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## An Examination of Athletic Directors' Perceptions of the Utilization of Athletic Trainers in the Secondary School Setting

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AN EXAMINATION OF ATHLETIC DIRECTORS' PERCEPTIONS OF THE UTILIZATION  
OF ATHLETIC TRAINERS IN THE SECONDARY SCHOOL SETTING

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## ABSTRACT

### AN EXAMINATION OF ATHLETIC DIRECTORS' PERCEPTIONS OF THE UTILIZATION OF ATHLETIC TRAINERS IN THE SECONDARY SCHOOL SETTING

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Many secondary school athletes are lacking appropriate medical care during sport participation. Athletic trainers (ATs) are qualified healthcare professionals that can fill this need. Barriers to hiring ATs within this setting have been identified, however important information from administrators is lacking on why secondary schools choose to utilize ATs. Understanding this decision making process has the potential to guide future strategies to increase the number of secondary schools that employ ATs and improve retention of athletic training positions within the secondary school setting.

Our objective was to explore athletic directors' perceptions of the roles and services provided by ATs working in the secondary school setting and to understand the needs of the athletic program and school in terms of the utilization of athletic training services. Utilizing a qualitative methodology, ten high school athletic directors employed by schools that utilize the services of full-time ATs completed a telephone interview facilitated by a semi-structured interview guide. All interviews were recorded and transcribed verbatim. Data was analyzed following the consensual qualitative research approach (CQR). Data credibility was established through peer review, field notes, member checking, and multiple analyst triangulation. Five themes emerged. *Justification* pertained to reasons athletic directors would use to defend or justify why they utilize ATs within their schools. *Athletic trainer roles and responsibilities*

represented the observed services provided by ATs. *Recognition of worth* referred to the evaluation of and appreciation for the AT's position within the school. *Challenges* represented the concerns and struggles athletic directors faced regarding the use of ATs within their athletic programs. *Influencing factors* consisted of aspects related to the decision to utilize ATs within athletic programs. The findings demonstrate that athletic directors have an appreciation for and overall understanding of the services provided by ATs in the secondary school setting. The value of secondary school ATs is predominantly supported by anecdotal evidence rather than formalized assessment methods or the use of data driven materials. Despite the athletic director's administrative role, school board members hold the ultimate authority in the decision making process to utilize ATs in this setting.

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## CHAPTER I

### INTRODUCTION

#### Background

Secondary school athletes are lacking appropriate medical care while participating in school sponsored athletic programs.<sup>1</sup> Organizations such as the National Athletic Trainers' Association (NATA) have provided recommendations for appropriate healthcare for student-athletes within the secondary school setting.<sup>2-6</sup> Among these recommendations, all schools with an athletic program should have a qualified healthcare provider, such as an athletic trainer (AT), to address the medical needs of student-athletes.<sup>3,5</sup> Despite these recommendations, most school systems rely on coaches or parents who have minimal or no medical training to provide medical coverage for sporting events.<sup>1,7</sup> Participation in athletics, even at the high school level, comes with associated risks for injury. However, current evidence suggests that many of these risks can be mitigated with proper prevention, assessment, and treatment by a qualified healthcare provider.<sup>8-</sup>

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Athletic trainers are nationally certified healthcare professionals who specialize in the assessment, prevention, treatment, and rehabilitation of athletic related injuries.<sup>12</sup> Within the secondary school setting, ATs provide services to student-athletes through both direct employment and clinic-outreach employment models on a full or part-time basis. Even with this resource available to schools, less than 50% of secondary schools in the United States have regular access to an AT.<sup>1</sup> Factors such as budgetary restrictions and misunderstanding of the profession continue to persist as reasons schools do not hire an AT to provide care for student-athletes.<sup>1,7,13</sup> For the limited number of secondary schools that do utilize athletic training services, no research has been conducted to date that serves to identify the rationale and

facilitators behind why these schools include ATs as members of their athletic programs.

Without understanding the factors associated with the utilization of ATs in secondary schools it is challenging to discern the influences on the decision making process within athletic programs and school systems. Therefore, the need to explore this phenomenon is great, as it is possible that the information gained can assist in developing a deeper understanding of differences in this decision making process and drive theory that can guide future investigations regarding improving the number of secondary schools that utilize athletic training services.

### **Organizational Role Theory**

Organizational role theory (ORT) as described by Katz and Kahn<sup>14</sup> suggests that there is an interaction between one's roles within an organization and the impact those roles have on achieving the organization's goals. The process of establishing employee roles and responsibilities is best described as a sequence of cyclical role episodes in which a member set of the organization establishes expectations for the focal person, communicates those expectations to the focal person, then observes and evaluates the focal person's work behaviors in relation to the organization's needs.<sup>14</sup> The theory is built around four main assumptions: 1) role-taking, 2) role-consensus, 3) role-compliance, and 4) role-conflict.

*Role-taking* refers to the assumption that an individual will accept a role given to them by their employer. This is typically described as the act of accepting a position of employment within an organization. During the role-taking process an employee may be required to fulfill a variety of roles.<sup>15</sup> As the complexity of the multiple roles assumed increases, problems for the employee may arise if the employee fails to meet the expectations of others in the process of fulfilling those roles.<sup>14</sup>

*Role-consensus* assumes that there is an understanding between employers and employees that in order for the organization to succeed there must be a mutual agreement on the expectations regarding the employee's roles. It is within this second assumption that organizational cultural norms also arise that serve to generate consistency in the behavior of employees within the organization.<sup>16</sup>

*Role-compliance* is associated with the behaviors adhered to by the employees. These behaviors are well-defined, pre-established objectives identified within the job description of each position. Compliance can also be influenced by the establishment of organizational policies and performance goals.<sup>17</sup> Failure to adhere to the expected behaviors associated with one's position can result in sanction by the employer to correct the issue of non-compliance.<sup>14</sup>

*Role-conflict* states that problems will result when the expectations of one role conflict with those of another role. Conflict between roles can occur between multiple organizational related roles<sup>15</sup> as well as between organizational and personal related roles<sup>16</sup> which is more commonly referred to today as work-life conflict.<sup>18</sup>

Organization role theory, with particular attention to the area of work-life conflict, has been explored within the athletic setting,<sup>19-21</sup> including in the athletic training population.<sup>22-24</sup> However, research within the athletic organizational system has yet to explore the fundamental principle of the role episode as a means of understanding the establishment and assessment of roles. Within the dynamic between the athletic director and AT the observation and evaluation processes that characterize the role episode occurs. Understanding this evaluative process and identifying the rationale and perceptions associated with the utilization of ATs in the secondary school setting by an athletic administrator may provide key information to assist in understanding the needs of the organization and how the AT position can fulfill those needs.

Understanding the goals of the organization and the role the ATs plays in achieving those goals will provide important foundational information that can be applied to establishing the value of ATs within the secondary school setting and may aid future efforts to expand the reach of ATs within the secondary school setting across the nation.

### **Statement of the Problem**

Healthcare provided to secondary school student-athletes is not well managed.<sup>25,26</sup> Inconsistencies between the types of care provided to student-athletes occurs across the country,<sup>26</sup> including the utilization of athletic training services.<sup>1,7</sup> The rationale and perceived benefits for using ATs in the secondary school setting is currently unexplored. This investigation addressed that gap in knowledge by exploring the athletic director's perceptions of the role of ATs in the secondary school setting and provide an understanding of the needs of the athletic program and school in terms of the utilization of AT services.

### **Specific Aims**

Remaining consistent to the tradition of qualitative investigations, the researchers have not generated any hypotheses due to the inductive nature of this study and to avoid researcher bias.<sup>27</sup> Therefore, the specific aims of this investigation was guided by the following research questions:

**Specific Aim 1:** To examine athletic directors' experiences with utilizing ATs within the secondary school setting.

**Research Question 1:** How do secondary school athletic directors perceive the utilization of ATs within their schools?

**Research Question 2:** Do athletic directors determine a benefit of the utilization of ATs within their schools?

**Specific Aim 2:** To explore how athletic directors view the roles and services provided by the ATs within their school.

**Research Question 3:** How do athletic directors describe the roles and services provided by secondary school ATs?

**Specific Aim 3:** To identify factors that influence the decision making process to utilize ATs within the secondary school.

**Research Question 4:** What factors influence the *initial* decision making process to utilize ATs in a secondary school?

**Research Question 5:** What factors influence the decision making process to *continue* the utilization of ATs within a secondary school?

### **Conceptual Definitions**

*Athletic director* – administrator with direct oversight of operations, workers, and participants within the athletic department such as coaches, athletes, and related staff.

*Athletic trainer (AT)* - highly skilled healthcare professional that specializes in the assessment, prevention, treatment, and rehabilitation of emergent and non-emergent injuries and medical conditions who collaborates with physicians to provide patient-centered care to the unique subpopulation of physically active individuals and have met the following minimum educational requirements; (1) graduation from an accredited athletic training program and (2) have passed the Board of Certification (BOC) national certification exam.<sup>12</sup>

*Athletic training services* – Application of athletic training knowledge and skills necessary for clinical practice as derived from the Athletic Training Educational Competencies and Role Delineation Study including, but not limited to, rehabilitation, assessment, injury prevention, treatment, education, game preparation, event/practice coverage, administration work, teaching

classes, oversight of student club, performance enhancement training, and off-season conditioning.<sup>28</sup>

*Clinic-outreach employment model* – Athletic trainer is an employee of a rehabilitation clinic or hospital network who is contracted to provide athletic training services to a school.

*Direct employment model* – Athletic trainer is an employee of the school or school system.

*Full-time athletic trainer* – an AT that provides athletic training services to only one school for a minimum of 30 hours per week, no less than 5 days per week, for at least 10 months of the calendar year.<sup>29</sup>

*Secondary school* - a school intermediate between elementary (primary) school and college. A school consisting of grades 9-12. Also referred to as a high school.

### **Assumptions**

1. Athletic directors will respond to questions honestly.
2. Participants have an appropriate amount of experience with athletic trainers to answer the questions asked.
3. Phenomena are best explained through understanding an individual's perceptions<sup>27</sup> which are generated as a direct result of a particular experience as lived by a person.<sup>30</sup>
4. Roles are established based on the evaluation of expectations generated through the observation of an individual.<sup>15</sup>

### **Limitations**

1. The roles performed by athletic trainers may vary in each school based on their individual job descriptions and employment models.



2. Participant response bias is possible when employing a qualitative methodology.
3. Responses to the NATA Athletic Training Location and Services (ATLAS) database<sup>29</sup> survey are self-reported by athletic trainers. As a result, misinterpretation of the questions and/or response bias is possible.

### **Delimitations**

1. Participants have been working as an athletic director in their current schools for at least two academic years.
2. Participants work in a school that currently employs a full-time BOC credentialed athletic trainer.
3. Participants work in a school that has employed a full-time BOC credentialed athletic trainer for at least one full academic year.
4. The athletic trainer employed within the participant's school utilizes the CORE-AT<sup>31</sup> electronic medical record software.
5. The athletic trainer employed within the participant's school has completed the NATA ATLAS database survey.<sup>29</sup>

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Athletic Participation in Secondary Schools

**Epidemiology of Sport Related Injuries.** Participation in high school sports has reached an all-time high with the number of athletes growing consecutively for the past 25 years to 7.8 million participants.<sup>32</sup> With a rise in athletic participation there has also been an increase in sport related injuries within this population.<sup>33</sup> An estimated 2 million youth sport related injuries occur nationally each year.<sup>33,34</sup> Consistent with literature investigating the epidemiology of injuries in collegiate athletes,<sup>35</sup> the majority of injuries sustained by high school athletes occur to the lower extremity (57.2%) with injuries to the ankle accounting for 22.7% of all lower extremity injuries. Upper extremity injuries and head, face, and neck injuries round out the top three injury sites accounting for 21.5% and 14.6% of injuries, respectively. The most frequent injury diagnosis within the high school athlete population is a sprain or strain (52.1%), followed by contusions (12.3%), fractures (9.8%), and concussions (9.1%).<sup>33,36,37</sup> Regarding injury severity, the majority of injuries are classified as minor with 52.2% of injuries resulting in less than one week of time lost from sport participation.<sup>33</sup> Football accounts for the highest injury rate of all sports<sup>33,36</sup> at 15.28 per 1,000 athlete exposures.<sup>38</sup> By gender, girls' basketball has the highest number of injuries per season, however girls' lacrosse demonstrates the highest injury rate of 11.32 per 1,000 athlete exposures.<sup>38</sup> There is a higher average rate of injury during competition (4.63 per 1,000 athlete exposures) than in practice (1.69 per 1,000 athlete exposures) with the likelihood of injury severity also increasing during games compared to practices.<sup>33</sup>

While less common, fatal and catastrophic injuries have also occurred in the secondary school setting.<sup>39</sup> Between 1982 and 2015 a total of 735 fatalities and 626 catastrophic injuries

were sustained by secondary school athletes.<sup>40</sup> Mechanisms of these incidents were associated with both direct and indirect causes, where direct is defined as injuries resulting from trauma such as athlete-to-athlete contact or athlete-to-object contact and indirect is defined as injuries caused by systemic failure resulting from exertion or a secondary complication to a non-fatal injury. Direct causes were associated with 185 of the reported fatalities (735) and 613 of the catastrophic injuries (626).<sup>40</sup> Research has also demonstrated that 90% of all incidences of sudden death in sport are the result of four conditions: sudden cardiac arrest, traumatic head injuries, exertional heat stroke, and exertional sickling.<sup>40,41</sup>

### **Sport Safety Policies, Legislation, and Recommendations**

**High School Athletic Associations.** The National Federation of State High School Associations (NFHS) is a national organization that provides guidance and direction for high school athletics and performing arts programs across the United States.<sup>42</sup> Unlike athletic organizations such as the National Collegiate Athletic Association (NCAA) the NFHS does not govern high school athletic programs but rather provides information and recommendations to improve the participation experience. As a result, high school athletic programs may choose to follow the NFHS guidelines and recommendations but are not mandated to do so. Therefore, policy and rule changes within secondary school athletics are made by each individual state's legislature, athletic organizations, and athletic leagues.

With each state individually controlling their own athletics policies there is a large discrepancy in the rules and regulations between states. Using a rubric developed from evidence-based best practices to prevent the leading causes of sudden death and catastrophic injury in sport, researchers recently reviewed all state high school athletic association policies, enacted legislation, and Department of Education policies employed within all 50 states and Washington

D.C.<sup>25</sup> The rubric consisted of five subsections including 1) sudden cardiac arrest, 2) exertional heat stroke, 3) traumatic head injuries, 4) appropriate healthcare coverage, and 5) emergency preparedness. Within each subsection were then specific grading criteria related to the topic based on current evidence-based practice recommendations.<sup>25</sup> The end result of the review was a ranking of each state in regards to the implementation of evidence-based practices for preventing sudden death and catastrophic injury in sport. The review identified significant variation in the level of evidence-based practices required to be implemented by each state. With a perfect score equaling 100%, state scores ranged from 78.75-23% with an average score of 47.1%.<sup>25</sup> Variation in scores was attributed to the strength of each state's policies as assessed by the rubric, with lower ranking states commonly lacking policies that address one or more subsections of the rubric altogether.<sup>25</sup> Not only did this investigation highlight the vast differences between state athletic association policies, but it also brought attention to the lack of current evidence-based practices being implemented to ensure the safety of student-athletes competing at this level.

**Coach Certification and Training.** Similar to other athletic policies, high school athletic coach education and training requirements vary by state. According to the NFHS,<sup>43</sup> only 35 states require new coaches to complete courses in all three areas of fundamental coaching aspects, basic first-aid, and concussion education through the NFHS or equivalent training through other approved agencies. Additionally, cardiopulmonary resuscitation (CPR) training requirements for high school athletic coaches is also inconsistently regulated throughout the country.<sup>26,44-47</sup> One study surveying athletic directors in Wisconsin high schools identified that only 32 of 240 schools (13%) mandated athletic coaches be certified in CPR, with only 40-60% of the coaches within the schools surveyed holding a current CPR certification.<sup>45</sup> A similar study exploring 62 West Virginia high school athletic programs also identified a lack of emergency

preparedness in high school coaches with only 33% of schools indicating that all coaches within their athletic programs were certified in CPR and first-aid.<sup>47</sup>

Even with potential training, coaches have demonstrated a lack of appropriate knowledge to provide adequate medical care to student-athletes.<sup>48-51</sup> Two studies<sup>48,49</sup> assessing coaches' knowledge of first-aid resulted in the vast majority of participants failing a test on basic first-aid knowledge and application to different scenarios, with the study looking specifically at high school coaches only resulting in a 36% (38/104) pass rate.<sup>48</sup> Additionally, high school coaches demonstrated that a desire to win may influence their decisions on injury management by allowing "star" players to return to the game despite the risk to the player's safety.<sup>48</sup> As a result, while it is common for coaches to serve as medical providers for athletes in the secondary school setting,<sup>1,7</sup> research has identified that coaches often lack the appropriate training<sup>44-47</sup> and knowledge<sup>48,49</sup> to provide adequate medical care for secondary school student-athletes. Thus, the role and skill-sets of a coach should not be viewed as an equivalent or substitute to unbiased, properly trained healthcare providers.

**Concussion Legislation.** One of the most well-known youth sport safety initiatives in recent years is the enactment of concussion laws across the country. Incidence of tragic and catastrophic head injuries have aided in an increased awareness of the serious consequences associated with concussions and served as a driving force for legislation to regulate the management of head injuries in the high school and youth populations.<sup>52</sup> Washington State became the first to adopt a concussion management law for youth athletics.<sup>52</sup> The "Zackery Lystedt Law," (H.R. 1824)<sup>53</sup> named after a youth football player who suffered severe brain damage secondary to a mismanaged concussion, was signed into law in 2009.<sup>54</sup> Since the inception of the "Zackery Lystedt Law,"<sup>53</sup> legislation regarding return to play guidelines for

concussions has been passed in all 50 states and Washington D.C.<sup>55</sup> This national sweep of legislation came in response to the proposed federal legislation that stemmed from the progressiveness of Washington State. In 2011, Sen. Timothy Bishop (D-N.Y.) introduced the bill, "Protecting Student Athletes from Concussions Act of 2011" (H.R. 469)<sup>56</sup> which required public schools receiving funding via the Elementary and Secondary School Act to establish regulations regarding concussions sustained by their students. Despite the insufficient support for the federal bill to be passed into law, states individually saw the need to develop their own policies.

While the establishment of state-level concussion legislation is beneficial, consistency between policies varies. Because the concussion laws themselves were developed and governed by the individual states, many policies only follow minimum recommendations provided by the federal government.<sup>52,57</sup> As a result, some states have stricter policies regarding concussion recognition and treatment than others, causing some controversy over the effectiveness of this initiative.<sup>58</sup> A review of the individual state concussion laws across the U.S. has identified the following commonalities: (1) mandated concussion education, typically for coaches (2) removal from play of any athlete suspected of sustaining a concussion, and (3) identification of healthcare professionals qualified to make return-to-play decisions for athletes that suffer a concussion.<sup>57</sup> The definition of qualified healthcare provider approved to evaluate, manage, and make return-to-play decisions following a concussion varies per state. Some laws are vague and fail to further define "healthcare provider" or identify whether specialized training in concussion management is required. Other states identify specific healthcare professionals and their potential role in the management of concussions. These healthcare providers may include physicians, physician assistants, nurse practitioners, ATs, psychologists, physical therapists, and chiropractors.<sup>57</sup>

With the goal of improving education regarding concussions built into the “Zackery Lystedt Law,”<sup>53</sup> literature has begun to examine the effectiveness of this specific aspect of the bill. Researchers have identified that an increase in knowledge regarding concussions has resulted from the mandated education required by the law in coaches,<sup>59-61</sup> parents,<sup>59,60</sup> and officials.<sup>59,60</sup> One study,<sup>59</sup> utilizing an online survey formatted as a 52 question quiz, examined Washington Youth Soccer association affiliates, including coaches, officials, and parents, on their knowledge of concussion symptoms and return-to-play requirements outlined by the legislation. Participant’s scores on questions regarding concussion definition and basic signs and symptoms demonstrated a good understanding of concussions and ranged between 93-98% correct. However, knowledge regarding the appropriate clearance of an athlete with a suspected concussion was moderate, as 27% of participants were unaware of the correct return-to-play procedures.<sup>59</sup> Results of this study were reported as overall participant scores and were not broken down by participant’s type of affiliation with the league such as coach or official.

While an increase in general knowledge is promising, research in this area has also identified a lack in the ability to apply the knowledge to real life situations. One investigation exploring athletes who reported sustaining a concussion during their athletic season revealed that 40% of high school coaches were unaware of the concussion symptoms experienced by those athletes during the course of the season.<sup>61</sup> The same study also identified that despite the mandated education requirement for athletes, 69% of athletes reported knowingly playing with symptoms of a concussion.<sup>61</sup> These findings highlight that while the concussion legislation has demonstrated an increase in awareness and basic understanding of concussions for the layperson there is still a gap between the education and application of the knowledge acquired. As a result, it may prove more effective and beneficial to the safety of the student-athlete for regulations to

require that secondary school athletic programs utilize a healthcare professional trained in both the etiology and management of a concussion in addition to requiring concussion education for youth and high school level coaches, athletes, and parents.

**Recommendations for Appropriate Medical Care.** Several leading organizations such as the National Athletic Trainers' Association (NATA), American College of Sports Medicine (ACSM), American Academy of Pediatrics, Korey Stringer Institute (KSI), American Medical Association (AMA), and American Medical Society for Sports Medicine have provided “best-practice” recommendations for appropriate healthcare for student-athletes within the secondary school setting.<sup>2-6</sup> These recommendations are based on the most current evidence on the most effective strategies for the prevention and management of sudden death and catastrophic injury in sport. The development of these recommendations were conducted by teams of healthcare professionals across multiple disciplines with expertise in the prevention and treatment of sport related injuries. Some specific topics addressed in the recommendations include injury prevention strategies,<sup>5</sup> equipment,<sup>5,6</sup> policy and procedure development,<sup>2,5,6</sup> and athletic healthcare team personnel.<sup>2,3,5</sup> Among these recommendations to improve the safety of athletes includes the hiring of at least one AT by all secondary schools that have an athletic program.<sup>2,3,5</sup>

**Athletic Trainer Mandates.** To date, no state has successfully enacted legislation that would require the use of ATs in all high schools. Several states including Arkansas, North Carolina, Oklahoma, and Utah have attempted lobbying for legislation however, all attempts have fallen short due to issues such as lack of funding, job quality concerns, and local shortages of ATs to fill vacant positions.<sup>62,63</sup> States have developed policies that require onsite medical coverage by a trained individual specifically for high school football games and/or practices<sup>64</sup> however, some policies only refer to coverage for varsity level activities and do not include



requirements for junior varsity or freshman level teams.<sup>65</sup> Within these policies ATs are included as appropriate first responders to meet these requirements.<sup>64,65</sup> However, approved first responders can include licensed healthcare providers other than ATs such as physicians, registered nurses, licensed practical nurses, chiropractors, physical therapists, occupational therapists, physicians assistants, paramedics, or emergency medical technicians (EMTs) as well.<sup>65</sup> Additionally, some states do not identify specific healthcare providers that fulfill the requirements of an appropriate first responder, but rather identify the minimum areas of training needed, such as CPR and first aid certification, and concussion and injury education that can be obtained by anyone via online courses through organizations such as the NFHS.<sup>64</sup>

### **Athletic Trainers in the Secondary School Setting**

**Athletic Trainers.** Athletic trainers are highly skilled healthcare professionals that specialize in the assessment, prevention, treatment, and rehabilitation of emergent and non-emergent injuries and medical conditions. Collaborating with physicians, ATs work to provide patient-centered care to the unique subpopulation of physically active individuals who range in demographic from adolescents to adults.<sup>12</sup> Athletic trainers have undergone extensive educational training within an accredited athletic training program, hold a minimum of a Bachelor's degree, and have passed a national certification exam. With the exception of the state of California, ATs are required to be licensed or registered as a healthcare provider in the respective state in which they practice.<sup>66</sup> Additionally, ATs are eligible for a National Provider Identifier (NPI) number, allowing ATs in some clinical settings and states to receive third-party reimbursement for their services.<sup>67</sup> Athletic training is recognized as an allied health care profession by the American Medical Association (AMA), Health Resources Services Administration (HRSA) and the Department of Health and Human Services (HHS).<sup>12,68</sup>

**Athletic Training Services.** Athletic trainers provide a wide variety of services to athletes at the secondary school level.<sup>36,37,69</sup> Using secondary school ATs as injury reporters, injury surveillance databases such as the National Athletic Treatment Injury Outcomes Network (NATION),<sup>38</sup> Athletic Training Practice Based Research Network (AT-PBRN),<sup>37</sup> and High School Reporting Online (High School RIO)<sup>70</sup> collect de-identified information from electronic medical record (EMR) software. Using this data researchers have begun to classify the types of services ATs are providing to the student-athletes in the secondary school setting.<sup>34,36,71,72</sup> Injury evaluation or re-evaluation is the most common service and accounts for approximately 50% of all services provided. Hot and/or cold pack application accounts for 25% of services and is the second most commonly provided service. Strapping (taping and bracing) accounts for approximately 10% of services provided.<sup>36,37</sup> Additional services documented by ATs include modalities such as ultrasound or electrical stimulation,<sup>36,37,72</sup> manual therapy,<sup>36,37,72</sup> therapeutic activities or exercise,<sup>36,37,72</sup> wound care,<sup>71,72</sup> neuromuscular reeducation,<sup>36,72</sup> and physical performance testing.<sup>36,72</sup>

**Utilization of Athletic Trainers in the Secondary School Setting.** Despite the availability of these highly skilled healthcare professionals that could be utilized to protect the safety of youth athletes, less than 50% of high schools in the U.S. have regular access to an AT; only 37% of which are classified as full-time.<sup>1</sup> As a result most school systems rely on coaches or parents with minimal to no formal training to provide medical coverage for sporting events.<sup>1,7</sup> Athletic trainers, however, provide on-site supervision of games and practices as trained first responders so care provided to an injured athlete can happen immediately with little to no time lost. Using their training, ATs can also make appropriate decisions regarding the management of an acute injury. For example, in schools that have access to ATs, the vast majority of acute lower

extremity injuries are managed by the AT onsite, with only 1.8% of these injuries requiring referral to the emergency department after evaluation by the AT.<sup>73</sup> Evidence also suggests that secondary schools that utilize ATs have lower injury rates and better assessment and management of concussions than schools that do not have an AT.<sup>8</sup> In a study comparing injury rates of female high school soccer and basketball players in schools with and without ATs, acute injury rates in schools without an AT were 1.73 and 1.22 times higher per sport respectively. Recurrent injury rates for soccer (3.46) and basketball (2.46) were also higher in schools without an AT. Concussion rates in schools with ATs were higher for both soccer (8.05) and basketball (4.50), which was attributed to better recognition and diagnosis by ATs compared to untrained care providers such as coaches.<sup>8</sup> Additionally, literature regarding sudden death in sport also suggests that many of the untimely deaths that have occurred during athletic participation could have been prevented with proper prevention, assessment, and treatment by a qualified healthcare provider, such as an AT.<sup>9-11</sup>

**Barriers to Hiring Athletic Trainers.** Evidence and recommendations supporting the use of ATs in secondary school athletic programs have yet to provide enough motivation for schools to consider ATs as a critical necessity within their athletic programs. As a result, a small group of authors have started to investigate the barriers behind why schools are not employing ATs.<sup>1,7,13</sup> Athletic directors have reported budget restraints as the primary barrier to hiring ATs within their high schools.<sup>7,13</sup> Additional reasons also include athletic director's perceived lack of control in the decision making process,<sup>13</sup> rural location,<sup>1</sup> and belief that coaches can provide appropriate medical care for athletes.<sup>7,13</sup> Lastly, misunderstanding of the profession of athletic training has also been thought to be a contributing factor to the barriers of employing ATs in secondary schools.<sup>7,13</sup> A lack of understanding of the roles, responsibilities and education of an

AT has been identified in several populations including administrators,<sup>7,13,74</sup> physicians,<sup>75,76</sup> parents,<sup>77,78</sup> coaches,<sup>79</sup> and emergency medical services personnel.<sup>80,81</sup> Specifically within groups affiliated with the secondary school setting, most misunderstandings of the athletic training profession are in the area of AT education and credentialing requirements.<sup>7,13,74,77,79</sup> Despite a lack of knowledge in these areas administrators,<sup>74</sup> coaches,<sup>79</sup> and parents<sup>77</sup> who have had prior positive interactions with ATs demonstrated an general understanding of the AT's roles and had an overall positive view of the AT's position. While these finding are promising, there is still limited information on how the positive perception of the AT impacts the decision making process to hire these healthcare professionals.

**Facilitators to Hiring Athletic Trainers.** In one unique case study,<sup>82</sup> stakeholders demonstrated the ability to play a large role in influencing state-wide decisions, particularly regarding the athletic programs of secondary schools. In the early 1990's community support, including that from parents, high school athletic directors and coaches, served as a significant catalyst in developing state legislature to provide funding for ATs in public secondary schools in Hawaii. This unprecedented case demonstrates how advocacy can provide beneficial support for encouraging the creation and maintenance of athletic training positions within high school athletic programs as Hawaii has continued to maintain this program and provide funding for ATs in its public schools.<sup>62</sup> According to the Athletic Training Location and Services (ATLAS) database, to date, 90% (75/83) of all high schools in Hawaii have access to an AT, with 64 schools having a full-time AT and 11 having a part-time AT.<sup>83</sup>

### **The Value of Athletic Trainers**

**Athletic Trainers in the Non-Traditional Clinical Setting.** The value of an AT is a concept that has been explored in the past, however most literature focuses on two non-

traditional clinical settings; (1) industrial<sup>84-86</sup> and (2) ambulatory or physician's office.<sup>87-90</sup>

Athletic trainers have been employed in the industrial setting since the 1980s and provide several different services including ergonomic assessment, injury prevention programs, technique modification, and on-site rehabilitation.<sup>84-86</sup> Several case studies of manufacturing plants found great improvement through the use of ATs within their corporations by reporting a 54% decrease in worker's compensations injuries, 36% reduction in absenteeism, and overall reduced medical costs,<sup>85</sup> with one company specifically reporting a savings of \$3.5 million dollars over a three year period.<sup>84</sup> To further support the financial benefit of employing ATs in the industrial setting, a survey conducted by the NATA<sup>86</sup> identified that 96% of companies reported a decrease in worker's compensation cases within one year of utilizing ATs within their workplace. Additionally, 100% of the companies indicated a return on investment after beginning AT facilitated injury prevention and rehabilitation programs within their companies.<sup>86</sup>

Athletic trainers working within the ambulatory setting have also demonstrated a benefit to their employers. In this clinical setting, the AT assists in various roles such as performing injury assessments and evaluations, providing casting, splinting and brace fitting, performing therapeutic exercises, administering gait training, and conducting in-office procedures.<sup>91</sup> Athletic trainers have shown to be of value to the physician's office through improved physician productivity,<sup>87-89</sup> improved efficiency of patient visits,<sup>90</sup> and an increase in clinic reimbursement.<sup>88,89</sup> It is important to note that in all three studies<sup>87-89</sup> value was defined as the increase in the volume of patient visits, or throughput,<sup>87</sup> highlighting that the value of an employee may have different meanings in different clinical settings.

**The Secondary School Value Model.** With minimal information on the impact of ATs within the traditional clinical settings, understanding the value of an AT within the secondary

school setting has become an important focus of the NATA. In order to assist ATs working within the high school clinical setting to identify their value, the NATA has developed the Secondary School Value Model.<sup>28</sup> The objective of this recommendation is to provide secondary school ATs with a strategy to demonstrate their value and worth, where worth is defined as the monetary cost of a service and value is defined as the extent to which a service's worth is perceived.<sup>28</sup>

The main focus of the recommendation is to utilize documentation, preferably in the form of electronic medical records (EMR), to generate information that ATs can provide to administrators to demonstrate the worth of the AT's position.<sup>28</sup> However, the methodology of utilizing the Secondary School Value Model has never been directly tested, so there is no current evidence that following this recommendation will provide the desired results it asserts such as increasing the number of ATs within a school, obtaining more funding for the athletic training budget, or justifying the school's utilization of an AT.<sup>28</sup>

With much attention being placed on quantifying the worth of secondary school ATs, preliminary investigations into the cost of injuries treated by ATs within the secondary school setting have occurred. Using secondary data acquired through AT reported EMRs, investigations have sought to estimate the direct cost of care for lower extremity injuries<sup>92</sup> and upper extremity disorders<sup>93</sup> of high school athletes being managed by an AT. Using Current Procedural Terminology (CPT) codes for the services provided the overall average cost of treatment per injury type as well as the cost per episode of care was calculated. For lower extremity injuries the average direct cost of care was  $\$202.38 \pm 374.88$  and cost per episode of care was  $\$67.11 \pm 39.69$ .<sup>92</sup> Upper extremity disorders yielded similar results with the average direct cost of care being  $\$188.34 \pm 316.67$  and the average cost per episode of care was  $\$67.52 \pm 33.30$ .<sup>93</sup> To put

this in perspective, it is estimated that over 300,000 ankle injuries occur in the high school athlete population in a given year.<sup>94</sup> Based on the average direct cost of care for lower extremity injuries,<sup>92</sup> that translates to a national total of over \$60.7 million per year in services provided by ATs for ankle injuries alone.

While these results begin to provide a depiction of the worth of services provided by ATs, the challenge lies in applying these findings to current practice. Athletic trainers within the secondary school setting typically do not bill for their services and therefore do not generate revenue directly associated with the services they provide. As a result, the sheer billable amount for services provided by the AT may not be the most appropriate means of determining the worth and associated value of ATs within this clinical setting. It is possible that the value of an AT may be better associated with their ability to reduce costs by improving injury prevention, providing immediate on-site medical care, and making appropriate referral recommendations for injured patients. Before the worth of an AT can be defined, future research must connect the roles and expectations of secondary school ATs to the factors that resonate with and influence stakeholder's perceptions of the value of ATs working in this clinical setting. The following study was conducted to provide a foundation for the understanding of the roles of an AT and their associated value to the achievement of the organizational needs within a secondary school athletic program.

## CHAPTER III

### METHODOLOGY

#### **Research Design**

The best way to explore a phenomenon is through qualitative investigation. Qualitative methodologies are also utilized when minimal research is available on a topic.<sup>27</sup> Therefore, a qualitative methodology was utilized to explore the perspectives of athletic directors regarding the utilization of secondary school ATs. Seidman<sup>30</sup> suggests using a qualitative paradigm when the main objective is to gain understanding from a particular experience is by a person who has lived it. Therefore, one-on-one, in-depth phone interviews were conducted with all participants. The goal of this investigation was to understand and explain the phenomenon of why some athletic directors recognize the need to include an AT as a member of their athletic department personnel as well as to examine the perceived benefits of utilizing ATs within this setting. The importance of providing objective findings are imperative to the potential success of these end goals. Due to the rigorous nature of consensual qualitative research (CQR) and the emphasis on consensus development between team members, this tradition served as the best method to generate unbiased results and was used in this investigation.<sup>95,96</sup> Developed from principles of phenomenology and grounded theory, the CQR tradition serves to help explain participant experiences and associated phenomena through descriptive analysis. The building of consensus is an integral component of the CQR methodology which requires a team of analysts' to develop emergent themes through rigorous constant comparison and repeated analysis of data.<sup>95,96</sup> The CRQ tradition has been successfully demonstrated in athletic training literature.<sup>97,98</sup>



## **Participants**

Participants included secondary school athletic directors throughout the United States employed in a school that currently utilizes the services of a full-time, Board of Certification (BOC) credentialed AT. Inclusion criteria included the athletic director's employment within their current school for a minimum of two academic years. Additionally, schools were limited to those that had a history of provision of athletic training services for at least one full year prior to the time of interview. The employment model of the AT was not limited; therefore, ATs were employed under both the direct employment and clinic-outreach models. Duties of the ATs employed in the school could be completed in any capacity and may include responsibilities such as the provision of athletic training services and teaching. Other demographic factors such as institutional type and school and athletic program size were not restricted during participant recruitment.

Athletic directors were selected as the target population for this study due to the nature of their role within the school system and athletic program. Athletic directors serve as administrators with direct oversight and control of the operations of the athletics programs. In this role, the athletic director is in regular contact with the AT and has ample opportunity to observe the roles and responsibilities of the AT working within their program. Athletic directors also provide a key link between athletics and academic administrators such as principals and members of the board of education which can influence funding and hiring decisions that may affect the athletic training position within the program. Previous research has also begun to investigate this population in a similar context.<sup>1,7,13</sup>

## Data Collection Procedures

Participants were recruited purposefully via criterion sampling. Schools that met the inclusion criteria were identified through the Athletic Training Practice Based Research Network (AT-PBRN) database.<sup>37</sup> A list of schools that utilize the CORE-AT<sup>31</sup> EMR was requested in May of 2016 from the AT-PBRN and contained the names of 71 schools. The list of schools was then cross referenced with the NATA Athletic Training Locations and Services (ATLAS) database<sup>29</sup> to identify schools with at least one full-time AT that had completed the ATLAS survey. Per ATLAS, full-time status of an AT is defined as an AT that provides athletic training services to only one school for a minimum of 30 hours per week, no less than 5 days per week, for at least 10 months of the calendar year.<sup>29</sup> As a result, a total of 36 potential schools (32 public, 4 private) were identified. School websites were then utilized to locate the contact information for the athletic directors. Email addresses and phone numbers were collected from these websites and an email detailing the purpose of the study along with the contact information of the investigators was sent to potential participants. Participants received a maximum of three emails at least one week apart. If no response was made to all email attempts potential participants received one phone call from the primary researcher one week after the final email was sent. Those interested in participating either replied to the contacting investigator's email or verbally agreed over the phone to schedule a telephone interview. All participants received a \$50 gift card for their participation in this investigation.

One-on-one, in-depth phone interviews were conducted with participants following a semi-structured interview guide (Appendix). The methodology provided the best environment to allow participants to share and elaborate upon their individual experiences.<sup>30</sup> All participants

completed a consent form prior to data collection. Interviews lasted approximately 40 minutes. Participant recruitment and data collection were guided by data saturation.

Consistent with sample size recommendations of 8-15 participants for CQR methodologies to achieve data saturation,<sup>95</sup> a total of 10 secondary school athletic directors were recruited for this investigation (male = 7, female = 3). Our participants had an average of  $9.4 \pm 5.5$  total years of experience as a secondary school athletic director with an average of  $8.5 \pm 5.3$  years of experience at their current school. Duration of athletic training service provision within the schools ranged from 1.5 to 20 years, averaging  $9.6 \pm 6.1$  years of AT utilization. Eight of the 10 participants reported having previous experience with an AT prior to becoming an athletic director as either a high school athlete, collegiate athlete, high school coach, or combination of former athlete and coach. The majority of participants (7/10) reported previous employment in a school that did not utilize an AT. Only one (1/10) participant held a coaching position within their school. All participants were employed in public schools. The average school enrollment size was  $1,666 \pm 1,000.1$  with  $570.4 \pm 329.2$  athletes based on overall roster numbers. Number of ATs providing services within the schools ranged from one (8/10) to two (2/10). Individual participant demographics can be seen in Table 1.

The interview guide consisted of three main sections: 1) Basic demographic information, 2) open-ended questions regarding the athletic director's overall perceptions and experience regarding the utilization of an AT within their athletic programs, and 3) open-ended questions pertaining to the athletic director's perceptions of the roles and services provided by the AT. The interview protocol was based on current literature available on the utilization of secondary school ATs<sup>1,7,13</sup> and principles of role theory.<sup>15</sup> The interview guide was given to an independent qualified researcher for peer review to provide feedback on content accuracy of the instrument,

**Table 1. Participant Demographics**

Pseudonym	Sex	State	Total years of AD experience	Years at current school	Previous experience with ATs	AD experience at school without AT	Currently serve as coach	No. of ATs employed	Years of AT utilization in school	School Enrollment	No. of student-athletes
Hank	Male	CO	5	5	Yes	Yes	No	1	8	240	170
Bruce	Male	NM	3	3	Yes	No	No	1	19	900	199
Wally	Male	WA	10	10	Yes	Yes	No	2	20	1500	775
Selina	Female	CA	5	5	No	Yes	No	1	1.5	2500	750
Clark	Male	CA	11.5	11.5	Yes	Yes	Yes	1	9	1680	680
Tony	Male	CA	4	4	Yes	Yes	No	1	7	1800	500
Diana	Female	CA	21	21	No	Yes	No	1	2	2400	750
Arthur	Male	MS	13	9	Yes	No	No	1	10	1650	500
Kara	Female	AZ	9	6	Yes	No	No	2	11	3560	1200
Matthew	Male	IL	12	10	Yes	Yes	No	1	8	430	180

Abbreviations: AD, athletic director; AT, athletic trainer.

logical flow of questioning, and to reduce researcher bias within the questions. All phone interviews were digitally recorded with the consent of the participant and were transcribed verbatim by a professional transcription service. The same researcher (SHC) conducted all phone interviews in order to maintain consistency. Once transcription was complete, the individual transcripts were sent to all 10 participants for voluntary review of their respective transcript for accuracy and clarity prior to data analysis.

### **Data Analysis**

Data analysis followed the methodology of the consensual qualitative research (CQR) approach<sup>95,96</sup> with four researchers forming a consensus team consisting of two core researchers, an internal auditor, and an external auditor. The research team has over 20 years of collective experience with qualitative methods. The core team and internal auditor independently coded three randomly selected transcripts. Open coding was performed in which the content of the interviews was first reviewed to identify concepts related to the research purpose and questions. These concepts were then coded with a conceptual label to capture their meaning and organized into like categories. The next step, axial coding, was completed to examine the relationship between and among the emergent categories. This axial coding process also resulted in the collapsing or nesting of the emergent categories to create sub-categories, or properties. The last step of analysis, selective coding, allowed the research team to construct themes related to the athletic director's experiences utilizing ATs within the secondary school setting. The data analysis process was systematic, guided by the CQR methodology, and conducted simultaneously, but independently by the three researchers. Once independent analysis was complete, the research team discussed the codes until a consensus was reached, creating a codebook. The codebook included all themes and subthemes generated during the initial

analysis. Using this codebook, two additional transcripts were reviewed to ensure completeness and accuracy of the established themes. Once the codebook was verified using the two transcripts the primary investigator coded the remaining transcripts. After the primary investigator completed coding of the remaining transcripts the core team discussed the transcripts to reach consensus on coding. Once consensus was reached between the core team members three randomly selected transcripts were sent to the internal auditor for cross-analysis to ensure correct coding. Finally, one additional randomly selected transcript was sent to the external auditor to ensure reliability through independent analysis of the codebook and transcript.

When cross-analysis was finalized frequency counting was conducted to characterize the prevalence of each identified category, allowing the researchers to gauge the representativeness of the data to the sample population. The use of frequency counts also supported the confirmation that data saturation had been met. Frequency categories are traditionally divided into four categories: (1) general, (2) typical, (3) variant, and (4) rare, where *general* categories apply to all or all but one case, *typical* categories apply to more than half of the cases, *variant* categories apply to less than half of the cases, and *rare* categories apply to only two to three cases.<sup>96</sup>

### **Data Credibility**

We utilized four main strategies to secure data credibility:<sup>27,99</sup> (1) peer review, (2) field notes (3) member checks, and (4) intercoder reliability. First, the peer reviewer, an experienced researcher and advocate for athletic training and sport safety, particularly in the secondary school setting, reviewed the interview guide for accuracy. Second, during the phone interview process field notes were taken by the interviewer as a means to capture key points raised during the interview process. The notes aided in the analysis process as a means to identify emergent,

dominant themes. Third, member checks were completed by six of the 10 participants once the transcription process was completed. The participants were asked to evaluate the accuracy of the transcription process to help establish credibility of the textual data. No changes to the transcripts were required after member checking was complete. The final strategy of intercoder reliability is established through the rigorous consensus process of the CQR approach.<sup>95,96</sup>

## CHAPTER IV

### RESULTS

Five themes emerged from the data that describe athletic directors' perceptions of the utilization of athletic training services in the secondary school setting: (1) justification, (2) AT roles and responsibilities, (3) recognition of worth, (4) challenges, and (5) influencing factors. These themes were further divided into subthemes (Figure 1). The frequency of participant cases for each subtheme all aligned with the general or typical categories (Table 2).

#### **Justification**

The theme justification relates to reasons athletic directors would use to defend or justify why they use ATs within their athletic programs and is divided into three subthemes: (1) safety, (2) liability, and (3) trained medical professional.

**Safety.** All participants revealed that the safety of student-athletes was an important aspect of their athletic program's success. By hiring ATs, athletic directors felt that the safety of their student-athletes was enhanced. Tony explains,

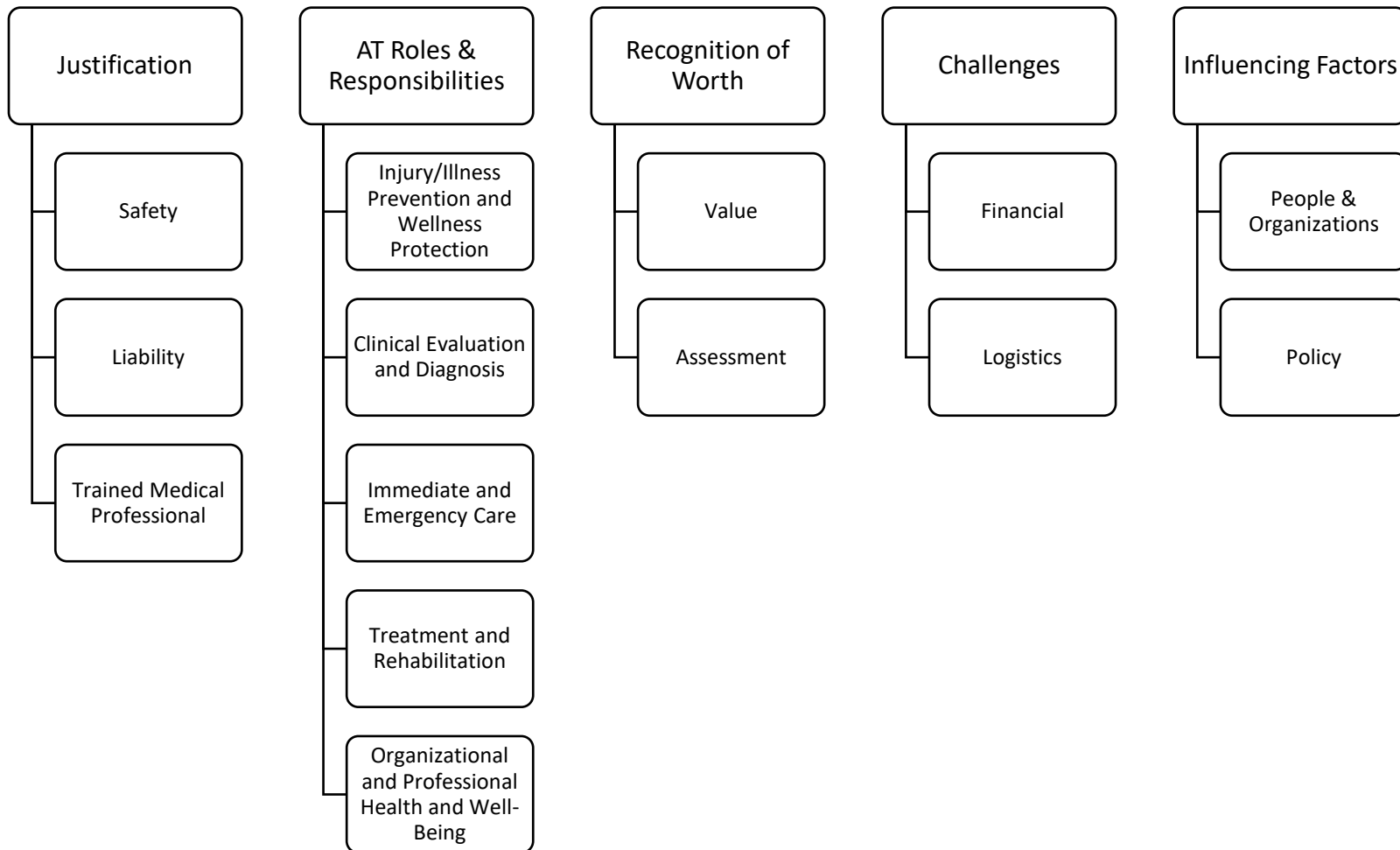
*I think it's always the safety of the athletes is the number one, is that you're trying to ensure that kids are going to be safe when they're competing and that they're not going to go back and reinjure or hurt themselves by continuing to play, or that they can in fact play given a certain injury because of some treatment that they've received or some diagnosis. It's just a higher quality, safer athletic program with [an athletic] trainer.*

Clark also felt that improving safety by employing an AT made his athletic program more successful because others in the community would view the program in higher regard. Clark shared, "making sure the kids are safe, the parents knew the kids were safe, and which we hope to get more participation because of that."

Safety was also often discussed in the context of concussion awareness. Kara felt that her AT improved safety by managing the concussion protocol at her school saying, "I will tell you



Figure 1. Emergent themes and subthemes.



the concussion protocol is huge, and it keeps our athletes from putting themselves into an unsafe situation or putting coaches and the athletes into an unsafe situation if they have a concussion.”

**Table 2. Participant Cases by Theme (N = 10)**

Theme and Subtheme	Frequency	No. of Participant Cases
<b>Justification</b>		
Safety	General	10
Liability	Typical	5
Trained Medical Professional	General	9
<b>AT Roles &amp; Responsibilities</b>		
Injury/Illness Prevention and Wellness Protection	General	9
Clinical Evaluation and Diagnosis	General	9
Immediate and Emergency Care	General	10
Treatment and Rehabilitation	General	10
Organizational and Professional Health and Well-Being	General	10
<b>Recognition of Worth</b>		
Value	General	10
Assessment	General	10
<b>Challenges</b>		
Financial	General	10
Logistics	General	9
<b>Influencing Factors</b>		
People and organizations	General	10
Policy	Typical	6
Frequency Components: General = all or all but one; Typical = 5 or more; Variant = 4 or less; Rare = only 1 case.		

**Liability.** Legal issues that may result from lack of care or improper care for student-athletes was another factor athletic directors reported as to why they felt ATs are important to their athletic programs. Hank stated, “I can’t imagine not having [an athletic] trainer because of the liability.” Liability was also identified as a supporting factor our participants would use to

defend the AT's position in the event the position was at risk of being eliminated for budgetary reasons. Bruce explained, "I think when you look at it, the cost of somebody, the liability of somebody getting injured and us not treating it correctly because we don't have [an athletic] trainer, I think the liability of that far outweighs the cost of having that athletic trainer on staff."

**Trained Medical Professional.** The ability to have a trained medical professional on staff was identified as a strong rationale for having an AT within secondary school athletic programs. Athletic directors demonstrated a great appreciation for the knowledge and training ATs have regarding athletic injuries. Wally explained, "Our coaches are good coaches, but they don't have the wherewithal and knowledge that a certified athletic trainer possesses. So, we rely upon them for their level of expertise for sure." Clark shared a similar sentiment when he said, "I think it's just the idea of having somebody on campus who's a licensed professional, who knows what they're doing to make sure that students are safe, and coaches are educated, and parents are informed."

The significance of eliminating unqualified or lesser trained individuals from situations where medical decisions need to be made was also of high importance to athletic directors. This rationale was particularly true for the management of concussions. Bruce said, "Nowadays, especially with the concussion issue as big as it is, we really need to have a professional there that is going to evaluate student-athletes and act appropriately." Regarding assessment and return-to-play decisions for an athlete with a suspected concussion Wally asserted that those decisions should be made by a trained medical professional such as an AT, saying, "I don't want referees, I don't want coaches, I don't want parents, and I don't want athletes making that decision."

Allowing coaches to focus on coaching related tasks and removing the role of medical provider from the coach's daily roles and responsibilities was viewed as an important benefit to our participants. Tony explained how having an AT on staff facilitates the ability for the appropriately qualified personnel to assume the proper respective roles within the athletic department,

*It basically enables the coaches, for the most part, to focus on coaching, the kids to get appropriate initial treatment for injuries, and hopefully also injury prevention. And it's one of those things where you have somebody who is a true professional working in the field or in a capacity that they should be as opposed to a coach who may have basic first aid and CPR training, but is not a certified [athletic] trainer.*

### **AT Roles and Responsibilities**

Athletic directors identified the services provided and roles and responsibilities fulfilled by the ATs working within their respective schools (Table 3). The AT roles and responsibilities theme was further divided into five subthemes which corresponded with the five domains of athletic training as identified by the BOC Role Delineation Study:<sup>100</sup> (1) Injury/Illness Prevention and Wellness Protection, (2) Clinical Evaluation and Diagnosis, (3) Immediate and Emergency Care, (4) Treatment and Rehabilitation, and (5) Organizational and Professional Health and Well-Being.

The majority of participants identified at least one role or responsibility that corresponded with all five domains of athletic training with the most participants discussing responsibilities such as taping or strapping, injury evaluation, acute care, injury prevention, concussion evaluation and management, athlete hydration, treatment, and injury documentation. While at least one role or responsibility categorized under the domains was identified, not all athletic directors described the same services provided by ATs within their schools. Less frequently participants identified roles such as equipment fitting, emergency action plan development and implementation, monitoring of environmental conditions, strength and conditioning or

performance training, CPR and first-aid instruction, administrative responsibilities related to pre-participation examinations, business functions such as budgeting and supply management, and formal teaching roles within the school. When asked to describe the services provided by the AT at his school, Tony's response captured three of the five domains of athletic training,

*Taping, treatment, evaluation, first responder evaluation on injuries, emotional support through recovery, rehabilitation, overseeing rehabilitation, communication with parents regarding injuries, communication with the school regarding injuries so that that message has been rolled out by the school nurse to the teachers. So, for example, if a [student] has a concussion, [the athletic] trainer lets the nurse know, copies me, the nurse sends it out to the teachers and the guidance counselors and everybody so that they're aware that the [student] has suffered an injury.*

**Table 3. Supporting Quotes for AT Roles and Responsibilities Theme and Subthemes**

Subtheme	Supporting Quotes
Injury/Illness Prevention and Wellness Protection	<p>“Educate our coaches on proper protocols for concussions and injuries and any other kind of emergencies. I also make him, he's in charge of lightning and making sure we're doing that correctly.” – Hank</p> <p>“He is also a certified CPR trainer, and so he's also provided that service to our coaches and then to students.” - Bruce</p>
Clinical Evaluation and Diagnosis	<p>“Anybody that's hurt or been hurt reports to her during that period of athletics.” – Arthur</p> <p>“They also do a huge sideline concussion protocol.” – Kara</p>
Immediate and Emergency Care	<p>“[Our athletic trainer] has her radio on and has her phone on and if there's an emergency, she's off and running.” - Selina</p> <p>“They're kind of the first responders that we have at our school. So, immediately if there is an injury, they'll go kind of figure out what it is, is it serious?” – Kara</p>
Treatment and Rehabilitation	<p>“Sometimes it's icing, sometimes it's e-stim, sometimes it's heat treatment, sometimes it's whirlpool. He does a lot of exercises with the kids; band therapy, range of motion therapy, resistance therapy, that type of stuff that I've seen him do.” – Diana</p> <p>“Massage, working on muscles, strength development.” – Hank</p>

Abbreviations: AT, athletic trainer.

## Recognition of Worth

The recognition of worth theme is characterized by the evaluation of and appreciation for the AT's position by the athletic directors and consisted of two subthemes: (1) value and (2) assessment.

**Value.** Consistent with the definition provided by the NATA Secondary School Value Model,<sup>28</sup> value was defined as “the extent to which a service’s worth is perceived,” where worth is defined as the “monetary cost of a service.” Therefore, responses pertaining to how the participant perceived the cost of services as well as the usefulness of the services provided by the AT were coded under the value subdomain. The value of ATs was discussed in several different contexts based on the participant’s experiences. Our participants identified an overall positive perception of ATs, using words like “invaluable,” “essential,” and “crucial” to describe the use of ATs in their schools. Several participants emphasized how the AT has enhanced the environment of the athletic program through the rapport the AT has with the athletes and the mentorship they often provide. Clark shared,

*They work really well with the students and the fact the office I'm in right now is next door to the [athletic] training room and it's lunchtime and you hear plenty of people in there and they're not just getting [treatment]. They're talking and chatting and so it's a hub for the athletic department.*

The provision of immediate, on-site care for student-athletes was also discussed as a value to our participants. Arthur discussed the convenience that having an AT provides saying, “If we get somebody hurt it’s not like we have to load them up and take them over to the clinic, we don’t have to call somebody.” Continuity of care was also an important aspect of having on-site medical care for student-athletes. Selina expressed her appreciation for the quality of care the student-athletes at her school receive from the AT,

*I think for the constant care that some [students] are getting, it's a daily touchpoint to keep track of their progress, where I know they wouldn't be going into their doctor or*

*their physical therapist on a daily basis. So, it's a constant care, it's a daily care that they wouldn't get otherwise... for those [students] that [our athletic trainer] sees on a daily basis and is helping every day, there's not a quantifiable price tag that I could even put on that. The service that we have is phenomenal.*

The value of the AT was also discussed in the context of finances, with participants indicating that they feel there is a high value to the services an AT provides in relation to the cost of having one on staff. Wally shared, "I have to imagine that we get more service than we pay for. And the reason I say that is because I just think if we were paying for everything line item, I think it would cost us more." Selina shared the same feeling saying, "I think we definitely get more value for our money." Financial cost, or worth, associated with employing an AT was always discussed in the context of the AT's salary. Occasionally the athletic department budget related to supplies was also noted. The majority of athletic directors were unaware or uncertain of the exact financial cost associated with the AT's position within their school. For example, Diana said, "In fact, I know that we were told their original salary and I don't even remember what that was. But that doesn't include any of the supplies." Our participants also identified that a formal assessment of comparative costs for AT services is not completed within their athletic programs. Arthur, discussing whether he or his school has ever compared the costs of an AT to different healthcare professionals to serve the athletic program, said, "I don't know that we've ever done that comparison, but I'm sure it would be more. If we outsourced it and paid somebody to be here every day on the daily basis, it would probably add up to more than what [our athletic trainer] makes."

The ability to save student-athletes and their families' time and money was also identified as a value perceived by our participants. Tony said, "I'm not an expert on healthcare costs, but I know that it is going to be a lot more expensive and more time consuming to send a kid to a

doctor every time they've got something." Diana also shared how she feels having an AT at her school can help parents reduce both monetary and opportunity costs,

*A lot of times it's helping parents out where they don't necessarily have to go see a doctor. I mean, [our athletic trainer] is always going to refer them to a doctor when needed, or even if he's questioning whether it's needed. But sometimes, when it's just he can evaluate it and okay, this is not a tear, this is a strain, he can do that where it saves the parents the time and money that it would maybe cost to go see a doctor.*

**Assessment.** In the evaluation of the AT's position our participants revealed that direct assessments through the athletic department rarely occurred. Only 3 of 10 participants indicated that the AT's position was formally evaluated through the athletic department, all of whom described the athletic department's evaluation as generic, focusing on areas such as professionalism, personable demeanor, and goal setting. Formal performance evaluations typically occurred through the hiring source of the AT, particularly for those hired through a hospital network or clinic outreach employment model. Athletic trainers hired directly through the school districts often had teaching responsibilities and were assessed on their teaching, but not on their clinical responsibilities. Regarding the athletic director's assessment, the majority of our participants reported that observation of the AT within the workplace served as a sufficient method of evaluating the AT's performance. Matthew explained, "I see the athletic trainer probably daily and will stick my head in the office and ask him how things are going. And again, if I don't hear bad news, any negative things from the head coaches, I just assume things are going awesome."

All of our participants identified that the ATs at their schools are regularly generating data, mostly in the form of injury reports. Additional forms of data discussed included de-identified patient data such as injury trends, total patient encounters, and hours of athletic training services provided. However, use of data by the athletic directors was varied. None of our participants utilized the data to directly evaluate the AT's position within the athletic program.



Additionally, the majority of our participants acknowledged that they did not review data gathered by the AT on a regular basis. For the few athletic directors that were requesting and using data gathered by the AT, their uses included general information sharing regarding player injury status, coach assessments, and basic injury surveillance. Hank explained how he uses the injury reports provided to him, “I use [the data] to evaluate my coaches, some of it. And then we evaluate the need for injury prevention kind of stuff and the need for proper form and proper technique and everything we do.” Wally explained how the data keeps him informed about the athletes competing within his athletic program, “It gives me an idea about what’s going on and I have an idea, hey, so and so is on the sideline, why has that happened? I have that information. I feel like it keeps me in the loop as far as what’s going on with all my sports and everything like that.”

### **Challenges**

Athletic directors also identified some challenges related to the use of ATs within their schools. Challenges were perceived to occur both in the process of trying to initially create the AT position as well as currently maintaining the AT’s position within the school. Two subthemes of challenges were identified: (1) financial and (2) logistics.

**Financial.** Funding for the AT’s position was discussed by all participants as a challenge that effected the initiation and/or maintenance of the AT’s position within the school. Several athletic directors identified that obtaining funding from the school board or district was a prominent barrier to the approval of the use of ATs within their school. Hank discussed how the AT position was initiated within his school saying, “Well the barrier was the money for us. When you’re dealing with public education, where’s the money going to come from?” Diana shared a similar struggle identifying that funding was also the key factor in getting an AT within

her school, “Well, first of all, we have always wanted an athletic trainer and everything kind of aligned financially.”

Our participants also expressed awareness of and concern for budget cuts that could result in the loss of the AT position within their school. Clark said, “Money is always an issue. Times are good right now, and the economy is strong. But I think the challenge of keeping positions alive, I think that’s a challenge, that’s a hurdle.” Arthur shared his understanding of how the school district’s decisions to fund an AT impacts the educational budget as a whole,

*I don’t know that there is really a negative point to having [an athletic trainer], other than it does cost your district something. And in this day and time, when there are cutbacks on the number of teachers and those type things, sometimes other areas like the English department might say, oh, we wish we had that money to hire another English teacher, or the math department might say, we need another math teacher or whatever. So, I understand where other people might think it’s a negative thing.*

Several of our participants also expressed appropriate pay for ATs as a challenge to utilizing athletic training services in the secondary school setting. When asked about disadvantages to having an AT Hank said,

*The only disadvantage is how do you pay them correctly? How do you get the right money to them? You know what I mean? Because you’re dealing with budgets and they’re getting tighter and tighter. And so, how do you make that happen? Are you paying them the proper amount? That’s the toughest thing. I wouldn’t call it a disadvantage, though. There are no disadvantages having [an athletic] trainer, if you ask me, except for getting them paid, which is not a disadvantage, but it’s a problem.*

Tony also shared how he and other athletic directors in his district were concerned that the ATs working within their schools were going to leave for better paying positions,

*I mean, I think a few years ago, it was concerns about appropriate pay in terms of their hours and stuff. And we basically kind of bonded together as ADs [athletic directors] and kind of vouched for their importance and said, “Pay them more; we don’t want to lose them.” And the district responded in kind and upped the contract, basically gave them like an 18 or a 20% raise to ensure that we can keep them.*

**Logistics.** Logistical issues were also experienced by our participants who described operational and facility related challenges to the utilization of ATs. Appropriate space was

described as both a barrier to approving the position of an AT as well as a current difficulty faced by the athletic department. Selina discussed how not having space within the school building impacted the process of hiring ATs within her school district,

*I think some of the schools might have had some issues with initially finding a spot for their athletic trainers to perform their jobs. That wasn't an issue here because we had [an athletic] training room built when we built the facility. Our school's only 14 years old, so that wasn't a problem here. But at some of the other high schools that was an issue.*

The desire to have better facilities and equipment available to the ATs was also an issue identified by several of our participants. Matthew explained how he would like to provide an updated area for the AT to work in, “I mean, just from our side I wish we had more of an athletic training room for the person. Right now, he’s just kind of in not a very big room with no air conditioning.”

The majority of our athletic directors identified the logistical struggles associated with having one AT to provide services to an entire athletic program. While most acknowledged that they felt their ATs were providing adequate services to the student-athletes, they recognized the limitations of having one professional to care for all athletes, using phrases such as “spread thin” to describe the working environment of their ATs. Diana explained,

*I mean, I think the biggest problem that we have is that there's not enough [of our athletic trainer] to go around. Everyone has different practice times. He can't be here during all of it, he can't be at every contest, and he chooses based on greatest need, greatest chance of a more severe type injury, so he's basically spending time more with the contact sports on the sideline. We have some teams that practice off-site, and those athletes are free to come in at lunch and that type of stuff to see him, but he's never really at their practice facility. Again, there's just not enough of coverage.*

Bruce also shared the same struggle in his school emphasizing the issue of overlapping game day schedules,

*We'll have a soccer game and a volleyball game happening at the same time in two different places, or a football game. So, our athletic trainer has to kind of pick and*

*choose where he's going to be. And it'd be good if we had the ability to have another certified athletic trainer in more than one place."*

The final logistical issue our athletic directors discussed was retention of ATs within their schools. Many of our participants identified that turnover rates for ATs were high within their athletic programs. Wally shared,

*The only barrier I would say is that sometimes it's tough to retain [athletic] trainers. We've had quite a few [athletic] trainers. So, as they professionally move along and develop, sometimes they advance to better jobs I suppose or move away for further education, so it's been tough to retain them.*

Clark also discussed the frequent turnover he experienced during his first few years as the athletic director at his current school indicating that his school went through "four [athletic] trainers in four years." Despite high turnover rates, our participants expressed gratitude for the ability to have an AT on their staff.

### **Influencing Factors**

Factors related to the decision to utilize ATs within secondary school athletic programs were discussed by our participants and were organized into two subthemes: (1) people and organizations, and (2) policy.

**People and Organizations.** Athletic directors identified several groups that played a role in influencing the decision to utilize the services of an AT including the school board or district, superintendent, booster club members, athletic directors, parents, and local hospital organizations and rehabilitation clinics. Diana discussed that the process of hiring an AT for her school was initiated by the local hospital saying,

*Essentially what happened is that the local hospital here came to the school board and said that they would provide funding for half of the athletic trainers' salaries if they wanted to put them at all six of our high schools. So, our district really had to only come up with the salaries of three athletic trainers and they were getting six. [The district] didn't feel like that was something they could turn away. So, once that all came together, once the offer came from the hospital, our district did everything it could to get on board.*

Selina shared her experience about the role parents played in influencing the decision of school board members,

*I think parents heard that we were possibly getting [an athletic] trainer and there was quite a bit of excitement about that. And that kind of pushed things in the right direction. Because our school board members are out at different games and they come in contact with our parents and I think they heard an earful every time about how excited parents were to have [athletic] trainers actually on staff.*

Our participants identified that while many different groups provided a unique influence on the decision making process, administrators within the school board or district made the ultimate decision to approve the use of an AT within the school.

**Policy.** Athletic directors identified that various policies and regulations also influenced the decision to utilize ATs within their schools. Most commonly, our participants identified athletic league or conference rules regarding required medical care for student-athletes as a reason their school chose to use the services of an AT. Clark explained, “It’s a rule that we had to have some sort of medical [coverage].” The requirement to have on-site medical care for sporting events was also echoed by Kara who said, “We have to have an athletic trainer at all of our events. The state requires that they’re at most of our team sport events.”

Participants who were affiliated with larger school districts discussed the requirement of reciprocity among the schools as a factor for approval of an AT position within their athletic program. Diana explained that if equitable resources were not available for all high schools within the district then her school would not have an AT, “One of the big issues for our district was equity among the schools. So, they needed to make sure that all schools have the same opportunities to have access to [an athletic] trainer.” Tony also spoke to the reciprocity of having ATs within the high schools in his district and how that has also influenced AT use in athletic programs in neighboring districts, “it’s become pretty standard, in terms of within our district and most of the [other] districts that you have an athletic trainer on staff after school.”

## CHAPTER V

### DISCUSSION

#### **Athletic Directors' Experiences with Athletic Trainers**

In the current state of sport culture, the desire to reduce injury risk and improve sport safety is a high priority.<sup>101</sup> With more attention on the risks of sport participation at all levels of competition it is not a surprise that athletic directors recognized these increased risks and emphasized the importance of mitigating them, particularly through the services provided by an AT. When discussing the need for appropriate on-site medical coverage for student-athletes, ATs were viewed as the ideal professional to fulfill the role of athletic healthcare provider within the secondary school setting. Despite the prevalence of coaches assuming the role of primary care provider,<sup>1,7,13</sup> participants identified that they believe coaches are not qualified to serve as the primary medical provider to student-athletes, as most coaches are only trained in first-aid and CPR. The specialized training ATs receive in injury prevention, emergent care, and injury assessment were roles and responsibilities athletic directors emphasized to support the preference of ATs as healthcare providers within their athletic programs. This discrepancy between findings from previous literature<sup>7,13</sup> may allude to a better understanding of the roles and responsibilities of an AT exhibited by the athletic directors interviewed during this investigation, as participants were employed by schools that currently utilize the services of an AT.

While athletic directors demonstrated a strong overall awareness of the qualifications and professional duties of an AT, it is important to note that participants were not asked to identify roles or responsibilities specifically categorized under a given domain of athletic training at any time during this investigation. Rather, discussions of the roles and responsibilities characteristic of the athletic training profession developed in an organic manner throughout the interview. As a

result, participants' understanding of the full scope of practice of an AT may be limited, as some athletic directors only discussed one of the many responsibilities or skills of their AT that align within each domain. This abridged knowledge may demonstrate a potential need for further education of athletic directors regarding the athletic training profession.

### **Evaluation of the Secondary School Athletic Trainer**

Knowledge of and appreciation for the AT's roles and responsibilities was largely affiliated with athletic directors' experiences working with and, most predominantly, observing the AT complete their duties. This observation of the AT had a significant influence on athletic directors' perceptions of the AT's role, supporting the overall principles of Organizational Role Theory regarding the establishment of role expectations made by supervisors.<sup>15</sup> Consequently, observation was identified as the sole component in the athletic director's assessment of the AT's position, as the vast majority of participants revealed that despite their supervisory role over the athletic department no formal evaluation of the AT's clinical responsibilities was conducted within these schools. Alternately, formal evaluation of the AT's position was deferred to individuals associated with the hiring source of the AT. In a decentralized organizational structure, like the one referenced by participants, decision-making authority is delegated to other individuals within the organization who best understand the specifics of a situation.<sup>102</sup> The transfer of assessment of the AT's position to the hiring source may be related to the athletic director's general understanding of the athletic training profession, but lack of detailed knowledge required to appropriately evaluate the AT. As a result, athletic directors transfer authority of performance evaluations to the individuals they believe are most informed to make those assessments. In most secondary school settings, however, the hiring source is often a separate organization that has established a partnership with the school to provide athletic

training services. This unique decentralized structure of assessment may provide challenges to appropriate review of the AT's position, as the hiring organization may have different goals or expectations than the other stakeholders invested in the utilization of the AT, such as the athletic department or school board. As a result, the evaluation criteria of one entity may be irrelevant to another entity in the hiring partnership. Due to the complexity of the logistics surrounding the employment of the AT it may prove most effective to have multiple individuals directly involved with oversight of the AT's clinical duties, such as the supervising physician, athletic trainer themselves, and the athletic director complete an assessment related to the AT's performance to provide a more comprehensive and appropriate evaluation.

It is not uncommon for healthcare providers working within school systems to encounter challenges related to appropriate evaluation of their position due to the unique orientation of their role within the school. The development of a standardized assessment for the evaluation of school nurses emerged out of similar concerns of appropriate performance review as school nurses were once also evaluated using teaching or administrative performance checklists.<sup>103</sup> Using the professional standards of school nursing practice as a framework, an evaluation tool was designed to focus on clinical competency and professionalism, which can be used as both an administrative and self-assessment tool. The use of these competency based assessments has allowed for the roles of school nurses to be more comprehensive by broadening the scope of the position and eliminating task-oriented expectations.<sup>104</sup> Additionally, a more clinically specific evaluation tool has been associated with an increase in school administrators' knowledge regarding the role of the school nurse.<sup>105</sup> A more standardized model of evaluation of secondary school ATs within athletic departments may provide more pertinent information regarding the



performance and usefulness of the AT that is centralized to the school, thus providing a stronger foundation for justification of the utilization of ATs within this setting.

### **Influencing the Decision to Utilize Athletic Trainers**

The NATA Secondary School Value Model<sup>28</sup> recommends that ATs utilize data driven materials to provide to various stakeholders to aid in quantifying the value of their positions within the school system. However, rather than utilizing a formal evaluation or data driven materials to aid in the justification of the AT's position, anecdotal evidence emerged as the preferred source of confirmation that ATs provide a benefit to the athletic program. The importance of data collection and utilization in athletic training is evident through the establishment of the AT-PBRN<sup>37</sup> and other injury surveillance networks<sup>38,70</sup> aiming to describe the characteristics of the athletic training profession, its patient populations, and the outcomes of care provided to these patients by ATs in the secondary school setting. Data driven materials can be tailored to measure specific desired outcomes, such as injury prevention or patient encounters. Regardless of the outcome measured, the development of these data based evaluation materials is instrumental in objectively demonstrating the importance of ATs as healthcare professionals and shift the consumers' mindset from the simple provision of athletic event "coverage" to a more comprehensive provision of athletic healthcare services.<sup>28</sup> While these findings demonstrate an indifference in the need to receive data driven information by athletic directors who are already familiar with the functions of an AT, the use of this type of information may be better suited for those who are unfamiliar or less educated on the athletic training profession or have less opportunity to observe the services that can be provided by an AT within the secondary school setting.

Financially driven and budget conscious decision making is occurring within school boards and districts. However, the challenge and complexity of quantifying intangible benefits<sup>106</sup> was exemplified by athletic directors who perceived the value of services provided by ATs to overshadow the monetary cost associated with the AT's employment. This emphasis on value over worth parallels principles of Social Exchange Theory, which highlights through cost-benefit analysis that people will continue a relationship if they perceive the reward to be greater than the cost,<sup>107</sup> such as in the way athletic directors perceived the benefits of having an AT to be greater than the associated financial impacts. While participants identified that formal cost-benefit analyses are not conducted, it is apparent through their responses that a hypothetical comparison of the costs and value of employing an AT is being considered. Cost-benefit analysis on the use of school nurses have identified a reduction in loss of productivity for both parents and teachers.<sup>108</sup> Similarly, athletic directors highlighted how the access to an AT within their school not only reduced out-of-pocket cost for parents but also reduced opportunity-costs such as time required to seek additional care for an injured child or time lost from athletic participation by student-athletes. Participants also emphasized the reduction in loss of productivity by coaches who were now able to focus on their coaching responsibilities rather than be distracted by managing healthcare needs of the student-athletes. These findings highlight the importance of considering both direct costs, such as salary or supply budgets, and indirect costs, such as time and productivity, when conducting cost-benefit assessments related to the AT's position.

Lastly, consistent with previous investigations,<sup>13</sup> participants reported that members of the school board or district have the ultimate authority in the decision making process regarding the use of AT's within the school. Although some athletic directors felt they had an influence on school board matters pertaining to the athletic department, the benefits of having an AT

identified by participants related mostly to individuals affiliated with participation in school sponsored athletic programs. It is unknown at this time whether these perceived benefits held by athletic directors will resonate with decision makers such as school board members who are assessing the budget and needs of the school from a broader perspective.<sup>109</sup> School board members are elected or appointed officials who represent the highest level of administrators within public education. Working as part of a governance team with the superintendent the school board is responsible for establishing educational priorities and setting local policies.<sup>110</sup> While recommendations provided by superintendents have traditionally been a key source of influence on school board decisions,<sup>111</sup> a demand for the need for additional information, such as supporting data, to assist the decision making processes within educational administration has emerged over time.<sup>112</sup> However, the functions of the school board are further complicated by the political nature of the board member's positions which allows for the susceptibility of influence from various political pressures on the decision making process.<sup>113</sup> Due to their important role in the decision making process of the utilization of ATs, future research is needed to explore how administrators at higher levels within education view the role of the AT as well as to gain a better understanding of the complex decision making process and influencing factors that affect the determinations made within educational administration.

### **Limitations and Future Research**

This study was not without its limitations. Due to time constraints surrounding this project access to participants was of critical importance. As a result, prolonged engagement with participants was not possible at this time. Additionally, the lack in diversity of the participant population is the result of the inclusion criteria, most notably relating to the use of the CORE-AT<sup>31</sup> EMR and the completion of the ATLAS survey.<sup>29</sup> Information acquired from the ATLAS

database<sup>29</sup> is self-reported and may contain errors in the interpretation of the questions. For example, while all of the athletic directors worked in schools where the AT identified themselves as providing services to the school in a full-time capacity on the ATLAS survey,<sup>29</sup> some athletic directors referred to their ATs as part-time due to the split nature of the AT's role within a rehabilitation clinic or hospital network and the school.

Future research should consider utilizing participants with a wider demographic range such as multiple geographic regions, institution types (i.e. public vs private), and AT employment models (i.e. direct hire vs clinic-outreach, part-time vs full-time) to provide a broader range of experiences that could potentially provide different perspectives on the topic. Additionally, while the objective of this study was to explore schools that currently utilize the services of an AT, it may be beneficial for future investigations to explore schools at various states of AT utilization such as schools that actively seek to employ an AT, formerly employed an AT, and never employed an AT, to discern any differences between populations.

Expanding the target population of participants to explore other stakeholder's views on the roles of the AT may also garner valuable information, as multiple individuals were identified as having a role in influencing the decision to use the services of an AT within the schools. As discussed previously, school board members were identified as the final decision makers regarding the use of ATs within the schools. Future explorations aimed at understanding the needs of the school board and the factors that affect the decision making process may be of key importance in the ability to justify the utilization of athletic training services within the secondary school setting.

Lastly, explorations surrounding the use of data driven materials may provide insight into the effectiveness of the NATA Secondary School Value Model.<sup>28</sup> Future research regarding

current documentation practices and data supported material generation by secondary school ATs is necessary to identify whether practicing clinicians are following the recommendations to use documentation to support their positions. Subsequently, more information is also needed regarding the various stakeholders attitudes towards receiving these data supported materials. The combination of explorations in both of these areas may uncover valuable information regarding the most effective strategies to justifying the use of secondary school ATs across multiple stakeholders. Additionally, investigations regarding a centralized AT evaluation tool may also produce an additional data driven resource that can aid in supporting the AT's position. The benefit of a standardized assessment model for other school based healthcare providers has proven useful in the evaluation of their respective positions.<sup>103-105</sup> However, it is currently unknown if these evaluation tools will also prove effective in validating the benefits of ATs in this setting. Furthermore, it is unclear which individual or individuals are best suited to conduct these evaluations. Therefore, future research should address whether the development and utilization of a similar clinically focused athletic training assessment model can provide comparable outcomes regarding the perceptions of and need for ATs in the secondary school setting.

## **CHAPTER VI**

### **CONCLUSIONS**

This exploration provides valuable insight into the perceptions of the provision of athletic training services within the secondary school setting. These findings identified that athletic directors employed in schools that utilize athletic training services have a great appreciation for and positive view of secondary school ATs. Athletic directors also demonstrated a general understanding of the roles, responsibilities, and services provided by ATs working in their schools. These perceptions and awareness of the AT's roles and responsibilities is likely connected with the athletic director's daily interaction with and observation of the ATs working in their schools. Additionally, athletic directors viewed ATs as the ideal professionals to provide healthcare services to student-athletes, describing not only the benefits ATs can provide to their personal role as athletic director, but also the benefits of athletic training services that extend to coaches, student-athletes, and parents as well.

School board members were identified as holding the highest level of authority in regards to the decision making processes that occur within public education, including the decision to utilize athletic training services. Financial considerations persist as a key factor in the decision making processes within school boards. Athletic directors felt they still had a role in influencing school board decisions that pertain to the athletic program, yet the value of secondary school ATs perceived by this population is predominantly supported by anecdotal evidence rather than the use of formalized assessment measures or data driven materials. This lack of structured assessment or collection of tangible evidence to support the AT's position could be a key factor in influencing the perceived need for ATs within secondary schools. This type of information could be of particular interest to school board members who may have less interaction with the ATs working in their school system, yet make decisions that impact the AT's position. Future

research targeting higher level educational administrators may provide better insight on how to more effectively demonstrate the value of ATs within the secondary school setting.

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## APPENDIX

### SEMI-STRUCTURED INTERVIEW GUIDE

*Opening statement: Thank you for your willingness to participate in this study investigating the experiences of athletic directors regarding the utilization of athletic training services within the secondary school setting. In a moment I will ask you a few questions regarding your experiences. Please answer the questions as openly and honestly as you feel comfortable. If you are uncomfortable answering a specific question you may choose to not respond. You can also stop the interview at any time. Do you have any questions for me before we begin?*

*Do I have your permission to audio record this interview for transcription purposes?*

#### **I. Demographics**

1. How long have you been an athletic director?
2. How long have you been the athletic director at your current school?
3. Prior to being an athletic director have you ever interacted with an athletic trainer?
  - a. Probe: If yes, in what capacity? As an athlete, coach, etc.?
4. Have you ever been employed in a high school that did not utilize an athletic trainer?
5. Do you serve in any other role for the athletic program at your school such as a coach?
6. How long have you had an athletic trainer at your current school?
7. How many athletic trainers are hired to provide services in your school?
8. Do the other schools in your athletic conference utilize athletic trainers?
  - a. If yes, approximately how many? (All, most, some)
9. Approximately how many students are enrolled in your school?
10. Based on roster numbers, on average how many student-athletes participate in school sponsored athletics at your school each year?

#### **II. SSAT utilization**

1. As an athletic director, can you describe your experience regarding the utilization of athletic training services in the high school setting?
2. Please describe which reasons, if any, your school initially chose to hire the services of an athletic trainer.
3. Who made the decision to hire the services of an athletic trainer?
  - a. Probe: Can you describe that decision making process?
  - b. Please describe any barriers/facilitators you may have encountered during that process.

4. What prompted the continuation of utilizing athletic training services at your school?
5. Please discuss the value, if any, the provision of athletic training services has for the athletic program at your school.
  - a. Probe: Do you feel athletic training services are an essential component to a high school athletic program?
  - b. Probe: Why do/don't you find a need for athletic training services?
6. What do you feel is the most positive aspect of having an athletic trainer within your school?
7. Please discuss the disadvantages, if any, to utilizing athletic training services within an athletic program at the secondary school level.
8. What are your expectations of the athletic trainer working within your school?
9. Is the athletic trainer's position at your school evaluated in any way?

### **III. Perceptions of Services Provided/SSAT's Role**

10. Please describe the services that the athletic trainer provides to the student-athletes at your school.
  - a. Probe: Administrative, emergency procedures, etc.
11. Are there additional services or resources you wish an athletic trainer could provide to your school?
12. Do you believe secondary schools would benefit from having more than one athletic trainer?
  - a. Probe: Do you feel that one professional can adequately provide athletic training services to a high school athletic program?
13. How feasible do you think it would be to add another full-time athletic trainer at your school?
  - a. Probe: Part-time athletic trainer?
14. What factors would influence the decision to continue or discontinue the utilization of athletic training services within a secondary school athletic program?
  - a. Probe: budget cuts, sport participation rates, school enrollment size changes, etc.
15. What do you feel is the athletic director's role in the decision making process to continue or discontinue the utilization of athletic training services within a secondary school athletic program?
  - a. Probe: Do you feel that your opinion would be considered in the decision making process?

16. What supporting factors would you use to justify why you employ athletic trainers within your athletic program?
  - a. Probe: to the school board? To parents?
17. Does your athletic trainer provide you with outcomes data or a list of services they provide to quantify their value?
18. **If NO to Q17:** Do you wish your athletic trainer provided you with that type of data?
19. **If NO Q17:** How would you utilize that data if it was provided to you?
  - a. Probe: Would it help in any decision making processes regarding their position?
20. **If YES to Q17:** How do you utilize that data?
  - a. Probe: Position justification?
21. Are you familiar with the dollar amount associated with the costs of services provided by your athletic trainer? i.e. the financial value of the services provided?
  - a. Probe: How do you think it compares with the salary of the athletic trainer? i.e more or less than their salary?
22. Does your school or school district have excess accident or secondary accident insurance for your athletic program?
23. **If YES to Q22:** Are you aware of the financial value associated with services provided by your athletic trainer in relation to your secondary insurance?
  - a. Have you ever requested your claims cost from your insurance provider?
24. Are there any statements you'd like to expand upon or additional thoughts or comments you would like to share regarding the provision of athletic training services in the secondary school setting?

## VITA

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Master of Science in Kinesiology May 10, 2014  
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### RELEVANT PUBLICATIONS

- Gardiner AM, Cuchna JW, Walker SE, **Clines SH**, Welch Bacon CE, Van Lunen BL (In Review).  
Student perceptions of standardized patient use in athletic training education. *ATEJ*. Revised: Dec. 2017.
- Diakogeorgiou E, Cotter JC, **Clines SH**, Jusino DL. Emergency medical services' perceptions of the roles and responsibilities of athletic trainers on the athletic field. *Athl Train Sports Health Care*. 2017; 9(4):154-162. doi: 10.3928/19425864-20170310-01.
- Clines SH**, Reems TD, Welch Bacon CE, Eberman LE, Hankemeier DA, Van Lunen BL. [Abstract] Roles and responsibilities of individuals within the academic setting who hold the Doctor of Athletic Training degree. *J Athl Train*. 2017; 52(6): S-294.

### RELEVANT PRESENTATIONS

- Clines SH**, Reems TD, Welch Bacon CE, Eberman LE, Hankemeier DA, Van Lunen BL. Roles and Responsibilities of Individuals within the Academic Setting who hold the Doctor of Athletic Training Degree. Thematic Poster presented at: NATA 68<sup>th</sup> Annual Convention; June 27, 2017; Houston, TX.

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