

Secondary School Administrators' Knowledge and Perceptions of the Athletic Training Profession, Part I: Specific Considerations for Athletic Directors

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Context: Athletic directors are charged with making impactful decisions for secondary school athletic programs that mitigate risks for stakeholders. This includes decision making regarding the provision of medical care for student-athletes. To date, few researchers have explored athletic directors' perceptions of the athletic training profession.

Objective: To evaluate public school athletic directors' knowledge and perceptions of the athletic trainer (AT) role.

Design: Concurrent mixed-methods study.

Setting: Cross-sectional online questionnaire.

Patients or Other Participants: Athletic directors representing all 50 states and the District of Columbia (N = 954; 818 men, 133 women, 3 preferred not to answer; age = 47.8 ± 9.1 years; time in current role = 9.8 ± 8.3 years).

Main Outcome Measure(s): The questionnaire was composed of demographics, quantitative measures that assessed athletic directors' knowledge and perceived value of ATs, and open-ended questions allowing for expansion on their perspectives. Descriptive statistics were reported, with key quantitative findings presented as count responses and overall percentages.

Qualitative data were analyzed using the general inductive approach.

Results: A majority of respondents recognized ATs' role in injury prevention (99.8%), first aid and wound care (98.8%), therapeutic interventions (93.8%), and emergency care (91.6%). Approximately 61% (n = 582) identified AT employment as a top sport safety measure, and 77% (n = 736) considered an AT to be extremely valuable to student-athlete health and safety. Athletic directors appeared to recognize the value of ATs as they provided "peace of mind" and relieved coaches and administration of the responsibility for making medical decisions.

Conclusions: Athletic directors seemed to recognize the value ATs brought to the secondary school setting and demonstrated adequate knowledge regarding ATs' roles and responsibilities. Educational efforts for this population should focus on ATs' tasks that add to their perceived value but are not frequently in the public eye, which may influence hiring decisions.

Key Words: athletic administrator, high school, medical professional

Key Points

- A majority of athletic directors viewed athletic trainer (AT) employment as a top sport safety measure. Among athletic directors who did not employ an AT, the percentage was smaller.
- The liability reduction provided by ATs, including relieving coaches and administration of the responsibility for medical decisions, gave the athletic directors peace of mind.
- Athletic directors recognized that ATs' roles extended beyond injury prevention but were less knowledgeable regarding ATs' administrative responsibilities.

Researchers studying the benefits of physical activity have demonstrated improved physical outcomes, as well as psychological and social health benefits.¹ The benefits of physical activity and athletic participation far outweigh the associated risks for individuals of all ages^{1–5} and have been investigated for many years. Despite the published benefits, physical activity and sports participation are associated with an inherent risk, which at times can result in catastrophic injury. From 2005 to 2014, 6% of all sport-related injuries at the high school level were season-ending or career-ending injuries.⁶ Furthermore, in 2018, the high school setting had the most football-related deaths compared with the professional, collegiate, and middle school settings.⁷ The risk of sudden

death in sport is reduced when appropriate policies and procedures are in place to maximize the health and safety of student-athletes.⁸

Risk mitigation for athletics at the secondary school level often falls to the school's athletic director. Common areas of focus include facility checks and maintenance, professional development for coaches, education of key personnel (such as parents and athletes), and hiring "the right" coaches and medical staff.⁹ Additionally, the athletic director is responsible for implementing athletics policies established by the state, school board, and central administration.¹⁰ Employing an appropriate health care professional, such as an athletic trainer (AT), at the high school level is crucial to mitigating risk and ensuring timely evaluation and treatment of athletic

injuries.^{11,12} This hiring decision is often left to the athletic director, yet many public and private secondary school student-athletes across the country still do not have access to an AT.^{13,14} Reasons cited for lacking appropriate medical care include budgetary limitations and concerns,^{15–17} small school size,¹⁵ rural location,^{15,16} and misconceptions regarding the AT's role.^{15,16}

In addition to these barriers, athletic directors have reported that they did not feel they were in positions of power to hire ATs and that a decision at this level was best suited for district superintendents and school boards.¹⁶ Although superintendents have authority regarding budgetary decisions and the allocation of funds for an AT position, it is often the athletic director's responsibility to advocate for the position, coordinate the hiring process, and make specific personnel decisions for the position. According to the profession's code of ethics, an athletic administrator "considers the health and wellbeing of the entire student body as fundamental in all decisions and actions" and "develops and maintains a comprehensive education-based athletic program...which respects the individual dignity, self-worth, and safety of every student-athlete."¹⁸ All administrators at the district and individual school level may be held liable for not providing appropriate medical care for student-athletes or having a plan in place to readily address athletic-related injuries and emergency situations.¹⁹

To date, few researchers have addressed the perceptions and knowledge of athletic directors regarding the athletic training profession. Recent authors have reported that the creation of AT positions in the secondary school was influenced by policy, various personnel, and community organizations¹⁷ and that athletic directors viewed ATs as ideal health care providers¹⁷ and valued the enhanced player safety, reduced costs for parents, and increased productivity of coaches associated with having an AT present.²⁰ Previous studies by Clines et al^{17,20} filled an important gap in the literature and provided a foundation for future work; however, the small sample size and qualitative methods used limited the generalizability of the findings. Additionally, the sample consisted of athletic directors who were employed at schools with a full-time, Board of Certification–credentialed AT. As a result, the perceptions and knowledge of athletic directors with limited to no interaction and experience with an AT remain unknown. Building on the investigations of Clines et al,^{17,20} we aimed to add to the literature by studying a larger sample, including athletic directors working with or without an AT, and understanding athletic directors' knowledge and perceived value of athletic training through the use of quantitative and qualitative measures to gain a deeper understanding of the phenomena of interest.

Adequate knowledge and understanding are imperative to making a well-educated and informed decision on the hiring of an AT for the school. Therefore, the purpose of our investigation was 2-fold: (1) to evaluate their level of knowledge regarding ATs' qualifications and responsibilities and (2) to explore public school athletic directors' perceptions of the athletic training profession. Our work was guided by the following research questions: (1) What did athletic directors perceive to be the role, education, and responsibility of the AT? (2) What were athletic directors' perceptions of the value and effect of an AT on physical activity and sports safety?

METHODS

This study was part of a larger investigation²¹ examining key stakeholders' perceptions of the athletic training profession, including public secondary school administrators (athletic directors, principals, superintendents), coaches, parents, and state legislators. This manuscript is the first in a 2-part series regarding school administrators' perceptions and knowledge and outlines the methods and key findings from our athletic director cohort. Part II²² provides a summary of principals' perceptions and knowledge of athletic training. We used a concurrent mixed-methods approach to examine athletic directors' knowledge and perceived value of athletic training on a deeper level. To collect data from a diverse sample of secondary school athletic directors, we created and distributed a cross-sectional survey, composed of quantitative measures and qualitative open-ended questions, to athletic directors via Qualtrics. This research protocol was approved by the University of Connecticut Institutional Review Board.

Procedures

Gathering athletic director contact information was a time-consuming and rigorous process, and as a result, questionnaires were distributed on a rolling basis between 2017 and 2018 at 4 distinct time points (May 2017, October 2017, January 2018, and May 2018). This distribution method was purposeful, as contact information for the various states was collected at different rates because of multiple factors, including the number of schools (districts) in the state and availability of online resources. After initial distribution of the questionnaire at each time point, reminder emails were sent 1 and 3 weeks after the initial email in an attempt to increase overall participation.

Accessing contact information for this population required development and management of a database. To create the database, we accessed the National Center for Education Statistics²³ website and exported a list of public secondary schools in all 50 states and the District of Columbia. A member of the research team then completed a cursory search of each state's high school athletic or activities association (or similar) website to identify member school directories that provided information (first name, last name, email address) regarding the athletic director for each school. Any available information was then transferred to the research team's database. If a school was not listed in the directory or if the information was missing or out of date, we accessed the individual school's website to identify the athletic director and obtain his or her contact information. Lastly, if these methods did not yield the information needed, a member of the research team called the school to obtain the information from a school representative. If a school was listed as having 2 or more athletic directors, we obtained contact information for only the head athletic director. The only exception was if they were identified as co-athletic directors, indicating that the administrative responsibilities were shared. In this case, contact information for both was obtained. Additionally, if the athletic director simultaneously served in another administrative position (eg, principal), he or she received the questionnaire corresponding to the highest-ranked position. We identified a total of 13 668 unique and up-to-date athletic director contacts.

Questionnaire Development and Validity

Two members of the research team (A.M.P.L., R.L.S.) developed a questionnaire assessing athletic directors' knowledge and perceived value of the athletic training profession. Content knowledge from experience as an AT in the secondary school setting (collective 5 years) and an educator in an athletic training program (collective 8 semesters) was a primary facilitator of questionnaire development. From a methodologic standpoint, both research team members also had experience in survey development and review. After initial development, we contacted key personnel in the Marketing Department at the National Athletic Trainers' Association (NATA) for review and feedback of the instrument.

The credibility of the questionnaire was enhanced via thorough review by 3 high school athletic directors. The reviewers were provided with a content validity tool and asked to rate each questionnaire item for clarity, relevance, and importance based on the predetermined purpose and research questions. Scores for all 3 criteria were on a 4-point Likert scale (1 = *not clear* to 4 = *very clear*; 1 = *not relevant* to 4 = *highly relevant*; 1 = *not important* to 4 = *very important*). Questionnaire items that scored ≤ 2 by 2 reviewers were either removed (if indicated) or edited to improve clarity and enhance meaningfulness. After evaluation by the NATA's Marketing Department and content validation by the high school athletic directors, we eliminated 11 questions because of redundancy, concern regarding instrument length, or uncertain appropriateness of the item to the study's overall purpose. When indicated, slight changes in wording of the retained items were made to enhance clarity.

After incorporating the feedback, we created the final questionnaire on the Qualtrics platform. It consisted of 3 major sections: (1) demographic information, including age, years in current position, and educational background; (2) quantitative measures pertaining to athletic directors' knowledge and perceived value of the athletic training profession; and (3) open-ended questions that allowed respondents to expand on their knowledge and perspectives. Survey questions in section 2 were developed based on the Board of Certification *Practice Analysis*, 7th edition,²⁴ and the NATA's secondary school value model.²⁵ We aimed to assess athletic directors' perceived value of athletic training both directly (eg, value of an AT to the health and safety of student-athletes) and indirectly (eg, salary, liability reduction, cost savings). The open-ended questions in section 3 asked (1) How do you feel having an athletic trainer at the school could/does impact student-athletes' health and safety? (2) In your opinion, what is an athletic trainer? (3) What are the outlined job responsibilities of an athletic trainer? (4) What do you believe are the minimum requirements (educational and certifications) to become an athletic trainer? Before we disseminated the questionnaire to our athletic director contacts, a member of the research team (R.L.S.) accessed the instrument on the Qualtrics platform and answered all questions to both ensure accuracy and allow us to address any discrepancies that might compromise the validity of the collected data.

Quantitative Data Analysis

Select quantitative data (demographics) were analyzed using Excel (version 16.27; Microsoft Corp) and are

provided as mean \pm SD and overall percentages where appropriate. The report feature housed within the Qualtrics survey platform automatically calculated summary statistics (eg, percentages) for all quantitative measures collected via the online questionnaire. We analyzed the data from the entire sample first, and then, to compare the responses of athletic directors who worked at schools where ATs were employed at the time of the survey with those of athletic directors who worked at schools where ATs were not employed, we dichotomized these groups in our quantitative analysis.

Qualitative Data Analysis

Open-ended responses were analyzed using a general inductive approach.²⁶ This method was purposeful as it allowed us to condense a large amount of textual data into a consumable and meaningful collection.²⁶ We coded the entire sample together because of our general inductive approach to data analysis. With this method, any differences between athletic directors who worked at schools where ATs were employed and those who worked at schools where ATs were not employed would have emerged in our analysis. The analysis consisted of 4 major steps, with the first 3 conducted independently: (1) an immersive process whereby 2 members of the research team (A.M.P.L., C.M.E.) read through the open-ended responses to familiarize themselves with the data, (2) both researchers then assigned codes to the data that helped support or address the study's purpose and research questions, (3) codes with similar meanings were combined to form overall categories, which were then defined and became emerging themes in the data, and (4) the 2 researchers met to discuss their overall impressions of the data and agree on the final presentation of themes, a process known as *multiple-analyst triangulation*.²⁷ While discussing the findings, the 2 researchers were in complete agreement on the overarching trends and themes in the data. During the analysis, it became evident that some of the responses were not original and were taken from an online source (eg, Google). These responses were identified and excluded from the general inductive analysis.

The second trustworthiness strategy used was methodologic triangulation, specifically *simultaneous triangulation*.²⁸ The collection of quantitative and qualitative data simultaneously allows for cross-data validity checks²⁹ and the identification of similarities in or discrepancies between the 2 types of data. Both the quantitative measures and open-ended questions assessed athletic directors' knowledge and perceptions of athletic training. This overlap was purposeful, providing us with deeper insight and a more comprehensive understanding of the phenomena (eg, knowledge and value).

RESULTS

The quantitative and qualitative results are combined and presented as our sample's overall impressions of ATs and the profession. Athletic directors' responses to the survey questions specifically measuring their knowledge and perceived value of athletic training and categorized by participants who either did or did not work at schools with an AT employed at the time of survey completion are

shown in Table 1. Our qualitative data are highlighted in Table 2, which provides additional supporting quotes.

Demographics

Of the 13 668 athletic directors who received the questionnaire at the 4 time points, 954 completed it, yielding a response rate of approximately 7%. Despite a lower rate than expected, we obtained participant responses from all 50 states and the District of Columbia (Table 3). The average age of the respondents was 47.8 ± 9.1 years ($n = 953$, median = 48 years, range = 23–77 years) and they had worked an average of 9.8 ± 8.3 years in their current athletic director role (median = 7 years, range = 0–53 years). A small percentage of respondents ($n = 54$, 5.7%) also served as the principals for their respective school. Additional sample demographics are summarized in Table 4.

Among our sample, 720 athletic directors (75.5%) indicated that their school employed an AT. Of the 234 (24.5%) who stated they did not employ an AT, 84 (35.9%) believed their school should hire an AT full time, 128 (54.7%) believed their school should hire an AT part time, and 22 (9.4%) did not believe their school should hire an AT. When the entire sample was asked if they believed it was acceptable to have an athletics program without an AT employed at the school, 339 (35.5%) said yes, and 615 (64.5%) said no.

Relieving Coaches and Administration of the Responsibility for Medical Decisions

The participants in our study consistently described the value of the AT as taking medical decisions out of the hands of coaches and administrators. Only 12% of the athletic directors indicated a coach was a trusted source of medical information. Approximately 15% felt an athletic director was a trusted source of medical information, and only about 5% felt a principal was a trusted source (Table 1). These percentages were consistent among athletic directors working with ATs and those who were not. As 1 person noted, “It [employment of an AT at the school] allows someone with the appropriate training to be dealing with injuries.” Another individual responded, “I like the fact that it takes decisions regarding injuries out of the hands of the coaches.” The athletic directors also consistently commented on the training of ATs compared with that of coaches. “You have a trained person that can deal with daily issues. It takes the decision making out of the coaches’ hands. A coach is not qualified to make medical decisions in most cases.” Additionally, 1 athletic director observed:

I feel having an athletic trainer at practices/games greatly affects the health of our athletes. By having an athletic trainer, it gives our athletes a medical professional to talk with honestly and openly about injuries that is not a part of the coaching staff.

Even athletic directors who did not employ a full-time AT recognized the value of an AT in this setting; an athletic director remarked, “It [having an AT on staff] would have a huge impact. It would allow coaches to coach and a professional would be able to help with injuries.”

Many participants described how having a medically trained person allowed coaches to focus on coaching while the AT provided appropriate care to student-athletes. Furthermore, respondents explained that coaches had an interest in the game and were concerned with wins and losses, whereas the AT’s focus was on the health and wellbeing of the athletes.

It takes the guesswork out of injuries in regards to the coaches. Coaches have a vested interest in getting their players on the field/court, so I am not comfortable with them making the call in regards to an injured athlete.

Another athletic director expressed,

It [having an AT] is a necessity. Having a person there who is working to assist the athletes back to their field of competition as quickly and as safely as possible helps all involved in an athletic program. They are also a step removed and truly have the athlete’s best interest in forefront. Coaches also do [have the athlete’s best interest in mind] but can get caught up in the heat of the moment at competitions. [Athletic] trainers help to keep decisions more about the athlete and less about the competition.

One participant summarized the overall message simply: “I feel that [it] is necessary to have someone at an event other than a coach or administrator to handle athletic [and/or] health situations that arise.”

Peace of Mind

Peace of mind describes the feeling of comfort that athletic directors have knowing that a trained person is available to provide medical care to student-athletes. “I feel much better that there is a medical professional available on site.” “I feel safer with an athletic trainer at the school.” One athletic director characterized the peace of mind the AT provided:

Having an athletic trainer at the school is vital for the health and wellness of the program. To have someone who can give professional advice to athletes and parents gives everyone a sense of peace.

Another individual believed the AT provided a sense of security to multiple people involved in athletics.

I think it puts athletes, coaches and parents at ease knowing a medical professional is present during both practices and competitions to ensure proper care for both injuries and emergencies.

When asked what they considered to be the top 3 important safety measures, nearly 61% of the sample selected employing an AT at the school. It is important to note that this percentage was higher among athletic directors who worked at schools where an AT was employed. However, *athletic trainer employed at school* was the third most commonly selected option among athletic directors who were overseeing athletics programs that did not employ an AT (Table 1).

Table 1. Athletic Directors' Knowledge and Perceived Value of Athletic Training Profession, No. (%)

Question	Responses	Athletic Trainer Employed at Athletic Director's School?		All Respondents (N = 954)
		Yes (n = 720)	No (n = 234)	
Who do you consider to be a trusted source of medical information? Check all that apply.	Physician	705 (97.9)	224 (95.7)	929 (97.4)
	Athletic trainer	709 (98.5)	213 (91.0)	922 (96.6)
	Nurse	618 (85.5)	206 (88.0)	824 (86.4)
	Emergency medical technician	565 (78.5)	188 (80.3)	753 (78.9)
	Physician assistant	531 (73.8)	167 (71.4)	698 (73.2)
	Chiropractor	174 (24.2)	73 (31.2)	247 (25.9)
	Athletic director	107 (14.9)	38 (16.2)	145 (15.2)
	Strength and conditioning coach	92 (12.8)	36 (15.4)	128 (13.4)
	Coach	89 (12.4)	30 (12.8)	119 (12.5)
	Parent	65 (9.0)	15 (6.4)	80 (8.4)
Of the following items, which do you consider to be the top 3 important sports safety measures? Please select only 3.	Principal	39 (5.4)	10 (4.3)	49 (5.1)
	Preparticipation physical examinations	445 (61.8)	147 (62.8)	592 (62.1)
	Athletic trainer employed at the school	489 (67.9)	93 (39.7)	582 (61.0)
	Injury-prevention programs	304 (42.2)	105 (44.9)	409 (42.9)
	Emergency action plans	285 (39.6)	88 (37.6)	373 (39.1)
	Medical professional present at practices/competitions	243 (33.8)	78 (33.3)	321 (33.6)
	Protective equipment (eg, helmet, shoulder pads)	167 (23.2)	85 (36.3)	252 (26.4)
	Practice/game modifications based on environmental conditions	72 (10.0)	18 (7.7)	90 (9.4)
	Medical professional available for students during school hours	42 (5.8)	26 (11.1)	68 (7.1)
	Weather monitoring	32 (4.4)	17 (7.3)	49 (5.1)
	Identification of physical hazards on sport fields	26 (3.6)	18 (7.7)	44 (4.6)
	Athletic director present at sport events	25 (3.5)	14 (6.0)	39 (4.1)
	Referee for competitions	9 (1.3)	7 (3.0)	16 (1.7)
	Game/competition security	11 (1.5)	3 (1.3)	14 (1.5)
	Individual designated to provide water to athletes	7 (1.0)	3 (1.3)	10 (1.0)
	Supplements to enhance performance	3 (0.4)	0 (0.0)	3 (0.3)
Do you believe employing an athletic trainer at a high school reduces liability?	Definitely yes	546 (75.8)	112 (47.9)	658 (69.0)
	Probably yes	111 (15.4)	68 (29.0)	179 (18.8)
	Might or might not	46 (6.4)	39 (16.7)	85 (8.9)
	Probably not	9 (1.3)	14 (6.0)	23 (2.4)
	Definitely not	8 (1.1)	1 (0.4)	9 (0.9)
Do you believe employing an athletic trainer at a high school saves the school money (eg, insurance claims)?	Definitely yes	253 (35.1)	25 (10.7)	278 (29.1)
	Probably yes	235 (32.6)	50 (21.3)	285 (29.9)
	Might or might not	164 (22.8)	109 (46.6)	273 (28.6)
	Probably not	58 (8.1)	43 (18.4)	101 (10.6)
	Definitely not	10 (1.4)	7 (3.0)	17 (1.8)
What do you believe is a fair salary for a full-time athletic trainer employed at a secondary school?	<\$30 000	32 (4.4)	19 (8.1)	51 (5.4)
	\$30 000–\$40 000	148 (20.6)	81 (34.6)	229 (24.0)
	\$40 000–\$50 000	228 (31.7)	88 (37.6)	316 (33.1)
	\$50 000–\$60 000	195 (27.1)	38 (16.3)	233 (24.4)
	>\$60 000	117 (16.2)	8 (3.4)	125 (13.1)
In your opinion, what are athletic trainers qualified to do? Check all that apply.	Injury prevention (eg, taping, equipment fitting, education)	719 (99.9)	233 (99.6)	952 (99.8)
	First aid/wound care	715 (99.3)	228 (97.4)	943 (98.8)
	Therapeutic interventions (eg, rehabbing an injury)	684 (95.0)	211 (90.2)	895 (93.8)
	Emergency care	674 (93.6)	200 (85.5)	874 (91.6)
	Clinical diagnosis (eg, injury evaluations)	589 (81.8)	168 (71.8)	757 (79.4)
	Make return-to-play decisions	584 (81.1)	145 (62.0)	729 (76.4)
	Strength and conditioning/maximizing performance	359 (49.7)	118 (50.4)	477 (50.0)
	Diagnose eating disorders/mental health problems	176 (24.4)	52 (22.2)	228 (23.9)
	Administrative tasks (eg, bill insurance companies)	155 (21.5)	38 (16.2)	193 (20.2)
	Other	55 (7.6)	3 (1.3)	58 (6.1)
In your opinion, how valuable is an athletic trainer to the health and safety of student- athletes?	Extremely valuable	621 (86.3)	115 (49.1)	736 (77.2)
	Very valuable	91 (12.6)	84 (35.9)	175 (18.3)
	Moderately valuable	7 (1.0)	31 (13.2)	38 (4.0)
	Slightly valuable	0 (0.0)	4 (1.7)	4 (0.4)
	Not at all valuable	1 (0.1)	0 (0.0)	1 (0.1)

Liability

When asked about the importance of having an AT present at their schools, the athletic directors indicated the role the AT played in limiting liability, which could help explain their peace of mind:

[Athletic trainers are] super important. They are the first line of defense to all issues and concerns. They are trained and take [away] the liability of districts, schools, and most importantly, coaches.

Table 2. Participant Quotes in Support of Results

Emergent Theme	Supporting Quote
1. Relieving coaches and administrators of responsibility for medical decisions	<p>"It helps a lot to have a medical professional on a daily basis because oftentimes coaches are responsible for medical care and we are not as qualified."</p> <p>"It [having an athletic trainer present] provides a person that is trained to deal with athletic injuries. It also removes the coach, who has wins and losses at stake, from the health assessment."</p> <p>"Athletic trainers are not concerned with the outcome of games and they are trained to deal with injuries, where[as] a coach has minimal training and judgment can be clouded by the desire to be successful."</p> <p>"An [athletic trainer is an] unbiased voice of reason when dealing with an injury."</p>
2. Peace of mind	<p>"I feel much better that there is a medical professional available on site."</p> <p>"[I have] peace of mind knowing that if something goes wrong, a trained person is nearby."</p> <p>"I think it's a huge help and relieves my stress levels as an AD."</p> <p>"The comfort level and reassurance of having a certified/trained individual present on a daily basis is immeasurable."</p>
Liability	<p>"It [having an athletic trainer] would take liability off coaches and schools."</p> <p>"[Having an athletic trainer] provides the safety and treatment measures that are needed. It also protects against liability issues."</p> <p>"[Employing an athletic trainer has a] very positive impact. And some level of insulation from liability."</p> <p>"There is always a certified athletic trainer at all [of our] events. I don't know how you could cover yourself legally without it."</p>
Immediacy of care	<p>"[Athletic trainers are] a great first line of treatment when injury occurs."</p> <p>"[Athletic trainers are] extremely valuable due to knowledge and availability to provide immediate and/or continued care for student-athletes."</p> <p>"[The athletic trainer provides] constant monitoring and immediate reaction to injury [which] gives an obvious advantage."</p>
3. Recognized value of athletic trainers	
Essential	<p>"Athletic trainers should be required at all high schools."</p> <p>"I wouldn't coach or be an AD without one."</p> <p>"An athletic trainer is not an option; it is a necessity."</p> <p>"We have an athletic trainer and I believe they are essential to any sports program."</p> <p>"Every high school in America should have it required to staff an athletic trainer at their school."</p> <p>"At one time, having a [n athletic] trainer at the high school level was a luxury, where now I view it as a necessity."</p>
Understands role beyond prevention	<p>"An athletic trainer is a medical professional that specializes in injury prevention, emergency care, injury diagnosis, and rehabilitation."</p> <p>"An athletic trainer is a medical professional who recognizes, evaluates and treats injuries, while also educating, developing plans and enforcing policies to keep student athletes safe and healthy."</p> <p>"[An athletic trainer is a] knowledgeable professional who provides EAPs, safety precautions, and medical treatment and rehab for all athletes."</p>

Abbreviations: AD, athletic director; EAP, emergency action plan.

The majority of respondents indicated that employing an AT at a high school reduced liability. The percentage of athletic directors indicating *definitely yes* was larger among those who employed ATs at their schools, but 76.9% of those who did not work at schools where ATs were employed indicated *definitely yes* or *probably yes* (Table 1).

Immediacy of Care

In addition to the peace of mind provided by the reduced liability resulting from employment of an AT, our qualitative data highlighted the peace of mind athletic directors experienced in knowing that immediate care was available for their student-athletes. Some individuals talked about immediate care as the first step in the overall care provided to their student-athletes: "[Having an athletic trainer] allows athletes to receive immediate treatment and connects them with professionals when necessary for further evaluation." Another person simply noted, "I feel it is very important that there is an athletic trainer at schools. They are able to diagnose an injury immediately, which can prevent further injuries or concerns." One participant gave peace of mind as a reason why more ATs should be hired:

The [athletic] trainer is a valuable first line of defense to treat injuries in a timely fashion. I would like to see the

county expand the number of events that our [athletic] trainer is required to cover.

Recognized Value of ATs—"Essential"

Many of our respondents described an AT as an essential employee of their school. As an athletic director said, "It is not an option; an athletic [trainer] needs to be employed by the school." One person who had previously worked at a school that did not employ ATs explained, "Having been at a school without an athletic trainer before starting at my current position, having an athletic trainer is invaluable." Another observed,

I have taught and coached at a school that employed an athletic trainer and have been at schools that do not have athletic trainers. There is no doubt in my mind that all schools should be required to have an athletic trainer on staff.

Another participant commented that if a school has an athletics program, an AT needs to be present:

If your school has an athletic program, it is absolutely necessary for an athletic trainer [to be on staff]. It is a

Table 3. Respondents by State

State	No. of Respondents
Alabama	14
Alaska	2
Arizona	16
Arkansas	18
California	57
Colorado	10
Connecticut	18
Delaware	3
District of Columbia	1
Florida	7
Georgia	17
Hawaii	2
Idaho	11
Illinois	44
Indiana	39
Iowa	26
Kansas	30
Kentucky	11
Louisiana	12
Maine	18
Maryland	8
Massachusetts	54
Michigan	45
Minnesota	15
Mississippi	6
Missouri	19
Montana	6
Nebraska	12
Nevada	3
New Hampshire	12
New Jersey	25
New Mexico	9
New York	35
North Carolina	34
North Dakota	4
Ohio	69
Oklahoma	14
Oregon	14
Pennsylvania	29
Rhode Island	2
South Carolina	4
South Dakota	3
Tennessee	19
Texas	56
Utah	9
Vermont	9
Virginia	18
Washington	15
West Virginia	6
Wisconsin	34
Wyoming	10
Total	954

commitment the district should make for the health and safety of our student-athletes and coaches.

It is important to highlight the slight variations in participants' responses when asked their opinions of a fair salary for a full-time AT. Perceptions regarding appropriate salary demonstrated, in part, athletic directors' perceived value of the profession. Although overall percentages were similar, 16.2% of those who worked with ATs at the time of survey completion chose *greater than \$60 000*, compared with 3.4% of those who did not employ ATs (Table 1).

Although we did not control for geographic location in these responses, this may be an indication that athletic directors who were currently working with ATs saw a greater monetary value in the services ATs provide. This factor should be further explored.

Recognized Value of ATs—Understands Role Beyond Prevention

Some of the participants' recognition of the AT's value appeared to reflect their knowledge of all 5 domains of athletic training. We asked them to define or explain what an AT is, and their responses highlighted their recognition of an AT as more than just an injury-prevention specialist, which was identified by previous researchers²¹ who examined stakeholder perceptions of ATs. One person responded simply, "[Athletic trainers are] professionals who specialize in preventative injury care, emergency care, and rehabilitative services to injured athletes." The following statement highlighted that athletic directors also recognized an AT's role in documentation and medical records:

[An AT is] a trained and certified individual who works to help student-athletes prevent injuries or illness through proper training and application of preventive devices such as tape, braces, or pads and baseline tests. Once an injury occurs, they will assess and recognize and evaluate injuries before providing first aid or emergency care. Following an injury, they may develop and carry out rehabilitation programs for injured athletes. They will keep medical records and write reports on injuries and treatment programs.

The AT's role in developing emergency action plans was also recognized. "An athletic trainer works on injury prevention, rehab of injuries, clinical diagnosis. Our athletic trainer develops and reviews emergency action plans and monitors weather conditions." Some participants also understood the AT's role in providing holistic care, which includes mental health support:

[An AT is] an individual who is charged with the overall welfare of the student-athlete. I feel an athletic trainer is not limited to merely treatment of injury but rather is engaged in the mental, physical and social aspects of the student-athlete in all facets.

[The role of an AT is] to provide care and prevention of athletic injuries, including therapeutic rehabilitation to allow for the least loss of competitive time, while keeping the mental and physical welfare of the athlete as the top priority.

One individual expressively summarized the many roles of ATs while also emphasizing the belief that schools with athletics programs should hire an AT:

Athletic trainers are experts on injuries and our number 1 resource when kids get injured, etc... They help prevent [injuries] and rehab athletes when injured and serve as a middle "man" between physicians and parents. They are a very valuable resource for the athletic program, and I

Table 4. Respondent Demographics (N = 954)

Demographic	Response, No. (%)
Sex	
Male	818 (85.7)
Female	133 (13.9)
Prefer not to answer	3 (0.3)
Education	
Bachelor's	207 (21.7)
Master's	644 (67.5)
Doctorate	20 (2.1)
Other ^a	83 (8.7)
Medical certification(s)?	
Yes	149 (15.6)
No	805 (84.4)
Personally know an athletic trainer?	
Yes	839 (87.9)
No	115 (12.1)
Participated in athletics (high school or college)?	
Yes	942 (98.7)
No	12 (1.3)
Control/influence over athletic department budget?	
Yes	772 (80.9)
No	182 (19.1)

^a Common responses for other forms of education included sixth-year and education specialist degrees.

believe all schools with a sizable number of athletic programs and athletes should employ a [an athletic] trainer on campus.

This recognition of the medical services that ATs provided was evident in the quantitative responses, as more than 60% of respondents selected *make return-to-play decisions*, *clinical diagnosis*, *emergency care*, *therapeutic interventions*, *first aid/wound care*, and *injury prevention* as responsibilities or qualifications of ATs (Table 1).

DISCUSSION

In this investigation, our aim was to explore public secondary school athletic directors' perceptions of the athletic training profession, specifically their current knowledge of ATs' qualifications and responsibilities and the perceived value of ATs. When viewed collectively, our sample of athletic directors demonstrated an appropriate level of knowledge regarding the roles and responsibilities of the AT and recognized the value ATs brought to the secondary school athletic setting. When we dichotomized our sample by AT employment (athletic directors employed at schools with an AT versus those employed at schools without an AT), variations were observed for some of the quantitative measures, which may highlight the role of exposure on one's knowledge and perceived value of the profession.

Knowledge

Respondents consistently and correctly identified responsibilities that aligned with the Board of Certification's Standards of Professional Practice³⁰ and demonstrated their knowledge by describing the role ATs played or could play in their schools. When we provided a list of roles and responsibilities and asked the participants to select those they believed ATs were qualified for, 99.8% chose *injury*

prevention (Standard 2, "Prevention"), 98.8% selected *first aid/wound care* (Standard 3, "Immediate Care"), 93.8% selected *therapeutic interventions* (Standard 5, "Therapeutic Intervention"), 91.6% chose *emergency care* (Standard 3, "Immediate Care"), and 79.4% chose *clinical diagnosis* (Standard 4, "Examination, Assessment, and Diagnosis"), but only 20% recognized the administrative tasks that accompany the AT role (Standard 7, "Organization and Administration").

A simple explanation for this could be the level and type of direct on-the-job exposure the athletic director had to the AT. Athletic directors who interact with ATs and attend events observe what the job entails day to day, including injury prevention, injury evaluation, rehabilitation, and emergency care. However, much of the ATs' administrative responsibility is not in the spotlight, which is a likely reason this practice standard, although a major component in reducing liability, was not widely recognized. Our findings regarding participants' knowledge of athletic training aligned with previous reports^{20,31} in recognition of the AT's role beyond injury prevention. Gould and Deivert³¹ determined that the AT-related tasks most widely recognized by athletic directors in NATA District 4 were *taping and bandaging*, *evaluating athletic injuries*, and *rehabilitation of injuries*. Additionally, Clines et al²⁰ recently reported similar findings; however, their athletic directors also identified tasks associated with the immediate and emergency care and organizational and professional health and wellbeing domains. In fact, all 10 participants identified roles and responsibilities that aligned with the administrative responsibilities of the AT's role.²⁰ Interestingly, only 20% of our sample selected administrative responsibilities (eg, billing insurance companies, which is a component of the organizational and professional health and wellbeing domain) as a task ATs were qualified to perform. Although these differences may be due to the different methods or study samples, this result highlights an opportunity for future education. Ironically, the 1 practice standard that can have a direct effect and arguably protect the school and its personnel from potential litigation was not widely recognized, at least by our athletic directors. We need to continue to educate athletic administrators on the entire scope of athletic training practice and emphasize that each component plays a role in not only maximizing student-athlete health and safety but also protecting the school system from what has become a litigious society.

Value

Gaining insight into athletic directors' perceived value of ATs was an important component in understanding their overall perspective of the profession. Previous researchers¹⁷ found that athletic directors valued ATs as trained medical professionals who could increase student-athlete safety and reduce liability. Our data supported the earlier literature and suggested that secondary school athletic directors valued the AT position. This was apparent in both the quantitative measures and the open-ended responses. When we asked participants, "In your opinion, how valuable is an AT to the health and safety of student-athletes?" approximately 95% selected *very valuable* or *extremely valuable*. When these responses were dichotomized by AT employment, a majority of athletic directors who worked at schools

without an AT (85%) indicated that ATs were *very valuable* to *extremely valuable*. Furthermore, when athletic directors were presented with a list of potential sport safety measures and asked to select the 3 they considered most important, *athletic trainer employed at the school* was the second most frequently selected response and was 1% (approximately 10 respondent selections) below *preparticipation physical examinations*. Interestingly, when answers to this question were separated by AT employment, the top sport safety measure identified by athletic directors without an AT at their school was *preparticipation physical examinations* (62.8%), whereas those with an AT at their school selected *athletic trainer employed at the school* (67.9%). An explanation for this finding may be that athletic directors at schools without an AT employed lacked the safety net of a health care professional (ie, AT) readily available on site, so they instead relied on the preparticipation physical examination as a primary form of injury and illness prevention and a top sport safety measure.

The secondary school value model²⁵ emphasizes the importance of quantifying and articulating the worth of athletic training health care services: “Services that have no worth to someone are of no value.”^{25(p2)} Among our sample, more than half of the athletic directors (59%) indicated they believed that employing an AT could save the school money and 87.8% believed that an AT would reduce the liability of a school. Thus, many athletic directors saw the monetary worth of the services provided by ATs. However, this opinion appeared to be influenced by the perceptions of the athletic directors who employed ATs at their schools. Approximately half of the respondents who did not employ an AT were uncertain about the cost savings of the AT position. This highlights the need for further advocacy and continued demonstration of worth. The secondary school value model also emphasizes that ATs can show worth and value with best practices by providing comprehensive health care services. Our sample’s responses showed that athletic directors were recognizing the wide range of skills and qualifications provided by ATs. More than 90% of the collective sample affirmed that they thought ATs were qualified to deliver first aid and wound care, provide emergency medical care, conduct injury rehabilitation, and offer injury prevention. More than 75% recognized that ATs were qualified to make clinical diagnoses and return-to-play decisions.

The value athletic directors placed on the AT role was also evident in the open-ended responses. Previous researchers addressed barriers to AT employment,^{13–17} with administrators frequently referencing cost and non-budget-related concerns that included a lack of power,¹⁶ rural locale,^{14,16} and lack of adequate space¹⁷ as hindering the hiring of ATs in secondary schools. Despite these barriers, our participants frequently described the employment of an AT as essential, displaying recognition of the value an AT brings to this setting. One explanation for this finding may be the demographic characteristics of the athletic directors who responded to the survey. A majority noted that their school employed an AT; therefore, the school either did not face barriers to hiring one or had already identified strategies to overcome the barriers it faced. When a school successfully employs an AT, the administrative personnel (including the athletic director) are exposed to the benefits and range of skills that accompany the role, likely gain an

appreciation for the position, and as a result, have a difficult time visualizing the athletic program without one; hence, the use of the term *essential*.

Another factor used to measure the perceived value of the AT position was liability. Athletic trainers can reduce liability for their school systems in various ways, including by developing and initiating emergency action plans and supplying appropriate oversight of athletes as they return to sport after injury under the supervision of a licensed physician.³² Close to 70% of respondents selected *definitely yes* and approximately 19% selected *probably yes* when asked “Do you believe employing an athletic trainer at a high school reduces liability?” These data align with the findings of Gould and Deivert³¹ in their investigation of NATA District 4 administrators’ knowledge and perceptions of athletic training. Of 85 participants, 65 were *very concerned* with liability and 53% believed an AT *highly reduced* [sic] liability.³¹ The AT’s role in reducing liability has also been cited in the context of defending an AT’s employment in the event the position was ever at risk because of budgetary cuts.¹⁷ This reduction in liability not only creates a sense of comfort and peace of mind for athletic directors, partly because it relieves coaches and other unqualified personnel of making medically related decisions, but it has also been given as justifying the employment of an AT.¹⁷ According to Courson et al, “The athletic trainer has an ethical obligation to maximize the wellbeing of the athlete and minimize the liability exposure of the school.”^{33(p131)} This concept certainly did not go unnoticed by our sample when they discussed the perceived value of the AT role.

In their responses, our sample of athletic directors discussed how they felt about having an AT relieve coaches of the responsibility of making medical decisions and overwhelmingly ranked the AT higher than coaches or principals when asked who they believed was a trusted source of medical information. This finding adds to the existing literature,²⁰ which demonstrated that athletic directors valued ATs in part because of the increased productivity of coaches when an AT was present. Clines et al²⁰ described the perceived value of ATs from the athletic director perspective as being partially related to the increased productivity of coaches who need not manage the health care needs of student-athletes but can instead focus on coaching responsibilities. The authors emphasized the importance of considering the value of ATs from the perspectives of both direct and indirect costs.

Clines et al^{17,20} provided a strong foundation to build upon, and our findings add to the growing body of literature in multiple ways. First, we were able to compare quantitative responses regarding knowledge and value from athletic directors who worked with or without an AT at the time of survey completion. The perspectives of athletic directors who did not employ an AT are crucial for addressing possible misconceptions or gaps in knowledge to increase employment opportunities for ATs in this setting. Additionally, our results supply a thorough understanding of the peace of mind ATs provided for athletic directors because a medical professional was on site and available to immediately tend to a student-athlete when an injury occurred. This ultimately builds on the work of Clines et al¹⁷ pertaining to safety and liability as justification for the hiring of an AT. Lastly, barriers aside,

our data showed that a majority of athletic directors who did not employ an AT at their school (90%) believed their school should hire one in a full-time or part-time capacity. The desire to hire an AT may speak to the respondents' understanding of the worth and value of this position despite the logistical and financial barriers¹⁷ they continue to face.

Our outcomes are promising, as they highlight that athletic directors had a basic understanding of the AT role and the medical services that an AT can provide. Because athletic directors are often in positions to advocate for the hiring of ATs in secondary schools, these data may indicate that they can serve as allies. Although these results are encouraging, there is still work to do to emphasize and demonstrate the value and worth of ATs in the secondary school setting, particularly to athletic directors who have not previously worked with or employed an AT. Most athletic directors did not seem to recognize the value ATs can offer from an administrative perspective, and nearly 30% of respondents indicated an annual salary of \$40 000 or less was fair for a full-time AT. Secondary school ATs are encouraged to apply a monetary value to the services they provide their student-athletes (eg, Current Procedural Terminology codes) in order to not only objectively demonstrate their worth but also enhance athletic directors' perceptions of the value of the AT position and the services ATs provide.

Limitations and Future Directions

Readers should be aware of several limitations when interpreting the results of this study. A common limitation with survey-based research is the chance of response bias, which could have occurred in 2 forms. Athletic directors who were more knowledgeable or passionate about the topic may have been more likely to participate. A majority of our respondents worked at schools that employed an AT; the overall results might have been different if the sample had been evenly split or if a majority had not worked with or had exposure to the profession. Another form of response bias is selecting an answer because it appears to be the correct or most-desired answer. To mitigate this, we carefully phrased items on the questionnaire so they were more opinion based than factual. However, we could not completely control for this or the ability of the respondents to Google what was thought to be the correct answer instead of being transparent and honest about their true knowledge and perceptions. Given our survey distribution methods, we were not able to categorize early or late respondents in an attempt to quantify any potential response bias among them. Another limitation was the possibility that another school representative completed the questionnaire on the athletic director's behalf. We tried to control for this possibility by carefully reviewing the job title listed on each questionnaire and including only responses from individuals who identified as the athletic director or similar (eg, athletic administrator, athletic or activities coordinator). Lastly, although we received participant responses from all 50 states and the District of Columbia, we caution against generalizing the findings to the population level because of the relatively low number of athletic director responses per state.

Opportunities for future research regarding this topic are widespread, including a more direct comparison of geographic locations to determine any influence on perceptions of AT salaries. Additionally, we obtained data only from public school athletic directors, so it would be interesting and worthwhile to replicate this study in the private sector to see how or if the level of knowledge, perceptions, or both are affected. This investigation also opens the door for educational intervention research, in which tailored approaches can be developed, implemented, and assessed for this population to determine the effectiveness of not only improving athletic directors' knowledge but also potentially affecting decision making.

CONCLUSIONS

The goal of our study was to provide ATs with information that may prove useful when working with athletic directors to successfully navigate new contracts, negotiate salaries, and continue to educate stakeholders regarding the value of medical care provided by ATs. The athletic directors in our sample were forthcoming regarding the value they believed an AT provided for the health and safety of student-athletes. Additionally, they were knowledgeable regarding the tasks performed in the role, specifically the skill sets that were directly visible to the athletic director during their interactions with the AT. Components of the role that were not as frequently seen during day-to-day interactions, such as administrative tasks, were not as widely recognized. This highlights an important consideration regarding the role exposure has in one's knowledge and perception of the profession. Although we cannot directly conclude that exposure was the cause of the positive findings from this study, we encourage ATs to use any encounter, particularly with key decision makers, as educational opportunities to improve or enhance others' outlooks on and understanding of the profession. It is important that secondary school athletic directors remain advocates. If we continue to demonstrate our value as health care professionals, we hope that the need to employ ATs in secondary schools will be recognized by the administrative personnel responsible for hiring.

ACKNOWLEDGMENTS

We would like to thank the National Athletic Trainers' Association for initiating and partially funding this research. Special thanks to Emily Chu, Lauren Bayerowski, Jessica Decoteau, Fatou Lack, Oliver Perrine, Daniel Yu, and other Korey Stringer Institute independent-study students who were part of our research team for their contributions.

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