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

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ABSTRACT

Context: Athletic directors are charged with making impactful decisions for secondary school athletic programs that mitigate risk for stakeholders involved. This includes decision-making regarding the provision of medical care for student-athletes. To date, limited research has explored athletic directors’ perceptions of athletic training.

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

Design: Concurrent mixed methods.

Setting: Cross-sectional online questionnaire.

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

Intervention(s): Questionnaire composed of demographics, various quantitative measures assessing athletic directors’ knowledge and perceived value of ATs, and open-ended questions allowing for expansion on their perspectives.

Main Outcome Measure(s): Descriptive statistics were reported, with key quantitative findings presented as count response and overall percentages. Qualitative data were analyzed using the general inductive approach.

Results: A majority of respondents recognized the ATs’ role in injury prevention (99.8%), first aid/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 provide “peace of mind” and remove the responsibility of making medical decisions from coaches and administration.

**Conclusions:** Athletic directors appeared to recognize the value ATs bring to the secondary school setting and demonstrated adequate knowledge regarding ATs’ roles and responsibilities. Educational efforts for this population should focus on AT-related tasks that are not frequently seen in the public eye, yet add to perceived value, in order to potentially influence hiring decisions.

**Key Words:** athletic administrator, high school, medical professional
INTRODUCTION

Research regarding 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 published benefits, there is an inherent injury risk associated with physical activity and sports participation, which at times can be catastrophic.

From 2005 to 2014, 6% of all sport-related injuries at the high school level were season- or career-ending injuries.\(^6\) Furthermore, in 2018, the high school setting had the most football-related deaths compared to professional, collegiate, and middle school settings.\(^7\) Risk of sudden death in sport is reduced when appropriate policies and procedures are in place to maximize health and safety for student-athletes.\(^8\)

Risk mitigation for athletics at the secondary school level often falls in the hands of 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 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 various public and private secondary school student-athletes across the country still do not have access to an AT.\(^13,14\) Cited reasons 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 role.\(^15,16\)
In addition to these barriers, athletic directors have also reported they did not feel they were in positions of power to hire an AT, and that a decision at this level was best suited for district superintendents and school boards. While superintendents have authority regarding budgetary decisions and the allocation of funds for an AT position, it is, however, often the role of the athletic director to advocate for the position, coordinate the hiring process, and make specific personnel decisions for that position. According to their Code of Ethics, an athletic administrator “considers the health and well-being 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.” All administrators at the district and individual school level may be held liable by not providing appropriate medical care for student-athletes or having a plan in place to readily address athletic-related injuries and emergency situations.

To date, there is limited research on the perceptions and knowledge athletic directors have regarding the athletic training profession. Recent literature has reported that creation of AT positions in the secondary school are influenced by policy, various personnel, and community organizations, and that athletic directors viewed ATs as ideal healthcare providers and valued enhanced player safety, reduction of costs for parents, and increased productivity of coaches associated with having an AT present. Previous studies by Clines et al filled an important gap in the literature and provided a foundation for future research, however the small sample size and qualitative methodology utilized limit 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., we aimed to add to the literature by accessing a larger sample, including athletic directors working with and 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 study was twofold: (1) to explore public school athletic directors’ perceptions of the athletic training profession and (2) to evaluate their level of knowledge regarding ATs’ qualifications and responsibilities. The investigation was guided by the following research questions: (1) What are athletic directors’ perceptions of the value and impact of an AT on physical activity and sports safety? (2) What do athletic directors perceive to be the role, education, and responsibility of the AT?

METHODS

This study was part of a larger investigation 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 two-part series regarding school administrators’ perceptions and knowledge and outlines the methodological procedures and key findings from our athletic director cohort. Part II 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. In order 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 (Provo, UT). This research protocol was approved by XXX 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 four distinct time points (May 2017, October 2017, January 2018, May 2018). This distribution method was purposeful, as contact information for various states were collected at different rates due to multiple factors including the number of schools (districts) in the state and availability of online resources. Following initial distribution of the questionnaire at each time point, reminder emails were sent one week and three weeks post initial distribution as 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 Statistics 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/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 information available was then transferred over to the research team’s database. If a school was not listed in the directory, or if information was missing or out of date, we accessed the individual school’s website to identify the athletic director and obtain his/her contact information. Lastly, if we could not obtain the information needed from the two previously mentioned resources, a member of the research team called the school to obtain the information from a school representative. If a school was listed as having two or more athletic
directors, we only obtained contact information for the “head” athletic director. The only exception to this was if they were identified as co-athletic directors, indicating the administrative responsibilities were shared. In this case, contact information for both was obtained. Additionally, if the athletic director served in another administrative position simultaneously (e.g. principal), he/she received the questionnaire corresponding to the highest ranked position. Following database completion, 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 worked together to develop a questionnaire assessing athletic directors’ knowledge and perceived value of the athletic training profession. Content knowledge through previous experience as an AT in the secondary school setting (collective 5 years) and serving as an educator in an athletic training program (collective 8 semesters) was a primary facilitator of questionnaire development from a content perspective. From a methodological standpoint, both research team members also had previous experience in survey development and review. Following initial development, we reached out to key personnel in the marketing department at the National Athletic Trainers’ Association (NATA) for review and feedback.

To enhance credibility, the questionnaire underwent thorough review by three high school athletic directors. The reviewers (athletic directors) were provided with a content validity tool and were asked to rate each questionnaire item on its clarity, relevance, and importance based on the predetermined purpose and research questions. Scores for all three criteria were based 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 were scored a 2 or
lower by a majority of reviewers (2 out of 3) were either removed, if indicated, or edited to improve clarity and enhance meaningfulness. Following review by the National Athletic Trainers’ Association’s marketing department and content validation from three high school athletic directors, 11 questions were eliminated from the instrument due to redundancy, concerns regarding instrument length, and the appropriateness of the question to the study’s overall purpose. Slight changes in wording were also made when indicated to enhance clarity.

After incorporating feedback, the finalized questionnaire was created on the Qualtrics (Provo, UT) platform and consisted of three 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 profession; and (3) open-ended questions that allowed respondents to expand on their knowledge and perspectives. Survey questions in section two were developed based on the Board of Certification Practice Analysis, 7th edition, and the NATA’s Secondary School Value Model. We aimed to assess athletic directors’ perceived value of athletic training directly (eg, value of an AT to the health and safety of student-athletes) and indirectly (eg, salary, liability reduction, cost savings). The following open-ended questions (section three) were asked of the respondents: (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 dissemination to our athletic director contacts, a member of the research team accessed the questionnaire on the Qualtrics platform and answered the questions in full to not only ensure accuracy, but also address any discrepancies that would compromise the validity of the data collected.
Quantitative Data Analysis

Select quantitative data (demographics) were analyzed using Microsoft Excel, Version 16.27, and are reported as mean (± SD) and overall percentages where appropriate. The “report” feature housed within the Qualtrics survey platform automatically calculated summary statistics (e.g. percentages) for all quantitative measures collected via the online questionnaire. We analyzed the data from the collective sample first, and then in order to compare the responses of athletic directors who worked at schools where ATs were currently employed compared to athletic directors who worked at schools where ATs were not currently employed, we dichotomized these two groups in our quantitative analysis.

Qualitative Data Analysis

Open-ended responses were analyzed using a general inductive approach. This method was purposeful as it allowed the research team to condense a large amount of textual data into a consumable and meaningful way. We coded the entire sample together due to our general inductive approach to data analysis. With this analysis method, any differences between athletic directors who worked at schools where ATs were employed compared to those athletic directors who worked at schools where ATs were not employed would have emerged in our analysis. The analysis process consisted of 4 major steps, with the first being an immersive process, whereby two members of the research team read through the open-ended responses in order to familiarize themselves with the data. Both researchers then assigned ‘codes’ to the data that helped support and/or address the study’s purpose and research questions. Codes with similar meanings were then combined to form overall categories, which were then defined to become emerging themes in the data. The first three steps of the analysis process were conducted independently before the two researchers came together 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 two researchers were in complete agreement on the overarching
trends and themes in the data. During the analysis process, it was 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 methodological triangulation, specifically
simultaneous triangulation.\(^{28}\) The collection of both quantitative and qualitative data
simultaneously allows for cross-validity checks\(^{29}\) and the identification of similarities or
discrepancies between the two types of data collected. Both quantitative measures and open-
ended questions assessed athletic directors’ perceptions and knowledge of athletic training. This
overlap was purposeful, providing deeper insight and a more comprehensive understanding of
the phenomenon (eg, knowledge and value).

**RESULTS**

Quantitative and qualitative results are combined below and presented by our sample’s
overall impressions of ATs and the profession. Table 1 presents athletic directors’ responses to
survey questions specifically measuring knowledge and perceived value of athletic training, and
breaks down percent response by athletic directors who worked at schools with an AT employed
and those who worked at schools without an AT employed at the time of survey completion.
Table 2 highlights our qualitative data and provides additional supporting quotes from
participants.

**Demographics**

Of the 13,668 athletic directors that received the questionnaire over the four time points,
954 completed it, yielding an approximate 7% (954/13,668) response rate. Despite a lower
response rate than expected, we had 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 worked an average of 9.8 ± 8.3 years in their current athletic director role at the time of survey completion (median: 7 years; range: 0-53 years). A small percentage of respondents (n=54, 5.7%) also served as the principal for their respective school. Table 4 summarizes additional demographics for this sample.

Among our sample, 720 (75.5%) athletic directors indicated that their school currently employed an AT. Of the 234 (24.5%) who indicated they did not currently 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%) indicated yes, while 615 (64.5%) indicated no.

**Removal of Medical Decisions from Coaches and Administration**

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 surveyed indicated a coach was a trusted source of medical information. Approximately 15% felt an athletic director was a trusted source, and only about 5% felt a principal was a trusted source of medical information (Table 1). These percentages were consistent among athletic directors currently working with ATs and those who were not. As one participant stated, “It [employment of an AT at the school] allows someone with the appropriate training to be dealing with injuries.” Another participant 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 to 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, one athletic director had the following to say:

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 currently do not have a full-time AT recognized the value of an AT
in this regard, as one athletic director stated, “It [having an athletic trainer on staff] would have a
huge impact. It would allow coaches to coach and a professional would be able to help with
injuries.”

Many athletic directors described how having a medically trained person allows coaches
to focus on coaching while the AT can provide the appropriate care to student athletes.

Furthermore, participants explained that coaches have an interest in the game and are concerned
with wins and losses, whereas the ATs’ focus is on the health and well-being of the athletes. “It
takes the guess work 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 said,

It [having an athletic trainer] 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 quote summarized the overall message by simply saying, “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 they have a trained person 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 expressed the peace of mind their AT provides them,

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 participant explained that they felt the AT provided a sense of security to multiple people involved in athletics when they said,

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 consider to be the top three important safety measures, nearly 61% of the sample selected having an AT employed 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 at the time of survey completion. However, “Athletic Trainer Employed at School” was the third most commonly selected option among athletic directors who currently oversee athletics programs that do not employ an AT (Table 1).

**Liability**
When asked about the importance of having an AT present at their schools, the athletic directors indicated the role the AT plays in limiting liability, which could help explain the *peace of mind* they expressed,

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

The majority of athletic directors indicated that employing an AT at a high school reduces liability. The percentage of athletic directors indicating “definitely yes” was larger among the group of athletic directors who had ATs employed at their schools, but 76.9% of our respondents who do not currently work at schools where ATs are employed indicated “definitely” or “probably” yes (Table 1).

**Immediacy of Care**

In addition to peace of mind provided by the reduced liability employing an AT provides, our qualitative data highlighted the peace of mind athletic directors received knowing that there was an immediacy of care for the student athletes. Some participants talked about the immediacy of 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 participant simply stated, “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 discussed this peace of mind as an argument for 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 Athletic Trainers - “Essential”**

Many of our participants described an AT as an “essential” employee of their school. As one athletic director said, “It is not an option, an athletic [trainer] needs to be employed by the school.” Some athletic directors had previously worked at schools that did not employ ATs and they stated, “Having been at a school without an athletic trainer before starting at my current position, having an athletic trainer is invaluable.” Another said, 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 explained that if a school has an athletics program, there needs to be an AT present,

If your school has an athletic program, it is absolutely necessary for an athletic trainer [to be on staff]. It is a 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 opinion of a fair salary for a full-time AT. Perceptions regarding appropriate salary demonstrate, in part, athletic directors’ perceived value of the profession. While overall percentages are similar, 16.2% of athletic directors who worked with ATs at the time of survey completion indicated “greater than $60,000” compared to 3.4% of those who did not employ ATs (Table 1). While we did not control for geographic location in these responses, this may be an indication
that athletic directors currently working with ATs see a greater monetary value in the services
ATs provide. This would need to be further explored.

**Recognized Value of Athletic Trainers - Understands Role Beyond Prevention**

Part of the athletic director’s recognition of the value of the AT appeared to be their
knowledge of all five domains of athletic training. We asked the participants 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 has been found in previous research examining stakeholder
perceptions of ATs. One participant simply responded, “[Athletic trainers are] professionals
who specialize in preventative injury care, emergency care, and rehabilitative services to injured
athletes.” The following response highlighted that athletic directors also recognize an ATs role in
documentation and medical records,

> [An athletic trainer 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
recognized the AT’s role in providing holistic care, which includes mental health support,
An athletic trainer 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 athletic trainer 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 participant expressively summarized the many roles of ATs while also highlighting their belief that schools with athletics programs should hire an AT,

Athletic trainers are experts on injuries and our number one resource when kids get injured etc... They help prevent 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 believe all schools with a sizable number of athletic programs and athletes should employ a [athletic] trainer on campus.

This recognition of the medical services that ATs provide 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/qualifications of ATs (Table 1).

**DISCUSSION**

In this investigation, we aimed to explore public secondary school athletic directors’ perceptions of the athletic training profession, particularly their perceived value of an AT, and examine their current knowledge of ATs’ qualifications and responsibilities. When viewed collectively, our sample of athletic directors recognized the value ATs bring to the secondary
school athletics setting and demonstrated an appropriate level of knowledge regarding the roles and responsibilities of the AT. When dichotomizing our sample by AT employment (athletic directors employed at schools with an AT versus athletic directors employed at schools without an AT), variations in percent response were observed for some of the quantitative measures, which may highlight the role of exposure to the profession on one’s knowledge and perceived value.

**Value**

Gaining insight on athletic directors’ perceived value of ATs was an important component in understanding their overall perspective of the profession. Previous research\textsuperscript{17} has indicated that athletic directors value ATs as trained medical professionals who can increase student athlete safety and reduce liability. Our data supports the previous literature and suggests that secondary school athletic directors do value the AT position. This was apparent in both the quantitative measures and open-ended responses collected through the questionnaire. When we asked the respondents, “In your opinion, how valuable is an AT to the health and safety of student-athletes?”, approximately 95% of our sample selected ‘very valuable’ or ‘extremely valuable.’ When dichotomized by AT employment, a majority of athletic directors who worked at schools without an AT employed (85%) indicated ATs were ‘very valuable’ to ‘extremely valuable’. Furthermore, when athletic directors were presented with a list of potential sport safety measures and asked to only select three they considered to be most important, ‘Athletic Trainer Employed at the School’ was the second most frequently selected response, one percent (approximately 10 respondent selections) below ‘Pre-participation Physical Examinations.’ Interestingly, when separating the responses to this question by AT employment, the top sport safety measure identified by athletic directors without an AT at their school was ‘Pre-
participation Physical Examinations’ (62.8%), whereas the top sport safety measure identified by athletic directors with an AT at their school was ‘Athletic Trainer Employed at the School’ (67.9%). A plausible explanation for this finding may be that athletic directors at schools without an AT employed do not have the added safety net of a healthcare professional (i.e. AT) readily available on site, so they instead rely on the pre-participation physical exam as a primary form of injury/illness prevention and a top sport safety measure.

The secondary school value model 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” (page 2). 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 an AT would reduce the liability at a school. This is an important finding because it demonstrates many athletic directors do see the monetary worth of services provided by ATs. However, this did appear to be influenced by the perceptions of athletic directors who employed an AT at their school. Approximately half of the athletic director respondents who did not have an AT employed at their school 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 responses indicate that athletic directors are recognizing the wide range of skills and qualifications that ATs have. More than 90% of the collective sample affirmed that they believed ATs were qualified to deliver first aid and wound care, provide emergency medical care, conduct injury rehabilitations and offer injury prevention. More than 75% recognized that ATs were qualified to make return to play decisions and clinical diagnoses.
The value athletic directors’ place on the AT role was also evident in the open-ended responses. Previous literature has highlighted barriers to AT employment, with administrators frequently referencing cost and non-budget related concerns, including lack of power, rural locale, and lack of adequate space as hindering the hiring of ATs within secondary schools. Despite these published barriers, athletic directors in our sample frequently described the employment of an AT as “essential,” indicating some level of recognition for the value an AT brings to this setting. One explanation for this finding may be the demographic of the group of athletic directors that responded to the survey. A majority of responding athletic directors indicated their respective school employed an AT, meaning the school either did not face barriers to hiring one or already identified strategies to overcome the barriers they 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 therefore have a difficult time visualizing the athletic program without one, hence the “essential” term used.

Another area used to measure perceived value of the AT position was liability. ATs can reduce liability for the school system in various ways, including through the development and initiation of emergency action plans, and appropriate oversight of athletes as they return to sport following injury under the supervision of a licensed physician. When we asked, “Do you believe employing an athletic trainer at a high school reduces liability?,” close to 70% of responding athletic directors selected ‘definitely yes,’ and approximately 19% selected ‘probably yes.’ This aligns with the findings of Gould and Deivert in their investigation of NATA District 4 administrators’ knowledge and perceptions of athletic training. They found that 65 out of 85 athletic director respondents were “very concerned” with liability, and that 53% of responding...
athletic directors believed an AT “highly reduced” liability. The AT’s role in reducing liability
has also been reported as a supporting factor to defend the hiring of an AT in the event the
position was ever at risk due to budgetary cuts. This reduction in liability not only creates a
sense of comfort and peace of mind for athletic directors, partly because it removes coaches and
other unqualified personnel from making medically-related decisions, but it is also cited as a
reason athletic directors use to justify the employment of an AT. According to Courson et al,
“The athletic trainer has an ethical obligation to maximize the well-being of the athlete and
minimize the liability exposure of the school” (page 131). This certainly did not go unnoticed by
our sample when they discussed their perceived value of the AT role.

In their responses, our sample of athletic directors discussed how they felt having an AT
removed the responsibility of medical decisions from coaches 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 existing literature that has demonstrated that athletic
directors value ATs, in part, due to the increased productivity of coaches when an AT is present.
Clines et al. reported the perceived value of ATs from the athletic director perspective as being,
in part, related to reduction in the loss of productivity of coaches who do not need to focus on
managing the health care needs of student athletes, but can rather focus on coaching
responsibilities. The authors go on to emphasize the importance of considering the value of ATs
from the perspective of both direct and indirect costs.

Knowledge

In addition to perceived value, we also aimed to assess athletic directors’ knowledge as it
pertains to ATs’ qualifications and responsibilities. Athletic directors consistently correctly
identified responsibilities that aligned with the Board of Certification’s Standards of Professional
Practice and demonstrated their knowledge by describing the role ATs play or could play within their own schools. When we provided a list of various roles and responsibilities and asked the athletic directors to select what they believed ATs were qualified to do, 99.8% selected ‘Injury Prevention’ (Standard #2 “Prevention”), 98.8% selected ‘First Aid/Wound Care’ (Standard #3 “Immediate Care”), 93.8% selected ‘Therapeutic Interventions’ (Standard #5 “Therapeutic Interventions”), 91.6% selected ‘Emergency Care’ (Standard #3 “Immediate Care”), and 79.4% selected ‘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 that the athletic director has with the AT. Athletic directors who interact with the ATs and attend events get to observe what the job entails day to day, including injury prevention strategies, injury evaluations, rehabilitation and emergency care. However, much of the ATs’ administrative responsibility does not appear in the spotlight, and is likely a reason for why this practice standard, although a major component in reducing liability, is not widely recognized. Our findings regarding athletic directors’ knowledge of athletic training align with previous reports, in that there is recognition of the ATs role beyond injury prevention. Gould and Deivert found the most widely recognized AT-related tasks by athletic directors in NATA District 4 were “taping and bandaging,” “evaluating athletic injuries,” and “rehabilitation of injuries.” Additionally, a recent study by Clines et al. reported similar findings, however, athletic directors in this study also identified tasks associated with “Immediate/Emergency Care” and “Organizational and Professional Health and Well-Being” domains. In fact, all 10 participants identified roles and responsibilities that aligned with the administrative
responsibility of the AT role. Interestingly, only 20% of our sample selected administrative responsibilities (eg, billing insurance companies) as a task ATs are qualified to perform, which is a component of the “Organizational and Professional Health and Well-Being” domain. Although these differences may be due to the methodology used or the study samples, this highlights an opportunity and an area for future education. Ironically, the one practice standard that can have a direct impact and arguably protect the school and its personnel from potential litigation is not widely recognized, at least for the sample of athletic directors in this study. We need to continue to educate athletic administration on the entire athletic training scope of 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.

The investigations by Clines et al. 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 value and knowledge from athletic directors who worked with and without an AT at the time of survey completion. The perspectives of athletic directors who did not have an AT employed at the school are crucial in order to address potential misconceptions or gaps in knowledge to increase employment opportunities for ATs in this setting. Additionally, our findings provide a thorough understanding of the peace of mind ATs provide for athletic directors, because there is a medical professional onsite and available to immediately tend to a student-athlete when an injury occurs. This ultimately builds on the findings of Clines et al. 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 have an AT employed at their school (90%) believed their school should hire one in a full- or part-time capacity. The desire to hire an AT potentially speaks to athletic directors’ understanding of the
worth and value of this position despite the logistical and financial barriers they continue to face.

The findings of our study are promising as they highlight that athletic directors do have a basic understanding of the AT role and the medical services that an AT can provide. Since athletic directors are often in a position to advocate for the AT position, this data may indicate that athletic directors could serve as allies in the hiring of ATs in secondary schools. While these results are promising, 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 do not seem to recognize the value ATs could have 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, CPT codes), to not only objectively demonstrate their worth, but in doing so, also improve athletic directors’ perceived value of the AT position and the services ATs provide.

Limitations and Future Directions

There are a few limitations that readers should be aware of when interpreting the results of this study. A common limitation with survey-based research is the chance for response bias, which could have occurred in two forms. There is always a possibility that athletic directors that were more knowledgeable or passionate about the topic were more likely to participate. A majority of our respondents worked at a school that employed an AT, so the overall findings may have been different if the sample was 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 or answers 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 versus factual. However, we could not completely control for this or the ability of the respondents to Google what is thought to be the “correct” answer instead of being transparent and honest about their true knowledge and perceptions. Given our survey distribution methodology, we were not able to categorize “late” or “early” respondents in an attempt to quantify any potential response bias. Another limitation of the study was the potential for another school representative to complete the questionnaire on the athletic director’s behalf. We attempted to control for this limitation by carefully reviewing the “job title” listed on each questionnaire and only including responses from individuals who identified as the athletic director or similar (e.g., athletic administrator, athletic/activities coordinator). Lastly, although we had participant responses from all 50 states and the District of Columbia, generalizability of the results to the population level should be cautioned due to 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 location to determine if that may impact perceptions of AT salaries. Additionally, since we only obtained data from public school athletic directors, it would be interesting and worthwhile to replicate this study in the private sector to see how or if level of knowledge and/or perception is affected. This study also opens the door for educational intervention research, where tailored approaches could be developed, implemented, and assessed for this population to determine the effectiveness of not only improving athletic directors’ knowledge, but also potentially impacting decision-making.

Conclusions

The goal of this study was to provide ATs with information that may prove useful when working with athletic directors to successfully navigate new contracts, negotiate salary, and
continue to educate stakeholders regarding the value of medical care provided by ATs. Athletic directors in our sample were forthcoming regarding the value they believe an AT has on the health and safety of student-athletes. Additionally, they were knowledgeable regarding the tasks performed in the role, specifically the skill sets that are directly visible to the athletic director during his/her interactions with the AT. Components of the role that are 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 on someone’s knowledge and perception of the profession. Although we cannot directly conclude that exposure was the cause of the positive findings resulting from this study, we encourage ATs to use any encounter, particularly with key decision-makers, as educational opportunities to improve or enhance one’s outlook on, or 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 will be recognized by administrative personnel responsible for employing ATs in secondary schools.

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Table 1. Athletic Directors’ Knowledge and Perceived Value of Athletic Training

| Question                                                                 | Responses                                                                 | AT Employed at AD’s School n/720 (%) | AT Not Employed at AD’s School n/234 (%) | All Respondents n/954 (%) |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|----------------------------------------|--------------------------|
| 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 (EMT)                                         | 565 (78.5)                           | 188 (80.3)                             | 753 (78.9)               |
|                                                                         | Physician’s 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)                 |
|                                                                         | Principal                                                                 | 39 (5.4)                             | 10 (4.3)                               | 49 (5.1)                 |

Of the following items, which do you consider to be the top three important sports safety measures? Please select only three.

| Pre-participation 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 (e.g. 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 | Probably Yes | Might or Might Not |
|-----------------------------------------------------------------------------|---------------|--------------|--------------------|
| 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 (e.g. insurance claims)? | Definitely Yes | Probably Yes | Might or Might Not |
|----------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------------|
| 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? | Less than $30,000 | $30,000 to $40,000 | $40,000 to $50,000 | $50,000 to $60,000 | Greater than $60,000 |
|---------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------|-------------------|-------------------|---------------------|
| Less than $30,000                                                                                                              | 32 (4.4)         | 19 (8.1)          | 51 (5.4)          |                   |
| $30,000 to $40,000                                                                                                             | 148 (20.6)       | 81 (34.6)         | 229 (24.0)        |                   |
| $40,000 to $50,000                                                                                                             | 228 (31.7)       | 88 (37.6)         | 316 (33.1)        |                   |
| $50,000 to $60,000                                                                                                             | 195 (27.1)       | 38 (16.3)         | 233 (24.4)        |                   |
| Greater than $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 (e.g. taping, equipment fitting, education) | First Aid/Wound Care | Therapeutic Interventions (e.g. rehabbing an injury) | Emergency Care |
|----------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------|-------------------------------------------------|---------------|
| Injury Prevention (e.g. taping, equipment fitting, education)                    | 719 (99.9)                                                   | 715 (99.3)         | 684 (95.0)                                     | 674 (93.6)    |
| First Aid/Wound Care                                                             | 233 (99.6)                                                   | 228 (97.4)         | 211 (90.2)                                     | 200 (85.5)    |
| Therapeutic Interventions (e.g. rehabbing an injury)                              | 952 (99.8)                                                   | 943 (98.8)         | 895 (93.8)                                     | 874 (91.6)    |
| Emergency Care                                                                    |                                                              |                     |                                                 |               |
| Activity                                           | Count | Percentage | Total  |
|----------------------------------------------------|-------|------------|--------|
| Clinical Diagnosis (e.g. injury evaluations)       | 589   | 81.8       | 757    |
| Make Return to Play Decisions                      | 584   | 81.1       | 729    |
| Strength and Conditioning/Maximizing Performance   | 359   | 49.7       | 477    |
| Diagnose Eating Disorders/Mental Health Problems   | 176   | 24.4       | 228    |
| Administrative Tasks (e.g. bill insurance companies) | 155  | 21.5       | 193    |
| Other                                              | 55    | 7.6        | 58     |

In your opinion, how valuable is an athletic trainer to the health and safety of student-athletes?

| Valuability                        | Count | Percentage | Total  |
|------------------------------------|-------|------------|--------|
| Extremely Valuable                 | 621   | 86.3       | 736    |
| Very Valuable                      | 91    | 12.6       | 175    |
| Moderately Valuable                | 7     | 1.0        | 38     |
| Slightly Valuable                  | 0     | 0.0        | 4      |
| Not at all Valuable                | 1     | 0.1        | 1      |
## Table 2. Participant Quotes in Support of Results

| Emergent Theme                                                                 | Supporting Quote                                                                                                                                 |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| **1. Removal of Medical Decisions from Coaches and Administration**           | “It helps a lot to have a medical professional on a daily basis because often times coaches are responsible for medical care and we are not as qualified.” |
|                                                                                | “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.” |
|                                                                                | “Athletic trainers are not concerned with the outcome of games and they are trained to deal with injuries, where a coach has minimal training and judgment can be clouded by the desire to be successful.” |
|                                                                                | “An [athletic trainer is an] unbiased voice or reason when dealing with an injury.” |
| **Peace of Mind**                                                             | “I feel much better that there is a medical professional available on site.” |
|                                                                                | “[I have] Peace of mind knowing that if something goes wrong a trained person is nearby.” |
|                                                                                | “I think it's a huge help and relieves my stress levels as an AD.” |
|                                                                                | “The comfort level and reassurance of having a certified/trained individual present on a daily basis is immeasurable.” |
| **Liability**                                                                 | “It [having an athletic trainer] would take liability off coaches and schools.” |
|                                                                                | “[Having an athletic trainer] provides the safety and treatment measures that are needed. It also protects against liability issues.” |
|                                                                                | “[Employing an athletic trainer has a] very positive impact. And some level of insulation from liability.” |
|                                                                                | “There is always a certified athletic trainer at all [of our] events. I don't know how you could cover yourself legally without it.” |
| **Immediacy of Care**                                                          | “[Athletic trainers are] a great first line of treatment when injury occurs.” |
|                                                                                | “[Athletic trainers are] extremely valuable due to knowledge and availability to provide immediate and/or continued care for student athletes.” |
|                                                                                | “[The athletic trainer provides] constant monitoring and immediate reaction to...” |
injury [which] gives an obvious advantage.”

3. Recognized Value of Athletic Trainers

   Essential

   “Athletic trainers should be required at all high schools.”
   “I wouldn’t coach or be an AD without one.”
   “An athletic trainer is not an option, it is a necessity.”
   “We have an athletic trainer and I believe they are essential to any sports program.”
   “Every high school in America should have it required to staff an Athletic Trainer
   at their school.”
   “At one time having an [athletic] trainer at the high school level was a luxury where
   now I view it as a necessity.”

   Understands Role Beyond Prevention

   “An athletic trainer is a medical professional that specializes in injury prevention,
   emergency care, injury diagnosis, and rehabilitation.”
   “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.”
   “[An athletic trainer is a] knowledgeable professional who provides EAPs, safety
   precautions, and medical treatment and rehab for all athletes.”
| State             | Numbers of Respondents (n) |
|-------------------|----------------------------|
| 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                          |
| State          | Count |
|---------------|-------|
| 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** |
Table 4. Respondent Demographics

| Demographic                     | Response n/954 (%) |
|--------------------------------|-------------------|
| **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*                         | 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)        |

*Common responses for other forms of education included 6th year and education specialist degrees*