

Association for Athletic Training Education (AATE) Abstract Presentations

The following abstracts were accepted and presented at the inaugural Association for Athletic Training Education Symposium February 29 – March 2, 2024.

Digital Health Care: Time for a New Standard?

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Introduction: The rapid influx of digitalization in healthcare has presented opportunities for innovative engagement, delivery, and outcomes for patient care. However, it also presents with several barriers and challenges that require teaching and learning opportunities to prepare future athletic trainers for these tasks. Currently, the CAATE curricular content standards integrate digital health care through Standard 64 on health informatics and Standard 87 on biometrics. However, the art and science of digital healthcare are expansive, including various skills such as digital literacy, computer skills, online communication, and privacy and security standards. **Methods:** The presentation will provide an overview of current digital healthcare trends through artificial intelligence, machine learning, augmented reality, mHealth, eHealth, telehealth, precision genomics, wearables, sensors, and electronic health records. After discussing these options, an overview of digital competencies will be presented to explore if and how programs prepare learners to engage in the digital healthcare environment. **Expected Outcomes:** The expected outcomes include a retrospective analysis of how healthcare started, how it is currently going, and emerging trends relative to digital healthcare. Next, the outcomes will explore integrating specific didactic learning opportunities, clinical education experiences in digital healthcare environments, and assessment of competence related to digital skills and tasks in peer healthcare professions and athletic training. **Translation to Practice:** Overall, there needs to be an exploration of the knowledge and skills to implement digital healthcare in athletic training. With the rise in opportunities for patient care, it is essential that we prepare athletic training students for jobs that may not exist yet or tasks in their jobs that have yet to be present. In order to continue driving athletic training education, a new standard specific to digital healthcare should be proposed to capture the complex competencies related to integrating digital options for patient care.

Burnout in Athletic Training: Measured by Survey in Most Common Settings for Athletic Trainers

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Introduction: Burnout is a common problem in athletic training, affecting both athletic trainers (ATs) and the athletes they serve. Athletic trainers are responsible for the prevention, diagnosis, and treatment of sports-related injuries. Long work hours, often including evenings and weekends, as well as frequently under pressure to meet the demands of athletes, coaches, and parents. Athletic trainers face numerous stressors that contribute to burnout. These stressors may include heavy workloads, lack of control over their schedules, time pressures, and pressure to produce positive outcomes. Athletic trainers may also experience emotional and physical exhaustion, depersonalization, and a reduced sense of personal accomplishment, all of which are common symptoms of burnout. Burnout can have negative consequences for both ATs and athletes. For ATs, burnout can lead to decreased job satisfaction, decreased quality of care provided to athletes, and increased turnover rates. This can have a detrimental impact on the overall effectiveness of the athletic training field. For athletes, the effects of their AT experiencing burnout can include decreased performance, increased risk of injury, and decreased psychological well-being. Other healthcare professionals, such as physical therapists, nurses, and doctors, have examined burnout. Athletic trainers can be overlooked due to the amount of burnout that may be present throughout the profession. The purpose of this study was to investigate what setting burnout, measured by the Copenhagen Burnout Inventory (CBI), was most common in ATs. The CBI is used to measure burnout in three subdomains which include personal, work, and client burnout. The core of the CBI looks at burnout through fatigue and exhaustion. The CBI score range start at moderate burnout with scores ranging from 50-74, high burnout rate consists of scores that range from 75-99, and severe burnout consists of scores higher than 100. **Methods:** Athletic trainers were sent an email through the NATA directory as well as other ATs known to the researchers. Participants in this study were practicing ATs in clinical, collegiate, high school, industrial, military, professional sports, physician practice, extreme sports, youth sports, occupational, and managers. The participants had no age or setting restrictions in order to complete the survey. A consent form was sent along with the survey outlining the potential risks involved in the survey. The survey included the CBI as well as demographic questions. **Results:** There were a total of 57 surveys that were viable to use for data collection. There were 33% of the participants identified as male and 67% were female. Most of the participants, 74%, did not have children. About half of the participants, 51%, were married. The settings with scores below 50 consist of the manager position at 49 demonstrating low burnout. The settings that have scores in the range of 50-74 reflecting moderate burnout consist of clinical, college, secondary, physician office, youth sports, military, and industrial with scores ranging from 51-69. The settings that have scores in the range of 75-99 reflecting high burnout consist of extreme sports and professional with scores ranging from 76-77.5. **Translation to Practice:** The participants who completed this survey reflected high burnout in two settings, professional and extreme sports. Those working in these professions should reflect on their practices and schedules to be mindful of burnout. Most settings have moderate burnout. As a practicing AT it is best to know, understand, and find strategies to avoid burnout. Knowledge of burnout is valuable not only to ATs but also to employers. Recognition of the importance of this is most important in helping prevent burnout from occurring.

Educational Outcomes of the DAT: A Document Review and Thematic Analysis

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Context: The transition in athletic training education allows for unique and new opportunities in postprofessional education. The Doctor of Athletic Training (DAT) degree is one of the postprofessional education pathways that could provide athletic trainers advancement in clinical practice, practice leadership, and scholarship. However, there is no data on the educational outcomes of DAT programs and what graduates should expect from their experiences. The aim of this study was to explore whether DAT programs are delivering curricula consistent with the development of clinical scholars with advanced knowledge and skills that are needed for high-level patient care and literature relative to DAT programs and their publicly stated educational outcomes. **Methods:** We used a qualitative design document review to explore DAT program websites. The primary investigator collected the relevant data from each of the program websites and recorded the data into a custom spreadsheet. We used a combination of deductive and inductive coding. The professional definition and previous literature established the overarching themes: Advanced Practice Leadership, Advance Clinical Practice, Scholarship, and Individual Programmatic Uniqueness. A two-member analysis team used inductive coding of program outcome data to identify the sub-themes. Researcher reflexivity, triangulation, and auditing were used to ensure trustworthiness and accuracy. **Results:** A total of eight DAT programs actively enrolling students with publicly available websites were included (Table 1; Figure 1). Every program (n=8, 100%) claimed to engage students in each of the following thematic areas: Advanced Practice Leadership, Advance Clinical Practice, Scholarship, and Individual Programmatic Uniqueness. In the theme of advanced practice leadership, sub-themes organizational, educational, and practice-based leadership were identified among the areas where programs claimed to prepare the DAT student for different roles. Of the eight programs, 38% (n=3) listed outcomes related to organizational leadership, 50% (n=4) noted practice leadership, and 75% (n=6) noted learning outcomes related to educational leadership. The advanced clinical practice theme was comprised of sub-themes about advancing the DAT student's skills in providing patient-centered care (n=2, 25%), evidence-based practice (n=7, 88%), intervention (n=4, 50%), and evaluation (n=3, 38%). The scholarship theme indicated that programs required DAT students to engage in traditional research (n=2, 25%) and practice-based research (n=7, 88%); one program requires no scholarship in the development of a DAT credential holder. Programs noted six different areas of programmatic uniqueness; however, overlap existed whereby 50% of the programs deliver curricula in manual therapy, 50% (n=4), 25% in business (n=2), and 25% in concussion recognition and care (n=2). Areas of true uniqueness, where only one program had a focus in that area were integrative health, sports performance, and neuromechanics. There was no consistency in how programs communicated through their websites and how they were measuring or meeting their outcomes. **Translation to Practice:** All eight program websites noted program content related to Advanced Practice Leadership, Advance Clinical Practice, Scholarship, and Individual Programmatic Uniqueness, suggesting alignment with the professional definition and previous literature. Through the review, there is a lack of clarity on what "role" programs believed a graduate from their program would play in athletic training (e.g., educator, practice leader, clinician). As applicants of DAT programs become more and more savvy, there will likely be an increased expectation to demonstrate how programs are meeting their stated goals with publicly available outcomes data, which is consistent with best practices for regionally accredited and specialty accredited programs.

Table 1. Program Characteristics

Characteristics	Percentage	Frequency
Enrollment Status		
Full-time status	50%	4
Part-time status	25%	2
Unspecified	50%	4
Graduate Assistantship Positions Available		
Yes	25%	2
No	0%	0
Unspecified	75%	6
Accreditation Status		
Specialty Accreditation		
Commission on Accreditation of Athletic Training Education (CAATE)	13%	1
Regional Accreditation		
Commission on Colleges of the Southern Association of Colleges and Schools (SACs)	25%	2
Higher Learning Commission (HLC)	37%	3
Middle States Commission on Higher Education (MSCHE)	25%	2
Northwest Commission on Colleges and Universities	13%	1
Average Tuition Costs (Total)		
In-state		\$ 32,629
Out-of-state		\$ 35,281
Average Credits (Total)		
Credits		54
Program Length (months)		
23	13%	1
24	63%	5
36	25%	2
Program Type		
Cohort Model	75%	6
Individualized Model	25%	2
Delivery Mechanism		
Predominantly online	75%	6
Predominantly in person	25%	2

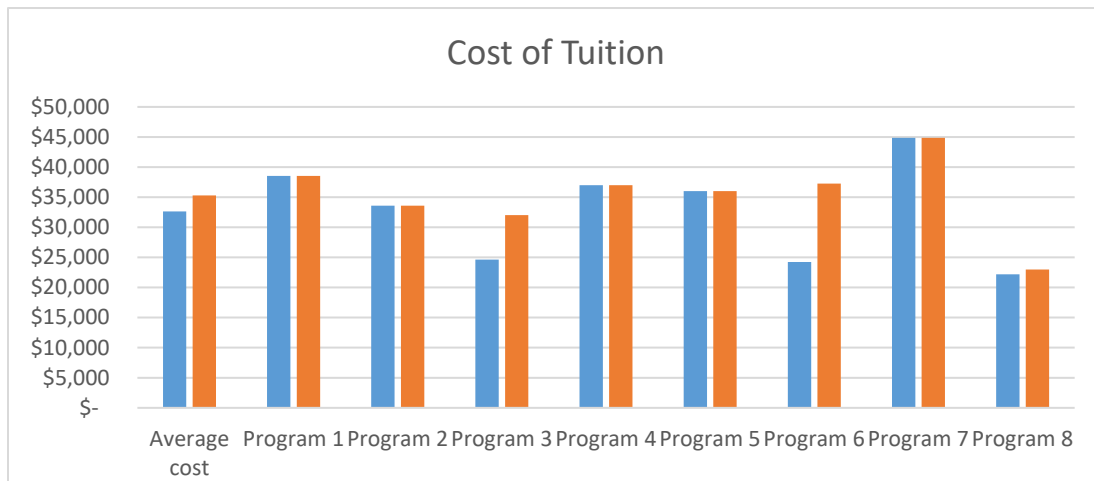


Figure 1. Tuition Cost per Program

Master's-Level Professional Athletic Training Program Admissions Data: Does It Matter If Your Institution Is Public or Private?

Cavallario JM*, Starkey C†, Welch Bacon CE‡: *Old Dominion University, Norfolk, VA; †Ohio University, Athens, OH; ‡A.T. Still University, Mesa, AZ

Introduction: Recently, there has been speculation that the transition to a master's degree for entry into the athletic training profession has resulted in a shortage of athletic trainers (ATs) relative to the number of jobs available. The Board of Certification has announced that the total number of credentialed ATs has not decreased, yet athletic training programs consistently report challenges in recruiting athletic training students to their programs. Data provided by the CAATE from annual reports is typically two years old once it is made publicly available. Program and institutional administrators need access to real-time data to make decisions regarding program continuation and enrollment targets. The purpose of this study was to examine enrollment data of professional graduate athletic training programs for the classes of 2024 and 2025. **Methods:** We employed a cross-sectional online survey to capture current athletic training student enrollment in CAATE-accredited graduate professional athletic training programs. Program director contact information was obtained from the CAATE and 260 graduate program administrators were emailed. We collected the number of students enrolled in the class of 1a) 2024, and 1b) 2025, 2) length of time the program has been at the graduate level, 3) whether an accelerated track (e.g., 3+2) existed, and 4) enrollment characterization (i.e., stable, unstable, increase, decreasing, too early to tell). Of the 260 programs contacted, 20 were removed due to not having a cohort enrolled or being in their last year of offering the program. We received data from 207 (86.3%) of the remaining programs and determined each institution's funding classification (public, private). Descriptive statistics were used to characterize the data, an odds ratio was calculated to determine whether public or private institutions were more likely to have an accelerated program, and independent samples t-tests were performed to compare enrollment across public and private institutions with and without accelerated tracks. **Results:** Public institution programs (PUI) represented 66% (N=136) of programs, of which 75 (55%) had an accelerated track. Private institutions programs (PRI) represented 34% (N=71) programs, of which 61 (86%) had an accelerated track. PUIs reported a mean enrollment of 19.6 ± 11.3 students, and PRIs reported a mean enrollment of 15.7 ± 9.1 . Approximately 41% (N=56) of PUIs reported increasing enrollment, while 30% (N=21) of PUIs reported enrollment trends as increasing. PRIs had greater odds of offering an accelerated track (OR=4.96, 95%CI [2.35, 10.50], $p < 0.001$) as compared to PUIs. When comparing enrollment of PRIs with and without accelerated tracks there was no significant differences in the enrollment ($p = 0.947$); the same was true for the comparison of PUIs with and without accelerated track ($p = 0.558$). When examining total enrollment, PUIs had significantly higher enrollment compared to PRIs [$t(205) = -2.52$, $p = 0.012$]. **Translation to Practice:** Professional athletic training programs at public institutions reported higher average enrollment than those at private institutions. PRIs appear to be developing and relying on accelerated tracks to promote enrollment. Although there was no enrollment difference in toto, we recognize that this option may be advantageous to individual institutions for other reasons. Overall, more PUIs reported stable enrollment trends. Program administrators should use this information to determine the allocation of resources for program development and implementing marketing and recruitment strategies.

Athletic Trainers' Familiarity with Potential Concussion Biomarkers: A Descriptive Study

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Introduction: An estimated 3.8 million individuals sustain a concussion annually in the United States. Despite the high number of cases, this number may not accurately depict the true incidence rate due to underreporting of symptoms by patients. With current concussion tools relying heavily on subjective input from patients, it is imperative that a valid and reliable objective tool, such as a clinical biomarker, is identified to improve concussion diagnosis and management. If such a biomarker is identified, it will be essential that athletic trainers (ATs) be familiar with how biomarkers could be used. The purpose of this study was to determine ATs' familiarity with potential concussion biomarkers. **Methods:** An online, cross-sectional survey that included six demographic questions. Three content experts were solicited to establish the content validity of all survey items by scoring each item's relevancy to the overall research question, and a mean content validity index of 0.9 was established for the overall instrument. The survey was distributed to 1,000 ATs biweekly for eight weeks through the NATA Research Survey Service (response rate: 6%). Additional participants were recruited through social media, resulting in a total of 238 ATs who submitted the survey. Participants were asked to identify biofluids and biomarkers they were familiar with (two questions) and were also asked to rate their knowledge of the literature on biomarkers for both concussion diagnosis and management using Likert-scales (extremely knowledgeable, very knowledgeable, moderately knowledgeable, slightly knowledgeable, not knowledgeable at all). Participants were asked to answer all questions but were not required to answer all questions to submit their responses. We used descriptive statistics to summarize participants' demographics and responses to familiarity questions. **Results:** Of the 238 ATs that submitted surveys, varying numbers responded to each of the questions: familiarity with biomarkers (n=214), familiarity with biofluids (n=216), self-rated knowledge of literature for concussion diagnosis biomarkers (n=215), and self-rated knowledge of literature for concussion management biomarkers (n=216). When identifying biomarkers they were familiar with, ATs were most often familiar with protein (30.4%, n=80) and least often familiar with DNA (3.7%, n=8). Relative to biofluids, ATs were most often familiar with blood (37.5%, n=110) and least often familiar with urine (3.2%, n=7). Interestingly, 55.4% (n=119) of ATs stated that they had "No knowledge at all" of the current literature regarding the use of biomarkers for concussion diagnosis, and 62.0% (n=134) stated they had "No knowledge at all" of the current literature regarding biomarkers used for concussion management. (Figure 1.) **Translation to Practice:** Despite the increase in research attempting to identify a concussion biomarker, ATs remain unfamiliar with biomarkers and biofluids. Targeted continuing education efforts are needed to familiarize ATs with biomarkers and biofluids that will likely be used in the diagnosis and management of concussions in the future.

ABSTRACT PRESENTATION

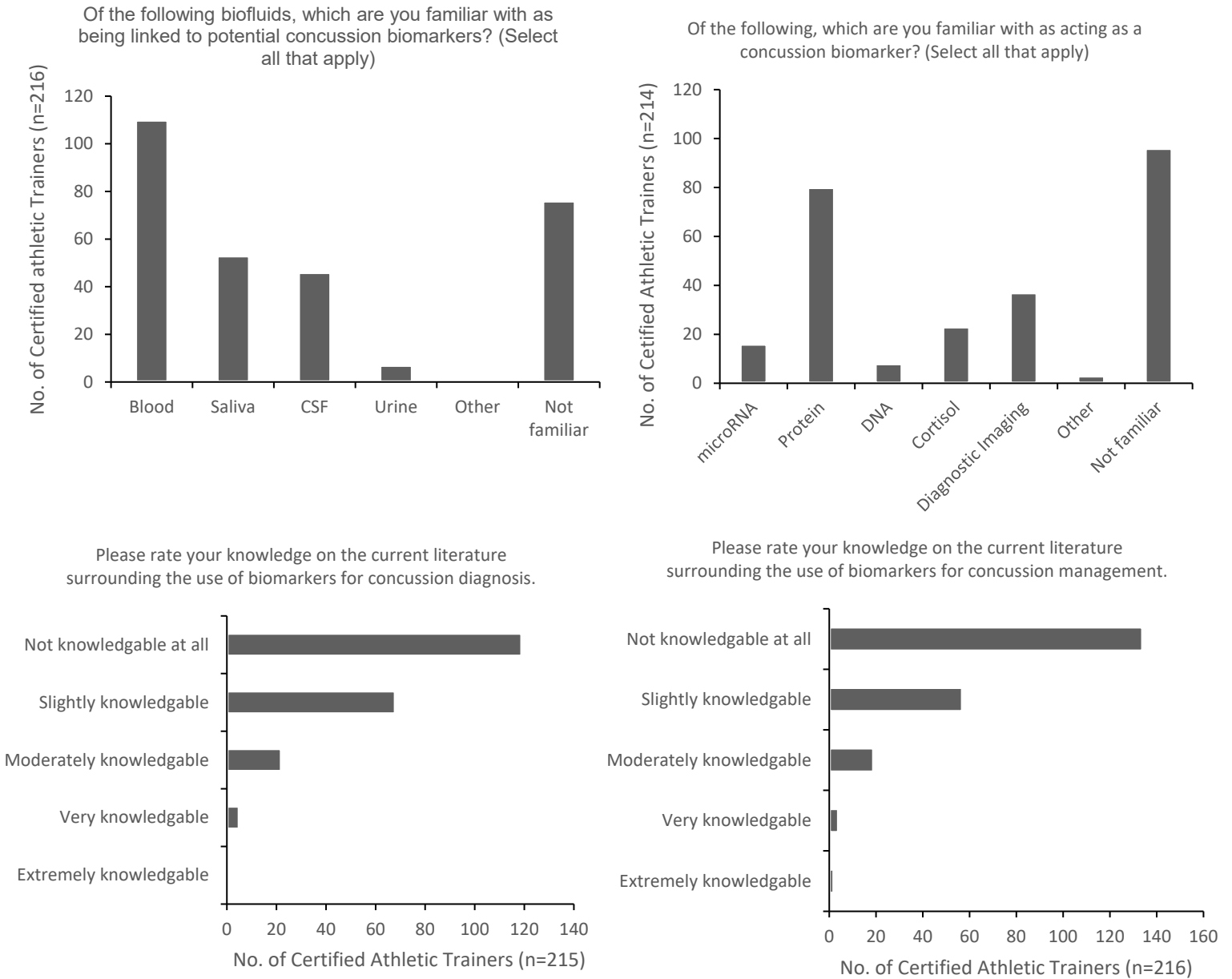


Figure 2. Most familiar biofluids and biomarkers as reported by athletic trainers and self-reported knowledge of biomarker use for concussion diagnosis and management.

Employers' Perceptions of and Experiences Working with Residency-Trained Athletic Trainers

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Context: Athletic trainers (ATs) who complete accredited residency training in a specialty area are considered clinical specialists, yet more information is needed to determine whether they are practicing within the higher capacity expected of a specialist. While some quantitative evidence demonstrating the value of residency-trained ATs on patient satisfaction, patient throughput, and the financial impact specific to the physician practice setting exists, residency training is not limited to only ATs who want to provide services in physician practice. Moreover, as accredited athletic training residency programs continue to emerge, it is increasingly important to understand key stakeholders' perceptions of residency-trained ATs as well as their experiences working with these clinical specialists. Understanding the employers' perception of the value of athletic training residency training is especially important since these individuals are involved in the hiring decisions of a clinical practice setting. Therefore, we aimed to explore employers' perceptions of, and experiences working with, residency-trained ATs. **Methods:** We followed a consensual qualitative research design and recruited a purposeful sample of participants. We contacted our professional network of employers who have hired a CAATE-accredited orthopaedic-focused residency-trained AT to participate voluntarily. We achieved data saturation following individual videoconference interviews with 14 employers (4 physicians, 10 ATs; 11 men, 3 women; average age=42.0±7.2 years; clinical experience=17.2±7.4 years) working in the hospital/outpatient center (n=8), sports medicine/orthopaedic clinic (n=3), or college/university (n=3) setting. Following development, the 10-item, semi-structured interview guide used for this study was reviewed by 3 residency experts for content validity and piloted with 1 employer that met the study criteria to ensure clarity and flow of the interview questions. Following transcription, a 4-person analysis team coded the data into themes and categories. Three researchers coded the data and met regularly throughout a 3-phase consensus process. We ensured trustworthiness of the data via member-checking, multi-analyst triangulation, and the use of internal and external auditors. **Results:** Two predominant themes emerged during data analysis: *employer perceptions* of residency-trained ATs and *employer experiences* working with residency-trained ATs. Employers perceived that residency-trained ATs could assimilate into the practice setting faster than their non-residency-trained AT counterparts. Employers highlighted that residency-trained ATs had a better depth and breadth of knowledge of athletic training practice and could practice at the top of their scope more quickly after orienting to the practice setting. Employers also perceived that residency-trained ATs experience increased compensation and faster career advancement than the non-residency-trained ATs at the same employment sites. Employers described how residency-trained ATs increase the efficiency of the practice setting, allowing greater throughput and increasing patient accessibility to providers. Employers discussed that residency-trained ATs improved patient satisfaction scores in the practice setting and were also able to increase awareness of athletic training with other providers in the setting. **Translation-to-Practice:** Our findings indicate that employers can discern differences between residency-trained ATs and non-residency-trained ATs. Residency-trained ATs add value to practice, and their residency training likely prepares them more adequately for assimilation into practice than professional education alone. Positive outcomes of hiring residency-trained ATs included increased patient satisfaction, increased practice efficiency, and added economic value to the care team. Since residency training aims to develop clinical specialists, employers of ATs should aim to hire a diverse group of clinicians that includes both generalists and specialists. Mentors of athletic training students should guide them to accredited athletic training residency programs if becoming a clinical specialist aligns with the student's professional development goals.

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Athletic Training Preceptors' Experience with Interprofessional Education and Collaborative Practice in the Clinical Learning Environment

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Introduction: Professional athletic training (AT) programs are now required to align their educational curricula with the Institute of Medicine's (IOM) core competencies, preparing students to work in dynamic, interprofessional healthcare teams to strategically address patient outcomes. Although interprofessional education and collaborative practice (IPECP) is commonly implemented in didactic settings, our understanding of how IPECP is implemented by AT preceptors in various clinical settings is limited. The purpose of this study was to gain a greater understanding of AT preceptors' experience with IPECP and how they implement this with students in their clinical settings. **Methods:** A convergent mixed-methods design was used with data collected through an online survey. AT preceptors working in the NATA District 3 (Mid-Atlantic) region (n=45) were recruited to participate using a snowball sampling approach, which began with an email to AT program directors requesting participation from their affiliated preceptors. AT preceptors' responses gathered demographic information, ratings on IPECP knowledge and use in their clinical practice, as well as responses to open-ended questions about their experience implementing IPECP with students in their clinical practice. Closed-ended responses were analyzed using descriptive statistics. Open-ended responses were first analyzed using an open coding process and then an inductive process of reflexive thematic analysis. Two faculty members with extensive experience in qualitative research reviewed the data analysis procedures to improve trustworthiness. **Results:** Roughly 70% of preceptors had IPECP training (n=32) and agreed (n=31) that it is very or extremely important to teach their students how to engage in IPECP in their workplace. Most participants reported having some type of formal education/training in IPE, either pre-certification (n=15), post-certification (n=7), or both (n=10). Some participants (n=13) indicated they did not have any education or training in IPE. AT preceptors reported engaging in IPECP most often with physicians, strength coaches, and PTs in their workplace setting, performing patient exams, and developing treatment plans more often than engaging in interprofessional research or professional development. Most report that collaborative practice with staff and students occurs sporadically in their workplace, suggesting that IPECP may not be intentionally planned or embedded in their organizational culture. Formal IPECP training, positive and impactful experiences, exposure to various professionals, and high teaching importance were identified as promoting factors for IPECP implementation. Inhibiting factors such as scheduling/availability, lack of resources/"buy-in," and disruption stemming from the COVID-19 pandemic posed challenges for IPECP implementation. **Translation to Practice:** Despite almost 30% of the participants not having any formal training in IPECP, AT programs may require preceptors to facilitate this as part of the clinical education experience. More IPECP education and training for AT preceptors may help close this gap and yield better teaching of collaborative practice behaviors with students transitioning to practice in various clinical settings. Additional research should be conducted every couple of years to see trends in change over time as programs implement these competencies into their clinical learning experiences.

Using Alums Involvement to Increase Student Investment in an Athletic Training Program

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Introduction: Student investment and retention are not new concerns among athletic training program directors. Graduate programs are expected to meet minimum enrollment standards to demonstrate the need for the program. Programs that are unable to maintain student enrollment will be eliminated by institutions experiencing financial stress. Retention strategies and benefits have previously been investigated among undergraduate students and across disciplines. One common theme in the research is that student retention increases when students feel a sense of belonging from the faculty, staff, and peers in their program. There is less research on the retention of graduate students, but the themes tend to be similar to undergraduate students: students want a sense of belonging and support from faculty.

As long-term program success becomes reliant upon enrollment and retention, program directors seek to create strategies to increase student investment in their program. The use of alums as active participants in the program has the potential to improve student pride in the program. Students may seek advice from alums on successfully navigating the academic process from someone who has had the same experience. Professional relationships may be built that can expand as students seek immersive experiences or full-time jobs. As students graduate, they can be helpful in referring new students to the program. **Methods:** An athletic training program has developed several strategies to increase student investment in the program: use of alums to facilitate telehealth evaluations, use of alums to facilitate administrative and psychosocial case studies, creating an advisory board for program growth that includes alums as stakeholders, and student recruitment. Alumni have been used as patients for telehealth experiences for both orthopedic and general medical conditions. Alums also facilitate discussions that students have with parents, coaches, or other administrators for issues such as return to play, budget, pregnancy, or psychosocial situations such as mental health or disordered eating management. Additionally, the institution created an advisory board that uses alums as a sounding board for any changes that may occur within the program. **Expected Outcomes:** In this program, alums become active stakeholders and interact directly with current students. Professional relationships develop that benefit alums as mentors and students as they graduate and seek professional opportunities. Students engage with alums in application-based scenarios that improve self-efficacy and efficiency in evaluations and problem-solving strategies. **Translation to Practice:** A graduate-level curriculum is a relatively new practice that alums of an undergraduate program may not fully understand. Alums in this program have achieved a better understanding of graduate-level curriculum and standards by participating in telehealth, guest lectures, or preceptor opportunities. A reciprocal relationship emerges in which students gain an understanding of the history of the program and engage in one-on-one mentorship with alums that provide career opportunities such as immersive sites, internships, or full-time jobs.

Using Data in the Classroom to Drive Instructional Design and Delivery

Eberman LE, Young JP: Indiana State University, Terre Haute, IN

Introduction: Roughly half of ATP program directors include education on transgender health care in their programs, and even fewer report having the competence to do so. However, professional-level accreditation standards (56, 57, and DEI 2) require that programs have faculty with contemporary expertise to educate students on these outcomes. Current research suggests a comprehensive transgender and sexual health curriculum, including safe-zone training, traditional lecture, lab, and project-based instruction, was partially effective at changing students' attitudes toward transgender patients but did not improve sexual health care delivery during a standardized patient encounter. The purpose of this project was to evaluate the effectiveness of instructional design and delivery in changing student attitudes toward transgender patients at a regional-comprehensive, midwestern University ATP. Instructional delivery included both active and passive strategies (readings, discussion, lecture, and problem-based learning) with a focus on destigmatization, health and healthcare inequities, gender-affirming care, and regulations related to sports participation. **Methods:** We used three measures to assess student attitudes, knowledge, and practical application. The validated Attitudes Toward Transgender Patients (ATTP) tool (10-item, 3 primary constructs (clinician education, transgender sport participation, and clinician comfort) was used immediately before the class discussion, immediately after the lecture, and 4 weeks later to evaluate student attitudes (n=8). A content-validated cognitive knowledge assessment (total score of 25 points; multiple-choice and multi-choice questions) was used immediately after the lecture and 4 weeks later. Finally, we used a problem-based learning case to evaluate the students' ability to apply knowledge within 1 week of the lecture. We used descriptive statistics to characterize student performance. We used a repeated measures ANOVA to compare pre-, post-, and post-post attitudes for each item and each construct of the ATTP tool (clinician education, transgender sport participation, clinician comfort). We also used a paired t-test to evaluate knowledge after the lecture (post) and at the 4-week follow-up (post-post). **Results:** We did not identify significant differences across each of the ATTP subscales over time, but did identify two items where student attitudes improved at some point in learning. Their attitude about the importance "to receive training on transgender issues" significantly improved from pre-test to post-test ($p=0.033$), but not at any other time comparison. The attitude about feeling "safer treating a transgender patient in a group setting" at the post-post testing was significantly lower than the scores at the pre ($p=0.009$) and post-test times ($p=0.004$), indicating more clinician comfort. Student construct scores were slightly elevated (Table 1) compared to previous uses of the ATTP in professional and postprofessional students, suggesting higher levels of potential discord in learning about, permissibility to participate, and discomfort working with transgender athletes. Knowledge scores demonstrated below-desired outcomes relative to gender-affirming care and transgender athlete participation in sport (mean=17.9/25 points \pm 5.4; 71.6%), which did not change over time (mean=17.1/25 points \pm 2.7; 68.5%). An analysis of problem-based learning performance indicated a superficial appreciation for the needs of transgender athletes considering participation throughout the transition. **Translation to Practice:** After completing the learning activities and assessments, faculty engaged in a root cause analysis to evaluate the effectiveness of the instructional design and delivery (Figure 1). We summarized the minimal changes in attitude and below expectation results in learner performance. We identified the productive and inhibiting features for each of the four approaches to instruction and postulated the additional tactics necessary to reinforce and extend improved attitudes and increase knowledge. Consistent with previous research, strategies that contextualize theoretical knowledge, including interpersonal interactions that yield transformational learning, will be prioritized. We plan to use contemporary media and a "teaching" standardized patient encounter to humanize transgender athletes to meet the desired knowledge and attitude outcomes and expectations.

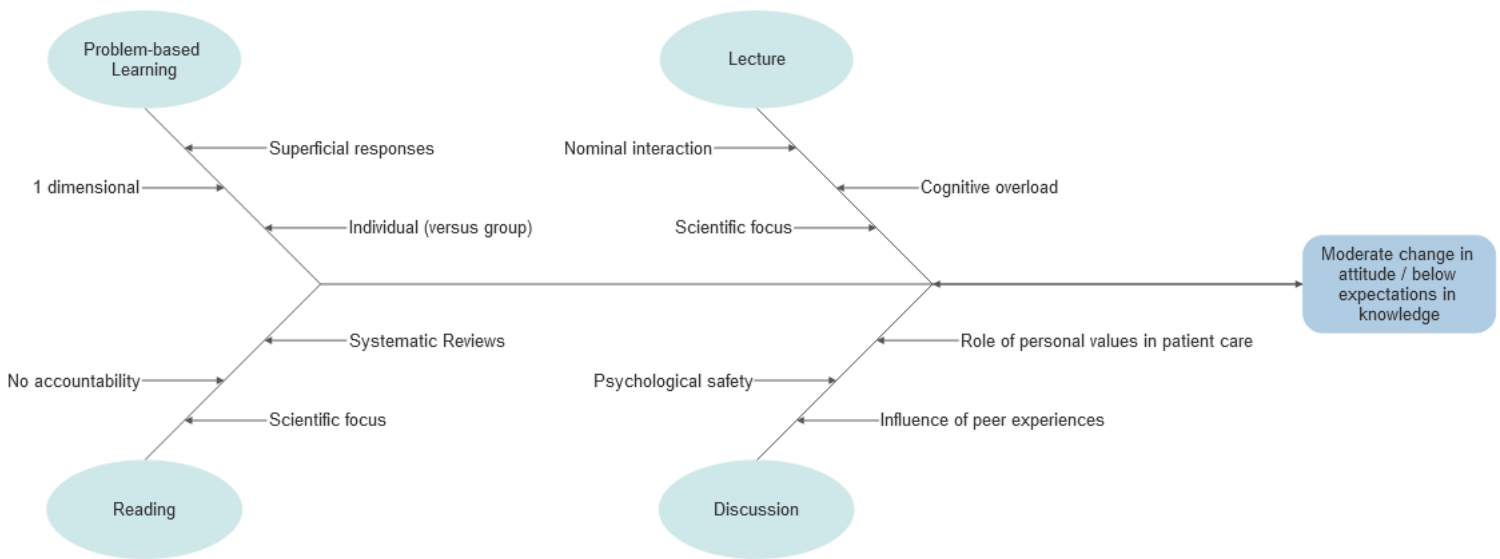
Using Data in the Classroom to Drive Instructional Design and Delivery

Eberman LE, Young JP: Indiana State University, Terre Haute, IN

Table 1. Student Attitudes Toward Transgender Patients

Subscale	Pre-	Post-	Post-post
Clinician Education	6.9 ± 1.7	5.9 ± 1.7	6.1 ± 1.5
Transgender Sport Participation	10.6 ± 3.9	9.8 ± 4.2	10.3 ± 3.7
Clinician Comfort	10.0 ± 3.2	9.6 ± 1.9	8.4 ± 2.4

Figure 1. Root Cause Analysis



Traveling the Pathway to a Culturally Competent Health Care Provider: Incorporating Study Abroad into your Curriculum

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Introduction: As athletic training employment settings expand and diversify, so does the patient population with whom these healthcare providers interact. This growth furthers the need to ensure that students enrolled in an athletic training program (ATP) accredited by the Commission on Accreditation of Athletic Training Education (CAATE) are educated to provide culturally competent care. Culturally competent care is provided when decisions made diminish the inequalities that may be present in a system based upon a patient's individual circumstances. Implementing cultural competency education may be integrated into athletic training education in various manners as necessitated by each institution's unique circumstances. Programs may choose to deliver cultural competency education through a traditional classroom setting utilizing assignments, guest speakers, and other conventional supplemental tools. Other programs may utilize a study abroad or international experience to illustrate the importance of providing culturally competent care. A study abroad experience may help position athletic training students in situations that may make them uncomfortable. Doing so will challenge the way these learners typically interact with diverse individuals, thus providing them the opportunity to develop and practice the skills needed to become confident in delivering culturally competent exchanges. Not only can one see heightened capabilities through such an experiential learning process but it has been noted that individuals who participate in a study abroad as part of a health care education program often develop a changed personal perspective regarding patient centered care. Such skills are important to those patients who may experience disparities based on a single characteristic of their background or the intersectionality of several components. **Methods:** While the topic is interspersed throughout the entire program's curriculum, a CAATE-accredited ATP has developed a curriculum that culminates with a course focused on exploring cultural competency. The hallmark of this course is a study abroad experience which follows a traditional classroom exploration of numerous cultural and societal factors. The study abroad occurs in a different country each year, allowing for a broader spectrum of cultural interactions for both the learner and the faculty members. This type of event provides the students with an immersion into another culture, including but not limited to educational and health care systems. **Expected Outcomes:** Students gain intimate knowledge into the impact that race, ethnicity, religion, sexual orientation, and socioeconomic status among other criteria may have had on healthcare during the didactic portion of their curriculum. During a study abroad experience, students will develop further confidence in communicating with those who do not speak the same language, navigating new forms of transportation, and develop an appreciation for healthcare systems in other countries. Athletic training students will return with a broadened perspective of whole patient health care and the ability to apply first-hand what they have learned in the didactic portion of their program. **Translation to Practice:** Students enrolled in an ATP are educated in culturally competent, patient-centered care. Often, the learners' traditional clinical rotation sites are somewhat homogenous due to geography, and they may not be exposed to varying social determinants of health. The ability to take them beyond their norms and have them interact with those of another culture will aid in creating a more well-rounded, confident healthcare provider for their future patients.

Athletic Trainers in Physician Practice Society (ATPPS) Abstract Presentations

The following abstracts were accepted and presented at the 7th Annual Athletic Trainers in Physician Practice Society Meeting and Conference February 29 – March 2, 2024.

Exploring the Work-Related Quality of Life of Athletic Trainers in Physician Practice

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Introduction/Context: The National Athletic Trainers' Association (NATA) identified the vitality of the athletic training profession as a research priority, which includes exploring solutions to improve work-life balance. There is a common perception that athletic trainers (AT) working in the physician practice setting have lower work-life conflict and increased job satisfaction, but no data to support this belief. Work-Related Quality of Life (WRQoL) has been studied in some healthcare settings but has not been studied in any athletic training clinical practice setting. Therefore, the purpose of this study is to investigate the WRQoL of athletic trainers in physician practice. **Methods:** A cross-sectional, web-based survey was used to explore the WRQoL of ATs in physician practice. The survey consisted of demographic questions, a description of daily work responsibilities, a characterization of autonomous clinical practice, and the pre-existing WRQoL Scale. The WRQoL Scale ranks agreement with statements related to home-work interface, general well-being, job and career satisfaction, control at work, working conditions, and stress at work on a five-point Likert scale (1=strongly disagree, 5=strongly agree). The survey was distributed to 1000 ATs through the National Athletic Trainers' Association. Sixty-three participants accessed the survey (6.3%). Of the 63 participants who accessed the survey, 4 did not finish, 18 reported they did not currently work in the physician practice setting, and 27 participants (age = 42.5 ± 7.8 years [range = 28-56 years], years of experience in physician practice setting = 7.74 ± 6.58 years [range= 1-24 years]) completed the entire instrument (42.9% completion rate). Descriptive statistics were used to analyze demographic variables, individual WRQoL Scale items, and overall WRQoL. **Results:** Participants reported years credentialed as an AT as 18.5 ± 8.7 years. When asked about other AT settings where they had previously worked, 81.5% (n=22) reported working in the secondary school setting at some point in their career, and 37.0% (n=10) reported previously working clinically in the college/university setting. The average WRQoL Scale score for participants was 81.38 ± 11.83 with scores ranging from 60 on the low end to 101 on the high end. Of the 23 questions from the WRQoL Scale, the statement with the highest agreement was "I work in a safe environment" with a mean response of 4.26, and the statement with the lowest agreement was "I often feel under pressure at work" with a mean response of 2.85. Other statements with a mean agreement of 4 or higher included "I have the opportunity to use my abilities at work" at 4.00 and "I have a clear set of goals and aims to enable me to do my job" at 4.11. For the statement "I am satisfied with the overall quality of my working life," participants reported a mean agreement of 3.74, indicating feelings between neutrality and agreement. **Conclusion:** The average WRQoL Scale score for participants in this study ranks in the 60th percentile, which is the high end of the average Quality of Working Life. These percentiles were established in a large study (N=953) of healthcare workers to validate the WRQoL Scale. However, since this is the first study to use this instrument in the AT profession, future work should consider measuring the WRQoL Scale across different practice settings.

How do athletic trainers impact patient health literacy?: A Critically Appraised Topic

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Introduction/Context: Health Literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” An estimated 80 million Americans are estimated to have low levels of health literacy. Low health literacy has been linked to poor patient outcomes and decreased usage of health services. Athletic trainers are multiskilled medical professionals recognized by the American Medical Association, trained in, among other things, wellness promotion and education, injury prevention and rehabilitation, and primary care. Although athletic trainers have traditionally been employed in collegiate/elite sports, many are now employed in a number of different settings, including physical therapy and orthopedic clinics, working as physician extenders. This critically appraised topic aimed to examine the impact of athletic trainers in the physician practice setting on patient health literacy levels. **Search Strategy:** The databases searched included PubMed and Google Scholar. **Results:** The results from the search demonstrate three widely accepted interventions to improve the health literacy of patients: plain speak, teach-back, and limited concepts. **Clinical Bottom Line:** Athletic trainers working in the physician practice setting have a unique opportunity to improve patient understanding to help them achieve improved healthcare outcomes.