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MONEY MATTERS: EXPLORING THE FINANCIAL RESOURCES FOR SPORTS MEDICINE PROGRAMS IN PUBLIC AND PRIVATE SECONDARY SCHOOLS—
A QUALITATIVE STUDY

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ABSTRACT

**Context:** Institutional funding and strained school budgets are a barrier to placing certified athletic trainers (ATCs) in secondary schools. The size and location of a school appear to be coinciding limitations (Mazerolle et al, 2015), but what is lacking in the literature is an evaluation of how schools manage to provide adequate medical coverage. Resources are available, but there is question as to whether these schools consider or even utilize them.

**Objective:** The aim of this qualitative study is to explore the funding techniques and budget sources of high school athletic training clinics from the perspective of both private and public ATCs and athletic directors (ADs). **Design:** Grounded-theory qualitative study **Setting:** Online open-ended interview questions and 20-minute semi-structured telephone interviews. **Patients or Other Participants:** Part- and full-time ATCs and ADs in public, private, and charter high schools were recruited for the study. They were either directly employed by the school or contracted with outreach services. Only professionals in the state of Nevada were allowed to participate. **Data Collection and Analysis:** The online open-ended interview questions were modeled after Swanton and Peer’s questionnaire (2015) for participants to complete. Participants with insight that was deemed as particularly insightful were contacted for a telephone interview for (~20 minutes). Phone interviews were recorded and transcribed verbatim to optimize trustworthiness. A general inductive analysis and open-coding from a grounded theory approach was utilized to categorize the data from initial categories into
general themes. **Results:** Money discrepancies, creativity in healthcare delivery, and overall community influence were the three major themes that emerged from the data. They illustrated the multi-faceted and challenging factors that affect athletic training practice.
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CHAPTER 1 – INTRODUCTION

Public and private high schools are clearly different in their institutional practices. Private schools convey the impression of exclusive, elite, and expensive education, while public schools are viewed as common, accessible, and affordable (Hallinan & Kubitschek, p. 4-5). While differences exist from an educational perspective, one must consider other factors that can affect students’ experiences in high school, such as physical education and sports. Oftentimes, purely financial reasons impede schools from providing optimal care for their athletes. Budget cuts are a reality in the strained realm of education and school athletic programs. Current literature has been helpful in acknowledging budget as an issue, but does not elaborate on how schools cope with severely restricted funds. Having experienced sports medicine at both the public and private school level, observing how money is spent and the choices that must be made, is both impressive and disheartening.

In the pursuit of saving money, a school can risk reducing the quality of an athlete’s healthcare and safety. As a certified athletic trainer (ATC) in the Clark County School District (CCSD), I hear anecdotal accounts from my colleagues of their experiences on how supplies can be strained, how certain sports are eliminated, and the general expectations of a program are not necessarily promising. According to Pike et al. (2017) athletic participation has risen to 7.8 million nationwide as of 2013-2014 (p. 5). Literature that has evaluated the injury data from the National Center for Catastrophic Sports Injury Research reported that 81% of all catastrophic injuries occur at the high school level which due to the increase in athletic participation (Pike et al, 2016, p. 717), leading researchers to investigate the quality of care in high school athletics.
Athletic trainers are well-educated in injury prevention, orthopedic evaluation, emergency care, clinical rehabilitation, administration, and professional responsibility. There is a movement to place a certified athletic trainer (ATC) at every high school (Pike et al., 2016). Professionals supporting this advocacy are certified and licensed athletic trainers as well as other stakeholders (e.g. parents, athletic directors, allied health professionals, etc.).

Making ATCs available for every high school is a very ambitious goal. Many high schools utilize outreach programs to acquire an ATC for the sport season. Universities and public schools commonly contract with graduate assistant (GA) ATCs or with local physicians. High school athletic directors (ADs) have been questioned on how they would provide game coverage without an AT. Emergency medical technicians (EMTs) have been deemed acceptable, as well as physical therapists (PTs), or even CPR-certified coaches who are often required to take a class or weekend seminar on concussion management. While these are all different forms of sports coverage, one must consider the liability that can befall these schools for not providing immediate and proficient emergency response, evaluation, hospital referral, and patient follow-up. Quandt, Mitten & Black (2009) list some major secondary school athletics liabilities referring to sporting events such as (a) providing or refusing initial medical clearance to play in any athletic activity, (b) planning for athletic injuries and emergencies and knowledgeable staff to carry out a plan, and (c) return-to-play decisions following assessment and treatment of injuries etc. (p. 85).

Perception of the athletic training profession is another factor listed as a barrier to placing an ATC in every high school. Some ADs report that a coach can efficiently manage sports injuries (Mazerolle, 2015, p. 5). In addition to misconceptions about the athletic training profession and the level of care associated with it, a high school’s sports medicine budget arose
in the literature as a barrier for dispensing appropriate care. Articles as early as 1978 have highlighted budget as a notable barrier in obtaining an ATC and optimizing the medical care needed for student athletes. Wham et al. (2010) utilized the Appropriate Medical Care Assessment Tool (AMCAT) in determining factors that affected medical care for student athletes in South Carolina. Overall, athletic training services were associated with a higher sports medicine budget (p. 82). Several articles include private and public high school responders for their surveys (AD, ATC, coach, school nurse, etc.), but budget is not necessarily discussed in detail. Additionally, researchers do not link which responder is affiliated with a certain type of school—public or private.

Several researchers have surveyed high schools with and without ATCs to compare medical coverage. Others focus on schools solely with football programs, or survey schools based on geographic locations (e.g. rural or urban). McLeod et al. (2013) found that most athletic training budgets are $2,000 to $4,000 but the article did not specify if these were public or private institution amounts. Of the high schools surveyed in McLeod’s study, 11.2% had budgets that included more than $8,000 for athletic training. This can either be a private high school budget or a very affluent, public high school (p. 483). The current data is valuable for identifying many issues facing ATCs at the secondary school level but are still lacking in understanding how private or public secondary schools actually compare to each other financially. Many public schools are under-resourced and find it difficult to provide good quality sports coverage compared with private schools. It seems to be common knowledge that private school athletic programs are provided substantial budgets to fund their supplies and athletic training services. While this thinking is the trend, budget amounts are not defined in the current literature. Perhaps not all private high schools receive $8,000 to work with, but it would be useful to know how they
access extra funding either through institutional grant writers or ADs submitting proposals for private funding.

Generally, all high schools without ATCs have historically struggled to administer appropriate medical coverage and avoid litigation (Quandt et al., 2009). The added pressure of demonstrating their worth becomes understandably shadowed when consumed by multiple responsibilities with high school sports. Perhaps if a page was taken out of the private high school funding handbook, public school ATCs may enhance their care and promote their professional worth. Additionally, educating parents and administrators education on the importance of athletic training services may get schools and parents on board with supporting the sports medicine supply budget.

SUMMARY

The purpose of this qualitative research study was to explore the funding techniques and budget sources of high school athletic training clinics from the perspective of public and private high school athletic trainers and athletic directors. Funding techniques and budget sources were generally defined as public/private resources that could contribute to enhancing athletic training clinics. The goal was to understand if most public school AD’s and ATC’s were aware of the private/public funding alternatives available (e.g. grants, sponsorships) and if they felt discouraged from applying due to the stringent guidelines and application processes. Additionally, most ATCs are not equipped to write grant proposals and may not have access to a grant writer. Some limitations that presented themselves were the size and location of the intended population. Communication was potentially difficult with part-time and full-time high school ATCs at the public and private level regardless of geographic location in Nevada. Another limitation was that some ATCs may not directly handle their budget. The questionnaire
intended to interview and understand the role that budget plays in athletic training practice. It is possible that the intended sample for this study may have passed it to someone that had a better understanding of funding instead of the ATCs themselves.

PURPOSE

Through the eyes of ATCs and athletic directors, the study will explore 1) the monetary figures that public and private schools handle, 2) how these schools allocate resources, 3) their awareness of alternative funding and 4) whether they seek external funding. Specifically, this study will address budget issues and funding techniques. At this stage, budget will be generally defined as monetary figures allocated by the school district or academic institution, while funding techniques are defined as public or private resources that can contribute to enhancing AT clinics. The research design will be a grounded theory approach utilizing phone interviews and open-ended online questions which allows for much participant autonomy and more convenient for participants. Those with particularly interesting insight will be pursued for a follow-up telephone interview which will then be transcribed and analyzed using inductive and constant comparative techniques from grounded theory.

Designing the study in this manner will elaborate on the financial aspects of secondary school athletic training programs and explore the avenues for external practical funding that high schools utilize. The findings are believed to have potential significance for other schools that may experience restricted funds or administrative support. Some possible limitations may include administrative resistance from some schools regarding stating their school sports budget, participant compliance with the study, and successfully surveying the entire state of Nevada for the data to be transferable.
OVERARCHING RESEARCH QUESTIONS

What are the budget and funding issues that ATCs and ADs experience? How does socioeconomic status affect the experiences of secondary schools regarding the funds they receive? Is it due to inexperience or unawareness that administrators do not apply for funding?
CHAPTER 2 – REVIEW OF THE LITERATURE

The following literature review has been categorized into five sub-sections: (a) recognizing the need for athletic trainers in secondary schools, (b) athletic training practice in secondary schools, (c) factors that impede placing ATCs in secondary schools, (d) policy changes for mandating ATCs in all high schools, (e) budgetary constraints and funding resources.

2.1 Recognizing the Need for Athletic Trainers in Secondary Schools

2.1.1 The Concept of “Teacher-Trainees”

Budgetary concerns in athletic training literature have existed since the late 1970s. Rosato and Maxwell (1978) brought attention to the lack of qualified ATs in public secondary schools. They claimed that it was the primary reason for the proliferation of athletic injuries. The authors referenced Golomak and Golomak’s (1975) study, which assessed the health care for high school football players in Memphis, Tennessee. Four out of forty-seven schools provided medical supervision (the type of supervision is not explicitly stated), one-third of the schools did not have a physician during games, and less than 1% of high schools had ATCs (p. 86). Schools without sports medicine coverage resorted to coaches as their main reference to the presence of injury. Rosato and Maxwell also referenced Bowers’ (1976) study in that 60% of athletes referred to physicians were sent too late; 23% were evaluated immediately by physicians. Public school administrators list two primary reasons as to why they are reluctant to hire ATs: ATs are considered a “luxury” in tight school budgets, and there is a lack of understanding concerning the AT’s role (pg. 86-87). Lay persons understand the rehabilitative nature of athletic training, but not the preventive aspect. There have been proposed solutions to this issue.

“Teacher-trainers” had been suggested by the National Athletic Trainers Association (NATA) to aid school administrations in hiring ATs. They serve in a teaching capacity with full
pay and athletic training services require additional compensation. NATA (1976) formerly supported that faculty members could get AT certification through a summer program. In Houston, Texas 23 high schools and 36 junior high schools had 3 full-time ATs. Every school had a coach and two or more student coaches who were able to treat athletes. This group of coaches received training from a professional AT and continued upgrading their skills. Since 2004, athletic training internships have been discontinued in place of accredited university programs. Ultimately, according to authors, there was a lack of qualified ATs (i.e. professionals with a degree in athletic training) (pg. 86-87).

2.1.2. Coach as the Healthcare Professional

Coaches being utilized as healthcare professionals was a common trend in the literature discussing adequate medical coverage for high school sports. They were regarded as immediate resources in the absence of ATCs or other emergency-care professionals. Abraham (1970) sought to assess the views of coaches and discuss the role of “trainers” (e.g. the common name referred to athletic trainers) in New York. Of all the coaches in New York, 90% felt that First Aid was a part of their duties since there were few ATCs at the high school level. Recognizing that the high school level had the weakest availability of care, “trainers” were unquestionably needed. Delay of care was usually an issue since athletes were not examined until they were severely injured (p. 538). Often, the athlete gauges the severity of his injury and does not seek an exam until it is impossible to continue playing.

Abraham juxtaposed college and high school athletic care. Colleges had access to better medical care, whereas in high school there was no specific person to care for injuries (p. 538). Of the 750 New York high schools, 453 responded (61%) to the survey. Physicians would attend varsity football games, but their attendance decreased with each sub-level. Half of these schools
stated that no First Aid rooms were available (p. 539). This is an evident problem and Abraham further discusses the role of the athletic trainer as an individual that oversees injuries, follows the standing orders of a physician, and is closely associated to physical education. Physical education was an interesting association since the NATA sought men as “trainers” with major studies in physical education to have a broad teaching certificate. In 1959, the NATA adopted a program where “trainers” would be prepared for the secondary school level. While this was a positive, professional benefit the actual title and responsibility of the name was an issue (p. 541). Abraham states that “trainers” could be assistant coaches and still perform their healthcare responsibilities, but role conflicts could easily arise.

2.1.3. Initial Attempts to Provide Medical Coverage

To advocate for athletic trainers at the high school level, some literature provided guidelines to aid in providing quality medical care. Snow (1980) established a layout and fundamental concepts to start an efficient program. Again, the concept of teacher-trainers surfaced. Budget was mentioned briefly in simply having one to get the program off the ground, but where that money comes from was not explained. The author explicitly defined the requirement of the athletic training professional—a 4-year college/university with B.S. or M.A. degree, underwent curriculum programs or apprenticeship programs for a number of hours with select sources from NATA, and certification exam. However, if that was not feasible, a high school could have a teacher go to get NATA-approved education. If that route was still not feasible, a physical therapist (PT) was always an option (p. 6). It was suggested that the proposal for the athletic training clinic should be envisioned and budgeted from the proposing athletic trainer, but alas money was identified as a need but its source was not defined.
2.2 Athletic Training Practice in Secondary Schools

2.2.1. Socialization of the Athletic Training Profession

Identifying the need for athletic trainers (ATs) in high schools was highly beneficial for the NATA to advocate for these positions. It is equally important to explore the experiences of ATs in the high school setting regarding choosing this setting and issues working at this level. Gardiner-Shires and Mensch (2009) sought to identify the attractors to an AT career in the high school setting. Using concepts from socialization literature, occupation socialization happens in three phases: 1) anticipatory, 2) professional, and 3) organizational. The purpose of this study was to examine attractors and differences between choosing the AT profession and the AT career at the high school and 3) identify attractors attributed to sex, time of decision, job status (e.g. full/part time). Using the Physical Education Majors Background Survey, 138 ATs were surveyed; nearly half of ATs underwent the curriculum route while the others completed the internship route. The internship route to certification was abolished in 2004. Three themes/attractors were defined after data analysis: interpersonal, service, and continuation. Full-time ATs were more likely to be attracted to the high school for multiple intrinsic reasons, but usually full-time ATs used athletic training as a stepping stone for another profession. Part-time ATs had to work at the high school setting because of job responsibility. While the data may not be fully generalizable because of the small South Carolina ATC group they report straightforward trends that can be reflective of the professional population. Women ATs gravitated to the high school to spend more time with family, and regarded the setting as less demanding to transition to become different health care professionals.

Once an athletic trainer is employed at a high school, a series of administrative systems come into play providing support and direction. Continually, ATs must communicate with coaches
which can be either be a positive or adversarial experience. Mensch, Crews, and Mitchell (2005) studied the competing perspectives during organizational socialization on ATC roles in the high school settings. The socialization process occurs in three phases, 1) anticipatory socialization, 2) professional socialization, and 3) organizational socialization. Semi-structured interviews were conducted to collect the perceptions between coaches and ATCs during preseason, in-season, and off-season. Twenty high school basketball coaches and ten ATCs (9 of which were from outreach programs) were recruited. After analyzing interviews coaches’ perceptions of ATCs were inconsistent with the ATCs’ views. Most coaches simply wanted ATCs to be available in the off-season. Accessibility was major factor during pre-season. All coaches were satisfied with their AT and services and generally had minimal expectations during the entirety of a season. ADs helped ATs maximize their jobs at high schools. There were competing perceptions between the coach and the AT. If role performance expectations negatively collide with their experience a different set of expectation can lead to role ambiguity/conflict. This is the most consistent predictor of job satisfaction and commitment. When asked to explain the ATC’s role, coaches’ explanations were incomplete. Coaches were generally uninformed about the ATC’s credentials and services. Authentic communication was an issue between coaches and the AT, a trend that continues today in practice (Mensch, Crews & Mitchell, 2005, p. 336-338).

2.2.2. Committing to the Job and Encountering Role Strain

While it is useful to identify attractors to the AT profession, Pitney (2010) analyzed professional role commitment among ATs working in the secondary school setting through a qualitative study. He wanted to know how they maintained their commitment despite working in professionally challenging environments. Four themes emerged from this group of 17 ATCs with over 10 years of experience, 1) professional responsibility, 2) rewards, 3) respect, and 4)
rejuvenation, which related to burnout, role strain and work-family conflict (p. 200-201). The intrinsic value of working with high school athletes spoke to most of these themes, while rejuvenation was discussed to balance work and family life—something not necessarily possible working at the collegiate or professional levels of sports medicine. Many positive things come about when the AT is respected. Peer-to-peer relationships aided in mitigating role strain.

Socialization literature emerged once again to differentiate between an AT’s affective (intrinsic desire to perform the job) commitment, normative (obligation) commitment, and continuous (potential consequences for leaving) commitment.

Elaborating on role strain is another piece from Pitney (2008) who aimed to identify the extent to which role strain permeates the professional lives of dual position ATCS and PE teachers and to identify which components of role strain are most prevalent and what variables predict them. A mixed methods study, Pitney surveyed 1,863 ATCs, 257 of which worked in dual roles. High role strain was experienced by 13% of ATCs, 28.5% felt moderate strain, and 24% felt minimal strain. Role strain, in socialization literature, is a:

“subjective state of emotional arousal in response to external conditions of social stress…role obligations are vague, irritating, difficult, conflicting, or impossible to meet” (Hardy & Hardy, 1988, p. 165).

Qualitative findings produced 4 categories from inductive analysis: 1) time-related issues, 2) support and appreciation, 3) role-relationships, and 4) role clarification/negotiation versus role accommodation. Total hours of work were a major stressor for these individuals, though more athletes trusted ATCs due to dual role. Low strain individuals proactively clarified their roles, while high strain individuals engage in role accommodation, which is essentially a “grin and bear it” attitude (p. 165). Pitney explains that the components of role strain include role
incongruity, role overload, role conflict (p 165). To ease this stress it was suggested that these individuals create human schedules that consider the volume of work. The dual position can be beneficial by engaging more with students. One role can interfere with the other, but can also benefit the other.

2.2.3. Factors Affecting Secondary School AT Practice

While the sociology of athletic training is interesting and necessary to identify how the actual professionals manage in high schools, it is important to observe the clinical factors that are involved in athletic training practice. ATs must adhere to the NATA’s Code of Ethics and practice under a licensed physician. McLeod et al. (2013) sought to characterize the practice of secondary school ATs (SSATs) by drawing on data from the National Sports Safety in Secondary Schools Benchmark (N4SB) Study. A total of 4,405 ATs responded to the study. Of those that responded, 18% were from public high schools and 12% private/parochial schools. 23% of all schools received less than $2,000 to $3,999. Considering geography and location, small schools could potentially be rural or urban, private schools. Nearly 10% of ATs had no physician to supervise them (p. 485, 488-489). There were notable AT practice characteristics: 1) structural aspects of the AT’s employment position that may directly or indirectly influence practice (e.g. the hiring process, the need for the position), and 2) event coverage decisions, frequency, and 3) scope of AT services made by the AT for providing patient care. McLeod and colleagues found that 39% of ATs reported doing rehabilitation while 72% spend much of their time doing evaluations, and 60% were treating injuries (p. 487).

Pryor et al. (2015) added to this research by examining and even updating how many public schools had athletic trainers. In 2014, 42% of all schools had access to ATCs. By surveying all public schools in the U.S., 57% responded and researchers found that 70% of this group had
access to AT services (p. 157). Their commentary was optimistic, schools understood the value of ATs but there were several that still relied on coaches and athletic administrators to establish some sort of medical coverage. More often as the literature shows, coaches were responsible for coverage, and treating injuries was not something parents and athletes should expect them to do.

2.2.4. The Employment Challenges of the High School ATC

Although initial attractors and commitment to this setting may be admirable, it is not unheard of for ATCs to leave high schools for the exact financial reasons that may restrict them. Moss (1994) collected data concerning the salaries of ATCs in 1992 working at different levels of education. Understandably, academics played a role in employee salaries, where a bachelor’s degree could receive an average of $23,000 with a $4,000 stipend if the individual taught at their high school. Master’s degree professionals made $25,000; this is not a substantial increase. The aim of this study was to provide graduates and employers with salary data for potential AT jobs. Of the 427 vacant entry level positions listed by the NATA in hospital/clinic, college/university, and high school settings, 35% responded. The reader should beware drawing conclusions from low turnout. The highest salary was at the high school level ($25,919±$4,490), while the lowest was college ($20,482±$3,339), for professionals with both a B.S. or M.S. degree. The salaries listed usually represented a 12-month contract. Considering the time, assistant ATC salaries were so low because it was generally viewed as a stepping stone before attaining a head ATC position or pursuing professional sports. Moss references an observation that Weidner (1990) makes about sub-optimal salaries, “Many ATCs are guilty of accepting embarrassingly low salaries” (p. 207).

Arnold et al. (1996) expanded on Moss’ research and explored a greater number of factors (certified route, academic degree, ethnicity, etc.) associated with employment, which
included the 3 settings (e.g. clinic, college, high school) and non-entry level positions and how they predicted salary. The study’s authors surveyed all prospective employers that listed job vacancies in 1994 and found that three components predicted salary: 1) doctoral degree, 2) master’s degree, and 3) marital status. ATs with a doctoral degree earned more than ATs with a M.S. or B.S., and subsequently ATs with a M.S. earned more than one with a B.S. Teacher-ATCs earned more than full-time ATs and college ATs who did not teach. ATCs with a Ph.D. earned $8k more per year. Regarding marital status, married professionals earned more than single ones.

2.3 Factors That Impede Placing ATCs in High Schools

2.3.1. Discrepancies in Medical Care and Location

Medical coverage in athletic training literature concerns the supervision of athletic events by a medical professional and necessary care in the event of an injury. This is an aspect of sports medicine that has been heavily scrutinized and criticized at the high school setting. Different perspectives and trends fluctuate within the decades of articles regarding alternatives to providing coverage in the absence of an ATC and gives rise to other factors that may impede medical coverage. Porter et al. (1980) surveyed and interviewed ADs and ATs to explore sports medicine care in Chicago-area high schools. If neither of these individuals were available, other school personnel would complete the survey. The study’s authors recruited 191 high schools in 7 counties, both public/private, male/female/coed. There was a general understanding that athletic injuries usually occur during practice. The survey results indicated that Chicago public high schools had the lowest coverage, whereas the highest coverage existed in non-Chicago, Cook County public high schools. Boys’ sports programs had 104 ATs in and 29 ATCS were in girls’ programs. The ATC was defined by who the school designated. As it turned out 70% were
ineligible for certification under the NATA. Many ATCs were in non-Chicago Cook County public schools (an employment rate of 81%). No Chicago schools had an ATC (85%). Of those with an ATC, 10% had an AT eligible for certification. Chicago public and private schools had the lowest paramedical game coverage (53.7%). Public schools in suburban Cook County had access to ATCs and physicians, where Chicago public and private schools did not. 31% of ADs stated that they did not have a certified AT and did not understand certification requirements (p. 97-99). Recommendations by the authors once again propose the idea of “teacher-trainers”.

2.3.2. Alternative Ways to Supplement for an ATC

Observing the lack of ATCs in high schools, some point out that the school nurse is a medical professional, accessible, and an understandable alternative to managing sports injuries. Carey (1981) juxtaposed past and present views in utilizing the school nurse. Proponents of using the school nurse stated that the nurse followed standing orders from a physician and could proficiently assess and treat athletic injuries. Carey sought to investigate the competencies of nurses and ATs in evaluating sports injuries and found that they were inadequate to assume injury management. In October 1978, nurses completed the Sports Trauma Management Inventory (STMI) and 75% of nurses failed whereas only 26% of ATs failed. Although the nurse may want to do the job well he/she was restricted. Carey suggested that a medical policy should dictate what she did in all situations, the legality of treatment should be considered, and addressing the deficits in functional anatomy should be considered in nursing curriculums. Overall, the nurse should not be expected to do what an AT does; naturally, there would be role confusion. To amend the problem, Carey stressed the need for ATs and nurses to establish a relationship. As expected, Carey explains that “with rising educational costs, new programs reluctance, and declining enrollments, many schools view…an athletic trainer as an unnecessary
luxury” (p. 39). The author further advocated that the AT and nurse need to be supported by administrators. The goal was injury and liability control. In other words, prevention was key.

Alt (1986) was one such proponent of expanding the school nurse’s role to function as an AT. The author discussed that the option for employing a licensed “trainer” was considered but ultimately dismissed because a “trainer” at the high school level was a) not mandated by state law and b) placing an additional non-mandated salary into the budget would have been difficult due to limited funding. Alt insinuated that the AT, under the coach’s authority may not have the interests of the athlete in mind (p. 155). There is a departure here of the “teacher-trainer” recommendation that is so prevalent in this literature. To optimize this nurse-AT role, the author suggested that she attend a local university to receive training in athletic medicine from university “trainers” and its orthopedic physician. Furthermore, a school health aide, would become the “athletic trainer aide” who got training from the nurse-AT (p. 155-56). The nurse-AT was expected to perform evaluation, manage equipment, and gauge mental readiness for return to play. Utilizing administrators as healthcare professionals is a hazardous idea.

As the literature dictates, it is astounding to read about the lengths schools would go to provide adequate medical care for their athletes when hiring an AT was just not feasible. Bloomberg (1981) highlights one such movement by Seattle schools that used the Athletic Health Care and Training Program model. At the time NATA had 2,300 members, where 400 of them were employed by high schools. Those without ATCs relied on student athletic trainers’ (e.g. high school students) knowledge from 3-day summer workshops. The Athletic Health Care and Training Program was a federally funded pilot project in 1978 in 6 of 18 Seattle public high schools. The 4 components required for a successful program included, 1) a health care team for injured athletes, 2) comprehensive education for student ATs and coaches, 3) a central training
room, and 4) a system to document and record injuries. In all aspects student ATs were the cornerstone. The philosophies of the program were positive which endorsed including coaches on the health care team and sensitizing them to injury. Inevitably, a school’s athletic budget was mentioned. Seattle high schools failed to provide a training room due to the lack of money, thus training room standards suffered. Even though this idea was resourceful at best there was much liability regarding patient privacy where coaches could chart an athlete’s progress. Today, this would be a substantial HIPAA violation. Bloomberg estimated that a first year startup cost would be $8,400, and the following annual costs would be less than $2,000. The injury recognition system, which included the coach, physician and student AT, was deemed similar to having an ATC. Few districts could afford the normal ATC salary that was $15,000 at the time (p. 118).

There are evident dangers in using students as full-fledged health professionals in the pursuit of saving money. Hossler (1985) provided much evidence supporting the need for ATCs at the high school level and suggested multiple methods in acquiring one for all schools. The educational background of ATCs was briefly mentioned; they underwent extensive NATA coursework, 800 hours of practical experience under an ATC or 1800 hours with the NATA Internship route. Some still insisted that a coach could perform athletic training duties and coach. Hossler referenced a 1982 survey of Illinois and Wisconsin high schools (n=602) and found that 72% did not employ an AT, and 87% did not plan on hiring one. Additionally, 57% stated they would hire one in about 1-5 years. It sounded promising, but follow-through was immediately questionable. Money was the main factor in 77% of schools, 11% cited administrator apathy, and 10% stated that coaches already functioned as “trainers” (p. 201). Hossler provided options for high schools seeking ATCs. Naturally, (a) the full time ATC was the most ideal, (b) the “teacher-trainer” was the next best option and was expected to assist the school’s coaching staff, followed
by (c) substitute teacher-ATCs, (d) Administrative-assistant ATC, (e) Nurse Office-ATC, (f) PT-ATC, (g) Sports Med Centers, and finally the (h) Trainer Rotation Program—a complicated setup where two or more schools split the cost of coverage and the AT’s medical benefits package so he/she can provide coverage for all of these schools. It is similar to the “shared-teacher program” where an educator serves multiple districts. However, the recurring issues with hiring an AT—decreased enrollment and budget cuts—present themselves once again.

2.3.3. The Rise of Outreach Programs

It is at this point in the literature where outreach programs are initially a huge help to make medical coverage accessible for high schools. Temple University Center, Hossler explained, provided ATCs to local high schools to educate students and coaches. Over time, the movement for placing full-time ATCs in high schools recognized that outreach programs hindered this goal. It is important to note here that 15 states had licensure in 1985. Budgetary constraints were mentioned but not elaborated upon. These guidelines may have been helpful and should have expectedly changed as the awareness of athletic training grew, but Stopka et al. (2002) provided the exact same suggestions for hiring ATCs and still promoted “teacher-trainers" or some variation of that for the “peace of mind” of school administrators (p. 31).

Sporadic observations about the lack of medical coverage in high schools generated an advent of research on multiple states by the mid-1980s. The following articles evaluated the presence and the quality of sport coverage by medical professionals and a there is a stronger advocacy for athletic training. School budgetary constraints are mentioned in passing, but new factors offer potential explanations as to why schools strain to provide coverage for athletes.

2.3.4. Size and Location Factors

Culpepper (1986) surveyed 119 public schools to gauge the availability and delivery of
health care to high school athletes in Alabama. Generally, small schools (1A) had a greater distance from medical facilities, less space; adequate equipment was less prevalent than larger schools (4A). Larger schools usually had both ice machines and a whirlpool bath. Coaches were mainly responsible for return-to-play decisions. The type of team physician a school had related to school size; large schools usually had an orthopedic physician. Naturally, football was a priority. Girls were examined less by team physicians than boys. Considering the healthcare, girls tended to pay more for services than boys, highlighting the discrepancies in care. 1A and two-thirds of 2A schools equated emergency medical technicians (EMTs) to ATCs. Smaller schools generally felt that the quality of their medical care was poor, and larger schools did not believe that their level of care was ideal either. Coaches felt the role of an AT was important. Although it was understood that NATA-certified ATCs were highly beneficial to sports programs, administrators cited that restricted school funds created a dilemma for hiring one (p. 131-39). Money was always a barrier.

The dynamic of outreach programs is further explored by Nass (1992) in which he surveyed 30 athletic medicine outreach services. The typical reasons for insufficient care are repeated—lack of interest, apathy of the school administration, minimal access because of locality, and budgetary constraints (p. 180). Health care continually befalls the coaches. Nass provided options to attain outreach services, the most ideal being full-time ATC, teacher-administrator who does ATC duties, and an outreach ATC. With the support from the president of the Wisconsin Athletic Trainers’ Association 482 public and private high schools were studied. Of these, 221 schools utilized an outreach service. Eighteen services provided care through written contracts (e.g. a 9-12 month flat fee; range: $25-$8,449 depending on frequency). One such program charged $500 per season or $11 per hour. Nine services provided
AT coverage at no charge. Although using outreach services helped fill the gaps in medical care they fell short of NATA goals (p. 182). High schools depended on the generosity and volunteerism of outreach programs due to the school’s inability to pay. Nass voiced a preliminary, understandable thought about the ambitious nature of the NATA’s goal: “the NATA may be fiscally unrealistic in pressing the goal of having a staff athletic trainer in every high school” (p. 183). The goal was ambitious, but with ever-present monetary undertones.

Nass described how outreach programs were a compromise in serving high school athletics. In 5 years, however, Wisconsin would change their approach to sports medicine at the secondary school level. Rutherford, Niedfeldt, and Young (1999) assessed the health care for Wisconsin football players and high school safety compliance in accordance with the Wisconsin Interscholastic Athletic Association (WIAA). This organization and its Medical Advisory Committee published a policies and procedures manual that finally established serious guidelines that every high school should follow. WIAA ADs completed a 33-question survey that assessed medical coverage, medical equipment, emergency readiness, record-keeping, and compliance; 74% responded. Researchers found that larger schools had team physicians and complied well with WIAA. Although 87% of schools had “trainers” for football, only 86% were NATA-certified, while the remaining “trainers” were either coaches, teachers, or students. This reflected the understanding of the ATC profession and responsibilities were still an issue in providing care. Authors supported their stance in that ATCs were an essential part of the sports medicine team. Meanwhile, smaller schools were left to use ambulance coverage. Considering these results, a major but interesting phenomena and/or limitation could have been underreporting which can occur to get budgetary allowances from WIAA (p. 214). Overall, though a school’s budget may be limited, it is no excuse for allowing sub-par care.
2.3.5. Statewide Assessments of AT Availability

It is a trend in evaluating secondary school medical care that the AD’s perceptions and the school’s size become factors to consider. Lindaman (1992) studied athletic trainer availability in Michigan athletics. The Michigan High School Athletic Association had 711 high schools, where 57% of their ADs responded. 41% of these ADs reported having an AT. The percentage of AT prevalence varied directly with the size of the school. More populous schools tended to have more ATCs. As expected, coaches mentioned that they usually provide health care services. Attempting to address medical care deficits, up to 71% of ATCs were volunteers. Salaried ones made up to $5,508 per year as reported by ADs. This article made parallels to previous studies where findings associated the availability of ATs as directly proportional to the size of school. Porter’s study of Chicago schools (1980) reflected that percentages of ATs were higher in larger, wealthier suburban schools, but this statement relied on the assumption that it had to do with size and money (p.10). Furthermore, an estimated 16% of all high schools in the nation had ATs. Unsurprisingly, one of the factors influencing school districts providing ATCs was cost (p. 12). Funding for the actual program was not the focus, but salary was the main issue. The general theme was that being an ATC at the high school level should not be one’s sole means of support. Now the new concern was not a lack of availability for ATs but the continual lack of concern and commitment by school districts and athletic departments (p. 14). The “teacher-trainer” concept and contracting outreach sports medicine clinics were ever-available options.

Football was a natural focus for medical care availability due to increased awareness of concussion care and having the appropriate professionals available for this high-risk sport. Vangsness et al. (1994) studied the athletic care in California, a state that does not have athletic
training licensure, but was not immune to the NATA’s general movement to improve secondary school athletic care. Researchers surveyed 240 high schools about their football health coverage. Of these schools 70% had team physicians, 72% had coverage for games, but practices were not covered. The schools were not distinguished between public and private, but 69% had ATCs for home games. Additionally, researchers noted different experiences of team physicians (e.g. orthopedic surgery, family practice, internal medicine, pediatrics). Schools either had ATs for football, physicians for practice or managed with an on-call ambulance. Medical protocols showed that 96% of schools required a physician’s note for return to play. Low to no-cost medical services were used by 73% of schools. Health and accident coverage was required by 96% of schools. Budget was mentioned, albeit briefly, as restrictive, “trainers are often considered a luxury” and “student-trainer programs” are continually suggested (p.721). Schools completely lacking in ATs and physicians were suggested to seek aid from local hospitals and medical community (p. 721).

2.3.6. Medical Coverage to Health Coverage

While some articles may define medical coverage for high schools as AT supervision others examine student health insurance. Feder et al. (2010) conducted a longitudinal study from 1999 to 2002, which examined the availability of supplemental health insurance for athletes in high schools in California. He elaborated on the findings of Vangsness et al. (1994) regarding California schools requiring insurance for their athletes. 905 schools completed the survey; 74% were from public schools and 26% were from private. More public schools offered insurance than private schools. 98% of schools had required pre-participation exams (PPEs) for students ($0 to $115 in cost). California state law required student-athletes have medical insurance to participate in high school sports. Additionally, 22% of high schools did not offer any form of
secondary insurance to student-athletes. The California Interscholastic Federation (CIF) states that it is not mandatory to have a physician at games, but some form of medical coverage for students. The state provided no regulation or funding of AT through licensure or registration (p. 62-64). The Center for Disease Control (2006) estimated that half of sports-related injuries occur during practice (p. 64). Though ambulance availability may seem adequate it does not guarantee full game coverage. It is a slippery slope where the lack of licensure leads to the lack of support/funding for CIF schools.

2.3.7. Previously Studied States—Where Are They Now?

As the literature enters the 2000s, many studies followed up and addressed previous claims of not being able to hire ATCs in high schools. Researchers not only assessed the current trend of placing ATs but the way different stakeholders advocated for them. Tonino & Bollier (2004) surveyed all 77 Chicago public high school athletic directors, where 59 ADs responded (79.6%). Whereas Porter (1980) analyzed the coverage of all sports in Chicago, this study sought to gauge the level of medical supervision of high school football in the same city. Results indicated that larger schools in wealthier areas could provide ATs. Of the forty-seven schools, 8.5% had ATs present at varsity home games, and 89% of schools had paramedics present. One out of forty-seven schools had an AT attend practices; forty-six of the schools had coaches available. Since Porter’s study there had been a marked increase in the use of paramedics since 1980. Porter reported 53% versus Tonino & Bollier’s 87% (p. 39). The percentage of Chicago public high schools having an AT had not changed (2.1-2.5%). What must be considered is that this study only looked at Chicago schools with football programs. Authors offered explanations as to why there were so few physicians. Medical doctors sought to limit their liability, combat increased premiums (where they could not afford the additional cost) and noted a lack of
musculoskeletal training. Surprisingly, many physicians were not confident in evaluation and injury management, and above all coaches should not have been expected to manage sports injury (p. 40).

As previously mentioned size and location of a school could be associated factors that affect school budget for sports medicine programs. Bell et al. (2004) were determined to explore medical provider coverage and coach certification requirements (First Aid, CPR, AED) in Illinois high schools. A prospective survey was sent to 724 high schools where 306 responded (42.3%). It was found that 73% of schools had an AT. Surveys returned were from rural, suburban, and urban schools. The size of the school was categorized as (a) small (less than 500 students), (b) medium (500-999 students), and (c) large (more than 1000 students). At least one ATC, physician, or nurse was available at 289 (91.5%) schools. Twenty-seven schools (8.5%) had no healthcare provider. The amount of ATCS in various regions was interesting. ATs were available in 62% of rural schools, 94% of suburban and local schools. As far as size, 59% of ATs were in small schools compared to 87% in larger high schools; similar rates related to nurses and physicians (p. 6). In the absence of healthcare professionals, coaches are encouraged to be prepared for managing injury.

As high schools improved the healthcare they provide, recent studies scrutinized the actual preparedness of coaches. Aukerman, Aukerman, and Browning (2006) set their sights on evaluating the medical coverage of public and private high school athletics in North Carolina. The quality and extent of on-site and sideline medical coverage were studied between male and female sports as well as the quality of coverage in relation to high school size. Forty-eight percent of schools did not have a NATA-certified ATC, but 20% did have state-certified AT, which may be a conflicting professional credential. Physicians covered events in 78% of schools.
There was a significant correlation between the school’s size and an orthopedic surgeon’s coverage of the event (p. 134). Of the surveyed schools, 49% believed their coverage was inadequate, while 51% felt theirs was adequate. Volunteer physicians were viewed as valuable since they can strengthen community bonds with medical providers and does not increase financial cost to the school. Regardless of gender, a great disparity exists between football and other sports.

The following article includes similar concepts in studying the accessibility of medical care—school classification and school type (A to AAAA)—but has a unique feature, assessing the amount of low-income schools. Biddington et al. (2009) examined the accessibility of athletic health care personnel in Pennsylvania high schools. Out of 600 high school ADs, 155 completed survey. Both public (91%) and private schools (9%) from 4 school classifications were represented. (A, AA, AAA, AAAA) were included. Authors found that public schools were more likely to have an AT than private schools. Depending on location and school size, a physician may not be present. “Low income” schools were defined by being in a district that qualified for Title I funding and had more than 30% enrollments from low-income families (p. 21). Utilizing the High School Athletic Care Accessibility survey 63% high schools had a team physician, 34% did not (p.22). Eighty-eight percent of total high schools had an ATC, where 11% had no ATC. Class AAA schools were more likely to have ATC than other types. Demographically, Class A schools had the highest percentage of low income students than AAAA which were located in less urbanized locations. Class AAA were observed to have better athletic budgets and facilitated better relationships with clinics and hospitals (p. 22). Although not required, ATs were being hired by high schools, but attaining reliable team physicians should have been a coinciding goal.
Alongside money matters, recent studies now focused on school size and location as significant factors in providing medical care. A study by DeWitt et al. (2012) shared the same purpose of evaluating the level of medical services for secondary school-aged athletes like previous studies, and focused on a southern rural state. Researchers wanted to analyze how adequate the level of care was based on the guidelines of American Academy of Pediatrics (AAP) for secondary school coverage, which included 1) organization, administration, and staffing, 2) facilities and equipment, 3) event coverage, and 4) education (p. 92). Incorporating the Arkansas Activities Association, authors recruited public and private schools, where football programs were sampled. In this state category 5A schools are the largest, while 2A schools are smallest. 1A schools have no football. Researchers designed a survey—the Self-Appraised Checklist for Health Supervision in Scholastic Athletic Programs. In the 8 Essential Event Coverage components that the AAP deemed important, 88% were not met by schools in the study. 5A schools showed highest rating of compliance. 4A schools demonstrated the lowest rating. In assessing emergency care, 59% of respondents did not have an emergency action plan (EAP). Some public-school districts did not have many coaches with CPR certification and generally there were no real requirements for EAPs specific to sports activities (p. 94). It is here where an important thought is written. Authors strongly stated that it was the responsibility of legislative bodies to ensure athletic safety.

In keeping with studying medical coverage in rural regions of the states, Shroyer & Steward (2016) sought to determine the knowledge and opinion of concussions from high school coaches from a large and rural state in the North Rocky Mountains. Any identified weaknesses were suggested to be remedied with additional coach education opportunities. Generally, the adolescent population was deemed more susceptible to the long-term effects of a concussion and
experienced extended recovery times than adults. MRI or CT scans rarely show signs of concussion. Failing to diagnose a concussion and refer a payer jeopardizes coach’s future and the integrity of a sport program. Authors presented the most current concussion literature and explained the expectations of health care professions. However, one must consider that this information may be disseminated equally to all parts of the country and where athletic trainers are lacking, coaches are present to fulfill this need. In rural high schools 80% had 369 students or less. Coaches were lacking in current concussion knowledge and assessment (p. 5-8).

2.4 Policy Changes to Mandate ATCs at All High Schools

2.4.1. Hawaii—The Pioneer State

With all this data available for identifying several factors that prevent the hiring of ATCs to secondary schools, the movement advocating for ATs to for every high school was reinvigorated by a response from legislative leaders. The biggest champion for this movement was Hawaii. Buxton et al. (1995) followed and studied the legislative funding process of AT positions in public secondary schools in Hawaii. What began as a need assessment survey transitioned into health care reform in Hawaii. All 61 public high schools were surveyed and collected injury rates. Coaches were expected to attend coaching education classes/workshop regarding the objective of the study. Funds from Department of Education were allocated to the study. Newspaper and TV campaigns were utilized to spread the word about placing ATs at all high schools. The Athletic Director Association initiated a collective lobby effort to fund hiring of 38 ATs for public schools. The educational platform was to increase awareness of AT role where consumers were convinced that sports health care was substandard. Private school athletes account for 35% while public school athletes 65% illustrate the entire high school athlete population. During the yearlong study, a death due to cardiac aneurysm occurred which signified
the importance of adequate care. ADs were termed “consumers”, those that utilize AT services. Before the legislation of ATCs in high schools, public schools with state-supported programs had inadequate health care. Overall, the pilot program cost $1.4 million, but Hawaii had a poor fiscal outlook, considering a two-year outlook. The promising portion of Buxton et al. data are that in first year 10 schools had an ATC with 5 more schools following in the second year.

While the efforts and successes of the Hawaii case were a promising milestone in the athletic training profession, it is important to analyze the greater themes in place and analyze these cases in-depth. Lowe and Pulice (2009) evaluated the current mandates in place for providing quality medical care in U.S. high schools. Although a wonderful ambition, authors concede, the feasibility of every state mandating an athletic trainer in all high schools is discouraging; ATCs already employed elsewhere would have to switch jobs to fulfill this need. Aspiring ATCs could possibly create an influx where there are too many applicants for secondary school. Generally, this goal was not viewed as realistic. Hawaii was a unique case because all the public schools were one school district separated by islands and most of all there was funding backing their ultimate goal. Currently, has funds strictly for hiring an AT, but is not required for the high school to actually hire one (p. 2). Lowe and Pulice also observed that not all ATs are members of the NATA and private schools are not accounted for in this mandate (p. 4). Advocacy for the profession was key in having the public realize its value. Since the NATA fails to do this, schools look into more cost effective professionals like PTs, personal trainers, EMTs, etc. The NATA’s focus should be marketing. Promoting the actual athletic training profession to the public will garner greater community support and awareness. In literally “selling” the idea of how useful the athletic trainer’s services can be will it encourage key stakeholders in investing some resources to enhance the medical coverage. Schools should also adjust the responsibilities
of ATCs who teach at their schools such as decreasing class loads, optimizing job quality, and reinforcing the aspirations of young students to fulfill this future need.

2.4.2 The Responsibility of States and Compliancy

The NATA publishes many guidelines and consensus statements to establish a professional unity among its members. While this definitely plays a role in legitimizing and promoting the value of athletic training it also proves challenging for some to follow and adhere to. Pagnotta et al. (2016) retroactively studied how three states were able to implement health and safety policy changes at the high school level from a leadership perspective. The authors observed that while NATA publications were important, they not required to follow or even be enforced. The three states, Arkansas, Georgia, and New Jersey, facilitated the creation and adoption of heat-acclimation guidelines, specifically. In this qualitative study, data from National Center for Catastrophic Sports Injury Research categorizes different injuries, (a) fatalities (b) nonfatal injuries, and (c) serious injuries. More fatalities occurred at the high school level than collegiate. No uniform policy governed any states. Essentially, they have the freedom to create and adapt policies from position statements/recommendations. Some policies require funding, an omnipotent factor. Naturally, this is a barrier (p. 292). Researchers included institutional theory which proposes why organizations change. Organizations compare their professional standing and competence to other organizations. As other states changed, this served as a catalyst for incorporating legislative change. Purposeful sampling, identifying gatekeepers and stakeholders and influencers were performed. These three states outlined their process for successfully carrying out their goal in four stages of results, 1) catalyst for change, 2) policy selection, 3) the change process, and 4) barriers (p. 298).
The catalyst for change ranged from an athlete’s death to burgeoning research on the mortality of sports. Policy selections varied from using established NATA guidelines or using the state’s medical advisory committee to draft new policies for sport safety. The change in process had multiple sub-themes—barriers, shared authority/leadership, open communication. Generally, any initial resistance that was met with unified those from the athletic association and medical professionals helped transition ideas into law. Since policymakers were concerned with maintaining the legitimacy of their sport programs, mimicking the actions of organizations they deemed successful would diminish that concern (p. 299). The “right” people could be in place to advocate for a positive cause, but the underlying concern will always be someone’s responsibility to pay.

2.5 Budgetary Constraints & Funding Resources

2.5.1. Navigating Around the Small Budget

The general trend for having all high schools have an ATC is greatly beneficial in building steam for change. It all began with identifying the need and pointing out gaps in the accessibility to proper medical coverage. Funding and district budgets are mentioned continuously in this literature, but oftentimes in passing. An obstacle always surfaces, can it be maneuvered around? Articles focusing purely on the financial matters behind athletic training attempt to find ways to employ an ATC. Curran (1990) is one such example where a problem was identified about the inadequate preparation for athletic trauma. Coaches/PE teachers had little education to care for injury (p. 10). Small athletic budgets prevented high school administrators from doing much other than relying on overworked coaches for injury management. Parents supposedly understood the role of an ATC, but wondered how high schools could even afford one. More of the “teacher-trainer” concept was endorsed here. Overall,
Curran observed that the most frequent rationale for lack of ATs was inadequate funding (or no teaching positions). However, with a little creativity ATs could be utilized from local sports medicine clinics. The suggested schedule was patient care in the morning, then afternoon work as the high school ATC (at no charge). Payment was decided by the schools’ contractual arrangement where no one entity paid the salary (p. 11). The author’s position was that an ATC at every high school should be a requirement instead of being viewed as a luxury.

Not only do fellow ATCs publish articles to endorse ways of promoting the profession, but supportive administrators behind secondary school ATCS present their views in their own journals. Durgin (2002), himself an AD, identified not only the need for ATs at this level, but also pointed out the nightmarish lawsuits due to the lack of ATCs or any form of medical coverage for athletic events. Only in this publication does he suggest an alternative title for the ATC—Athletic Training Coordinator. If schools want to avoid litigation, they must hire an AT. Initially, he mentioned that ADs manage budgetary and general athletic program decisions. When hiring the ATC, however, not only does the job have to be defined, but ADs also need to orient the ATC to the budget process, purchasing procedures and resources available (p. 20). Communication is key here because not only does it define the ATC’s role but verbalizes that he/she may have additional responsibilities in managing their own practice and budget.

Rankin (1992) expanded on this idea of ATs being responsible for allocating funds within their sports medicine program, primarily between the high school and collegiate level. The AT budget was usually the largest in athletic departments where purchasing supplies and equipment was a big concern. Choices have to be made about buying expendable supplies versus capital equipment. Division IAA school budgets with football had the smallest amount of equipment, fair budget, and largest number of athletes (p. 346). Who pays for the ATC to actually be there?
Rankin discussed that ATCs were paid by a separate athletic department budget. Additionally, it was shown that schools with a NATA-approved AT did not pay student ATs. Since they received clinic-internship hours, there was no need to be paid. Whether this was done to avoid litigation or a sincere step in keeping the practice professional is not stated. Ranking also stated that private schools were more willing to pay student ATs more than public schools. This speaks to the inconsistency in previous studies about the quality of medical care in private schools. Challenges at the secondary school for ATCs were bad salaries and lack of purchasing medical insurance for athletes (p. 346). Finally, the number of ATs decreased with financial level of a program. The highest paid professionals were college AT/teachers (e.g. $25,000). Unsurprisingly, low salaries do not keep people around for long and discourage longevity in the profession.

2.5.2. High School vs. College Athletic Care

Athletic departments design budgets with individual sports teams at the forefront of their minds. Even the athletic training budget is typically designed proportionally to the number of teams and athletes it needs to accommodate. Bradley (2010) compared AT program financial resources and described several types of budgets. The most commonly used was the line-item budget which allocates a fixed amount of money for each sub-function of an athletic training program (e.g. expendable supplies, equipment repair, team physician services, medical insurance, etc.). The AT can control this budget and designate where money would be necessary. Bradley references Dr. James Rankin’s (1992) research investigating how much is spent on athletes and the variable sizes of athletic departments. Division I universities (486 athletes, 17.5 teams) and high schools (490 athletes, 18 teams) had comparable numbers. Most high schools had one AT on staff. This is less than universities where each have about four ATs. Rankin shows that high schools spend about $96/student and Division I colleges spend $926/student (p.
This relates to Rosato and Maxwell’s (1978) observation that athletes at the university level receive the best care while high schools can receive the poorest (p. 85).

2.5.3. The Significance of the Athletic Director

Budgeting techniques are seldom mentioned in athletic training literature and some articles attempt to contribute to the literature by considering the business aspect of sports medicine. However, these articles are mainly from the AD’s perspective. The AD mostly deals with a budget, sets spending limits, and prioritizes where to spend. Dixon (2003) presented a case study about a new AD dealing with resource allocation at a public high school athletic department that had to cope with a $52,500 budget cut. Fairness to all coaches and staff was integral in managing this predicament. Overall, the AD could make the $312,000 he was left to manage work for everyone. Dixon relates Challedurai’s (1994) definition of sport management as coordination of limited human and material resources in exchange for sport services (pg. 75). The AD that was studied used a budget as an “accountability tool”.

In athletic departments where schools have limited resources, result-oriented budgets are endorsed to allow an organization to spend money on items that produce a positive outcome (Kelsey, Grey, and McLean, 1993, pg. 78). The AD had to identify stakeholders, such as parents, that could influence resource allocation and had to include their perspective. Among the many suggestions that the article conveys, athletic departments are responsible for making cuts to reach a new bottom line and maintain a principle of equity (p. 81). Also, the author recommended seeking additional funding to cover the gaps in exploring corporate sponsorships, private donations (e.g. boosters), participation fees, etc. Three principles guide the distribution of resources and rewards: equality, need, and equity and contribution (Dixon, 2003, p. 83).
An entire high school sports budget must accommodate the needs of stakeholders, staff, and athletes involved during an academic year full of multiple sports. If there are further financial restrictions, alternative ways to save must be pursued. Thomson (2009) aimed to provide information and suggestions to help instructors and coaches make better buying decisions for the students they served. The ideas of price (quantity) versus value (quality) came into play. Brand names tended to be too expensive; it was more cost-efficient to buy from a lesser known company as material and durability are similar, but do not have the marketing advantage of mainstream brands. Thomson recommended questioning sale prices for products—investigate volume, popularity, local dealer, etc. (p. 20, 22-23). The entire article served to help staff oversee athletic teams save as much as they could due to the restrictions they work with. Although this article was geared towards coaches, it is definitely useful for ADs and ATs to utilize if they are responsible for purchasing equipment, uniforms, and other supplies.

2.5.4. Looking at the Figures

There is no question that Division I settings have more to spend on their athletes than high school settings. As the level of competition increases, so does the risk and thus proper medical care must be available. However, there is an initiative to understand the current atmosphere of high school care. The Appropriate Medical Care for Secondary School-Age Athletes (AMCSSAA) Task Force (2004) published a consensus statement standardizing the framework for high schools to provide an adequate level of medical care (p. 76). Wham et al. (2010) used the task force’s data to examine the key factors affecting and providing appropriate medical care in secondary school athletics, specifically focusing on AT services and budget. Wham and
colleagues surveyed 263 schools and 166 South Carolina high schools completed the survey. They used the Appropriate Medical Care Assessment Tool (AMCAT) for data collection; the researchers sought to determine what factors affect medical care. They implemented a persistent modified Dillman approach—a procedure to maximize response rate (e.g. send a postcard about the study, cover letter, surveys, E-mails, phone calls, etc). Public high schools responded more than private high schools. Most schools’ sports medicine budget was $1,001 to $3,500; a quarter of the schools’ budgets were less than $1,000; less than one quarter of schools’ budgets were $3,501 to $8,000. Few schools’ budgets were more than $8,000 (p. 81). Wham and colleagues found that there was a significant relationship between AT services and the sports medicine supply budget. Their findings provided support for the American Medical Association’s (1998) recommendation for an AT to be utilized at every high school (p. 84). The size of the sports medicine budget predicted the medical care given to South Carolina athletes when other factors were controlled. School-employed ATs provided better medical care while schools with low budgets provided the lowest levels of medical care. However, this article was vague in stating an exact amount that provides the most adequate medical care.

In 1985, 15 states required licensure. In 2011, 47 states were required to have licensure for ATCs, a highly impressive landmark for the entire profession (Board of Certification, 2011, p. 8). Hambleton (2012) reviews many issues behind hiring ATs but proposes the ultimate benefit of having one. He performed a cost savings analysis of a high school AT for the 2008-09 school year. Using the National Center for Education Statistics, there were 15,827 public high schools in the nation; 6,400 of these schools employed ATs. While the unavailability of resources is incessantly cited, alternative funding exists, usually an AT from a sports medicine clinic or community grants. The Youth Sports Safety Alliance (YSSA), a legislative body, is a
constitution of several medical organizations that desire to place ATCs in all high schools. The overall benefit was that hiring an AT would keep health care costs to a minimum especially where insurance premiums were very high.

Hambleton presented a Michigan case study that compared health insurance reimbursement rates between a public, private, and non-profit company. All treatments were totaled from 555 students receiving 3,024 treatments. This was juxtaposed to the AT’s wage – $42,800 with an added 30% for benefits making the new wage $55,640 (United States Department of Labor, 2010, p. 9). The total cost for individual treatments was $63,025.69 where the ATC provided 52% of those services and saved the school $8,386; this justified the salary of the ATC (p. 9). Advocacy was dependent on stakeholders who should lobby for the state to fund ATCs. Hawaii was mentioned in following its model to use pilot programs to test the worth of such ideas before full support can be given by the state.

2.5.5. States’ Issues with Compliance and Sport Medical Coverage

While previous articles have studied size and location as factors that may have to do with funding, legislation is a substantial portion of providing financial support to public schools. Pointing out the institutional and systemic barriers that impede schools from hiring ATCs or seeking external funding is necessary to draw public awareness. Faure, Moffit, and Scheiss (2015) encompassed these factors in their study of assessing concussion law compliance by allocating time, resources and money in a rural western state, namely Idaho. Educational awareness led to an increase in the number of diagnosed concussions. All 50 states and D.C passed laws to require quality concussion management. With new laws, compliance is difficult especially in rural schools; funds need to be appropriated to these areas. To address general
concussion awareness, educational materials could be downloaded from the Center for Disease Control, yet schools still assumed the cost for printing and distribution. The *Youth Sports Concussion Law* (HB-632) exemplified the efforts of a state that desired to comply with expectations for medical coverage but struggled more than they succeed (p.5).

In 2014, the Idaho High School Activities Association (IHSAA) was surveyed and found that 23% of high schools had access to an ATC. 3A schools were the smallest, 5% of them having had access to an ATC. Idaho generally relied on the IHSSA to oversee how the concussion law was implemented. The overall purpose of the authors’ study was to examine the effects of the *Youth Sport Concussion Law* on high schools. ADs, coaches, ATCs, and other sports medicine providers participated in the study. Out of 154 ADs, 101 responded (65.58% response rate); 94 were from charter and public schools (93%); 7 ADs were from private schools (6%). A rural location consists of a small town with a population less than 2,500 people. A little more than half of Idaho high schools were rural (52%). Urbanized areas were defined by suburban communities with a population of at least 500 people per square mile that were also adjacent to large, urban cities, which was 23% of all Idaho schools. The last 23% were located in small towns/cities with a population of 2,500-49,999 and far from a large urban city (p. 8). Medical care was generally more accessible in communities larger than 20,000 people. Evaluating AD compliance, 85% complied with HB-632; 2.9% were not compliant, 11% were unsure. Financial resources to aid in complying with the law were scarce to minimal. Those using online certification from the National Federation of High Schools (NFHS) were 98%. Of Idaho’s high schools 32% had access to an ATC or licensed athletic trainer (LAT), whereas smaller schools had very limited access. In rural areas, 11% had access to AT and 9% to a physician. Like other bottom lines in previous literature, the collective goal of this legislation was to limit the school’s liability
towards injury (p. 13). On a positive note, Idaho schools are adhering to new concussion laws without spending a vast amount. It must be understood, however, that non-compliance is not necessarily resistance, but that more rural locations are less likely to have a physician or ATC for concussion management. Demographically, authors noted that rural residents tended to be poorer, less likely to have insurance, and have difficult resource constraints. To increase concussion compliance, more education on computerized concussion testing protocols are necessary and indicated (p. 17).

2.5.6. Exploring Alternative Funding

Oftentimes proposing for extra funds gets rebuffed if finances are severely limited. The school district does not have to be the only source of funding. Forrester (2015) presented creative—public versus private—funding opportunities for interscholastic athletic programs. One such example of publicly funded grants was The Healthy Habits Grant hosted by The U.S. Department of Health and Human Services. Private opportunities were more abundant. Corporate social responsibility (CSR) initiatives exist to do well financially while doing serving the community (p. 23). Major league sports teams provided funding for high-need public school athletic programs, as well as for-profit, and non-profit applicants demonstrating need.

Some grants had matching funds processes. For example, if a $200,000 request is made, non-profit organizations must show equal commitment for $200,000 in local funds to demonstrate self-reliance and commitment. Sponsorships exist to aid athletic programs and often serve as 57% of alternative revenue-generating activities. When applying, the greater the amount inquiry, the stricter the requirements. It is recommended to utilize a grant writer to aid with schools’ application processes (p. 25). Asking for help is generally difficult, but resources exist to help accomplish the goals of programs in need.
Athletic training is multi-faceted and arduous in that ATs must continuously communicate with several administrators and sports staff. Often, ATs work directly under an AD as they are most knowledgeable about the sports curriculum. Mazzerolle (2015) aimed to understand AD’s barriers into hiring ATs to high schools. In this qualitative study, researchers surveyed 20 full-time public high school ADs. From the interview data, they organized three major themes: lack of power, budget concerns, and non-budget concerns. Lack of power was the inability they felt to hire an AT. Many felt it was the responsibility of a superintendent or school board. Budget concerns consisted of sentiment regarding the funding allocated to specific resources within a school (not including the AT). Non-budget concerns consisted of rural locations without clinics or hospitals. Misconceptions about ATs and community support (e.g. local clinics, hospitals, volunteers) were other factors. Mazzerole and co-authors conducted telephone interviews which were interpreted with inductive analysis. Budget was an issue for 18 out of the 20 ADs. Mainly with budget difficulties, it was hard to justify an AT when teachers were getting laid off. Non-budget concerns (e.g. rural area/location, misconception about AT, community interference) also posed issues which may not be completely separated from budget. Researchers found that some ADs thought coaches as suitable substitutes for ATs, demonstrating misconceptions about the athletic training profession. The same was thought for EMTs; they were considered free and more practical alternative to medical care. Ultimately “an unbiased objective professional must provide medical care to student-athletes” (p. 9).

2.5.7. Synthesis

A budget plays a powerful role in secondary schools’ and ATCs’ responsibilities in providing quality care whether at the private or public school level. Although not all public high schools are underfunded, they exclusively deal with national educational cuts and face
challenges in providing medical care; private schools are immune to these experiences. The current literature is beneficial in generally examining the budgets of secondary schools but it is necessary to definitively identify what budget amounts are exclusive to public and private high schools from the eyes of both ATCs and ADs, professionals who work with each other to communicate the needs of the athletes they serve. Exploring these issues through qualitative examination can have potential significance for clinical and policy practice.
Multiple public sources were sought out to recruit all Nevada high school ATCs and ADs to explore their views concerning the monies allocated to sports medicine programs. A qualitative approach to this study was pursued to collect the thoughts and viewpoints of these professionals and allowed for flexibility in data collection and analysis. This study was designed to add more to the existing literature concerning the barriers in making athletic training accessible in all secondary schools. Open-ended written interviews and telephone interviews were used to achieve a direct understanding about the experiences of these professionals.

Utilizing information from the Nevada Department of Education (e.g. list of counties), the Nevada Athletic Directors Association (NADA), the Nevada Athletic Trainers Association (NV-ATA), and the Nevada Interscholastic Athletic Association (NIAA), a purposeful sample was generated for this study. The NIAA website listed 110 secondary schools with sports programs. **Budget** was defined as monies allocated to a public or charter high school via the state budget or directly from the educational institution for private schools. **Funding** was generally defined as external resources that could potentially optimize the athletic care of a high school’s sports program. This study was approved by the UNLV Institutional Review Board.

**Participants**

Public, private, and charter high school athletic directors and NATA-certified athletic trainers (ATC) were the target population for this study. Sixty-seven ATCs and 110 athletic directors were approached and contacted to participate in the study via E-mail with an attached informed consent form. ADs had to be employed full-time, whereas ATCs could have been employed part or full-time.

**Instrumentation**
The primary investigator and student researcher developed an online open-ended written interview that was uploaded to Qualtrics (Qualtrics, Provo, UT) and distributed to all athletic directors and identified athletic trainers in the state of Nevada. Questions gauged (1) professional position, (2) employment status, (3) county location, (4) ATC employment, (5) budget range, (6) percentage of the student population on a free or reduced lunch program (7) adequacy of budget, (8) pursuit of external funding, (9) choice of external funding, (10) capability in applying for external funding, and (11) encountering financial strain. A semi-structured telephone interview protocol was also created that included similar questions and asked in-depth questions about the perceived role of athletic trainers, school fund sufficiency, and administrative support towards athletic trainers in their respective county. A semi-structured format allowed for flexibility in data collection. Participants who responded to the student researcher’s interview request were recorded with the Google Voice app (Google, Mountain View, CA) after expressed consent was allowed and anonymity was reaffirmed. Before data collection began, 2 ATs (not authors) reviewed the online interview. The telephone interview was reviewed by one qualitative methodology faculty member (not an author) from the UNLV Department of Educational Psychology and Higher Education.

Data Collection

Two types of data were collected—interview and written documents. Using a listing from the NIAA website, 110 athletic directors were contacted and encouraged to participate in the study. Athletic trainers were contacted through an E-mail server from an outpatient-contract physical therapy company. Twenty-eight athletic trainers not affiliated with the company were contacted via postal mail. An envelope containing a printed interview, a letter, and return postage was sent out to optimize participant reach and to target the more rural parts of Nevada. Online
open-ended interview questions were used to collect participant responses via Qualtrics. The questions were modeled after a Kent State publication by Swanton & Peer (2015) that studied the influences of ethnicity on individuals’ athletic training practice. Participants who conveyed lengthy, interesting insight were approached to be interviewed via telephone, and their responses transcribed verbatim (Mazerolle et al., 2015).

After filtering through the data, respondents who typically wrote lengthy, insightful responses were contacted for an interview and reassured of privacy standards. There were 4 total respondents for an interview request. Interviewees included two ADs and two ATCs from Clark and Washoe County. Each pair of professionals also represented the public and private secondary school setting. Through E-mail, respondents were confirmed for an interview date and informed that their responses would be recorded and transcribed with the Google Voice app. Each interview lasted approximately 20 to 30 minutes with the direction of a telephone semi-structured interview protocol. An outside transcriber wrote the interview data verbatim where it was then input into Atlas.ti software (Atlas.ti, GmbH, Berlin) to establish credibility and avoid researcher bias.

Data Analysis

A general inductive approach was used to analyze the data (Mazerolle et al., 2015). Written and audio interview responses were read and analyzed using grounded theory (Strauss, 1987). After an interview was conducted the student researcher performed a final member check with the participant to clarify if all content reported had the intended meaning. After preliminary reading of online and telephone interview data, initial themes were identified and assigned to a direct quote from the data. Data was organized into initial categories through open coding 146 different codes. From open coding, codes that most related to another were placed in axial code
categories by the researcher. Axial codes were formed followed by selective coding which serves to connect specific data to general patterns of the research questions. Utilizing the Code Manager feature in Atlas.ti open codes were linked to axial ones by placing them with other main ideas that best fit that general code. Axial codes were compiled and organized into generalized themes that would best outline the patterns of the written data. In Atlas.ti, “Families” is a feature that serves to group a project’s documents that represent attributes relevant for analysis. These final, selective codes were placed into three different “Families”.
CHAPTER 4 – RESULTS

The total sample consisted of 47 professionals of the targeted population. Of the contacted ADs, 22 (46%) completed the online written interview. There were 6 participants (12%) who stated “other” as their position in the school district. Sixty-seven athletic trainers were contacted through E-mail and postal mail. Nineteen (40%) athletic trainers participated in the study (16 responded through Qualtrics, 3 responded through mail). Out of the 17 counties of Nevada that received the survey, 7 responded (e.g. Clark, Lincoln, Pershing, Elko, Carson City, Lyon, Washoe). From the overall data, 6 axial codes arose based on the main idea of the open codes: (a) aspects of funding (14 codes), (b) ATC’s experience (18 codes), (c) school district challenges (24 codes), (d) social views (5 codes), (e) stakeholder perception (18 codes), and (f) level of healthcare (20 codes). Some codes were merged together for organization purposes. These axial codes were then related to a selective code of which 3 were created—(1) money discrepancies, (2) creativity in healthcare delivery, and (3) community influence. A visual depiction of these ideas is shown in Appendix C. The following sections discuss each theme with supporting, direct quotes from the telephone and online interviews.

Money Discrepancies

Expectedly, money was an outstanding subject in all interview questions and subsequent responses. Multiple participants spoke of the various sources of funding and creative fundraising that supplemented their lack of monies for their sports medicine programs. Athletic directors spoke on the specific funds allocated for their athletic training needs. Out of 20 ADs that responded to the survey, 13 answered this question concerning the specific amounts for their athletic care. Three ADs stated that their budget was between 0-$999 (23%), four ADs stated that
their budget was between $1,000-$1,999 (30%), one AD stated their budget to between $2,000-$2,999 (7%), two ADs stated that their budgets were between $3,000-$3,999 (15%), two ADs reported their budgets as $6,000-$6,999 (15%), and one AD reported an outlier of more than $8,000 budget (7%).

Both ADs and ATCs discussed the challenges their appropriate school districts faced. One question from the online interview asked participants to speak on the adequacy of their budgets. Out of the 47 respondents, a collective 36 participants answered this question. Thirteen (36%) ATCs believed that their budget was adequate, while 4 (11%) stated it was not. Seven ADs (19%) stated that their budgets were adequate, while 6 (16%) did not believe their budgets were adequate. Two 8% of those who stated themselves as “other” professionals did not believe their budgets were adequate while 2 (0.5%) believed their budgets were adequate. Four individuals chose not to fully address the question so their responses were not considered. One AD from a Clark County public school wrote that his budget was adequate for medical supplies, but not for hiring an athletic trainer due to the school’s distance from urban areas. This school’s budget range was between 0-$999. This illustrates a continued challenge in having ATCs present in rural areas of Nevada. Meanwhile, a private school AD in the same county stated that, “We do not have a budget for our trainer. Whatever she needs, we provide.” This school’s budget range was $6,000-$6,999.

The sources for funding these professionals discussed were creative and interesting. An ATC from a private high school in Clark County stated during his telephone interview:

[participating in a research study they] compensate what I do and the time I spend [collecting] data for them…they run a study nation-wide to see how the high school [is] maintained…so that’s how I spend my time just collecting data. We have a team of
doctors that they would give us [a] medical subsidy in exchange for advertising space that
we have. One of the medical groups […] give us two MRIs for free. They charge around
whatever the patient has to pay out of pocket; so in exchange for that the school provides
them with five hundred dollars of advertising space for the program.

Professionals at the public high school level are commonly under the power of the public school
system as they must see how state monies will be distributed to the schools. Typically, most
respondents from the public school sector need to resort to fundraising or grant-writing. An ATC
employed by the Reno Orthopedic Clinic (ROC) and contracted to work public schools in
Washoe County, responded to the study via postal mail:

[The] athletic training program runs on fees collected from athletes. We receive $10 fee
per athlete. It takes a while to save and make big purchases. You learn to budget very
well…[I apply to] professional sponsorships on [my] own. But as I stated it's difficult
because [you’re] competing with other schools and they tend not to fund athletic training,
they fund sports teams, specifically. Grants is a long process that you need to get district
approval. It's not worth it because of micromanaging districts like to do.

Multiple respondents discussed that charging a yearly athletic fee was something that worked for
creating a budget for medical supplies. State money is typically not substantial to allocate a
specific budget for athletic care. An AD from Washoe County discussed:

[that] a lot of the different teams do…[an] event where [there] is a poker tournament
or…wine tasting event […] we just work with the adults…and the students in their
program. Draft beer…is one my boys’ basketball team does, [its] very successful, and…
if they don’t…have the numbers to do those events they can do card sales and they also
sell apparel but that’s really what our boosters do; not very many sell…smaller sports do
more like the food fundraiser, like cookie sales or…frozen food type sales.

The data demonstrated that participants were often unaware what external funding options were available. Private school interviews generally did not see the need for funding. A Clark County private high school AD stated that, “we spend…just right at forty thousand dollars [for an AT] per school year”. Meanwhile, the private school ATC interviewee said, on his awareness for funding, “I read about that stuff like…the NFL team had some funds to [aid] an Athletic Trainer at high schools that…but nothing that[…]would apply to my high school.

An interesting finding in this study was that the “teacher-trainer” concept that was heavily used in in the early 1950s in providing adequate health care in secondary schools was still practiced in certain schools and with challenging compensation. The Washoe County public high school AD described his experience with his school’s contracted ATC and subsequent challenges:

Our district covers everything. Our district covers the thirteen thousand [dollar stipend], it’s often a challenge to find somebody that is willing to take that stipend…in the past it has been a teacher who's certified and also has taken an additional stipend um, but that teacher has to take the full [class] load and then still cover athletic events throughout the entire school year and so its [a] significant burden…and they often get burned out.

Creativity in Healthcare Delivery

It is important to illustrate the secondary school ATC’s experience in how they manage limited or adequate monies for their sports medicine practice. Out of the 19 ATCs that were approached for the study, two of them were from the private high school setting. As their feedback was very minimal, they will not be discussed in this section. The following quotes consist of the primary experiences of public high school ATCs. As many public schools face
funding shortages, some ATCs turn to being resourceful in the hopes of delivering the best care they can. An ATC in Clark County described in her interview the challenge of delivering instrument-assisted soft tissue mobilization (IASTM) as well as mobilizations with movement (MWM):

[I] have a Velcro strap that we...connected, we tied it and then I have to apply that to them because that’s the only thing that I have to give them or even my PT (physical therapist) grabbed a towel to perform a mobilization on someone’s wrist to gain more range of motion…instead of doing Graston obviously I got [to get] somewhat certified…there is no way my school is [going to] pay for that. I would use the handle of my scissors with lotion or Vaseline over the body part and…just massage over with the handle with my scissors and I get the same effect.

Some ATC respondents described that if their funds were limited, they resorted to rationing medical supplies. One ATC respondent from Clark County described challenged with her medical supplies and the larger financial issues at work:

I have very little rehab equipment, outside of Therabands I purchased and one BOSU ball…not a whole lot of kids…follow through on therapy, but [it’s] a struggle to work with kids who do want to complete a rehab program. When it comes to expendable supplies, I am usually pretty tight on normal white tape by the end of the year…always run out of Flexiwrap during track season. Ace wraps…I went through those pretty quick (even though each girl was only allowed one and had to reuse it). Also, I almost never have a set of crutches because I only have 2 to start, and they are usually loaned out. Although these are only about $30/pair, it just isn’t something that I can really squeeze into the budget at this time…I have supplemented my budget slightly through the sales of
Gatorade and snacks in the AT room, which helps to buy supplies that run out or to get one special item a year.

While ATCs described their experiences and resourcefulness in providing proper medical care, ADs seemed to understand the challenges that their employees faced. The AD interviewee from Washoe County illustrated the understandable conflict between working at the high school level and returning to the private clinic from which they are contracted.

[The school district hiring an ATC]… was something that they started. [W]e always have a trainer. Whether it’s been a teacher or whether it’s been somebody that has worked with physical therapy an off campus…the policy has been there with the district…I feel it’s one the reasons that we’ve been forward to change, to try to get somebody full time because the district have relied on this model that has seemed to work over twenty years but, now…we have two Certified Trainers in our staff but, because [of]..family responsibilities they would not accept the trainer responsibility. Because their class schedule would not be cut at all, they would just be picking [up] the extra stipend and they still have to teach a lot of…classes essentially doing two jobs and getting pay for one and a half of those jobs.

Due to restrictions in what can be accomplished with limited medical supplies, the level of healthcare changes. The AD interviewee from Washoe County described that lower level athletes tended to be neglected the “community people are often thinking about it when they show to an event and there is no athletic trainer. Unfortunately…in Washoe County we are not able to cover lower level events; most non-varsity events are not covered by a trainer”.

The direction of therapeutic exercise and rehabilitation in public schools tended to be more conservative. An athletic trainer in Clark County at the public high school compared her
situation to private institutions and emphasized the need for creativity in her clinical practice where:

I have to do a lot of out of the box thinking. I don’t have any modalities… I can’t just hook [an athlete] to a stem machine or an ultrasound machine. I have to do a lot of manual therapy… a lot of old school stuff and I wouldn’t say that the treatment [is] the best from what I have and where I know [I] compare to other schools that actually have the money to spend on modalities… I’m providing them with the best care that I can, I mean… I’ve had good success. I mean it could always be better if I had more money to afford certain things.

This is not to say that private schools did not share their own challenges. A private school ATC interviewee in Clark County talked about the need for certain hardware for football camps, where the “primary concern now is the coverage issue; we need more coolers, more water pumps, more batteries you know… that is not quite made out as a public high school would believe.” This was a rare instance where a private school compared its medical coverage experience with a public high school.

**Community Influence**

There was a general awareness between some ATC and AD respondents concerning how the surrounding communities’ views influenced both clinical practice and the school’s level of healthcare. The Clark County public high school ATC interviewee discussed how the diversity of her school influenced grant money allocation,

“…there is criteria to be met… that would be one of the hardest thing to do… there is a criteria that you have to be within [a] social-economic neighborhood, or… have to have athletes of certain ethnicities or… your budget is within certain amount so you can apply
that might hold us back because of the school, the athletic population and the fact that my budget might be a little bit flexible…”

The public high school AD interviewee from Washoe County described the feedback he encountered when his high school community understood the level of sports coverage, “I think the community people are often thinking about it when they show to an event and there is no athletic trainer. And if there is an injury… first question is ‘is there a trainer?’ And unfortunately a lot of times I have to say ‘no’.”

There are obvious differences in the views and experiences between public and private high school professionals, but a fundamental factor in supporting the sports medicine program seemed to be administrator support and parent education. The public high school ATC interviewee described an experience where an upset parent needed equipment for an athlete who sustained an ACL injury and the ATC, “had one pair of crutches, two different sizes…And again that was due to the fact that my budget was gone [until] the following spring”.

Support from the school’s administration seemed to be integral in the data. The private high school ATC interviewee reflected that he had been at his institution “for more than ten years. Nothing on the administration has changed. We have great communication, they understand it but I did explain what my role is.” The public high school ATC interviewee explained her relationship with her athletic administrator (AA) who “[is] accommodating if [he] has the means to be… I asked him for crutches, he looked at his budget and he [said] ‘we can afford up to ‘X’”.

Views differed between private and public ADs. The private high school AD interviewee stated that his:

C.E.O. [understood] the need for this, he is conservative; meaning there are people
here who would like to have the trainer around even more, or have even more coverage. However, the public high school AD interviewee illustrated the obstacles Washoe County continued to face:

We have a centralized district office— and there is a strong movement there, to try to move the athletic trainers to full time position. [It] does not necessarily [mean] a teaching position, maybe [it] would involve teaching a couple of classes but…eighty percent of their job would be to cover athletic event.

Finally, this respondent added the awareness of liability:

I think our district is behind the curve, they don't understand the liability of not having a medical professional there, a certified trainer…It’s getting better but…. I think we’re … hopefully moving on that direction but until we have full time Athletic Trainers like in some other states then we are not where we need to be.
CHAPTER 5—DISCUSSION

The purpose of this study was to explore the budget sources and funding techniques from the perspective of public and private high school athletic trainers and athletic directors. It is important to illustrate the experiences of these professionals as they directly deal with athletes, injuries, and subsequent healthcare. Data demonstrated that public schools generally needed to incorporate greater creativity in delivering healthcare than private schools. Additionally, community and administrative support were important factors in supporting not only individual sports programs, but the athletic trainer’s clinical practice. There was awareness for external funding but fitting certain criteria or involvement from the county school districted were reported as barriers to attempting to apply. The themes that emerged from this study were money discrepancies, creativity in healthcare delivery, and community influence. The title of each theme were determined by the student researcher. Axial codes that mentioned monetary topics were placed in the money discrepancies category; codes that elaborated upon how AT’s modified their practice or demonstrated innovation in their approach to care were placed in creativity in healthcare delivery code; finally the perspective of key stakeholders were placed in the community influence theme. These ideas illustrate several factors that influence how ADs and ATCs combat potential financial strain through grants, sponsorships, or community-based fundraising. Understanding of the athletic trainer’s role and the school’s location and size were characteristics that reflected previous literature. These findings are credible and confirmable in the aspect that an outside transcriber recorded participants’ responses verbatim and member checking was performed at the end of each interview. Additionally, the interview protocol was reviewed by an external faculty member from Education Psychology as well as the principal investigator to review if any questions were “leading” participants to answer in a particular way.
Money Discrepancies

There were clear differences in the experiences between private and public high school professionals in relation to what their budget ranges were and how they funded their athletic training clinics. The state of Nevada does not require an athletic trainer in all secondary school settings and it was interesting to observe how those without athletic trainers found ways to compensate for an athletic trainer. For example, many public schools utilized small, yearly athletic fees (e.g. $10/season) to create a medical supply budget. Another option was contracting local orthopedic clinics to schedule athletic trainers for game coverage. This is reflective in previous literature that due to geographic factors, secondary schools are unable to create a full-time or even part-time position because of monetary restrictions (Wham, Saunders & Mensch, 2010, p. 84-86). They subsequently resort to alternative means to make sure their games are covered (e.g. booster clubs, fundraisers, professional/private sponsorships, hospital partnerships, etc).

While public schools are not automatically struggling to provide appropriate healthcare for their athletes, these settings typically had smaller budgets compared to private high schools. Public high school sports medicine budgets ranged from 0-$3,999. This may be associated with the reported population of students that were on a free or reduced meal program. Public school ADs collectively responded that these percentages were between 25-80% of students. The highest budget range from public schools was $6,000-$6,999. Private high schools had similar budget amounts which can potentially be attributed to non-reliance for state funds, greater community support, and higher socio-economic status of student population. Budget ranges from this group varied where the lowest reported budget range was between 0-$999. Others reported a range from $5,000-$6,999, and one single private school reported a budget of more than $8,000.
This was, however, an outstanding outlier. From this group of private high school respondents, none reported having any of their students on a free or reduced lunch program, while only one stated that 95% of their school had their students on a free or reduced meal program. This may a case of a non-profit private school providing the program to its student body.

Awareness for external funding was evident in all respondents, but knowledge of specific sponsorships or grants was generally scarce. The main sources of external funding were reported to be professional sponsorships from outside businesses, advertising, and grants. However, for the public high school interviewees, both stated that the Washoe County school district would most likely micromanage the grant application process, perhaps discouraging them from applying. Private schools generally believed their sports medicine budgets were adequate for their needs regardless of school size or location and did not feel inclined to apply for extra money. Meanwhile, public school respondents would explain that their immediate community often supported individual sports teams, but some ATC respondents stated that team fundraising monies rarely made it towards whatever the athletic trainer needed.

**Creativity in Healthcare Delivery**

An interesting finding from private high school respondents was while most were satisfied with their sports medicine budget, two AD respondents stated that there were no funds for an ATC position. However, these two private schools had the lowest reported budgets and most likely would not have been able to employ an ATC and there were no reported outpatient services to be utilized. Public high school ATCs illustrated challenging experiences in trying to deliver the best athletic care with minimal resources. Notable instances were using office supplies to create make-shift Graston® tools, a brand aimed to apply instrument-assisted soft tissue mobilization (IASTM) over restricted, painful musculature. This is a testament to the
resourcefulness of athletic trainers and their dedication to generate patient comfort in clinical practice. Creativity, however, does not have to strictly deal with being innovative with different hardware.

School district administration can get creative in how they use athletic trainers in both the classroom and the clinic. As seen in previous literature, the “teacher-trainer” concept suggested that hiring athletic trainers with teaching credentials could create a beneficial relationship between sports and education. The main idea was that athletic trainers could have a full class schedule and dedicate their afternoons to secondary school sports. This was a concept that was still being utilized as reported by the Washoe County public high school AD interviewee. However, there was a mention of the anticipated burnout that ATCs could face if hired on with such responsibility. It was noted, with some understanding, that this was a primary reason a full-time ATC position could not be created. Additionally, the yearly $13,000 stipend was listed as another reason that an ATC would not fully commit to a single school. This most likely is paid to cover varsity games only as the interviewee mentioned. However, some ATCs from the outpatient clinic from which they are contracted teach in tandem with their clinical practice. This demonstrates that members of a school administration are aware of the need for athletic trainers, but are unable to find a better way to compensate them for full-time positions due to a shortage of public funds.

Community Influence

It was very rare for a public or private school to comment on their perceived socioeconomic status or reputation (e.g. “poor”, “rich”, etc). Some respondents described their schools as “rural”, “rich”, “middle class”, “suburban”, or “blue-collar”. The diversity of students
in their schools was rarely spoken of. This may be attributed to unwillingness to discuss the matter or not being directly asked about the breakdown of different ethnic groups.

A Washoe County public school AD and Clark County public school ATC both reported that athletes’ parents were primary stakeholders that seemed to support having an athletic trainers at major sports games. Oftentimes, parents needed to be educated on the lack of funds to provide certain medical supplies to students (e.g. crutches, ankle taping) or even clinical rehab because of the lack of rehabilitative hardware. While a little over 30 high schools in Clark County have ATCs because of an outpatient physical therapy company not all ATCs have the same budget or space to accommodate the number of students that consult with them daily. Physical therapists (PTs) are often used to support the AT’s ability to rehabilitate an orthopedic injury. The multi-disciplinary approach is utilized to cultivate the best athletic care. This illustrated the major differences in clinical care and follow-up between private and public high schools.

Game coverage was cited as an issue for most schools. Previous literature reported instances where high schools abide by the most general requirement for medical coverage at major sporting events such as paramedics with ambulances, a visiting physician, physical therapists, first responders, or having ATCs only for varsity football games (DeWitt, Unruh & Seshadri, 2012, p. 91-95). None of these were mentioned in AD responses, save for an AD in Washoe County where the contracted ATC was only requested to work varsity games. As a result, parental insistence on having a full time ATC was noted as a factor that should be utilized in one day getting a full-time ATC.

While parents are important stakeholders in making medical coverage available for all athletes, ADs listed the overall school district as another great stakeholder in making ATCs
present in all secondary schools. The primary reason for this was most likely for the district to foresee and anticipate potential litigious cases where catastrophic injuries could be avoided if an ATC were employed full-time for an individual school. Currently, there is a supportive movement in Washoe County’s administration to have athletic trainers in its schools. With the growing awareness of traumatic brain injury, secondary schools are becoming more aware of the liability that befalls schools who do not take the preventive measures to address concussions.

5.1 Limitations

Data mirrored the findings of Mazerolle et al. (2015). Study participants were researched in Nevada and so themes may not be applicable to all public or private secondary school settings. During the distributed online written-interview many responses were returned without responses to several questions. It is possible also that athletic directors or athletic administrators may not have had exact figures for the amount of students on a free or reduced meal program. Future studies may take this study to a larger, national scale where individual state regulations can be included. Other stakeholders, such as parents, can somehow be included in the study about what they perceive the ATCs role to be and how their school would benefit from employing one.
APPENDIX A: Interview Protocol

Sample Questions

Please state your position: Certified Athletic Trainer OR Athletic Director

Are you employed at a public/private charter high school?

Are you full-time or part-time?

What county is your school located in?

(For athletic directors) Does your school employ an ATC? If not, please explain why?

(For athletic directors) Approximately how much is allocated to your athletic training needs?

- 0-$999
- $1000-$1999
- $2000-$2999
- $3000-$3999
- $4000-$4999
- $5000-$5999
- $6000-$6999
- $7000-$7999
- >$8000

Is your budget adequate for athletic training/sports medicine needs?

Is there ever a need to seek more funds? If so, explain.

What are your choices for external funding? Please explain.

Do you feel apt to apply for state grants or professional sponsorships? If not, please explain why.

Do you apply for this funding on your own or with help (e.g. grant/proposal writer)?

Do you ever encounter financial strain regarding funding your athletic training clinic (e.g. expendable supplies, rehabilitation equipment, etc.)?
APPENDIX B: Progress Chart

Recruitment
- NV-ATA
- NADA
- NV Dept. of Education
  - Public, private, charter high schools

Sampling
- NV only
- Full/part-time HS ATCs
- Full-time HS ADs
- Schools with/out ATCs
  - All counties

Data Collection
- Online open-ended interview questions
  - Kent State (2010)
- Follow-up phone calls
  - Transcription
- Data Immersion
  - Modified Dillman approach

Data Analysis
- Inductive analysis
- Grounded-Theory
- Open-coding
  - Initial categories
  - Axial coding
- Thematic coding
  - Goal: 3 Codes

Anticipated Themes
- Understanding the ATC's role
- Inaptitude to apply for external funding
- Private schools more equipped to provide adequate sports coverage

Discussion
- Private schools tend to have greater fiscal resources
- Public education continually experiences budget shortages
- Responsibility to advocate for ATCs lies with stakeholders
APPENDIX C: Coding Process

148 Open Codes
- Line by line coding of interview data
- Relating ideas to sentence/paragraph
- Linked to axial codes

6 Axial Codes
- FAMILIES (atlas.ti)
- Aspects of Funding
- ATC’s Experience
- School District Challenge
- Social Views
- Stakeholder Perception
- Level of Healthcare

3 Selective Codes
- THEMES
  - Money Discrep
  - Creativity in Healthcare Delivery
  - Community Influencer
REFERENCES


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CURRICULUM VITAE

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EDUCATION
California State University, Northridge
B.S.—Athletic Training May 2015
Completion of CAATE Program | BOC Certified Athletic Trainer (ATC)

University of Nevada, Las Vegas
M.S.—Kinesiology | Sports Medicine May 2018

AWARDS
UNLV Part-Time Instructor (PTI) Award April 2017
myCSUNtablet Initiative Award December 2014
AmeriCorps Segal Education Award July 2013
CSU, Northridge Dean’s List Sp. 2011 – Sp. 2015

TEACHING EXPERIENCE
University of Nevada, Las Vegas—BIOL 223, BIOL 224 January 2016—present
Teaching Assistant—Anatomy and Physiology I & II
Instructed university students on gross/clinical anatomy and histology of major organ systems | Arranged in-class lab practical review sessions | Administered weekly quizzes to assess student understanding | Demonstrated various dissections with animal tissue correlating the nervous, respiratory, cardiovascular, and urinary systems

California State University, Northridge June 2016 & June 2017
Instructor—Biology & Sports Medicine/Physiology
Worked with CSUN Upward Bound and developed a biology and sports medicine syllabus | Created presentations and activities to link conceptual information with models | Formatted daily quizzes and guided underserved high school students to compose a clinical synthesis which culminated in a formal presentation relating to biology and sports medicine
University of Nevada, Las Vegas—BIOL 196

Lecture Assistant—Principles of Modern Biology I  
September 2017—present
Assisted lab coordinator with grading coursework (e.g. 3 series of 140 student essays) regarding cell structure, viruses, and dietary nutrients | Assisted Dr. Kathryn Rafferty with grading molecular genetics exams | Provided feedback for undergraduate students’ essays for areas of improvement

RELATED EXPERIENCE
Southeast Career and Technical Academy (SECTA)
Head Licensed Athletic Trainer  
September 2016—present
Perform orthopedic evaluations, sideline care during games, and physician referrals when necessary | Organize and guide student-athletes’ clinical rehabilitation for upper and lower extremity injuries | Oversee SECTA and CSN student interns | Candidate for American Heart Association Back-To-Sports Grant

CSUN CoachingCorps
Chapter President  
April 2013 – May 2015
Recruited CSUN students to coach and make sports programs accessible to low-income youth | Hosted monthly meetings to gauge university student involvement | Hosted a Take Your Team to College Day to provide a tour of the campus to inner city middle school students

AmeriCorps
Volunteer Sports Coach  
August 2012– July 2013
Served a 1-year program to coach underserved elementary students in Reseda, CA in multiple non-/contact sports | Performed bi-annual fitness testing to reflect the impact of sports on youth fitness.

LANGUAGES
English
Spanish

MEMBERSHIPS
National Athletic Trainers Association (NATA)
AmeriCorps Alumni
Graduate Student Professional Association (GPSA)
CERTIFICATIONS
Athletic Training Licensure | NV State Board of Athletic Trainers (LAT)
Board of Certification for the Athletic Trainer (ATC)
BLS for the Healthcare Provider
Council for Aid to Education | CLA+ Accomplished Critical Thinker
AmeriCorps Service Certification

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