, and I think that was incredibly unique. (Participant 25)
	I think we did a disservice to our athletes in trying to get games in. We had more injuries this year, more surgeries than we've had in [previous] years combined. (Participant 21)
	If I had to go back in time, we should have set some limits on them, I would highly argue to my AD that we need to set some limits on it, because it was, it really got a little bit out of hand in some respect. (Participant 27)

Abbreviation: AD, athletic director.

Despite numerous successes, participants also discussed which public health interventions were not as successfully implemented. While policies were generally effective, some components were more difficult to enforce, such as wearing masks for hours-long bus rides and maintaining student-athlete "buy-in" for social distancing when competitors were not following the same procedures. One AT described, "[Student-athletes] didn't wear masks on the sideline by any means. Most of them, if they wore a mask, it was down, you know, below their chin" (Participant 21). Many of these unsuccessful interventions related to student-athlete behavior and the inability to manage such behavior at all times.

Other interventions, such as cardiac testing, temperature screening, and symptomatic testing were time-consuming elements that created additional work for the ATs but did not necessarily pay off and were slowly replaced or removed. Participant 10 stated, "We eventually phased out the temperature checks, just because we didn't feel like it was beneficial and some of the recommendations changed."

Last, several ATs mentioned that as the pandemic continued and vaccines became available, vaccine hesitancy was exhibited by student-athletes. When asked to assess the climate of vaccine readiness at the institution, 1 respondent said:

> [The vaccine] is accessible like crazy from on-campus to the hospital to CVS . . . we have so many hospital systems around here. . . . So everybody's pushing it. I think [the vaccine hesitancy from student-athletes] is a lack of education' (Participant 14).

Challenges or Barriers. The 2 major challenges related to implementation of public health interventions were the need to make constant adjustments to policies and

Table 5. Supporting Quotes for Advancing the Profession of Athletic Training Theme

Advancing the Profession of Athletic Training	Supporting Quote
Successes	But you know it was tremendously challenging, but at the same time, when you rise to a challenge . . . you feel great rewards from that. (Participant 15)
	I think [COVID-19] really brought athletic trainers out to showcase who we are and what we can do. (Participant 23)
	I think one of the things that worked really well . . . was making kids sign up for appointments online. I think that's going to stick with everybody just because it's a lot easier to manage. (Participant 24)
	If you have a student-athlete sick, they shouldn't be coming [into the athletic training facility]. (Participant 27)
Unsuccessful moments	Dr Hainline [NCAA Chief Medical Officer] did a masterful job with things, but . . . I know I'm on a Zoom meeting right now with you guys. However, if we don't have to do Zoom ever again, I'm okay with that. (Participant 12)
	I think, taking in [information] wherever I can find it, but I will admit I'm a terrible webinar person, because if I turn it on, I think I'm focused, but sometimes you have great intentions, you turn it on, and then the cell phone rings and then you get pulled away. So I think for me, it has to be something a little bit more like a conference meeting rather than a passive reception of information. (Participant 18)
	You don't realize that I'm a licensed health care provider, shame on me. (Participant 3)
Challenges and barriers	How are we getting through this—I didn't know how to do this job that I've been given. (Participant 7)
	The biggest one for us as an athletic training staff that we didn't realize would happen was the amount of time we were going to spend on [COVID-19] responsibilities. (Participant 4)
	What my family did not understand: I'm around these individuals and I get exposed, now I take out my entire team. And then, and then it affects hundreds of people, so there's that constant; every single test, there's that anxiety [about] that. (Participant 9)
	So I think everyone [was] creating problems for us, but I think a lot of the problems were just a misinformation, not necessarily an attempt to create a problem. (Participant 19)
	And we didn't know what we didn't know. (Participant 25)
Contextual differences	I feel like in [fall 2021] we're going to get pressure to get them released quicker and quicker and quicker. (Participant 21)
	You know I don't think anybody really felt unsafe to come back, initially, because we didn't have any sports in the fall and most of our coaches were at home anyways. (Participant 11)
	But [COVID-19] laid bare that in the basketball world, if we don't have the tournament, we don't have championships for other sports, like it or not, agree with it or not. It's just the way the financial engine of the NCAA works, so therefore, more pressure to get this basketball thing cooking. (Participant 22)
	It was not ideal to send my staff to student health to help with contact tracing and the testing, but it definitely was a wake-up call for them and for us. (Participant 10)

Abbreviation: NCAA, National Collegiate Athletic Association.

procedures and travel-related concerns. As recommendations from federal and state public health departments evolved, policies and procedures needed to be amended, too. The ATs addressed their need to tailor the best evidence available from public health departments to the situational characteristics of each school's return-to-campus plans and the athletics department's plans for practices and competitions. For example,

> Our [athletic] director had a meeting with all the directors of [the conference] . . . so [we took] what [information] we were getting from those meetings and bringing them together with the other internal committees among [our school] . . . we just kind of had to evolve and adapt . . . for every update the CDC [Centers for Disease Control and Prevention] would come out with, the [conference] would change something (Participant 14).

Similarly, for schools that chose to travel for competitions, variations in state guidelines, testing requirements, and mask enforcement required constant communication and documentation among ATs. "When it came to other teams, there was inconsistency. They interpreted the regulations, the mandates, differently. And obviously from state to state, they had different viewpoints" (Participant 7).

Contextual Differences. Whereas all participants described the success of coordinating testing for student-athletes, the source of testing differed among schools. Specifically, some ATs used student health services and others had access to medical schools and specialty research laboratories to facilitate access for testing and priority for vaccines. One participant commented, "When we had these big, big spikes . . . they went to student health" (Participant 2); with regard to coordinating testing, another participant noted that, "Our medical center has a department on campus [for global health] with several well-known doctors who served on different committees for different athletic conferences throughout the country" (Participant 6).

Interprofessional Collaboration

Successful or Unsuccessful. The ATs in our sample reported that establishing new or strengthening existing professional relationships was critical to the successful development and implementation of their COVID-19 protocols. The most influential of these relationships pertained to interactions with other local health care providers and involved new associations with their medical schools, other allied health departments on campus, or their local community health departments. One participant expressed:

> The amount of collaboration and the people I have met over the last year—that I would have never met. I didn't even know who these people were. Some of it was just blind luck that I fell into their lap, some of it was me just reaching out and asking for help, and sure enough, [it was] more than helpful—the partnership, the trust, the respect amongst campus (Participant 6).

Furthermore, this AT was confident that future interactions would be as "friends and colleagues and not in a desperate need type of situation." In addition, other participants described working closely with infectious disease specialists, with 1 individual reporting routinely consulting with a physician who interacted with the CDC.

The ATs also recounted forming new relationships with allied health departments on their campus, with whom they had no prior interactions. These departments were developing testing procedures and needed individuals to assess the viability of these procedures, and the ATs needed a testing laboratory, thus creating mutually beneficial relationships. As Participant 18 stated, "Our president was appreciative that we were using [the on-campus] lab[oratory]." Other new campus relationships arose when ATs represented the athletic department on campus-wide COVID-19 task forces and committees. One person said he was later contacted for advice by campus planners outside of the athletic department on the basis of this experience on a campus-wide task force. Another participant said, "I ended up really becoming the COVID point person for our department, so everything got directed to me if they had a relative or a family member [diagnosed]" (Participant 27).

The new relationships reported by our ATs even extended to the political arena. One individual and her colleagues across their state met with their governor to discuss the stringent return-to-play guidelines established by the state government. That meeting led to protocol changes that were approved by the governor.

Challenges and Barriers. Our participants reported certain cases in which poor collaboration led to a lack of successful policy implementation. They cited instances in which coaches, administrators, and student-athletes failed to recognize the seriousness of the pandemic. Participant 8 observed, "There was pushback from some kids and some parents. We definitely had some uncomfortable, loud conversations." At all NCAA levels, ATs sensed a general lack of compliance with protocols by various stakeholders. One veteran AT noted that he was "tired of being the COVID cop" (Participant 12). Central to stakeholder noncompliance was inconsistent acceptance of the protocols. An AT described how some coaches contrived creative ways for their international student-athletes to minimize mandated quarantine times when they returned to campus so they could engage in team activities a few days earlier than was allowed. Another person at the Division I level characterized a coach who was repeatedly verbally abusive of his team's AT due to the protocols. A further concern was enforcing on-campus guidance for noncompliant visiting institutions, such as a participant who was concerned with "who was going to do something about it" (Participant 7), because he had little guidance from administration about how to manage that challenge.

Successfully communicating policy changes was also a challenge. Whereas our participants were able to adapt to the ever-changing guidelines, it was difficult to continually reeducate coaches and student-athletes. As one AT stated, "A lot of uncertainty, but I think we deal with uncertainty every day. Part of being an athletic trainer is being comfortable being uncomfortable" (Participant 6).

One veteran AT felt this reflected a general "lack of preparedness" at the onset of instituting the COVID-19 protocols. Multiple ATs expressed frustration regarding the perception of mixed messages sent by medical or governing agencies, as 1 participant indicated, saying that many of the released guidelines were a "recommendation or consideration" (Participant 3) without requiring a commitment. This led to various interpretations, which added to the confusion pertaining to protocol implementation. Finally, some conferences did not involve ATs at the start of protocol development but rather relied on administrators to make medical decisions. This forced some of our participants to implement policies they had no hand in writing.

An additional concern was that many health care disciplines had trouble effectively managing patients with the "post–COVID-19 condition," which is more colloquially known as "long COVID." The World Health Organization[7] defined this condition as "a post–COVID-19 condition [that] occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis," which presented with fatigue, shortness of breath, cognitive dysfunction, and other symptoms. The vast majority of our participants did not have a patient who fit the description of long COVID. Certain student-athletes experienced symptoms "longer than usual" but for less than 1 month and were cleared for a return to play without further sequalae; however, only a limited number of participants identified athletes who fit the long COVID profile (4 student-athletes in total).

Contextual Differences. Our interviews did not reveal major contextual differences regarding interprofessional collaboration based on institution type. Rather, across the board, our ATs commented that the major determining factor in whether the implementation of their COVID-19 policies was successful was the level of administrative support at their institution. Many of our participants reported having the full support of their department and university administration, and in 1 case, this support was supplemented by coaches who criticized colleagues who challenged the protocols.

However, other individuals felt that their administration did not support them. One AT with primarily administrative responsibilities believed that the institution's ATs were on the "hot seat" daily. Multiple participants felt their administrations advocated COVID-19 protocol concepts but did not enforce policies. This placed the ATs in an adversarial position with coaches and student-athletes. As Participant 11 stated, "No administrators were there. And I think the coaches felt a little bit of leeway to do what they wanted to do, and you know, when you give them a little, they're going to take a lot."

Another person referred to this position as "responsibility without authority" (Participant 16). He cited an example in which 1 coach who mandated mask wearing for his athletes

was replaced midyear with a new coach who reversed the mask rule.

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Successful or Unsuccessful. Across nearly all interviews, ATs recognized their accomplishments during the 2021–2022 academic year. In particular, they expressed pride in "leading the way" for their institutions' policies, because student-athletes were typically the first to return to campus, and the policies developed by the ATs helped guide campus return policies for the general student body. As Participant 6 said, "Back in August, we're going through some contact-tracing stuff with campus and they're calling me, asking how are you guys doing X, Y, and Z?"

Along the same lines, our participants expressed hope that their interactions with various administrative and health care personnel across their campuses and within their communities would help "open the eyes" of others regarding the skill set of ATs. As 1 participant stated, "A lot of work was done by ATs throughout the country . . . we spend a lot of time talking about gaining respect as a health care profession, and there's no question in my mind that's what we were able to do" (Participant 6).

The ATs described several successful changes in practice that they hoped to maintain in a postpandemic environment. Primary among these was a shift to appointment-based scheduling, which several people viewed as a change that improved patient management.

Another change that our participants hoped would be permanent was an increased focus on new personal and environmental hygiene norms. Specifically, they stressed the importance of maintaining rigorous cleaning protocols, practicing frequent hand washing, wearing masks, and staying home when sick. As 1 participant remarked:

> Because of [robust cleaning and masking protocols], you know we also saw that we had a lot less of the common cold or . . . the flu or stuff we normally see, because everyone was masked and cleaned their hands (Participant 9).

Challenges and Barriers. As mentioned in the "Implementation of Public Health Interventions" section, ATs described the experience of adapting their skill set, such as administering testing and performing contact tracing. They saw this shift in responsibility as both a positive and a negative. On the positive side, they were able to demonstrate the wide skill set possessed by ATs to members of their campus and community whom they had never met. Conversely, participants expressed both a strong desire to return to their normal job responsibilities and frustration that the full-time job of administering public health interventions had been added to their usual duties. The following sentiment was typical of our participants:

> The biggest one for us as an athletic training staff that we didn't realize was the amount of time we were going to spend on COVID. If you ever had a positive case, it literally would stop your day, and you'd go in your office and you have to start all the contact tracing (Participant 4).

Similarly, another AT discussed how this affected his personal life as well: "And we sit down at dinner and get a call about a positive case. Now I have to go and I'm in the garage until 1:00 in the morning, trying to contact trace and identify whoever needs to go into quarantine" (Participant 9).

Contextual Differences. Athletic training staffs at institutions that followed a medical model as opposed to an athletics model were able to repurpose staff positions to cover "COVID tasks," which helped limit the number of positions terminated or furloughed. As 1 participant indicated,

> Our institution put a lot of furloughs or reductions in place. The good thing about us working for the health system, our folks aren't impacted by that, and actually, our folks actually got a 3% raise. So that was a big plus for us, but . . . one of the unique things here . . . is our chancellor is a physician, so we had his total support, we had the athletic directors' total support, so from a COVID standpoint, we did not have any resistance to anything that we wanted to do (Participant 13).

The most dramatic differences reported by our ATs at the various NCAA levels were related to the decision of whether to cancel the fall sports season and shift fall sports to the spring. At Division I schools in Power 5 conferences, ATs perceived that the fall season was not canceled due to the revenue generated by football or men's basketball at their institutions. As 1 participant conveyed:

> You know, the only reason anybody went forward with the stuff we did early on was because of the money, unfortunately, but that's the reality. . . . And that was the hardest challenge when you're sitting there, when you have a tournament that's going on, and you have friends who are working in the emergency department [and] will actually tell you, we are triaging medical care right now. When your friends tell you that, and yet your administration still says yeah, we're going to bring in 200 people for a tournament onto [campus] (Participant 16).

Among ATs at Division II and III institutions, the shift of fall sports into the spring season created a workload among their staffs that was overwhelming at times. One participant shared:

> That was the hard part, with everybody in full swing, trying to do something and only 4 of us was kind of tough. So we just tried to spread it out, I mean as an athletic trainer, we all know we work long hours, but starting at 6 AM and finishing at 8 PM 5 days a week to accommodate trying to keep people separate in the athletic training room was probably our biggest challenge (Participant 23).

DISCUSSION

To our knowledge, we were the first to conduct in-depth interviews with intercollegiate ATs at the NCAA Division I, II, and III levels regarding their implementation of return-to-sport policies and procedures during the 2020–2021 academic year amid the COVID-19 pandemic. Whereas

previous researchers[1] examined the actual policies and procedures developed by NCAA ATs to aid in returning to sport during COVID-19, our interviews resulted in the emergence of 3 overarching themes: (1) implementation of public health interventions, (2) interprofessional collaboration, and (3) advancing the profession of athletic training.

The primary successful aspect of return to sport as described by our participants was the opportunity to collaborate with other health care professionals on campus and across the larger community. The ATs frequently referenced their collaboration with public health professionals, such as epidemiologists in hospital systems and local public health department personnel. In recent years, athletic training as a profession has worked to highlight the role of ATs as public health professionals, and the COVID-19 pandemic presented an opportunity for ATs to now show other health care professionals, university personnel, and the greater community how they are uniquely positioned to manage care and coordinate prevention and policy efforts.[8] The 10 essential public health services are a framework that "describes public health activities that all communities should undertake" to "protect and promote the health of all people in all communities."[8] Although ATs could show parallels between aspects of their jobs and each of the 10 essential services, our participants specifically discussed their role in monitoring health status and community needs, addressing health problems, communicating effectively to inform and educate people, and mobilizing partnerships as areas of strength during the return-to-sport process.

Alternatively, a public health challenge was the implementation of policy when traveling. How schools implemented policies varied, likely due to the differences between states' public health guidelines, outbreak statuses, and individual institutions' interpretations of recommendations. As a result, individual student-athlete behavior was sometimes difficult to manage. Specifically, differences in mask-wearing regulations or how meals were handled (eg, whether team members were allowed to have buffet-style meals in large groups or had to eat in their individual hotel rooms) could negatively influence buy-in on the stricter guidelines. An additional essential public health service is the creation, championing, and implementation of policies and plans that affect health, which addresses this challenge that our participants faced. At the collegiate level, the NCAA released resocialization and return-to-activity guideline updates as CDC recommendations evolved, typically with each new sport season. This is just 1 example of fluid external policies that ATs in the collegiate setting must accommodate in concert with their overseeing physician and other members of their health care team. Although ATs typically have a deep understanding of the cultures of their institutions, which can positively affect the tailoring of policy, the unique nature of the pandemic and cross-institution interpretation discrepancies made the management of individual behavior and implementation of fluid guidelines more difficult.

From an interprofessional collaboration perspective, ATs in multiple settings noted new positive collaborations with other health care providers both on and off campus. Several colleagues experienced their athletic training staffs engaged with different elements within their campus health care delivery network, and participants hoped that these relationships would continue once their collaboration related to COVID-19 tasks ended. However, not all interprofessional collaborations during the 2021–2022 academic year were positive. Participants in our study also reported a variety of negative interactions, primarily with non–health care personnel. These included both administrators who did not enforce or assist in mandating protocols and coaches who verbally insulted ATs who were trying to enforce guidelines. Participants also described coaches trying to skirt protocols, knowing there would be minimal repercussions from administrators. These conflicts with coaches paralleled those in other areas of athletic training, such as returning an athlete to sport after a musculoskeletal injury or concussion,[9] when ATs in collegiate athletics were subjected to external pressures from coaches. It appeared that participants were describing *intersender conflict*,[10] which is a type of role conflict that occurs when the expectation of 1 person may be in opposition to or in conflict with the expectations of other individuals employed in the organization. Intersender conflict has been identified as a perceived barrier to working in collegiate athletics,[11,12] specifically as it relates to interactions with coaches. Participants also acknowledged student-athletes who were dishonest regarding possible COVID-19 exposure, which is similar to patterns of concussion reporting.

The Athletic Training Strategic Alliance has worked to identify opportunities to advance the reputation of the athletic training profession, increase the value of an AT within the health care system, and reduce public health risks across the lifespan.[13] The responses of our participants indicated that their efforts during the 2021–2022 academic year contributed to all of these goals. The ATs were able to adapt their skill set to implement a variety of public health interventions, and they found that their effectiveness in doing so opened the eyes of various administrators and other health care professionals to the value of ATs. In addition, participants reported adopting a variety of changes to their practice that are typical in other health care settings, such as a shift to appointment-based scheduling and an increased focus on personal and environmental hygiene. Along with these practices, ATs should carry forward the lessons learned on maintaining lines of communication with health care and non–health care stakeholders, policy developers, and policy enforcers.

Several limitations of our study should be disclosed. We only interviewed ATs employed at NCAA institutions and, therefore, our results may not be applicable to ATs in other settings, such as secondary schools. Future researchers should examine the unique challenges faced by ATs in that setting and how they worked to overcome those challenges during the 2021–2022 academic year. Future investigators should also evaluate potential gaps in education to assess how educators might frame their curricula to prepare future clinicians for more large-scale public health concerns. Whereas entry-level professional standards state that students must gain foundational knowledge in public health, the extent to which this is accomplished and whether global health and infectious disease management are included is unknown. Another limitation was that most of our participants were men and had an average of 25 years of experience. This likely occurred because our recruitment primarily focused on finding participants at various types of institutions as opposed to recruiting on the

basis of age or gender, and we specifically sought individuals with administrative duties to ensure accurate interpretation of policy development and implementation. Consequently, although our sample only included 9 women (33%) and few early-career professionals, participants represented all NCAA divisions, both football and non-football schools, 3 historically Black colleges and universities, and at least 1 participant from each National Athletic Trainers' Association district.

In conclusion, ATs play pivotal roles in policy development, communication, and enforcement. During the pandemic, they demonstrated the value of a health care professional who has expertise in individual patient care as well as the knowledge to implement public health interventions. In times of a global pandemic and public health crisis, ATs were on the frontlines, serving as health care leaders for their institutions. The challenges identified are not exclusive to COVID-19, and the lessons learned related to strengthening interprofessional collaboration and establishing administrative support should be applied to future practice.

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Appendix. COVID-19 Semistructured Interview Guide[a]

1. Demographic Questions
   - i. What is your current employment setting and job title?
   - ii. Which athletic conference do your athletic teams compete for?
   - iii. What is today's date?
   - iv. What is your age?
   - v. What is your sex?
   - vi. NCAA division and organizational structure (medical model or athletic model)? Football at your institution?
   - vii. How many years of experience do you have overall and at this institution? How many years in your current position?
   - viii. Numbers of intercollegiate athletes does your institution provide care for?
   - ix. How many full-time ATs do you have on staff at your institution? Do you have any GA athletic trainers on your staff? Has your staffing changed as a result of COVID-19? (eg, Were any staff members furloughed or terminated as a result of COVID-19?)

Last summer, we talked to athletic trainers across the country as they developed their policies for returning to athletic activities during COVID-19. Please think back to the initial development of your institution's COVID-19 return-to-sports policies last summer. This first set of questions will be about the implementation of those initial policies at your institution during the 2020–2021 school year.

2. Can you broadly talk about similarities and differences between the policies as they were originally developed, and how those original policies were implemented when student-athletes began to return to campus and engage in athletic activities?
   Follow-up Prompts
   - i. Consider changes in plans before athletes returned to campus or sport began, vs changes that occurred once return to campus or sport began?

[a] Reproduced in its original format.

3. How would you describe the overall implementation of your protocol?
   Follow-up Prompts
   i. What did you learn from implementing the protocols?
   ii. What worked "adequately" but not as well as anticipated?
   iii. Did you have any concerns about your policies before resuming sports that did not materialize?
   iv. Which individuals outside of the AT staff were involved in the implementation of the original policies or changes to the policies?
   v. How well did athletic stakeholders (eg, coaches, student-athletes, administration) understand the goals of the protocol?
   vi. How would you describe buy-in from athletic stakeholders (eg, coaches, student- athletes, administration) for the COVID-related policies? Which aspects of the policies had high buy-in vs low buy-in?
   vii. How did student-athletes respond to the protocols and any specific changes? How did you provide information to student-athletes as the policies changed?
   viii. What did you observe regarding protocols when your teams traveled (regarding the policies of the host institution)? And how did you learn about the policies of the institutions you traveled to?
4. What unexpected challenges have you encountered that were not accounted for within the original policies?
   Follow-up Prompts
   i. Are there any specific individuals who have contributed to some of these challenges?
   ii. Are there any factors specific to your institution (or context or conference) that may have contributed to some of these challenges?
   iii. Which of these challenges did you anticipate before resuming sports, and which were unexpected?
   iv. Did you have any issues procuring adequate supplies due to budgetary concerns (PPE, cleaning supplies)?
   v. Were there any spikes in the number of cases on your institution's campus? Were there any spikes among athletics? Did those spikes affect the implementation of your policies or athletics' policies?
   vi. Did any on your AT staff contract COVID-19? If yes, how was that handled?
   vii. To your knowledge, do you have a student-athlete or staff member who still reports fatigue, difficulty concentrating, or breathing difficulties at least 2 months after testing positive for COVID?
5. Was your institution able to resume sport competition during the 2020–2021 school year (all sports, certain sports)?
   Follow-up Prompts
   i. Were there any factors specific to your institution that aided or limited the ability to resume sport competition?
6. How are you personally handling the return to sport in your job setting?
   Follow-up Prompts
   i. Are you making any permanent changes to the athletic training facility as a result of lessons learned in 2020–2021?
   ii. How are you staying up-to-date regarding current recommendations as they relate to return-to-sport for student-athletes? (refer back to Q2)
   iii. Who are you going to for advice as you prepare for the return to sport?
   iv. What are your preferred methods for receiving information regarding COVID-19?
7. Last, we are interested in understanding the lived experiences of athletic trainers as they've navigated the challenges related to COVID-19 over the last year. Can you provide some insight into what this time has been like for you?
   Follow-up Prompts
   i. Can probe specific times (initial plans, shutdown of sports, preparation for return of student-athletes, return to competition)
   ii. Can probe specific domains: mental, emotional, social
   iii. If you could go back to the very beginning of this pandemic and give yourself a word of advice to help yourself, what would you say?
8. Is there any other information that you would like to share with us regarding your experience in returning to sports at your institution or in general?

Abbreviations: AT, athletic trainer; GA, graduate assistant; PPE, personal protective equipment